

Effects of top management's commitment, organisation structure and environmental uncertainty on corporate environmental, social and governance (ESG) disclosure: The role of social accounting

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تأثير التزام الإدارة العليا، الهيكل التنظيمي، وعدم اليقين البيئي على الإفصاح المؤسسي عن الممارسات البيئية والاجتماعية والحوكمة: دور المحاسبة الاجتماعية

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الملخص:

تتناول هذه الدراسة أثر التزام الإدارة العليا، والهيكل التنظيمي، وعدم اليقين البيئي على الإفصاح عن الممارسات البيئية، الاجتماعية والحوكمة في الشركات الليبية من خلال استخدام أدوات المحاسبة الاجتماعية. واعتمدت الدراسة على استبانة لجمع البيانات، حيث بلغ عدد الاستجابات الصالحة للتحليل 68 استجابة من أفراد المجتمع المحاسبي العاملين في مختلف القطاعات الصناعية في ليبيا. وأظهرت النتائج وجود تأثير إيجابي ومعنوي لكل من التزام الإدارة العليا، والهيكل التنظيمي، وعدم اليقين البيئي على استخدام أدوات المحاسبة الاجتماعية، والتي تسهم بدورها في تحسين مستوى الإفصاح عن الممارسات البيئية، الاجتماعية والحوكمة لدى الشركات. وتبرز النتائج أهمية عدم اليقين البيئي في دفع الشركات إلى تكييف استراتيجياتها المتعلقة بالممارسات البيئية، الاجتماعية والحوكمة بما يسهم في تحقيق أداء تنظيمي أفضل. كما تدعم نتائج الدراسة نظرية الطوارئ، حيث تشير إلى أن العوامل التنظيمية والبيئية تؤدي دوراً مهماً في تفسير طبيعة ومستوى الإفصاح عن الممارسات البيئية، الاجتماعية والحوكمة. وتقتصر هذه الدراسة على البيئة الليبية، ولذلك قد لا تكون نتائجها قابلة للتعميم على دول أو اقتصادات أخرى، نظراً لاختلاف الظروف المؤسسية والاقتصادية بين البيئات المختلفة (Sancha et al., 2016). وعليه، ينبغي توخي الحذر عند تطبيق نتائج هذه الدراسة في سياقات أخرى. وتقدم الدراسة عدداً من التوصيات العملية المهمة، إذ توصي صناع القرار، وقادة الأعمال، والمستشارين بضرورة التركيز على المبررات الاقتصادية والفوائد التجارية للإفصاح عن الممارسات البيئية، الاجتماعية والحوكمة، بما يعزز دمج هذه الممارسات في السياسات التنظيمية، وعمليات صنع القرار، وأنظمة الرقابة داخل المؤسسات. كما تؤكد الدراسة على أهمية تطوير قدرات المؤسسات على

التعامل مع حالات عدم اليقين البيئي، بما في ذلك السياسات الضريبية البيئية والتشريعات واللوائح البيئية، إلى جانب الإدارة الفعالة لأدوات المحاسبة الاجتماعية بهدف تحسين الأداء البيئي للمؤسسات. وتبين النتائج أيضاً أن استخدام المحاسبة الاجتماعية في دعم عملية اتخاذ القرارات الداخلية يمثل آلية فعالة لتوجيه القرارات الاستراتيجية ورسم التوجهات المستقبلية للمنظمات. وتعد هذه الدراسة من أوائل الدراسات التي تبحث في التأثير المشترك لمجموعة من متغيرات نظرية الطوارئ، وهي التزام الإدارة العليا، والهيكل التنظيمي، وعدم اليقين البيئي، على مستوى الإفصاح عن الممارسات البيئية، الاجتماعية والحوكمة في الشركات، مع الأخذ في الاعتبار الدور الوسيط للمحاسبة الاجتماعية. كما تسهم الدراسة في إثراء الأدبيات المحدودة المتعلقة بالإفصاح عن الممارسات البيئية، الاجتماعية والحوكمة في الدول النامية، وتوفر إطاراً مرجعياً يمكن أن تستند إليه الدراسات المستقبلية، ولا سيما تلك التي تُجرى في المنطقة العربية.

الكلمات الدالة: ليبيا، الإفصاح البيئي، الاجتماعي والحوكمة، المحاسبة الاجتماعية.

Abstract

The study examines the effects of top management's commitment, organization structure and environmental uncertainty on corporate environmental, social and governance (ESG) reporting in Libyan business through social accounting (SA) tools. The study uses a survey questionnaire to collect the primary data from a sample of 68 responses representing the accounting community in various industries in Libya. The empirical findings show that organizational resources, namely top management commitment, organizational structure, and environmental uncertainty have a positive and significant influence on the use of SA, suggesting that the adoption of SA contributes to enhancing companies' ESG disclosure practices. These findings also provide an indicator for the important role of the environment uncertainty for companies to adapt their ESG strategies in response to changing external circumstances, thereby boosting their ability to achieve superior organizational performance. The findings of this study tend to support contingency theory, suggesting that it offers a more comprehensive explanation of the nature and patterns of ESG disclosure. The study is limited to the Libyan setting. Results may differ in different settings (i.e., country and economy) (Sancha et al., 2016). Because of this, no claims can be made for their generalizability to other contexts and/or economies. The study suggests that decision makers and business advisors place greater emphasis on the business rationale and economic benefits associated with ESG disclosure, thereby improving the effective integration of ESG disclosure considerations into organizational policymaking and control processes. Other practical implication of the study is to effectively respond to perceived environmental uncertainty, such as environmental tax regulatory requirements, managing SA tools to improve organisations' environmental performance. The use of SA for internal decision-making serves as a strategic tool in this respect, as a consequence, to shape the future directions of the organisation. This is the first study to explore the effect of a group of contingent variables, including top management commitment, organisational structure and environmental uncertainties on ESG disclosure of companies through the role of the SA. This study contributes to the relatively limited body of ESG literature in developing contexts and provide a useful framework for further research, particularly within the context of the Arabic region.

Keywords: Libya, Environmental, Social and Governance Disclosure, Social Accounting.

1. Introduction

Sustainability, in an environmental, social and governance (ESG) disclosure sense, has become prevalent in various areas of modern life. It can be observed in a wider context of both environmental considerations and society. The findings of KPMG Survey of Sustainability Reporting 2020¹ reveal that 80 percent of all researched companies globally published ESG reports in 2020, which is increased from only 12 percent in 1993. Prior studies have devoted

¹ The survey based on the top 100 companies worldwide by revenue from 52 countries and jurisdictions (see, <https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2020/11/the-time-has-come.pdf>)

considerable attention to defining the corporate ESG disclosure practices (e.g. Chambers, 2015; Clementino and Perkins, 2021). Nevertheless, there is still an ongoing debate regarding the definition of corporate ESG disclosure (Yip et al., 2024). ESG, according to World Business Council for Sustainable Development (2002: 2), is a “commitment of businesses to contribute to sustainable economic development by working with employees, their families, the local community and society at large to improve their lives in ways that are good for business and for development”. Previous research has extensively explored the relationship between ESG practices and organisational performance, seeking to establish the underlying economic rationale for corporate ESG disclosure (Clementino & Perkins, 2021; Mahmes, 2018). Yet, what seems to be missing in the literature is concerning empirical evidence on the effects of the contextual factors on corporate ESG disclosure. The central theme here is that decision makers seek to find a match between the extent of information demanded by the environment and the processing capabilities of the company.

Understanding ESG disclosure in a given country first involves an appreciation of its contextual factors rather than the application of measures developed external to them (Elmogla et al., 2015). An eco-friendly organisation tends to depend on company characteristics, including top management commitment (Lisi, 2015), organisation structure (Lee and Yang, 2011) and environmental uncertainties (Wong et al., 2011) with ESG disclosure issues and the use of SA, which may, in turn, contribute to strengthening their competitive advantage. To date, empirical research examining these relationships has given limited consideration to the reality of emerging countries, particularly Libya.

Libya is an influential country in the global economy and provides an important platform for companies securing financing support of their business development and growth. It is a prominent member of the Organization of the Petroleum Exporting Countries (OPEC), with proven crude oil reserves estimated at 48.36 billion barrels as of January 2024, representing the largest proven oil reserves in Africa and rank among the seven largest globally (OPEC Annual Statistical Bulletin, 2024). While a growing number of companies are being evaluated on ESG criteria by sustainability rating bodies (Clementino and Perkins, 2021). little is known about companies' responses in Libya (Mahmes, 2018). To further promote ESG reporting practices, Central Bank of Libya required all companies listed in Libya to publish annual ESG reports annually, starting in 2023. For large companies, producing ESG related information is not a problem because they have been doing voluntarily for years (Ahmad and Mousa, 2010; Elmogla et al., 2015). And yet, it is a challenge for small and medium firms to report appropriately because they may lack knowledge, skills, motivation, etc. (Mahmes, 2018).

This study is also motivated by the paucity of empirical evidence concerning the extent to which the use of SA contributes to enhancing corporate ESG disclosure of companies. The existing literature examining the relationship between accounting and sustainability has largely concentrated on examining the effects of ecoefficiency on companies' performance (Journeault, 2016; Lui et al., 2021; Lau and Wong, 2023), with comparatively limited attention being devoted to the role of SA in outlining the practices of ESG disclosure. A critical review of the extant literature (e. g. Derchi et al., 2015; Ali et al., 2017) has identified persistent gaps that remain insufficiently investigated, particularly regarding the role of the combined organisational resources - such as social accounting, top management support, organisation structure, etc. - in enhancing corporate ESG disclosure.

Consequently, the main aim of this study is to empirically examine the effects of top management commitment, organisation structure and environmental uncertainty on ESG disclosure, while considering the mediating role of social accounting (SA). To achieve this aim, the following objectives were addressed:

1. To investigate the direction of (through SA) effects of top management's commitment upon corporate ESG disclosure;
2. To investigate the direction of (through SA) effects of an organisation structure upon corporate ESG disclosure;
3. To investigate the effect of perceived environmental uncertainty upon the use of SA.

This study integrated the contingency theory (CT) to explain the effects of environmental uncertainty on corporate performance. CT argues that the corporate performance depends on the fit between a company's structure, processes, and external environment (Wong et al., 2011). Valuable contributions are expected from this work. This is the first study to explore the effect of a group of contingent variables namely, top management commitment, organisational structure, environmental uncertainties upon ESG disclosure practices of companies considering the role of the SA. In addition to such integration, this study responds to the suggestions of prior works to seek for empirical evidence regarding the influence of these factors on companies' disclosure. Several studies (Sancha et al., 2016; Maletič et al.,

2018) have examined the influence of contextual factors on firms' ESG practices. However, the framework tested in the present study adopts a more comprehensive perspective. This study extends the existing literature by providing empirical evidence from Libya as an emerging economy to a field of research that has not given enough attention in the area of ESG disclosure.

The structure of this study consists of five sections. The second section outlines the theoretical framework and develops the research hypotheses. The third section clarifies the research method. The fourth section provides the empirical results. The fifth section discusses the findings, concludes the paper and outlines its theoretical and practical implications. It also acknowledges the limitations of the study, suggesting avenues for future research.

2. Theoretical framework and development of hypotheses

2.1. The relevance of contingency theory to the study

Despite the increasing body of research on ESG disclosure, relatively limited attention has been devoted to examining the organisational factors that influence the adoption of ESG disclosure practices (Christ and Burritt, 2013; Otley, 2016). This led to a significant knowledge gap in the literature of ESG disclosure. This has resulted in a lack of clarity regarding the effective implementation of corporate ESG disclosure and practices. This study suggests that the use of CT would offer a new and useful framework on the implementation of the practices of ESG disclosure. CT has provided theoretical insights and received a substantial empirical support (Donaldson, 2001). It has been extensively used in the in contemporary accounting research (Chenhall, 2003; Christ and Burritt, 2013), a discipline from which ESG disclosure has developed.

CT is a major theoretical framework utilized to study organisations' performance (Sousa and Voss, 2008). Companies adapt their structures to maintain effective functioning with changing environmental factors (Donaldson, 2001) and achieve higher levels of performance. CT suggests that organisational effectiveness is achieved by aligning the company characteristics with the contextual contingencies that reflect the environmental circumstances in which the organisation operates (Otley, 2016; Maletič et al., 2018). Contingency factors determine which organisational characteristics are associated with higher levels of organisational effectiveness (Donaldson, 2001). Otley (2016) claims that contingency research should be undertaken based on identifying an appropriate set of contextual factors of the current business environment. Pryshlakivsky and Searcy (2015) emphasised the importance of integrating the contingency factors into the framework for addressing ESG issues. The application of CT to ESG practices can reveal several factors that might influence the reporting of ESG information. It can be suggested, since its inception, the field ESG disclosure has been strongly rooted in a contingency paradigm, which is informed by CT. One possible explanation for this is the emphasis that CT places on economic efficiency, rationality and functionality postulated by this theory. From this perspective, the current study takes CT as a very useful theoretical lens to explain ESG disclosure issues, particularly in contexts where the theoretical development of ESG disclosure is less well developed.

CT has pertinence in this study. This because of the different ways ESG disclosure issues present themselves and interact with various contingency factors. ESG disclosure can be understood as an application of the contingency approach within this study of contextual factors, which have emerged from a “universalistic” paradigm (Sousa and Voss, 2008). What is important here is how contingent factors inform the way in which companies can deal with ESG disclosure issues. The reason for the usage of CT is related to the variegated aspects examined in this study. There has been more recent interest in employing CT to accounting research, primarily in the ESG disclosure area (Bouma and van der Veen, 2002; Christ and Burritt, 2013; Pryshlakivsky and Searcy, 2015; Sancha et al., 2016; Maletič et al., 2018). Given that SA facilitates the identification of social costs and the measurement of social responsibility performance (Burritt and Saka, 2006), organizational resources and capabilities—including organizational structure, top management commitment, and awareness of environmental uncertainty— will be relevant antecedents for SA. The following sub-sections review the related literature and develop the research hypotheses.

2.2 Top management commitment, SA and ESG disclosure

During the process of addressing ethical issues from the public, a number top managers have recognised that the commitment to social and environmental sustainability will lead to competitive advantages through cost reduction, increased value of market share, enhancement of the company's image and improve technological leadership (Lisi, 2015; Newman et al., 2020). Spencer et al. (2013) concluded that the commitment of top management to social

sustainability plays a significant role in enhancing ESG disclosure practices. They suggested that top management which committed to the social responsibility is tended to employ a sophisticated systems capable of providing comprehensive information on ESG disclosure practices. Managers act as both decisions-makers and agents of action within society, responsible for formulating decisions and ensuring their effective implementation. Managers who are affectively committed to society are likely to pursue opportunities to meet societal expectation. ESG committed managers may seek to fulfil their commitment to society by promoting ESG disclosure practices to ensure that the organisation operates in accordance with its social requirements.

Wee and Quazi (2005) found that top management's commitment to societal responsibilities plays a significant role in enhancing ESG disclosure practices and promoting the adoption of SA. Mahmes (2018) argues that reporting CSR is commitment by managers in accordance with their social priorities to addressing societal priorities by mitigating the adverse impacts of corporate activities, solve social problems and achieve social welfare. Managers rely on substantial information generated by their SA systems to facilitate decision-making related to social and environmental regulations, and the improvement of products (Burritt et al., 2002). ESG information assists managers in developing and implementing indicators to evaluate and monitor their organisational sustainability performance (Lisi, 2015). Consequently, the following hypotheses are formulated:

H1a. Top management commitment has a positive influence on corporate ESG disclosure.

H1b. Top management commitment has a positive influence on corporate ESG disclosure indirectly through SA.

2.3 Organisation structure, SA and ESG disclosure

Organisation structure is a control framework that encompasses the allocation of responsibilities and power, information flows, and work procedures are conducted among employees (Germain, 1996; Nahm et al., 2003). Organisation structure could be distinguished as mechanistic versus organic (Daft, 1995). Mechanistic organisations are characterised by centralised decision-making, highly formalised and standardised control systems, and a greater reliance on vertical communication and hierarchical directives. Essentially, they are bureaucracies (Daft, 1995; Germain, 1996; Nahm et al., 2003). Mechanistic organisations work well in stable, simple environments (Daft, 1995). Organic organisations are characterised by low levels of formalisation, specialization and standardization, fewer hierarchical levels, a limited number of formal rules, and a horizontal mode of communication. Decision-making is decentralized, and organizational activities are closely integrated to enable firms to respond effectively to environmental uncertainty (Germain, 1996; Nahm et al., 2003). Organic organizational structures are particularly suited to dynamic and unstable environments, where business needs to respond rapidly to changing conditions (Daft, 1995). The construct was measured by a number of questions about the degree of decentralization, formalization of authority, hierarchy, and horizontal integration. Each item was measured using a five-point scale, with the low end of the scale representing a mechanistic organisational structure and the high end representing an organic organisational structure.

Decentralization refers to the extent to which decision-making authority is distributed throughout an organisation rather than being concentrated at the higher levels of management. The level of autonomy that is delegated to managers for their decision-making (Chia, 1995). When decision-making authority is transferred to lower levels of the organisational hierarchy, the organisation is considered to have a higher degree of decentralization (Germain, 1996). Formalization refers to the extent to which an organisation's policies, procedures, job descriptions, and rules are written and explicitly articulated. Hierarchical levels can be defined as the number of levels a company has in its hierarchy. Several researchers have labeled this organisation structure as "tall structures", as opposed to "flat structures" (Ghiselli & Johnson, 1970; Porter & Siegel, 2006). An organisation that is flat is one wherein there are few layers of management between frontline employees and the top level, whereas an organisation that is tall is one wherein there are many layers, both organisations being the same size. Horizontal integration refers to the lateral communication between departments and workers or functions versus integrated in their works, skills, and training. Integration can be accomplished through a number of mechanisms including cross-functional committees, liaison personnel, and task forces (Germain, 1996; Nahm et al., 2003). An organisation with a high level of horizontal integration is assumed to increase knowledge transfer more than the firm with a low level of horizontal integration. The implication of CT is that organisations are more likely to achieve superior performance when their ESG practices are aligned with their specific informational requirements. Chin (1995) suggests that managers in decentralized organisational structures require integrated and comprehensive information to facilitate effective

decision-making. The decentralization of decision-making authority can enhance the efficiency and effectiveness of information processing within an organisation. The demand for integrated ESG information is expected to be greater in decentralized organisation structures. Through decentralization an organisation is able to provide its stakeholders with the required type of information over its ESG activities. As the organisation structure influences the level of integration (Lee and Yang, 2011), effective coordination among departments within their respective units. This integration can facilitate the communication and alignment of the company's ESG strategic objectives across different levels of the organisation. Contingency-based research argues that an organisation's formal structure influences the design of reporting system of any company (Lee and Yang, 2011). CT claims that the effectiveness of organisation structure depends on the fit between organisation structure and several contextual factors (Chenhall, 2003; Otley, 2016).

This study views the reporting system as an integral component of the organisation that interacts with the its structure to enhance ESG disclosure. The expanding body of research on accounting information systems has identified significant associations between information systems characteristics and both organisational structure and the organisational environment (Gordon & Narayanan, 1984). The literature highlights important relationships between organisational structure and a company's accounting practice (Luft and Shields, 2003). The extent to which the match between organisation structure and SA influences organisation ESG reporting remains insufficiently understood.

The above arguments suggest that the structure of organisation may enhance decision-making in relation to ESG disclosure by satisfying stakeholders information requirements. Consequently, the following hypotheses are suggested.

H2a. Organisation structure positively influences corporate ESG disclosure.

H2b. Organisation structure positively influences corporate ESG disclosure indirectly through SA.

2.4 Perceived environmental uncertainty and SA

Environmental uncertainty (EU) refers to a situation in which future environmental conditions cannot be predicted. Uncertainty can also be defined as both technological change and unpredictable instability (Tegarden et al., 2005). It has become a central construct in the literature examining the relationship between an organisation's performance outcomes and external environmental conditions in which it operates (e.g. Maletič et al., 2018). The concept of EU is recognised as an important contextual factor that can affect the effectiveness of implementing best practices (Wong et al., 2011). EU is a challenge for every firm today. This because of the limited availability of green accounting information and the rapid evolution of ESG related information evolves, which can limit organisational action and decision-making under conditions of high uncertainty. Therefore, ESG disclosure can support decision-makers in enhancing the quality of their decisions and mitigating societal pressure, as such information facilitates the evaluation of alternatives and identify the appropriate solutions.

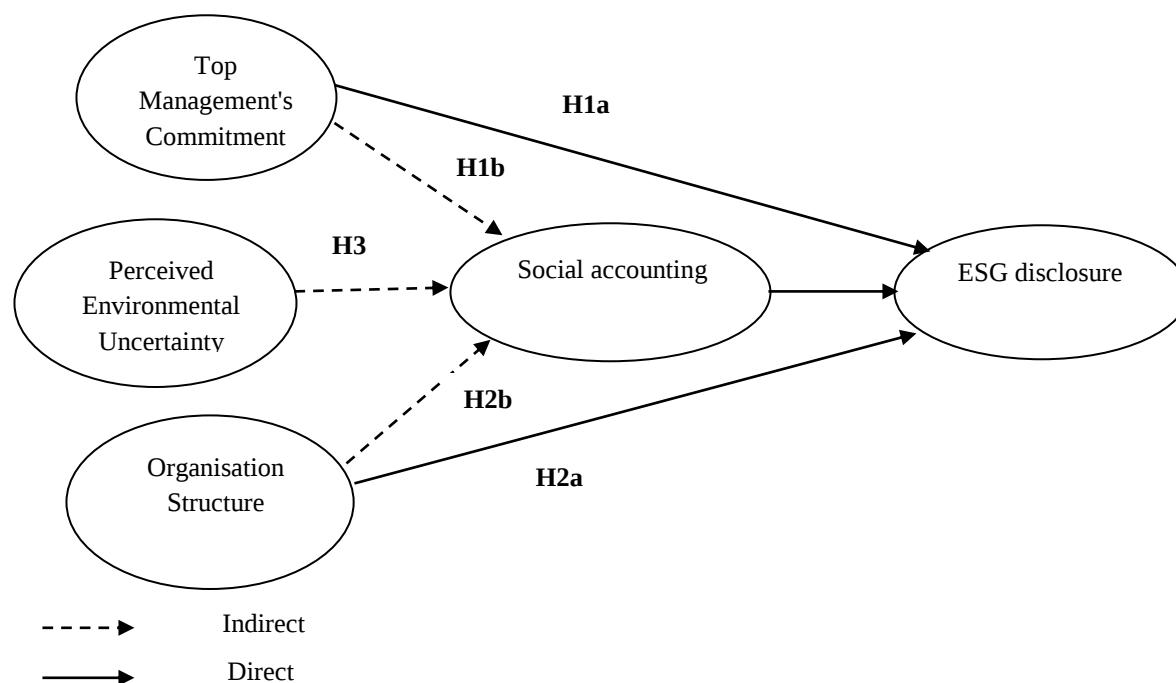
Research examining the relationship between environmental uncertainty and ESG has received increasing attention in both the CT and accounting information systems literature. CT assumes that the perceptions of key decision-makers are incorporated in the design and structure of organisations (Gordon & Narayanan, 1984). Prior literature applying the contingency framework suggests that organisational performance is influenced by manager's perceptions of environmental uncertainty (Otley, 2016).

Contingency perspectives relating environmental conditions of companies have flowed from an information processing perspective. The main premise is that decision-makers seek to establish an alignment between the level of information-processing required by the surrounding environment and the organisation's information-processing capabilities (Gordon & Narayanan, 1984). Prior research indicates that environmental uncertainty plays a significant role in shaping firms' strategic development and the way that companies deal with different unpredictable environmental conditions (Parnell et al., 2000). Rodrigue et al. (2013) found that environmental uncertainty can directly influence the use of environmental management accounting. Maletič et al. (2018) present evidence for the importance of the environmental uncertainty in enabling firms to adapt their corporate sustainability strategy to improve a company's overall performance. However, the potential effect of environmental uncertainty on the use of SA as a means of enhancing corporate ESG disclosure remains insufficiently understood. Consequently, the following hypothesis was suggested:

H3. Perceived environmental uncertainty is positively and significantly associated with the use of SA.

Fig. 1 shows the structural model and the hypothesised relationships between the variables tested in this study.

Figure 1. Conceptual framework and hypothesised relationships



3. Research method

3.1 Sample selection and data collection

The respondents in this study comprised members of the accounting community representing various industries in Libya. Companies' sustainability/corporate responsibility managers were also requested to participate in the survey, given their specialised knowledge and expertise about the topics under investigation. Data were collected through an online questionnaire distributed among a target sample of Libyan organisations across various industrial sectors. The study followed Frohlich's (2002) suggestion to improve the response rate by calling all respondents before the questionnaire being administrated. A pre-notification message was sent to inform potential respondents who cannot be reached by phone about the study (Dillman, 2000). To encourage participation and increase the likelihood of questionnaire completion, respondents were assured that their responses would remain confidential and were offered a copy of the research findings (Dillman, 2000).

3.2 Measures and survey instrument design

Table 1, 2 and 3 illustrated that all measures of the key constructs were adapted from established measures in the existing literature. The study adapted existing scales to measure organisation structure (Gordon and Narayanan, 1984; Christ & Burritt, 2013), environmental uncertainty (Wong et al., 2009; Jusoh, 2010; Wong et al., 2011; Maletić et al., 2018) and top management commitment (Spencer et al., 2013; Lisi, 2015). Respondents indicated the extent to which they agreed or disagreed with each statement concerning their organisation using a five-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

As the scales adopted from previous studies were originally developed in English, they were translated into Arabic for the purposes of this study. Two bilingual Arabic-speaking researchers were involved in the translation

process. To ensure conceptual equivalence between the original and translated versions, a back-translation process was applied (Wonga et al., 2011). Four academics specializing in ESG disclosure reviewed the preliminary measurement scales and provided their feedback. The questionnaire was administered in two stages. In the first stage, 40 responses were obtained. Phone calls were subsequently made to selected respondents who had not initially participated, resulting in an additional 28 responses in the second stage, which resulted in 68 usable responses, representing a response rate of 75%. This response rate is close to the rate for empirical studies in ESG disclosure (Lisi, 2015; Maletič et al., 2018).

3.3. Data analysis

Partial Least Square Structural Equation Modelling (PLS-SEM) approach was employed to test the study's hypotheses. PLS-SEM was selected for the present study as it is particularly appropriate for examining causal and predictive relationships within complex structural models (Hair et al., 2017). Unlike other multivariate statistical techniques, PLS-SEM does not impose the assumption of multivariate normality on the data, as it is non-parametric distributed. PLS-SEM is a multivariate technique that simultaneously assesses the psychometric properties of the scales used to measure the underlying constructs and examines the hypothesised relationships between these constructs, thereby assessing both the measurement model and the structural model (Hair et al., 2017). To enhance the interpretability and robustness of the findings, both models were assessed. The validity and reliability of the measurement instruments were established before drawing conclusions about the hypothesized links among the constructs. Recently, several accounting studies employed PLS-SEM methods (e.g. Pondeville et al., 2013; Lisi, 2015).

4. Results

4.1 Measure validation and variance bias assessment

Before we describe the analysis results in more detail, the average variance extracted (AVE) was employed to assess convergent validity. Following Hair et al. (2017), an AVE value exceeding 0.50 for each construct indicates an acceptable level of convergent validity. As illustrated in Table 1, the AVE for each of the constructs are exceeded the 0.50 (ranged from 0.577 to 0.679), composite reliability/ $\rho_A > 0.70$, indicating that the items have a relatively high level of internal reliability. Variance inflation factor (VIF) was used to evaluate the collinearity of the structural model, assessing the explanation degree of each variable by other variables. Following Hair et al. (2017), the recommended VIF values < 3.3 or < 5 are acceptable for all variables in the model. Table 3 shows the results of the VIF analysis, which confirm that there is no collinearity problem interfering with the results. To assess the possibility of common method variance, Harman's one-factor test (Podsakoff and Organ, 1986) was applied. The analysis indicates that no single general factor emerged from the unrotated factor structure. Thus, common method variance does not appear to constitute a significant threat to the validity of the findings in this study.

4.2 Hypotheses testing

After establishing the reliability and validity of all indicators associated with the respective variables (see Fig. 2 below), the structural model was assessed to test the hypotheses. The hypotheses were tested based on the estimated path coefficients and their statistical significance, as determined by the 95% bias-corrected confidence intervals for each independent variable. A bootstrapping procedure involving 5000 samples drawn with replacement was employed to evaluate the statistical significance of each path coefficient². As Table 5 shows, the coefficients of all three hypothesized paths in the model are statistically significant at the 5% significance level ($p = 0.05$).

Table 5 illustrates that top management commitment significantly affects the ESG reporting with a value of path coefficients (β) for the relationship between TMC and ESG reporting of 0.311, and this relationship was statistically significant at 0.000. This suggests that the first hypothesis (H1a) is supported. The results indicate that the path coefficient (β) for the relationship between TMC and SA is 0.992, while the coefficient for the relationship between SA and ESG is 0.981, with both relationships exhibiting p-values below 0.05. These results provide strong evidence in support of Hypothesis 1b (H1b). The results of the analysis in Table 5 also indicate that the

² Statistical significance was assessed based on the original PLS estimates and the standard errors obtained through bootstrapping (Hair et al., 2014).

organisational structure has a statistically significant and positive effect on ESG reporting. The value of the path coefficient (β) to the relationship between ORS and ESG reporting is 0.990 with a p-value < 0.000. This means that the second hypothesis (H1a) is accepted. The coefficient (b) for the relationship between ORS and SA was 0.976, while the coefficient for the relationship between SA and ESG was 0.981. Both relationships were statistically significant, with p-values below 0.05. These results indicate that SA serves as a complementary partial mediator in the relationship between TMC and ESG disclosure. Finally, the results indicate that the environmental uncertainty significantly affects the encouragement of companies to report ESG practices. The relationship between PEU and EMA, as shown in Table 5, the path coefficient (β) was 0.992, with a significant level of 0.000, providing support for the acceptance of the third hypothesis (H3). The results suggest that environmental uncertainty encourages organisations to adopt SA practices.

Table 1: Measurement indicators and measurement model for the proposed research constructs of ESG disclosure

Indicators/Items	Code	FL*	VIF	AVE	rho_A
Environmental, Social and Governance (ESG) Disclosure				0.616	0.953
Comply with ESG disclosure regulations and initiatives	ESG1	0.801	7.073		
Preventing and mitigating ESG issues	ESG2	0.841	7.496		
Uncovering environmental and social cost cutting opportunities	ESG3	0.840	4.901		
Satisfy various stakeholders demands on ESG information	ESG4	0.761	4.931		
Limiting environmental and social impact	ESG5	0.704	5.099		
Improve the company's reputation	ESG6	0.820	7.151		
Generating societal benefits	ESG7	0.787	6.710		
Increasing competitive advantage	ESG8	0.869	8.403		
Managing important stakeholders	ESG9	0.775	5.120		
Suggestions on how to prepare ESG reports and measure their impact	ESG10	0.848	8.451		
Capital structure and voting rights	ESG11	0.771	3.715		

* FL = factor loading.

Table 2: Measurement indicators and measurement model for the proposed research constructs of SA

Indicators/Items	Code	FL*	VIF	AVE	rho_A
Social Accounting Practices				0.679	0.942
Identification of social costs	SAP1	0.844	5.518		
Estimated contingent liabilities associated with ESG disclosure practice	SAP2	0.859	5.912		
Classification of social costs	SAP3	0.841	4.236		
Allocation of social costs arising from the production process	SAP4	0.775	4.206		

Improvement to social cost management	SAP5	0.701	3.798		
Establishment and utilization of social cost accounts	SAP6	0.843	6.158		
Development of social key performance indicators	SAP7	0.808	5.889		
Assessment of costs throughout the product life cycle	SAP8	0.870	6.606		

* FL = factor loading.

Table 3: Measurement indicators and measurement model for the proposed research constructs of TMC, OS & PEU

Indicators/Items	Code	FL*	VIF	AVE	rho _A
A. Top Management's Commitment				0.679	0.942
Make a contribution to the ESG disclosure practice.	TMC	0.84	5.518		
Report accurate ESG cost information.	TMC	0.85	5.912		
Continuously put an emphasis on ESG disclosure practice.	TMC	0.84	4.236		
Improve the company's environmental management system.	TMC	0.77	4.206		
Meet ESG disclosure practice.	TMC	0.70	3.798		
ESG disclosure represents a key strategic objective for top management.	TMC	0.84	6.158		
Provide accurate information on company's ESG disclosure practice.	TMC	0.80	5.889		
Environmental preservation.	TMC	0.87	6.606		
B. Organisation Structure				0.577	0.959
<i>I. Nature of Formalization</i>					
Show how workers can make suggestions for ESG disclosure.	OSNI	0.80	11.57		
Demonstrate the ESG disclosure knowledge and experience that the staffs members received in previous work environments.	OSNI	0.82	10.74		
Guide staff in implementing ESG disclosure practices within the company's reports.	OSNI	0.82	6.981		
Encourage employees to adopt creative approaches when addressing ESG disclosure issues in the workplace.	OSNI	0.74	6.198		
Employees in your company are encouraged to express their opinions with supervisors or middle managers and participate in decisions related to ESG disclosure.	OSNI	0.67	7.260		
<i>II. Horizontal Integration</i>					
ESG disclosure practices are implemented through collaboration among cross-functional teams within the organisation.	OSHI	0.81	11.13		
Employees within the organisation are assigned to work as members of cross-functional teams.	OSHI	0.76	8.618		
Managers within the organisation are assigned leadership responsibilities for various cross-functional ESG teams.	OSHI	0.85	11.15		
Long-term and strategic decisions concerning ESG disclosure are made through cross-functional teams.	OSHI	0.78	6.495		
Your company aligns the goals of the ESG team with those of other departments through cross-functional team meetings.	OSHI	0.83	12.08		
Each department within your company shares information, technology, and resources with other departments.	OSHI	0.75	4.979		
<i>III. Hierarchy</i>					
There are only few layers in your organisational hierarchy.	OSHI	0.57	4.678		
Your company has multiple levels of management between ESG disclosure staff at the operational level and the CEO.	OSHI	0.59	3.551		
Your company is a lean organisation when it comes to ESG disclosure.	OSHI	0.66	6.564		

<i>IV. Decentralization</i>					
Employees in your company have the authority to address and resolve ESG-related issues as they arise.	OSD	0.65	6.025		
Employees in your company have empowerment to disclose ESG information.	OSD	0.77	7.021		
Supervisors or middle managers provide support for the practices of ESG disclosure decisions made by your work teams.	OSD	0.59	3.978		
C. Perceived Environmental Uncertainty				0.670	0.952
National/international ESG laws	PEU	0.81	7.073		
ESG tax policies	PEU	0.85	7.496		
ESG regulations applicable to the industry	PEU	0.83	4.901		
Availability of alternative environmentally friendly products	PEU	0.77	4.931		
Demand for environmentally friendly products	PEU	0.71	5.099		
Changes in market production processes	PEU	0.82	7.151		
Changes in competitors' approaches to ESG practices	PEU	0.79	6.710		
Stability of the external environment (economic and technological) facing your firm	PEU	0.87	8.403		
Changes in customers' preferences and expectations regarding ESG practices.	PEU	0.77	5.120		
The actions and strategies of our competitors are difficult to anticipate.	PEU	0.84	8.451		
Public attitudes toward our products are very unpredictable	PEU	0.76	3.715		

* FL = factor loading.

Table 4: Results of the structural model

Constructs	Adj. R ²	F ²	R ²	SRMR
Environmental, Social and Governance (ESG) Disclosure	0.991	—	—	0.118
Social Accounting Practices (SAP)	1.00	0.064	0.997	
Top Management's Commitment (TMC)	—	0.032-3.149	0.996	
Organisation Structure (OS)	—	0.021-1.328	—	
Perceived Environmental Uncertainty (PEU)	—	0.768-1.309	—	

Figure 2. structural measurement model.

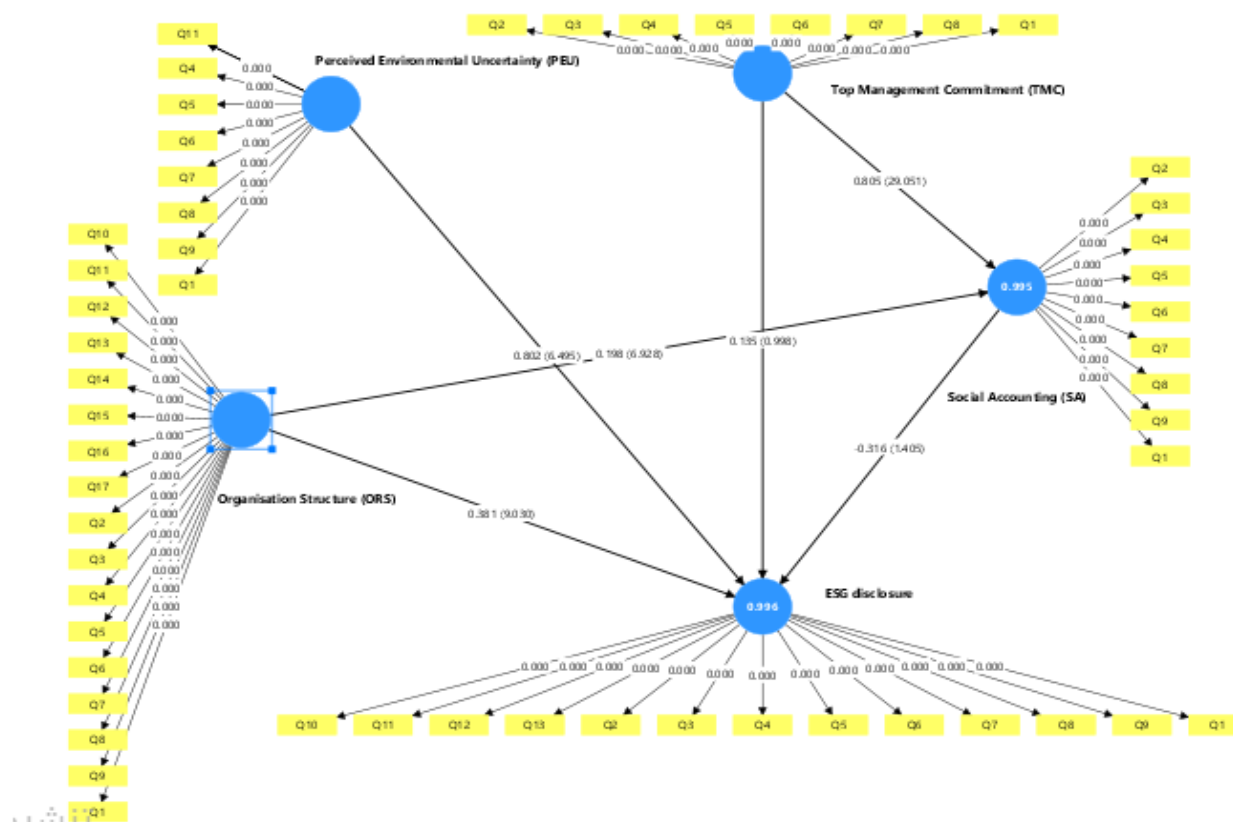


Table 5: Relationships between variables

Constructs	Coef (b)	S.D	P-Values*	95% BCa CI	Conclusion
TMC SA	0.992	0.000	0.000	(0.000, 0.997)	H1a supported
TMC ESG	0.971	0.004	0.000	(0.002, 0.973)	H1b supported
ORS SA	0.976	0.007	0.000	(0.002, 0.980)	H2a supported
ORS ESG	0.990	0.002	0.000	(0.001, 0.992)	H2b supported
PEU ESG	0.992	0.091	0.000	(0.001, 0.993)	H3 supported
SA ESG	0.981	0.093	0.004	(0.002, 0.982)	H1b, H2b supported

* Statistically significant at the 5 percent levels

Discussion and conclusions

To achieve its aim, this study has three objectives. With regard to the first objective, it was found that top management's commitment can directly affect ESG disclosure or through the use of SA. The results presented above provide empirical support to accept the first hypothesis (H1a), and therefore, the first objective was fully achieved. These results support the results of previous studies. The second research objective investigates the direction of effects of organisation structure on corporate ESG disclosure. The analysis reveal evidence supporting the second hypothesis (H2a) and therefore the second objective was fully achieved. These results are consistent with the results of previous studies. The third research objective explores the direction of effects of uncertainty of the environment on the use of SA. The analysis reveal evidence supporting the third hypothesis (H3) and therefore the third objective was fully achieved.

The results support previous research in ESG reporting literature (e. g. Journeault, 2016; Maletič et al., 2018), Lisi (2015) who found the environmental uncertainty as an important factor that encourages the adoption of environmental management accounting (EMA). They stated that the adopt of EMA disclosure is perceived as a

solution assisting stakeholders in making informed and appropriate decisions when operating under conditions of environmental uncertainty. This also supported by the findings of Maletič et al. (2018) who provided empirical evidence that environmental uncertainty is an important factor enabling companies to adjust their ESG strategies to achieve superior performance. In this respect, contingency theory is the most appropriate theory to explain these findings. Contingency theory posits that aligning contextual factors with the design of reporting systems is relevant to superior organisational performance. The reason for SA support can be explained by contingency theory, which states that senior management is motivated by different uncertain environments and preferences (Sancha et al., 2016),

The current study sought to enhance understanding of the effects of top management's commitment, organisation structure, environmental uncertainty on the practices of corporate ESG disclosure through the role of social accounting. To this end, a theoretical model was developed in which the use of SA serves as an intervening variable between organisation structure, top management's commitment and uncertainty environment as independent variables, and ESG disclosure as the dependent variable. This proposed model was empirically tested utilizing PLS on data collected from a survey of different organisations in Libya. Consistent with the contingency theory, the study argues that in order to achieve improvement of ESG disclosure, top management's commitment and organisation structure characteristics should be considered, as the consideration of the uncertain environments, and the use of SA. Findings of this research tend to support contingency theory, indicating that it may provide a more comprehensive framework for explaining the nature and patterns of ESG disclosure.

This study advances knowledge to the ESG literature. It offers valuable insights into the design of SA, as well as the significance of the relationship between ESG disclosure and organisation structure, top management commitment and environmental uncertainty. Some findings remain inconclusive, warranting further investigation in future research. Although this study establishes a solid ground for future research on ESG disclosure and practices, it has several limitations, which have to be acknowledged. The study is limited to the Libyan setting. Results may differ in different settings (i.e., country and economy) (Sancha et al., 2016). Because of this, no claims can be made for their generalizability to other contexts and/or economies. Further studies to explore if these results also hold for different national contexts might be useful. This study is based relatively on a small sample using a survey questionnaire only.

This study has important practical implications. Its results provide valuable insights into how organisations in Libya should enhance their ESG disclosure practices by developing top management commitment, enhancing organisation structure and using SA tools. These findings may be of particular relevance to organisational policymakers and business advisory organisations in order to continuously improve ESG disclosure. The findings reveal that decision-makers and business advisors should place greater emphasis on the business case and economic rationale for ESG disclosure, thereby improving the integration of ESG-related considerations into organisational policymaking and internal control processes. Another practical implication of this study for accountants in general and management accountants in particular is to develop capabilities in responding to perceived environmental uncertainty, such as environmental tax policies and environmental regulation, managing SA tools to improve organisations' environmental performance. The use of SA for internal decision-making serves as a strategic tool in this respect, as a consequence, to shape the future directions of the organisation.

Future studies are encouraged to employ larger sample sizes with a triangulation mixed methods strategy. A longitudinal study is warranted to complement the deficiencies of the research design to provide temporal evidence of the changes and development in the practice of ESG reporting over time. The current study focuses only on the use of SA in driving improvements in corporate ESG disclosure, without considering the potential roles of environmental information system or sustainable management system. Different findings might be produced if either is considered.

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