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Measuring Corporate Social Responsibility Perceptions Among Practicing Accountants: An Examination Using Partial Least Squares Structural Equation Modeling

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Abstract

Accountant perceptions of corporate social responsibility (CSR) practices can provide valuable insight for an organization, particularly those experiencing ethical dilemmas. By surveying 134 practicing managerial accounting professionals, this paper aims to provide the CSR perceptions of this very influential set of employees by focusing on the responsibilities an organization has to various stakeholders using partial least squares structural equation modeling (PLS-SEM), an underutilized technique within behavioral accounting research. The results of the survey and structural analysis that follows show that most of the CSR constructs (social and nonsocial stakeholders, employees, customers, government) are positively related to each other supporting the stakeholder theory that stresses the interconnected relationships between a business and its stakeholders. While these results provide important implications from a corporate governance perspective, this study also emphasizes the usefulness of PLS-SEM to validate a measurement model and explore causal relationships which may aid researchers to explore other questions of concern using this methodology following the guidelines contained in this study.

Keywords: Corporate social responsibility; PLS-SEM; behavioral accounting research; stakeholder theory

Introduction

While the definition of corporate social responsibility (CSR) can be complex, one can argue that the usefulness of this concept in understanding the ethical orientation of an organization and the impact it may have on shaping employee attitudes and behaviors cannot be overstated. Over the recent past, there have been several studies examining this issue (Barakat et al., 2016; Rupp et al., 2018; Zhu, et al., 2014; Afsar and Umrani, 2018; Hur et al., 2022). Despite these demonstrations, there remains scant research done on the CSR perceptions among a very specific and influential set of employees within an organization: those of practicing accountants. With accounting fraud becoming a major theme of corporate misconduct throughout the world and with CSR being shown to be a factor in influencing ethical behavior, this study explores the perceptions professional accountants have about their organization's CSR practices focusing on the responsibilities it has to various stakeholders.

Accounting scholars conduct research on many topical areas such as financial accounting, auditing, and taxation. Managerial accounting research specifically examines the relationship between management accounting information and its internal users. This may include, for example, research on the decision-making within an enterprise. In addition, behavioral accounting research relates to accounting practices and processes as well as how the decisions made within a firm may impact the attitudes and behaviors of these financial professionals. While the behavioral accounting literature has grown in breadth, depth, and complexity, structural equation modeling (SEM) remains underutilized in accounting behavioral research (Birnberg, 2011, Hampton, 2015). In addition, a specific type of SEM research, partial least squares structural equation modeling (PLS-SEM), has only been partially utilized in management accounting research (Nitzl, 2016). Therefore, in addition to testing theory related to CSR perceptions among practicing accountants, this paper also serves to develop and estimate a structural equation model using PLS-SEM that can serve as a guide for future studies in both managerial and behavioral accounting and finance research.

In light of numerous ethical failures over the past couple of decades where accounting professionals have played a role in corporate malfeasance, the profession has renewed its focus on encouraging more ethical behavior. Additionally, accountant perceptions of CSR can provide valuable insight for an organization, especially those experiencing ethical dilemmas. Moreover, because they have a high level of practical experience working in a professional environment, accountants can provide a further reliable and valid means of measuring an organization's corporate social involvement. In addition, as stakeholder theory suggests that companies need to create value

for all stakeholders, this study adds to the stream of literature in assessing how one group of employees perceives CSR within their organizations and the connections it has to a wide range of responsibilities to various stakeholders. To the best of my knowledge, no such study has examined or measured a stakeholder approach of corporate social responsibility in the eyes of practicing professional accountants using partial least squares structural equation modeling. This study fills that gap and surveys 134 practicing accountants using a modified scale developed by Turker (2009) that measures an organization's CSR practices to four specific stakeholders: social and non-social[1], employees, customers, and the government. In the assessment of the PLS-SEM path model, theory led me to expect that the latent constructs of CSR to social and nonsocial stakeholders (CSRS), CSR to employees (CSE), CSR to customers (CSRC), and CSR to government (CSRG) are all related. Based on the empirical results, all these constructs are significantly positively related to each other except for CSRC to CSRG and CSRE to CSRG.

The next section reviews the literature of CSR in an accounting context and the development of the hypotheses. The third section describes the research methodology. Section four discusses the results of both the measurement and structural model. Finally, the last section concludes with a discussion of the theoretical and practical implications, limitations, and directions for future research.

Literature Review and Hypothesis Development

Within the academic literature, there have been many interpretations as to what exactly CSR entails. For example, Carroll (1979) suggests that while the concepts of CSR have been evolving, business must embody the economic, legal, ethical, and discretionary categories to fully address the entire range of obligations it has to society. Carroll (1999) also makes note of alternative themes of corporate social responsiveness and performance, public policy, stakeholder theory, and business ethics theory to emphasize the evolution of CSR from the modern era in the 1950s to its transformed alternative thematic frameworks. More recently, Dahlsrud (2008) identifies five dimensions (environmental, social, economic, stakeholder, and voluntariness) through a literature review and content analysis of CSR to make a universally accepted definition of CSR less problematic. Furthermore, while Sheehy (2015) agrees with many previous researchers that the definition of CSR is both complex and complicated, he believes the

[1] Turker (2009) defines social and nonsocial stakeholders as those containing CSR to society, natural environment, next generation, and non-governmental organizations, which can be clustered together when considering their common point of view.

importance of the legal, financial, and political investments of CSR make defining it an important and urgent task.

Although there may remain much uncertainty in both the corporate world and academic community as to how CSR should be defined, Dahlsrud (2008) contends that the challenge for business is understanding how CSR is considered when strategies are developed. While studies have shown CSR positively linked to firm reputation and performance, other studies have investigated ways in which CSR influences employee-specific behaviors towards their firm (Vilanova et al, 2009; Stuebs and Son 2011). For example, Afsar and Umrani (2018) investigated how perceived CSR affects employee pro-environment behavior in the workplace and found that perceived CSR directly impacted moral reflectiveness, coworker pro-environmental advocacy, and environmental commitment. In addition, Hur et al. (2020) examined the effect of CSR perceptions on sustainable behaviors among frontline employees from the hospitality industry and found that frontline employee (i.e., flight attendants) CSR perceptions were positively related to proactive safety behaviors. Furthermore, Archimi et al. (2018) illustrated the importance of CSR for internal stakeholders by testing a model for how CSR influences employee cynicism via the mediating role of organizational trust. They found that perceived CSR activities decrease counterproductive behaviors such as employee cynicism with the help of trust.

It can be argued that all employees serve a unique role in the maintenance of high ethical standards within their organization. However, professional accountants are often in a special position to, among other things, detect and prevent organizational fraud and misconduct, particularly in relation to financial statement fraud (Andon et al., 2018). Fraud and financial wrongdoing within organizations have been a growing problem with severe financial consequences. According to a report from the Association of Certified Fraud Examiners, 15% of organizations typically do not recover any of their funds lost to fraud, and another 64% recover less than half their losses (ACFE, 2019). In addition, 58% of anti-fraud professionals say their organizations currently have inadequate levels of anti-fraud staffing and resources (ACFE, 2019). Consequently, organizations often rely on employees to be important players in the corporate governance arena and to play a key role in the detection of fraud (Dyck et al., 2010).

Research has been minimal regarding ethics in accounting even as accountants are the employees known as these key stakeholders in the detection of corporate malfeasance (Andon et al. 2018). Although studies have shown that firms identified as being ethical are less likely to make misleading accounting decisions (Fafatas and Hoover, 2012), prior “tone at the top” and CSR literature have presented findings related to the organizational consequences when considering the ethical orientation of its

accounting professionals specifically, especially regarding internal auditor risk assessments and financial reporting decisions (Schmidt, 2014; Wang and Fargher, 2017; Felo and Solieri, 2023). For example, Schmidt (2014) finds a favorable tone at the top mental representations transfer to induce a relatively favorable control environment and fraud risk assessments. Wang and Fargher (2017) discover that when the tone at the top is poor, internal auditors report a higher risk of intentional misstatements and that coordination with external auditors can further reduce expectations of the incidence of intentional misstatements. Furthermore, Felo and Solieri (2023) find that having one person in a leadership position demonstrating a commitment to ethical behavior is related to more ethical financial reporting decisions, whether that person is at the top or closer to the middle. Regarding CSR specifically, Brink et al. (2018) reveal it to be a factor that could increase the likelihood of internal fraud reporting in the case of financial statement fraud through the act of whistleblowing. Participants (accounting managers) placed in a CSR firm as opposed to a non-CSR firm in that study were found to indicate greater affective organizational commitment toward the firm which, in turn, indicated a greater likelihood to report fraud internally, consistent with employees feeling a relative sense of pride and loyalty toward their CSR firm (Brink et al., 2018).

While an organization belongs to shareholders and their interests, it should be run in the interest of the stakeholders (Chilosi and Damiani, 2007). Stakeholder theory says that there are other groups to whom the corporation is responsible, including owners, employees, suppliers, customers, and the local community. It begins with the assumption that values are necessarily and explicitly a part of doing business (Freeman et al., 2004). In the stakeholder theory of the corporation, management plays a special role, for it too has a stake in the modern corporation. Top management especially has a duty to safeguard the welfare of the abstract entity that is the corporation and must look after the overall health of the corporation which involves balancing the multiple claims of conflicting stakeholders (Freeman, 2001). Consequently, stakeholder theory should not give primacy to one stakeholder group over another with management having an obligation to keep the relationships among the many different stakeholders of the corporation in balance (Freeman, 2001). Stakeholder analysts further argue that all persons or groups with legitimate interests participating in an enterprise do so to obtain benefits and that no one set of interests and benefits has priority over another (Donaldson and Preston, 1995).

As a part of corporate responsibilities oriented toward all stakeholders, CSR today is focused on a stakeholder model, which has become widely accepted among contemporary business organizations (Russo and Perrini, 2010). Stakeholder theory can therefore be a useful tool to

provide guidance on how the company should operate overall and stipulate company (social) responsibilities to all their stakeholders (Freeman and Dmytriyev, 2017). These may include an organization's responsibility to the natural environment or the well-being of society, responsibility to employees, responsibility to customers, and even a responsibility to the government. In addition, prior research has investigated the relationship between stakeholder theory and CSR, which includes some similarities as well as some differences. In their review of the two concepts, Dmytriyev et al. (2021) discuss prior literature acknowledging and ignoring both distinctions and similarities. For example, researchers over time have placed stakeholder theory as a subset of CSR, as well as stakeholder theory and CSR as competing views. In addition, some have argued for one framework while ignoring the other while others have sought to treat both frameworks the same. In their conclusion, Dmytriyev et al. (2021) suggest the concepts of CSR and stakeholder theory are closely tied with conceptual analysis showing some overlap between the two lying in local and surrounding communities and partially in dealing with employees, customers, and government. While there has been limited research regarding the accounting professional perception of the stakeholder model, prior research has shown some evidence of the profession's regard for the responsibility it has not only for the stockholders, but also for other groups in society, including employees, customers, and the government (Maiga, 2019). In addition, Fiolleau and Kaplan (2016) note the existence of accounting codes of professional ethics contained within accounting curricula which often include a responsibility to serve the public interest (and hence, all its stakeholders). In line with this previous research, this study proposes the following hypotheses with all dimensions of CSR positively relating to one another:

H1: CSR to social and non-social stakeholders relates positively to CSR to employees.

H2: CSR to social and non-social stakeholders relates positively to CSR to customers.

H3: CSR to social and non-social stakeholders relates positively to CSR to government.

H4: CSR to employees relates positively to CSR to customers.

H5: CSR to employees relates positively to CSR to the government.

H6: CSR to customers relates positively to CSR to the government.

The proposed model of the current study is presented in Figure 1.

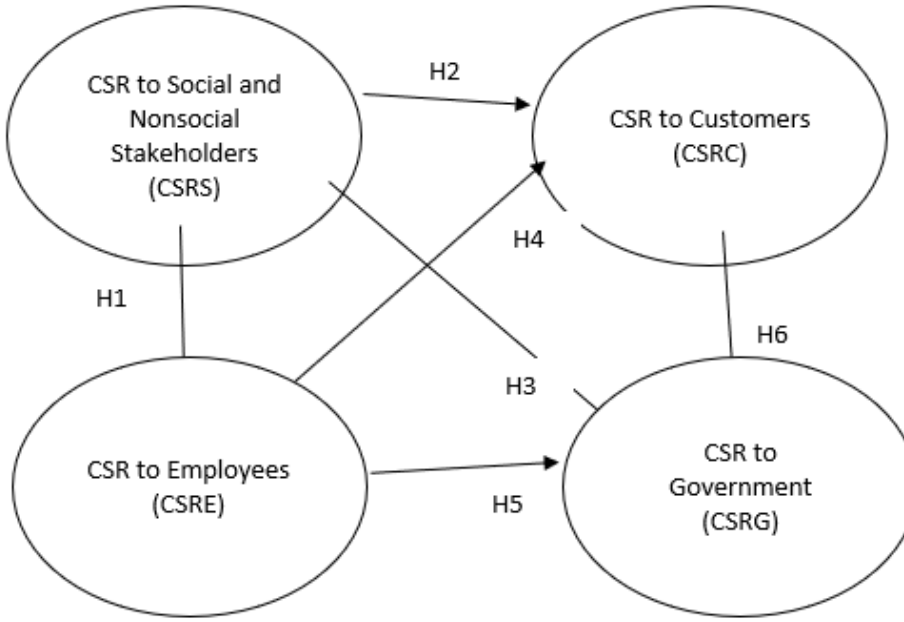

Figure 1: Proposed Model

The proposed model above depicts the theory culminating in the six hypotheses examining accountant perceptions of their organization's CSR adherence to various stakeholders. Each single-headed arrow represents a direct path. For example, H2 hypothesizes a positive CSRS to CSRC relationship, and so on.

Research Methodology

This study analyzes accountant' corporate social responsibility perceptions of their organization using Partial Least Squares Structural Equation Modeling (PLS-SEM). Data was collected through a survey method of 134 practicing managerial accountants using Qualtrics. Specifically, participants were recruited primarily from the Institute of Management Accountants (IMA). Participants self-selected into the study after seeing a brief description of the type of person the research was seeking (currently employed as an accounting professional working in an organization).

PLS-SEM has an advantage over covariance-based Structural Equation Modeling (CB-SEM) and other multivariate techniques in that it can accommodate small sample sizes (Nitzl 2016). In a review of empirical management accounting research using the PLS-SEM technique, Nitzl

(2016) found an average sample size to be 138 (median = 105), considerably lower than 292 reported in 41 management accounting studies using CB-SEM in the period from 1980-2005. Moreover, partial least squares path modeling specifically can achieve a desirable level of statistical power with a sample size of 100 for moderate effect sizes (i.e., path coefficient of 0.3) (Willaby et al., 2015). To assess whether the basic rule of thumb for sample size is being met for PLS-SEM, however, Hair et al. (2011) suggest a number greater than 10 times the maximum number of inner or outer model links pointing at any latent variable in the model. Following this method as well as other PLS-SEM studies involving corporate social performance (e.g., Mirghafoori et al., 2017), this study should obtain at least 60 samples, which is less than the sample size used in the present study. Thus, the sample size criterion is met.

The demographic characteristics of the participants are shown in Table 1. Among the 134 fully completed questionnaires, 70 of the respondents identified as male and 64 identified as female. Over 90% of the respondents had more than 5 years of experience. Over 40% had the job title of accountant or analyst while over 50% held the roles of controller, manager, director, or president. Of the respondents, 63 had an undergraduate degree while 71 had a postgraduate degree. Furthermore, over 30% of participants worked in firms that had over $500 million in revenue.

Table 1: Demographic Characteristics of Participants

Respondent Characteristic	Category	Frequency	Percentage
Gender	Male	70	52.2
	Female	64	47.8
Age	Under 25 years old	8	6.0
	25-35 years old	51	38.1
	36-45 years old	33	24.6
	46 years or older	42	31.3
Experience	1-5 years	13	9.7
	5-10 years	42	31.3
	11 to 20 years	39	29.1
	Over 20 years	40	29.9
Title	Accountant/Analyst	54	40.3
	Controller/Manager	51	38.1
	Director/President	17	12.7
	Other	12	9.0
Educational Status	Undergraduate Degree	63	47.0
	Postgraduate Degree	71	53.0
Annual Revenue of Firm	Less than $10 million	30	22.4
	$10 million to $100 million	42	31.3
	$101 million to $500 million	20	14.9
	Over $500 million	42	31.3

Table 1 provides demographic characteristics of participants consisting of managerial accountants.
Internal Review Board (IRB) approval to use human subjects was obtained at the university where administration of the study was completed prior to data collection.
Variable Definitions:
Age = Participants age in years.
Experience = Total years of professional work experience.
Title = Participants description of their current job title.
Educational Status = Participants highest level of education (either undergraduate degree or postgraduate degree).
Annual Revenue of Firm = Participants assessment of annual revenue of firm in which they are currently employed

A scale developed by Turker (2009) and subsequently modified was used in this study to measure employee attitudes about their own firm's CSR level.[2] The scale has four factorial subscales comprised of 17 items and measures CSR to social and non-social stakeholders (CSRS), CSR to employees (CSRE), CSR to customers (CSRC), and CSR to government (CSRG). I used PLS-SEM in SmartPLS to test the measurement model and assess the reliability and validity of the constructs as well as assess the structural model.

In PLS-SEM, the measurement model is the part of the model that examines relationships between the latent variables and their measures with the structural model showing how the constructs are associated with each other. To my knowledge, this scale was never used to assess accountants' own attitudes about their company's CSR policies and practices using PLS-SEM. As a result, various accounting academics and accounting professionals reviewed the instrument resulting in slight modifications made to some of the 17 items. Full identification of each scales' indicator and the latent variable of the four factorial subscales measuring CSR to social and non-social stakeholders (CSRS), CSR to employees (CSRE), CSR to customers (CSRC) and CSR to government (CSRG) of the modified Turker (2009) scale is included in the appendix.

[2] Although there are other valid and reliable scales measuring corporate social involvement, the scale by Turker (2009) was chosen in this study as it focuses on the responsibilities to various stakeholders. This makes it an ideal fit in the present study examining the stakeholder approach to CSR. To the best of my knowledge, this scale was never tested using professional accountants as participants. As a result, accounting academics and professionals reviewed the instrument resulting in slight re-wordings made to some of the seventeen items.

Each indicator contains a seven-point scale with ends defined as "strongly disagree" and "strongly agree" to measure each participant's assessment of their firm's CSR level. The results of the survey revealed that among the seventeen indicators, the means ranged from a low of 4.179 for participants' assessment of their company supporting the non-governmental organizations working in the problematic areas (CSRS5) to a high of 6.134 for participants' assessment that their company always pays its taxes on a regular and continuing basis (CSRG1). Employees expressed satisfaction with their company's CSR policies as median scores were all 5 or above, except for CSRS3, CSRS5, and CSRE3 which were all a 4. Table 2 reports descriptive statistics (means, medians, standard deviations, kurtosis, and skewness) for all seventeen indicators.

Table 2: Indicator Descriptive Statistics

	Mean	**Median**	**SD**	**Kurtosis**	**Skewness**
CSRS1	4.694	5	1.901	-.0777	-0.435
CSRS2	4.679	5	1.855	-0.840	-0.329
CSRS3	4.328	4	1.832	-0.878	-0.329
CSRS4	4.396	5	1.808	-0.809	-0.338
CSRS5	4.179	4	1.884	-0.987	-0.073
CSRS6	4.694	5	1.936	-0.942	-0.445
CSRE1	4.664	5	2.048	-1.003	-0.492
CSRE2	5.000	5	1.820	-0.438	-0.706
CSRE3	4.328	4	1.661	-0.534	-0.367
CSRE4	4.560	5	1.764	-0.849	-0.364
CSRE5	4.694	5	1.631	-0.237	-0.571
CSRE6	4.843	5	1.884	-0.779	-0.556
CSRC1	4.649	5	1.720	-0.530	-0.492
CSRC2	5.627	6	1.572	1.399	-1.343
CSRC3	5.896	6	1.512	2.751	-1.784
CSRG1	6.134	7	1.510	3.527	-2.006
CSRG2	6.090	7	1.604	3.195	-2.012

Table 2 provides descriptive statistics for variables used in the PLS-SEM analysis.
Indicator Definitions: Please refer to the Appendix.

In addition, consistent with prior research and possible measurement misspecification due to incorrect definitions, the present study uses reflective measurement models with the latent variables of CSRS and CSRE having six indicators, CSRC having three indicators and CSRG having two indicators.[3]

[3] In properly specifying the measurement model necessary to assign any meaningful relationships and avoiding invalid model estimation in the structural model, it is important to distinguish between formative and reflective measures. Formative measurement models are a linear set of indicators that form the construct while reflective measurement models have

Reflective measurement model assessment generally involves four aspects of each model construct: size and significance of indicator loadings, construct reliability, convergent validity, and discriminant validity.

Results

In examining the indicator loadings and their significance, the general rule of thumb is for the standardized loadings to have a value of at least .708, which indicates that the construct explains more than 50 percent of the indicator's variance and confirms the indicator exhibits acceptable item reliability (Hair et al., 2019; Hair et al., 2020).[4] All seventeen indicators in the present study have loadings above this .708 threshold. The two CSR to government (CSRG) indicators have the highest loadings at 0.958, respectively, while CSRE1 had the lowest loading of the seventeen items at 0.710. The rest of the indicators fall between the 0.784-0.897 range. Table 3 displays all indicator correlations (outer loadings) of the seventeen items.

Table 3: Indicator Correlations (Outer Loadings)

	CSRS	**CSRE**	**CSRC**	**CSRG**
CSRS1	0.849			
CSRS2	0.880			
CSRS3	0.869			
CSRS4	0.897			
CSRS5	0.811			
CSRS6	0.864			
CSRE1		0.710		
CSRE2		0.854		
CSRE3		0.853		
CSRE4		0.856		
CSRE5		0.816		
CSRE6		0.820		
CSRC1			0.784	
CSRC2			0.890	
CSRC3			0.865	
CSRG1				0.958
CSRG2				0.958

direct relationships (arrows) from the construct to the indicators and treat the indicators as error-prone representations of the underlying construct (Hair et al., 2019). Typical examples of reflective scenarios include measures of attitude and personality with practically all scales in business and related methodological texts on scale development using a reflective approach to measurement. (Coltman et al., 2008). The prevalence of reflective measures is also pronounced in accounting research (Nitzel 2016).

[4] While the indicator loadings have the same interpretation in both PLS-SEM and CB-SEM, higher loadings overall in PLS-SEM enable the researcher to obtain more items on the construct and generally result in higher content validity for the reflective measurement models (Hair et al., 2019)

Table 3 provides an examination of the indicator loadings, commonly the first step in PLS-SEM assessment. Loadings above .708 indicate the construct explains more than 50 percent of the indicator's variance.
Note: CSRS = CSR to social and nonsocial stakeholders; CSRE = CSR to employees; CSRC = CSR to customers; CSRG = CSR to the government.

The results of each construct's internal consistent reliability are all presented in Table 4. A fundamental element of scientific measurement, reliability is sometimes described as a way to quantify measurement error in certain applications (Beland and Falk, 2022). In the present study, both the Cronbach's alpha and composite reliability measures of each construct clear the acceptable 0.70 threshold of satisfactory to good reliability levels for the overall measurement model.[5] One item of note is CSRG's composite reliable of 0.957. Hair et al. (2019) suggest that when reliability is too high (above .95), it may signal the items are redundant. In addition to construct reliability, convergent validity is another metric of internal consistency and measures the extent to which the indicators of a construct converge. It can be measured by the Average Variance Extracted (AVE) and is obtained by averaging the indicator reliability of a construct (Hair et al. 2020). A level of 0.50 or higher indicates that on average, the construct explains 50 percent or more of the variance of its indicators. As outlined in Table 4, all four constructs measuring CSR clear this level.

Table 4: Construct Reliability and Convergent Validity

	Cronbach's Alpha	**Compositive Reliability**	**Average Variance Extracted (AVE)**
CSRS	0.931	0.946	0.743
CSRE	0.901	0.924	0.672
CSRC	0.803	0.884	0.718
CSRG	0.911	0.957	0.918

Table 4 provides each constructs internal consistency reliability (Cronbach's Alpha and Composite Reliability) and convergence validity (Average Variance Extracted). According to Hair et. al (2019), composite reliability values between 0.60 and 0.70 are "acceptable in exploratory research," whereas results between 0.70 and 0.95 represent "satisfactory to good" reliability levels.

[5] In PLS-SEM, the reliability of a construct can be measured in two ways. The first way is Cronbach's alpha (α). Although it is a widely used measure of assessing reliability, Cronbach's alpha does not weight the individual indicators based on their loadings. Therefore, the second way to measure the reliability of a construct, composite reliability, which is weighted, is argued to be more accurate and therefore should be assessed and reported (Hair et al., 2019; Hair et al., 2020).

Finally, after an examination of the indicator loadings and the determination of each construct's internal consistency reliability, the last step in evaluating reflective measurement models in PLS-SEM is to assess discriminant validity, or the extent to which a construct is distinct from other constructs. Table 5 displays the discriminant validity results of both the Fornell-Larcker (Panel A) and heterotrait-monotrait (HTMT) (Panel B) criterions.[6] In assessing discriminant validity in a PLS-SEM measurement model specifically, high HTMT values would indicate a problem with values above 0.90 suggesting a lack of discriminant validity. In addition, when the constructs in the path model are conceptually different, a lower threshold value of 0.85 is suggested (Hair et al., 2019). In the present study, all ratios are below the 0.85 level providing strong evidence of discriminant validity for the CSR path model constructs.

Table 5: Discriminant Validity

Panel A: Fornell-Larcker Criterion

	CSRC	**CSRE**	**CSRG**	**CSRS**
CSRC	0.848			
CSRE	0.681	0.820		
CSRG	0.706	0.552	0.958	
CSRS	0.587	0.735	0.499	0.862

Panel B: Heterotrait-Monotrait Ratio (HTMT)

	CSRC	**CSRE**	**CSRG**	**CSRS**
CSRE	0.804			
CSRG	0.818	0.608		
CSRS	0.684	0.800	0.541	

Table 5 provides each construct's discriminant validity. In assessing discriminant validity, CB-SEM typically relies on the Fornell-Larcker criterion (Panel A) while the recommended PLS-SEM method is the HTMT criterion (Panel B).

As the measurement model in this study appears to be satisfactory, the next step is the assessment of the structural model showing how the constructs are associated with each other. In any structural relationship, theory and research objectives distinguish which independent variables

[6] The Fornell-Larcker criterion is one way to assess discriminant validity as it involves a direct comparison of the AVEs of two constructs to the shared variance between the two constructs. However, a more reliable criterion in PLS-SEM was proposed by Henseler et al. (2015): the heterotrait-monotrait (HTMT) ratio of correlations. (Fornell-Larcker, 1981; Hair et al., 2019; Nitzl, 2016). As evidenced by their high sensitivity rates, the HTMT criteria has been shown to identify a lack of discriminant validity in a more effective way. (Henseler et al., 2016).

predict each dependent variable. Furthermore, dependent variables in one relationship can become independent variables in subsequent relationships in the structural model essentially giving rise to the interdependent nature of the model (Hair et al., 2019). In such a PLS-SEM model, the independent variables (or constructs) are referred to as exogenous constructs and the dependent variables (or constructs) are referred to as endogenous constructs. Figure 2 shows the completed conceptual path model with four constructs – two of the constructs having six indicators, one construct having three indicators, and one construct having two indicators. The structural path model begins to develop from the exogenous constructs with a path connecting any two constructs linked by a hypothesis. CSRS is an exogenous construct in the model while CSRG is an endogenous construct. CRSE and CSRC are both exogenous and endogenous as they are used as outcomes in some hypotheses and predictors in others.

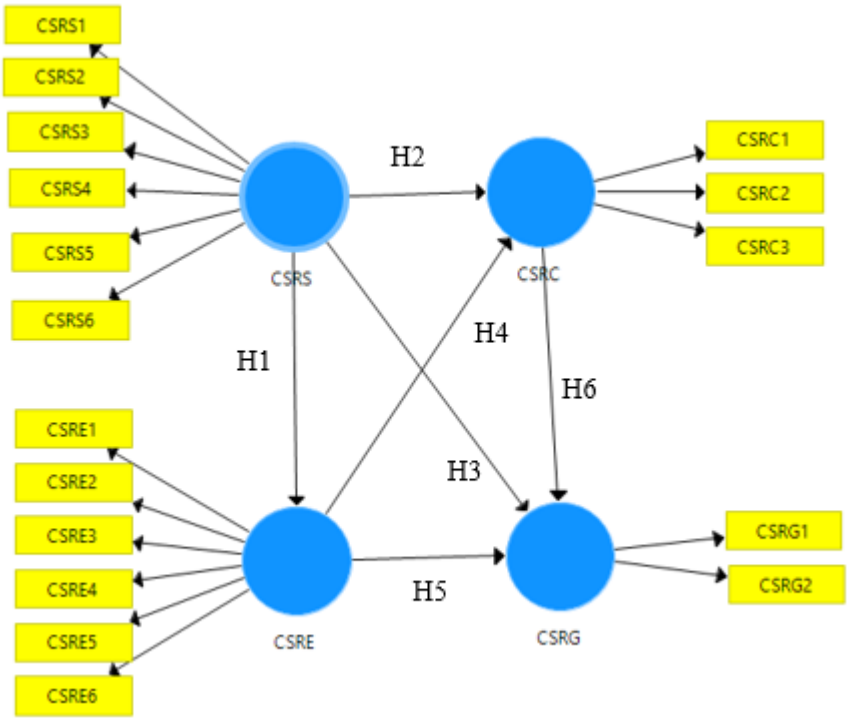

Figure 2: Completed Conceptual Path Model

The completed conceptual path model has four constructs (CSRS, CSRE, CSRC, CSRG) represented as ovals or circles and seventeen indicators represented by rectangles. The relationships between the constructs, and the relationships between the indicators and their respective constructs are connected by the arrows. The partial least squares algorithm was calculated using a path weighting scheme. Furthermore, when

calculating the PLS results, the maximum iterations were set at 300 and the stop criterion was set at 10^-7.

The first step in assessing the structural model is to examine the exogenous constructs for collinearity. In multiple regression, multicollinearity refers to the correlation among the independent variables and can cause several problems in statistical analysis and business research methodology (Hair et al., 2016). For example, Hair et al. (2019) note that examining collinearity is necessary since the path coefficients are based on OLS regressions and may be biased if multicollinearity is present. This can affect the statistical significance of the variable relationships and thus an ability to interpret the results of the study. Like most of the other tests in PLS-SEM, statisticians have developed metrics to determine whether multicollinearity is too high. In PLS-SEM, the Variance Inflation Factor (VIF) is one alternative where any value greater than three among the predictor constructs suggests multicollinearity may be present. Table 6 displays the results of the inner (i.e., structural model) VIF values with all values among the predictor (exogenous) constructs below the guideline. Thus, collinearity is not a problem for the structural model in this study.

Table 6: Inner VIF Values

	CSRE	CSRC	CSRG
CSRS	1.000	2.173	2.240
CSRE		2.173	2.742
CSRC			1.924

Table 6 provides an assessment of each predictor construct's multicollinearity. The higher the VIF value, the greater level of collinearity with VIF values above 5 being a "definite indicator of collinearity among the predictor constructs" (Hair et al., 2019).

The assessment of the structural model also involves examining the quality of the model in terms of the predictive power, namely, the coefficient of determination (R^2), effect size (f^2) and blindfolding (Q^2) procedure. Using the PLS SEM approach in this study, the explained variance (R^2) is 48.0% for CSRC, 54.0% for CSRE, and 51.1% for CSRG suggesting fairly moderate shares of the explained variance.[7] In examining the f^2 effect sizes for the dependent variables, guidelines indicate 0.02, 0.15, and 0.35 for

[7] The coefficient of determination is a measure of in-sample predictive power and addresses the share of the explained variance of the endogenous latent constructs (Richter et al., 2014). Higher R^2 values mean the greater explanatory power of the PLS structural path model, and therefore, better predictors of the endogenous constructs (Hair et al., 2019).

weak, moderate, and strong effects (Cohen, 1988).[8] One of the f^2 effect sizes indicates an extremely strong effect (1.173), two moderate effects (0.384, 0.262), one weak effect (0.031), and two having no effect (0.004, 0.007). In addition, Q^2 (predictive relevance) values larger than zero for a particular endogenous construct indicate the path model's predictive accuracy is acceptable for that construct with values less than zero indicating a lack of predictive relevance (Hair et al., 2019). Using the construct cross-validated redundancy approach, the Q^2 values of 0.351, 0.329, and 0.452 for CSRE, CSRC, and CSRG, respectively, indicate meaningful predictive relevance for the CSR path model using PLS-SEM. The results of the structural model's predictive ability are all displayed in Table 7.

Table 7: Predictive Power of Model

	f^2					
	CSRE	CSRC	CSRG	R^2	R^2 Adjusted	Q^2
CSRS	1.173	0.031	0.007			
CSRE		0.262	0.004	0.540	0.536	0.351
CSRC			0.384	0.480	0.472	0.329
CSRG				0.511	0.500	0.452

Table 7 provides the predictive power of the structural model, namely the coefficient of determination (R^2) effect size (F^2), and blindfolding (Q^2). The blindfolding procedure was set at an omission distance of 7, implying that every seventh data point of the target construct's indicators are eliminated in a single blindfolding round.

The last step in assessing the structural model is evaluating the significance and size of the structural path coefficients. To obtain significance and thus evaluate all hypotheses, the bootstrapping method is executed which uses standard errors to calculate *t* and *p* values for the path coefficients. Here, the procedure was run using 5,000 subsamples. Table 8 shows the results of the structural path coefficients and the significance of the structural relationships as outlined in the six hypotheses. H1 and H2 predicted that CSR to social and non-social stakeholders relates positively to CSR to employees and CSR to customers, respectively. These relationships are both statistically significant at the $p < 0.01$ and $p < 0.10$ levels, respectively. Thus, H1 is supported and H2 is partially supported. H3 states that CSR to social and non-social stakeholders relates positively to CSR to government. Here, the relationship is found to be not statistically significant ($t = 0.731$ $p = 0.465$). Thus, H3 is rejected. H4 states that CSR to employees

[8] By representing the change in the R^2 value as a result of the predictive impact of a specific predictor variable, this metric indicates the substantive impact on the endogenous constructs of removing a predictor construct from the structural model (Hair et al. 2019).

relates positively to CSR to customers. The bootstrap findings reveal that this relationship is significant (t = 5.489, p = 0.000) and thus provides support for H4. H5 states that CSR to employees relates positively to CSR to government. As presented in Table 8, the results reveal that this hypothesis is not supported (t = 0.600, p = 0.549). Regarding the last structural relationship and hypothesis, CSR to customers relates positively to CSR to government at the p <0.01 significance level. Thus, H6 is supported.

Table 8: Structural Path Coefficients and Significance Testing

Structural Relationship	Path Coefficient	Sample Mean	Standard Deviation	T Statistic	*P* Value
CSRS > CSRE	0.735	0.736	0.039	18.795	0.000***
CSRS > CSRC	0.187	0.181	0.106	1.767	0.078*
CSRS > CSRG	0.089	0.098	0.122	0.731	0.465
CSRE > CSRC	0.544	0.549	0.099	5.489	0.000***
CSRE > CSRG	0.077	0.071	0.129	0.600	0.549
CSRC > CSRG	0.601	0.591	0.124	4.838	0.000***

Table 8 provides an assessment of the size and significance of the path coefficients. The number of bootstrapping subsamples was set at 5,000 for an initial assessment.

*, **, *** Indicates significance at the 0.10, 0.05, and 0.01 levels, respectively. All p-values related to testing the hypotheses are two-tailed.

Conclusion

Through PLS-SEM, this study explored and tested theoretical relationships among four different constructs of CSR using an already existing but modified scale through the eyes of accounting professionals. Although previous studies have looked at the use of PLS-SEM in management accounting research (e.g., Nitzl, 2016), no research has discussed and explored accountant interpretations of CSR within their organizations using this method. This study aimed to fill this gap. The results of the study provide strong support for the CSR measurement model as evidence of reliability and construct validity are all present.

The results also suggest implications for organizations seeking to obtain a high ethical orientation as recent reports suggest the concerns employees have about their company's leadership and ethical environment (Lo et al., 2021). In the assessment of the PLS-SEM path model, theory led to expectations that the latent constructs of CSR to social and nonsocial stakeholders (CSRS), CSR to employees (CSRE), CSR to customers (CSRC), and CSR to government (CSRG) are all related. Based on the empirical results, all these constructs are significantly positively related to each other except for CSRS to CSRG and CSRE to CSRG. The positive relationships in the other constructs show evidence of the stakeholder theory

that stresses the interconnected relationships between a business and its various stakeholders, namely, their social and non-social stakeholders, employees, customers, and the government. If one of these stakeholders is found to be neglected by way of low corporate social involvement, those in the organization (i.e., accountants) may perceive that the others are neglected as well. This may affect one's assessment of the overall ethicality of the organization which in turn may have implications not only related to their feelings of commitment and pride toward their organization, but also in achieving good financial results. Regarding the two constructs not having a significant relationship, accountants may perceive their organizations commitment to the government as different than its commitment to its social and nonsocial stakeholders and its employees. Organizations should therefore emphasize their obligation to these stakeholders among their accounting employees differently from the others. For example, while it is important to pay taxes and comply with all legal regulations, organizations should emphasize that these are actions more so prescribed by law. This, in turn, better differentiates how an organization fulfills its responsibility to the government as opposed to its other stakeholders, which may be based more on ethical values beyond legal obligations (i.e., voluntary).

This is the first study to my knowledge that examines accountant perceptions of their organization's CSR level using the stakeholder approach and PLS-SEM.[9] In measuring CSR perceptions regarding various stakeholders of an organization, this study also provides evidence of the relationships among those stakeholders from an accountant's perspective. While this is important from a professional and practical point of view in how companies may want to promote their CSR engagement among its various stakeholders to their employees, it is also important in that it expands our understanding of stakeholder theory and its relationship in promoting good corporate governance and socially responsible policies. Corporate governance describes all the influences affecting the institutional processes, including those for appointing the controllers and/or regulators involved in organizing the production and sale of goods and services (Turnbull, 1997). Its relationship to stakeholder theory and the influence this theory can have

[9] Kwakye et al. (2018) examine the perception of professional accountants and the intention to engage in Sustainability Accounting & Reporting (SAR) using PLS-SEM. SAR, as they define it, refers to the process by which firms provide information on the socio-economic and environmental impacts of their operations to stakeholders. CSR, on the other hand, is a much more multi-dimensional construct that goes beyond the concept of sustainability reporting. Furthermore, by surveying 86 professional accountants strictly in Ghana, that study focuses on providing relevant insights into the fundamental factors that can affect SAR practices in the developing world. Other studies (Shafer, 2015 and Ibrahim et al, 2016) test professional accounting perceptions and attitudes of corporate social responsibility but do use the stakeholder approach of CSR nor PLS-SEM in their methodology.

in promoting CSR in the corporation has been a much-researched topic since Freeman and Reed's seminal 1983 paper (See Freeman and Reed, 1983). Instrumental stakeholder theory, in particular, suggests a positive relationship between corporate social performance[10] and corporate financial performance (Orlitzky et al., 2003). According to this theory, the satisfaction of various stakeholder groups is instrumental for organizational financial performance. Rodriguez-Fernandez et al. (2020) further demonstrate the significant role stakeholder theory has in attaining the organization's commitment to achieving good financial results that support social responsibility policies over time. By examining and providing evidence of the relationships various stakeholders of an organization have with each other from an accountant-employee point of view, the present study further broadens our understanding of and adds to previous research involving stakeholder theory.

The empirical implications of this study also emphasize the usefulness of PLS-SEM to validate a measurement model and explore causal relationships. This study presents a basic application of PLS-SEM techniques while also filling the gap of examining accountant perceptions of CSR using this technique. The findings, therefore, expand the current state of knowledge that can be obtained using PLS-SEM and enable us to better understand the application of this technique in a different context.

This study has its limitations. For instance, the results of the study may not be fully generalizable outside of management accountants since most of the subjects are members of the Institute of Management Accountants (IMA). Future research therefore can examine the different types of accounting professionals' perceptions of CSR (i.e., auditors, tax accountants). Furthermore, future studies can also compare how accountants' assessment of CSR differs from other types of employees.

In addition, as Long et al. (2019) acknowledge, CSR may take various forms with different elements of CSR having different effects. While this study examines CSR using scales, there may be other ways to investigate a firm's CSR adherence in the minds of its accounting (or other) employees. For example, CSR level can be manipulated in a hypothetical scenario (e.g., Brink et al. 2018). In addition, with the existence of third-party Environmental, Social and Governance (ESG) report and ratings service providers, there is another way to track an organization's commitment to corporate social involvement. Even though the concepts of ESG and CSR may involve some differences, practitioners as well as researchers have come to rely on ESG ratings to assess a firm's level of sustainability and overall

[10] Corporate social performance is defined as a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships.

CSR performance (Sunday, 2022). Future studies can therefore look at accountant or employee perceptions regarding CSR by examining the high-CSR firms contained in these reports and comparing them to lower-CSR firms not found in these rankings to assess how that may potentially translate to certain types of professional behavior.

PLS-SEM is an analytical method which also has some limitations and constraints specifically involving theory testing and confirmation (Hair et al., 2021). Although there are other statistical tools that are available for examining relationships between variables, PLS-SEM can be very powerful when used responsibly. This study provides insight into PLS-SEM usage in both an accounting and CSR-context. Future research may want to explore other questions of concern relating to these topics using this methodology following the guidelines contained in this study.

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APPENDIX – Indicator and Latent Variable Model Definitions

Latent Variable	Indicator	Definition
CSR to social and nonsocial stakeholders (CSRS)	CSRS1	My company participates in activities to protect and improve the quality of the natural environment
	CSRS2	My company makes investments to create a better life for future generations
	CSRS3	My company implements programs minimizing negative impacts on the natural environment
	CSRS4	My company considers future generations by implementing sustainable growth policies
	CSRS5	My company supports the non-governmental organizations working in the problematic areas
	CSRS6	My company contributes to the campaigns and projects that promote the well-being of the society
CSR to employees (CSRE)	CSRE1	My company encourages its employees to participate to the voluntary activities
	CSRE2	My company encourages professional development through its policies
	CSRE3	My management's company is primarily concerned with employees' needs and wants
	CSRE4	My company implements flexible policies to provide a good work and life balance for its employees
	CSRE5	The managerial decisions related with the employees are usually fair
	CSRE6	My company supports employees who want to further their education
CSR to customers (CSRC)	CSRC1	My company protects consumer rights beyond the legal requirements
	CSRC2	My company provides full and accurate information about its products to its customers
	CSRC3	Customer satisfaction is highly important for my company
CSR to government (CSRG)	CSRG1	My company always pays its taxes on a regular and continuing basis
	CSRG2	My company complies with the legal regulations completely and promptly