

Determinants of Intentions to Engage in Sustainability Accounting & Reporting (SAR) and Moderating Role of Internal Audit Function: The Perspective of Accountants

Ooi Chee Keong

Faculty of Business & Law, Taylor's University Malaysia

cheekeong.ooi@taylors.edu.my

Abstract

The purpose of this paper is to identify the determinants of engaging in sustainability accounting and reporting (SAR) and their impact on SAR. This paper also analyses the moderating role of internal audit function on engaging in SAR from the perspective of accountants. The paper has adopted quantitative design in which, data was collected from 315 accountants using survey questionnaire. The data is analysed using PLS-SEM technique along with CFA. The results revealed that only perceived behavioural control has a significant effect on intention to engage in SAR while internal audit function significantly moderates the relationship of perceived behavioural control and subjective norms with intention to engage in SAR. The study is useful for accountants and firms that intend to engage in SAR. The study is limited to perception of accountants and has only considered quantitative data.

Keywords

Sustainability accounting and reporting (SAR), perceived behavioural control (PBC), subjective norms (SN), internal audit function (IAF), theory of planned behaviour (TPB), accountability

1. Introduction

Accounting and finance have been relevant fields for companies since the inception of businesses. The main goal of accounts and finance is the management of capital within the organisation and ensuring that no fraud is being carried out within the company. However, these domains have evolved significantly over the years. The role of finance is separated from accounting because finance is related to management of funds while accounting is related to documentation and reporting of the finances being utilised in operation including both revenues and expenses. The accounting domain was mainly associated with reporting of numerical and financial data dealing with the profit and losses only without considering the non-financial information (Oncioiu et al., 2020). However recently, the companies have started to pay attention towards non-financial information disclosure to public and relevant stakeholders to identify and assess the impact of the aforementioned on society and environment. This phenomenon is termed as sustainability accounting and report (SAR) which is a part of financial accounting. This term surfaced in early 2000s when the issues related to environment and global warming came up. Accounting is a large domain containing many sub-branches including cost accounting, financial accounting and managerial accounting (Al Amosh & Mansor, 2018). All of these are interrelated. The cost and financial accounting help the companies to file financial information about the capital and operational processes of the company while managerial accounting is related with decision making with this particular data.

Although the SAR has been considered important by many companies around the world, not all of them are engaged in this currently. This is because either they lack awareness or skills to practice this or they do not consider it including in their company profile deeming it as unimportant. It has been suggested by Hahn and Kühnen (2013) that disclosure of non-financial information through sustainability accounting is one of the emerging trends in business that is revolving around all business domains. This is because business management and all the stakeholders, whether internal or external, are associated with it (Palit, 2018). Customers and shareholders tend to trust the company that engages in SAR because it shows their concern towards the environment. The employees are also contended with the company if they are aware that the company is engaged in sustainability accounting. With this discussion into consideration, the following study intends to examine the determinants of intentions to engage in SAR with the moderating role of internal audit function from the perspective of accountants. For this purpose, this paper has phrased the following question answered through the findings: *What is the moderating effect of internal audit function on the relationship between determinants to engage in SAR and intention from accountant's perspective?*

2. Literature Review

The importance of accounting and governance was increased after the scandal of Enron and WorldCom came forward who looked to manipulate the accounts for personal benefits. This led to the formation of corporate governance to overlook the accounts and hiring external auditors for auditing the financials of the company. Sustainability accounting, on the other hand, rose with the environmental concerns where the climate of earth was being jeopardised since the industrial revolution. This led to firms to report their non-financial activities in addition to financial activities that contributed to environment and society in reducing carbon footprint and becoming more sustainable. According to Joshi and Li (2016), the introduction of SAR with increased transparency has increased the firm's attention towards decision support systems for increased corporate sustainability and management that were regarded as key components for the firm to operate in the long-run. There are contradicting views regarding the role of accountants in SAR but it is prominent that accountant's role at the planning stage and reporting stage to make informed decision is crucial (Kwakye et al., 2018).

According to Christensen et al., (2018), the corporate social responsibility is also a part of sustainability accounting and reporting as CSR tends to provide guidelines based on which mobilisation of resources is carried out considering the environmental regulations. The role of SAR in this context is whether the relevant procedures set out by the company are being applied or not. Sustainability reporting is often considered an important part of annual report where companies tend to provide non-financial information pertaining to their impact on environment (Kaur & Lodhia, 2018). However, these are not only for public relations and marketing but considering these aspects, the firms can evaluate their strengths and weaknesses and build upon them to move further towards sustainability. According to Lodhia and Hess (2014), the SAR discusses various aspects related to organisational operations and activities leading to the conclusion regarding environmental and societal issues and organisation's contribution towards it. Disclosing non-financial information and reporting them to public illustrates that company is engaged with society, employees, community and has keen interest in preserving the environment for a better world tomorrow (Rinaldi et al., 2014).

The study by Minimol and Makesh (2014) focused on sustainability accounting and reporting in the emerging economies where India was discusses. It was revealed that although much scholarly work has been done in this field, lack of knowledge among top management executives is one of the key problems that SAR is not implemented entirely on a regional and national level. Moreover, the absence of legal structure to assess and implement the SAR is also a key issue. This issue is not only prominent in India but other regions as well because management acknowledges the importance of SAR but does not provide attention towards its implementation regardless of countless benefits it brings. The study of Kumar (2018) has revealed that the world is a large ecosystem and firms are a part of it

therefore, it is important for them to recognise their role in this ecosystem and give back to the environment to whatever extent possible. It has been argued that firms are unable to maintain a balance between their societal role and maintenance of shareholder value because managing one aspect disrupts the other. Very few companies are able to meet this criterion of playing their role in a sustainable environment while also ensuring sustainability and maximisation in stakeholder value (Pahuja, 2009).

The intention to engage in sustainability accounting has been a big question mark over the firms for the past years. Firms tend to recognise the fact but their intention is questioned. This argument has been raised by many researchers that engaging in sustainability accounting and reporting requires commitment and intention which lacks in many firms and hence, they lag behind competition. The customers and stakeholders have become smart and aware of their surroundings and demand their firms to fulfil their role as part of the society (Tiwari & Khan, 2020). The firms that fail to adhere to these requirements are likely to fail. But to properly implement SAR, it is required to first define it completely. It is to be noted first that there is no universal definition of SAR and is perceived by different companies differently. However, Hales et al., (2016) has determined the role of four key players in this domain that are required to push SAR in detail. These include International Integrated Reporting Council (IIRC), Carbon Disclosure Project (CDP), Sustainability Accounting Standards Board (SASB) and Global Reporting Initiative (GRI).

3. Theoretical Framework

Stakeholder theory states that the firms and their stakeholders are interconnected and each decision taken by the company somehow impacts the stakeholders both internal and external. The stakeholder theory holds the view that prime purpose of business is value creation for all of its stakeholders not only the stockholders. The stakeholder's theory is a widely recognised and used theory in business management and ethics which tends to include all the stakeholders within the umbrella of organisation and talks about satisfying them all while ensuring that no harm is laid with any decision of firm to any of stakeholders (Hörisch et al., 2020). In this paper, the stakeholder theory can be applied as the intention to engage in SAR is relevant to all the stakeholders particularly the society because organisations need to play their role for sustaining the environment.

Another theory that is relevant to this study is theory of planned behaviour (TPB). Generally considered as a business management theory, TPB believes that the actions and behaviour of an individual are shaped through their beliefs and intentions (Rex et al., 2015). The same can be applied to this study as the behaviour to engage in SAR is depicted through beliefs and intentions where accountants play a crucial role. Hence, based on this discussion, the following hypothesis are presented:

- H1: Accountant's attitude has a positive relationship with intention to engage in SAR.
H2: Accountant's subjective norm has a positive relationship with intention to engage in SAR.
H3: Accountant's perceived behavioural attitude has a positive relationship with intention to engage in SAR.
H4: Internal audit function significantly moderates relationship of attitude, subjective norm and perceived behavioural control with intention to engage in SAR.

4. Conceptual Framework

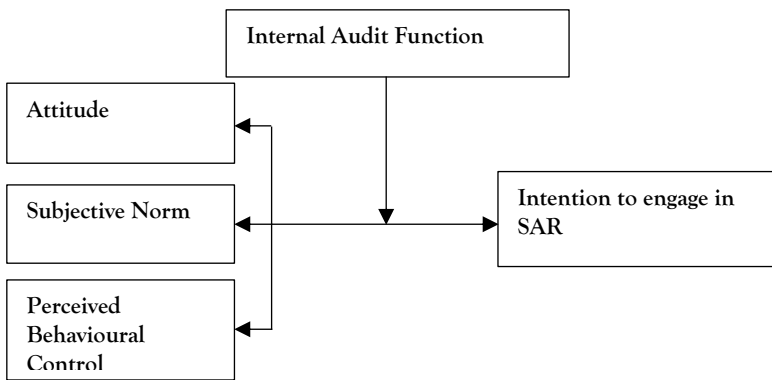


Figure 1: Conceptual framework

The conceptual framework of the study depicts 3 independent variables based on TPB. The dependent variable is intention to engage in SAR while the moderating variable is internal audit function.

5. Methodology

Methodology is the guiding principle for the researcher to conduct the study as it presents with different choices so that researcher can choose the most suitable and valid choice for reaching conclusive outcomes (Kumar, 2018). The research design is mainly of three kinds that are quantitative, qualitative and mixed. The quantitative design involves numbers whereas the qualitative design involves contextual information. The mixed design incorporates both. This study has been conducted by collecting and analysing numerical data hence, quantitative design is deemed more appropriate (Mackey & Gass, 2015). As discussed in previous sections that stakeholder theory and TPB are used, the hypothesis is generated with regards to TPB. Hence, this paper has followed deductive approach to test the hypothesis.

The data collection is a crucial phase of the study. Data collection is categorised into primary and secondary. Since this paper has focused on accountant’s perception, the primary data collection method has been adopted in this research. The research has collected data through survey questionnaire based on five-point Likert scale. The questionnaire is adapted from Thoradeniya et al., (2015) and Kwakye et al., (2018). The population of this study is accountants. The sample is calculated using the following formula;

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 384$$

Since the sample is calculated 384, 400 questionnaires were sent but only 315 were received filled and rest were incomplete or not received back. The sample was based on purposive sampling and questionnaire was shared through LinkedIn with the potential participants. The data is analysing using structural equation modelling (SEM) technique applied through SmartPLS along with confirmatory factor analysis (CFA).

6. Result

The research has aimed at determining the intention to engage with CSR with the moderating role of internal audit function. The data is analysed using CFA and SEM analysis from the responses collected. The results are presented for CFA, discriminant validity, model assessment and path assessment below;

6.1. Confirmatory Factor Analysis (CFA)

Confirmation factor analysis is a technique used for validity and reliability testing through statistical tools. It tests the convergent validity indicating that the variables that are interrelated theoretically are also interlinked empirically through the study. There are various measures for testing convergent validity among which, this study has used Cronbach’s alpha, composite reliability, average variance extracted (AVE) and outer loadings. The results are presented as follows;

Table 1: Confirmation factor analysis

Research Construct	Indicators	Factor Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Intention to Engage in SAR	IESAR1	0.893	0.899	0.937	0.832
	IESAR2	0.931			
	IESAR3	0.912			
Perceived Behavioural Control	PBC1	0.903	0.907	0.942	0.843
	PBC2	0.912			
	PBC3	0.940			
Subjective Norm	SN1	0.906	0.881	0.927	0.808
	SN2	0.902			

	SN3	0.868			
Attitude	AT1	0.854	0.830	0.898	0.746
	AT2	0.879			
	AT3	0.859			
Internal Audit Function	IAF1	0.888	0.785	0.873	0.699
	IAF2	0.898			
	IAF3	0.709			

There are different thresholds for each. The outer loadings, Cronbach's alpha and composite reliability have a cut-off value of greater than 0.7 while AVE is acceptable at values above 0.5. From the analysis, it is revealed that all items in attitude, intention and behavioural control have an outer loading greater than 0.7. It is also confirmed through Cronbach's alpha and composite reliability that the value is above 0.7. The results of AVE have revealed that the variable is fit for further testing. The results for intention and behavioural control are also the same where all the criterions have been met to conduct the tests further.

6.2. Discriminant Validity

Discriminant validity refers to the analysis to determine whether variables conceptually unrelated are actually unrelated. It is tested through heterotrait-monotrait (HTMT) ratio having a cut off value of 0.85 indicating that all the values should be less than 0.85 to fulfil this criterion.

Table 2: Discriminant validity

	Attitude	Perceived Behavioural Control	Subjective Norm	Internal Audit Function
Attitude	0.472			
Perceived Behavioural Control	0.549	0.647		
Subjective Norm	0.476	0.680	0.577	
Internal Audit Function	0.636	0.595	0.515	0.499

The results from above table 1 have revealed that all the variables have an HTMT ratio value less than 0.85 hence the discriminant validity criterion has been met. This shows that model is fit to proceed with analysis further.

6.3. Model Assessment

Model assessment is used to test the overall effectiveness of the model containing R-square, adjusted r-square and Q-square. All of these measures indicate the predictive power of the independent variable towards the dependent variable. The results of model assessment are presented below in table;

Table 3: Model assessment

	R-Square	R-Square Adjusted	Q-Square
Intention to Engage in SAR	0.481	0.471	0.378

The results reveal through r-square that independent variables cumulatively predict the dependent variable by 0.481 or 48.1%. This intends to show that perceived behavioural control, subjective norms and attitude are likely to predict intention to engage in SAR by 48.1%. The adjusted R-square shows the same results with adjusting the error hence determining the actual predictive power of the model. Q-Square indicates the predictive relevance. Any value above 0 fulfils the criterion which is evident in this case since the Q-square value is 0.378.

6.4. Path Assessment

Path assessment is used to determine the individual effect of each independent variable on the dependent variable. It also shows the moderating effect of internal audit control on determinants of intention and intention to engage in CSR. The results are presented below:

Table 4: Path assessment

Path	Path Coefficient	T Statistics	P Values
Attitude -> Intention to Engage in SAR	-0.097	1.919	0.055
IAF*AT -> Intention to Engage in SAR	0.043	0.794	0.427
IAF*PBC -> Intention to Engage in SAR	0.141**	2.174	0.030
IAF*SN -> Intention to Engage in SAR	-0.230***	4.129	0.000
Internal Audit Function -> Intention to Engage in SAR	0.419***	6.439	0.000
Perceived Behavioural Control -> Intention to Engage in SAR	0.226***	4.073	0.000
Subjective Norm -> Intention to Engage in SAR	0.114	1.781	0.075

***: significant at 1%; **: significant at 5%

The results from table above indicate that IAF and PBC have a significant impact over intention to engage in SAR because the p-value is less than 0.05. On the contrary, the moderating effect of IAF on PBC and SB is significant as the p-value is less than 0.05. It also indicates that IAF significantly moderates the relationship of PBC and SN with intention to engage in CSR.

Table 5: Hypothesis Assessment Summary

Hypotheses	Proposition	Results
H ₁	Accountant's attitude has a positive relationship with intention to engage in SAR	Rejected
H ₂	Accountant's subjective norm has a positive relationship with intention to engage in SAR	Rejected
H ₃	Accountant's perceived behavioural attitude has a positive relationship with intention to engage in SAR	Accepted
H ₄	Internal audit function significantly moderates relationship of attitude, subjective norm and perceived behavioural control with intention to engage in SAR	Partially Accepted

7. Discussion

The results have revealed that among the chosen factors, only perceived behavioural control is observed to have a significant impact on intention to engage in SAR. Moreover, internal audit function is observed to moderate the relationship significantly between PBC and SN. The findings of this study are in line with the study of Joshi and Li (2016) who states that intention to engage in SAR is linked with behavioural control. The findings of Kwakye et al., (2018) also state that behaviours of accountants are important for the adaptation of SAR in firms.

8. Conclusion

The firms today have been paying close attention to sustainability accounting due to increased environmental concerns. However, it was important to identify the determinants that allowed firms to engage in such practices. With regards to theory of planned behaviour, it was determined that only perceived behavioural control is the variable that impacts intention to engage in SAR. However, attitude and subjective norms do not directly impact SAR. On the contrary, internal audit function is observed to significantly moderate the relationship between PBC, SN and intention to engage in SAR. In this consideration, the following recommendations are presented: 1) It is recommended to accountants and firms to focus on their perception of ability to give accountants the confidence to adopt SAR in the firms. This will help firms to enhance their potential and engage in SAR; 2) It is advised to firms to improve their internal audit function as this will help them to better engage in SAR and enhance intentions to adopt SAR.

9. Limitations

There are many limitations attached with this paper. Firstly, this research has only focused on accountant's perceptions but the perception of other stakeholders is not identified. Therefore, the researchers in future can include other important stakeholders such as top management to get a comprehensive view. Secondly, this study is based on quantitative analysis. A qualitative analysis would broaden the scope of SAR adoption therefore, future researchers can work on this as well.

10. References

- Al Amosh, H. A. M., & Mansor, N. (2018). Sustainability and corporate reporting: a review on environmental and social accounting disclosure. *International Journal of Accounting*, 3(8), 78-87.
- Christensen, H. B., Hail, L., & Leuz, C. (2018). Economic analysis of widespread adoption of CSR and sustainability reporting standards. Available at SSRN 3315673.

- Hahn, R., & Kühnen, M. (2013). Determinants of sustainability reporting: a review of results, trends, theory, and opportunities in an expanding field of research. *Journal of cleaner production*, 59, 5-21.
- Hales, J., Matsumura, E. M., Moser, D. V., & Payne, R. (2016). Becoming sustainable: A rational decision based on sound information and effective processes?. *Journal of Management Accounting Research*, 28(2), 13-28.
- Hörisch, J., Schaltegger, S., & Freeman, R. E. (2020). Integrating stakeholder theory and sustainability accounting: A conceptual synthesis. *Journal of Cleaner Production*, 275, 124097.
- Joshi, S., & Li, Y. (2016). What is corporate sustainability and how do firms practice it? A management accounting research perspective. *Journal of Management Accounting Research*, 28(2), 1-11.
- Kaur, A., & Lodhia, S. (2018). Stakeholder engagement in sustainability accounting and reporting. *Accounting, Auditing & Accountability Journal*.
- Kumar, R. (2018). *Research methodology: A step-by-step guide for beginners*. Thousand Oaks: Sage Publication Ltd.
- Kwakye, T. O., Welbeck, E. E., Owusu, G. M. Y., & Anokye, F. K. (2018). Determinants of intention to engage in Sustainability Accounting & Reporting (SAR): the perspective of professional accountants. *International Journal of Corporate Social Responsibility*, 3(1), 11.
- Lodhia, S., & Hess, N. (2014). Sustainability accounting and reporting in the mining industry: current literature and directions for future research. *Journal of Cleaner Production*, 84, 43-50.
- Mackey, A., & Gass, S. M. (2015). *Second language research: Methodology and design*. New York: Routledge.
- Minimol, M. C., & Makesh, K. G. (2014). Green accounting and reporting practices among Indian corporates. *Asia pacific journal of research*, 1.
- Oncioiu, I., Petrescu, A. G., Bilcan, F. R., Petrescu, M., Popescu, D. M., & Anghel, E. (2020). Corporate Sustainability Reporting and Financial Performance. *Sustainability*, 12(10), 4297.
- Pahuja, S. (2009). Environmental Accounting and Reporting (EAR) Standards. *Indian Journal of Accounting*, 39(2), 37-43.
- Palit, S. (2018). Emerging Significance of Sustainability Accounting and Reporting in India-A Conceptual Study. *International Journal of Accounting and Financial Management Research*, 8(4), 1-6.
- Rex, J., Lobo, A., & Leckie, C. (2015). Evaluating the drivers of sustainable behavioral intentions: An application and extension of the theory of planned behavior. *Journal of Nonprofit & Public Sector Marketing*, 27(3), 263-284.
- Rinaldi, L., Unerman, J., & Tilt, C. (2014). The role of stakeholder engagement and dialogue within the sustainability accounting and reporting process. In Bebbington, J., Unerman, J., & O'Dwyer, B (eds.), *Sustainability accounting and accountability* (pp. 104-125). London & New York: Routledge.

- Thoradeniya, P., Lee, J., Tan, R., & Ferreira, A. (2015). Sustainability reporting and the theory of planned behaviour. *Accounting, Auditing & Accountability Journal*, 28(7), 1099-1137.
- Tiwari, K., & Khan, M. S. (2020). Sustainability accounting and reporting in the Industry 4.0. *Journal of Cleaner Production*, 258, 120783.