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# Role and Challenges of Accountants in Environmental Reporting: An Analysis of Large Maltese Entities

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**Abstract:** This study investigates accountants' role and challenges in large Maltese entities' environmental reporting (ER) processes (LMEs). A qualitative approach was employed, primarily based on semi-structured interviews with 29 participants, including Chief Financial Officers (CFOs), Chief Sustainability Officers (CSOs), and sustainability-related service providers. The findings indicate that accountants predominantly support ER, rather than being directly responsible for its preparation. Their involvement is influenced by factors such as their reputation for trustworthiness, the demand for environmental information within the organisation, and the availability of human resources. Despite their recognised expertise in financial reporting, accountants' contribution to ER is often limited to the financial dimension due to their relatively narrow understanding of sustainability issues. Consequently, an execution gap has emerged between accountants' potential and actual involvement in ER, with many organisations still in the early stages of ER development, focusing on compliance rather than comprehensive environmental performance. The study also highlights that, although current involvement is restricted, the growing regulatory emphasis on sustainability reporting (SR) will likely expand the role of accountants in the future. The research underscores the need for accountants to broaden their skill sets to accommodate the evolving demands of environmental and SR. This study contributes to the existing literature by offering insights specific to the context of Maltese entities. It provides a foundation for future research on the evolving role of accountants in SR.

**Keywords:** Sustainability reporting (SR); Environmental reporting (ER); Large Maltese entities (LMEs); Maltese accountants

## 1 Introduction

While the term 'sustainability' has often been primarily associated with mere environmental performance, the term has today matured to include all environmental, social, and governance (ESG) aspects [1]. In turn, SR can be defined as the process of collecting, processing, and communicating information that enables users to assess the 'ESG' or 'sustainability' performance of entities [2] or alternatively, to assess the entities' ability to thrive in the future [3]. Thus, ER can be referred to as a subset of SR that solely focuses on the environmental aspect of ESG performance. As with SR, ER can naturally take the form of quantitative, qualitative, monetary, or physical information [4–56].

Regardless of the type of reporting, effective decision-making relies on timely preparation and interpretation of information, a proficiency inherent to the domain of accountants and the accounting profession (Chartered Institute of Management Accountants (CIMA) [5]. Therefore, as the demand for SR has intensified, it may well be opportune for accountants to incorporate sustainability as part of their information provision role [6, 7], and assist in closing the information 'uncertainty' gap regarding entities' sustainability performance [8, 9]. However, although it may be optimal for accountants to incorporate SR as part of their role, this does not mean that such reporting would not take place and progress without them [10, 11].

The objectives of this research paper are (i) to determine the potential and present the extent of the accountants' involvement in the ER process of LMEs and (ii) to assess the main accountant-led and organisational factors affecting such involvement in dealing with the ER process of such entities.

Considering that SR is complex and expansive, this paper focuses solely on ER. Additionally, this study is centred on the Maltese context, a small European island-state. Nevertheless, the research aims to aid the accounting profession in understanding how it ought to engage in the SR domain, this being particularly crucial given the increasing ESG reporting requirements. Furthermore, this study may assist accounting bodies in setting realistic expectations when calling upon accountants for SR.

## 2 Literature Review

### 2.1 The Main Steps of ER Processes and the Accountant Involvement

Schaltegger and Zvezdov [11] outline four main steps in ER processes, which have been adapted to fit the EU's current regulatory framework:

#### 2.1.1 Step 1: Identifying the material environmental information to be collected

Entities first determine what environmental aspects are important, using standards like the EU's Corporate Sustainability Reporting Directive 2022/2464 (CSR Directive). This directive introduces the Double-Materiality Assessment (DMA), which assesses the financial materiality (financial performance and cash flows) and the impact materiality (impact on people and the environment) of ESG factors.

Although traditionally not involved in environmental information generation, accountants are recognised for their ability to identify such relevant information for stakeholders [8, 10].

#### 2.1.2 Step 2: Identifying how material environmental data is to be collected

After identifying relevant information, entities must decide on the methods and metrics for data collection. This involves setting Key Performance Indicators (KPIs) and designing data collection policies and procedures.

Sorina-Geanina et al. [13] projected accountants to be fully involved in this step, despite [11] maintaining that their actual involvement has been limited to defining KPIs.

#### 2.1.3 Step 3: Collecting the environmental data

This step focuses on executing data collection and ensuring its quality. Although historically, accountants had minimal involvement in this step, recent studies show that they are increasingly involved in auditing and assuring the quality of sustainability data. Managing data quality is becoming especially imperative as entities face increased pressure from both regulators and various stakeholders regarding the credibility, accuracy, and completeness of such information [1]. While Schaltegger and Zvezdov [11] barely found any involvement from accountants in this step, Williams [12] found that accountants acted as providers of information to SR. However, their information provision role was limited to financial information. Nonetheless, Mitali et al. [14] did find accountant involvement in the auditing and assurance of sustainability information.

#### 2.1.4 Step 4: Presenting and disclosing the information

Finally, entities prepare and disclose the collected data, ensuring that it meets the needs of stakeholders. Arguing that sustainability information must not be disconnected from financial reporting, the Accountancy Europe [15] stressed that accountants are to be involved also in this step. Despite their limited sustainability expertise, they tend to be inclined towards such "information-broking" and "gatekeeping" roles [16, 17].

#### 2.1.5 Categories of accountant involvement in ER

Accountant involvement in ER can be categorised into three roles:
- Role 1: Involvement in the creation of environmental information (related to Step 1).
- Role 2: Involvement in the collection of environmental information (encompassing Steps 2 and 3).
- Role 3: Involvement in the presentation and disclosure of environmental information (Step 4).

### 2.2 Factors Influencing Accountant Involvement

Several factors affect accountants' involvement in ER, these being divided into accountant-led and organisational factors. The main factors affecting accountant involvement, together with the already-stated three main accountant roles, are illustrated in Figure 1.

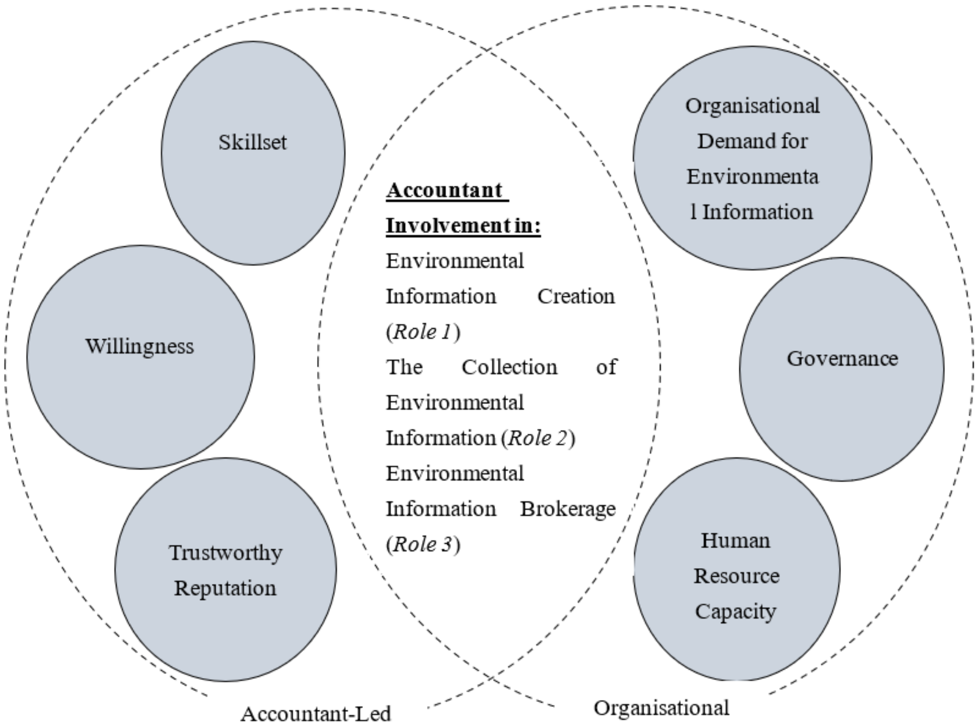


**Figure 1.** The three main accountant roles and the main factors affecting them

2.2.1 Accountant-led factors

Skillset: Accountants' expertise in financial reporting can be valuable in ER [17], but their lack of sustainability knowledge has often limited their involvement [11, 12, 18, 19]. However, developing 'bilingual capabilities'—understanding both financial reporting and SR — is crucial for effective ER [20].

Willingness: Various studies have indicated that there is a lack of willingness among accountants to engage in SR and that this is often because of the perceived complexity and challenges associated with sustainability initiatives [11, 12, 15, 21, 22]. As argued by Khan and Gray [23], accountants may therefore well resist tackling such complexities and would rather retreat from them. They may even see SR as 'dirty work' outside their traditional roles and prefer to delegate it to others, such as environmental managers [10, 24].

Trustworthy Reputation: Accountancy is traditionally seen as trustworthy [8, 25]. Extending this reputation to SR could be beneficial [26]. However, accountants must avoid overextending their expertise to areas lacking competence, which could damage their credibility [8]. Contrarily, accountants may be perceived as narrow-minded to merely managing financial matters, possibly leading to their exclusion from such initiatives [16, 27].

2.2.2 Organisational factors

Organisational Demand for Environmental Information

According to Eccles et al. [28], the motivation for sustainability initiatives can come from both internal (endogenous) and external (exogenous) pressures [2, 28]. However, Mitali et al. [14] found that the lack of mandatory reporting requirements around SR can reduce the priority given to ER. In Malta, for example, Sacco [29] concluded that the lack of environmental regulations has been a significant barrier to the adoption of environmental accounting. Furthermore, various Maltese research studies have concluded that Maltese investors are fixated on short-term gains and therefore scarcely ready to commit themselves to sustainability-related investments [30–33].

Governance

Entities with low ESG maturity often approach SR merely for compliance, rather than integrating it into their business strategy [34]. The involvement of accountants in ER is often dependent on the entity's commitment to sustainability, with those that prioritise sustainability more likely to engage accountants in these processes [7, 38]. In this connection, the integration of sustainability into core activities would increase the accountants' involvement [14, 36]. Furthermore, Egan and Tweedie [16] and IFAC [37] found that the lack of clarity on the accountants' position with regards to SR tends to render accountants unwilling to engage, as they would perceive such reporting as not being part of their role.

Human Resource Capacity

A shortage of accounting personnel and sustainability expertise within firms can limit the ability of accountants to engage in ER [38]. The multidisciplinary nature of sustainability requires collaboration across various functions within the organisation, and firms often need to seek external expertise to fill gaps [39, 40]. Consequently, international literature indicates that bottlenecks of human capacity are not restricted to solely accounting personnel but are a firm-wide issue [16, 41, 43]. Moreover, Habek and Wolniak [43] found that many entities lacked the necessary SR expertise, thus also indicating that bottlenecks may not solely be in terms of quantity but also quality. Consequently, the authors noted that such entities often had to invite the help of external experts. However, despite literature indicating firm-wide limited SR expertise, AE [15] commented that it is not yet sufficiently clear as to what multidisciplinary expertise is required to tackle such reporting, this being especially so in preparation for the CSR Directive.

## 3 Research Methodology

### 3.1 The Research Theoretical Framework

The theoretical framework used in this study is the agency theory; it determines the potential and present principal-agent relationship with regards to the ER process, this being between the management and the Board of Directors of LMEs, and their accountants. Additionally, it includes the major factors affecting such agency relationships.

### 3.2 The Research Tool

#### 3.2.1 Semi-structured interviewing

Semi-structured interviews, incorporating both closed-ended and open-ended questions, were considered most suitable owing to their versatility in collecting reliable and valid data to address the research objectives [44].

The interview schedule was appropriately devised for both LME representatives (LMEreps), and Sustainability-Related Service Providers (SRSPs). All questions therein were applicable to both types of interviewees except for two specifically devised for LMEreps and two alternative ones specifically set for SRSPs. For the closed questions, a five-point Likert scale was devised, ranging from '0' being strongly disagree and '4' being strongly agree.

The schedule was divided into two main sections. The first section was in alignment with Objective 1 and consisted of two multi-part open-ended questions enquiring on the potential and present accountant involvement in the ER of LMEs. Section 2 then followed on alignment with Objective 2. This consisted of two multi-part closed-ended questions and three further multi-part open-ended questions, such questions being aimed at assessing the main accountant-led and organisational factors affecting the accountants' involvement in dealing with the ER process. Finally, one open-ended general question wrapped up the interviews by inviting any other possible comments.

#### 3.2.2 Addressing comparability, replicability, flexibility and bias

The researchers aimed at asking questions in a systematic order to safeguard comparability and replicability [45]. They effected this utilising probes and follow-up questions to encourage respondents to elaborate further and provide comprehensive responses [46]. Additionally, doing so provided the participants with sufficient interactivity to yield pertinent, relevant, and rich data [47].

Furthermore, in order to further mitigate the inherent flexibility of semi-structured interviewing, which could lead to variations in the depth and range of information gathered, the same interviewer conducted all sessions and used follow-up questions when necessary. Additionally, in order to counteract the open-ended nature of some questions that posed risks of researcher bias or interpretive differences, the first two co-authors held extensive discussions to reach a consensus on the interpretation of responses, thus ensuring the analysis stayed objective and data-driven.

### 3.3 The Sample Population

LMEreps were selected from those Maltese entities that were expected to fall within the scope to report under the CSR Directive starting from financial year 2024 or 2025, this including both private and public entities. This was ensured by obtaining the latest available annual reports and validating whether such Maltese entities were either already reporting under the Non-Financial Reporting (NFR) Directive 2014/95/EU or, if not, whether they met the criteria as outlined in Table 1. Given that Article 2(5) of Directive 2013/34/EU provides various definitions of 'Net Turnover', this was estimated using the revenue figures stated in the annual reports.

**Table 1.** Key parameters of our model

| A Maltese Entity Requires the Satisfaction of 2 or More of the Following | |
|---|---|
| Assets | At least €25 m or more |
| Net Turnover (revenue) | At least €50 m or more |
| Average number of employees | At least 250 or more |

Note: European Parliament and the Council of the European Union, 2023 [55]

With respect to SRSPs, these represented experts in SR who were external to these LMEs and were engaged in providing sustainability-related services to such entities. This was ensured by utilising company websites and LinkedIn to analyse their service offerings.

After ensuring that research participants were potential candidates as either LMEreps or SRSPs, LinkedIn and annual reports were additionally utilised to ensure that these participants have the necessary relevant background in SR, especially ER, for participating in the study.

A total of twenty-nine interviews were conducted. Sixteen of these interviews were conducted with LMEreps, representing fourteen different LMEs, and the rest were carried out with SRSPs. LMEreps consisted of nine CFOs and one CFO representative (CFOrep), three CSOs and two CSO representatives (CSOreps), and one company secretary. With regards to the CFOreps and CSOreps, one LME had a head of finance in addition to a CFO, one other LME had appointed a sustainability manager instead of a CSO, and the last LME had a sustainability manager in addition to the CSO. Therefore, in total, these LMEreps represented fourteen different LMEs. With regards to SRSPs, eleven were part of ESG advisory teams, and only two were part of ESG assurance teams. This is because most sustainability-related service providers were still in the process of building their team for offering ESG assurance services. By the final interview, the responses indicated that qualitative saturation had been achieved.

### 3.4 Data Analysis

Qualitative data was obtained from both the open-ended questions, and from comments made to the closed-ended questions. To ease the process of identifying similarities and differences within the respondents' comments, also known as thematic analysis [46], interview transcripts were written down and any salient points were summarised and populated into a spreadsheet.

Quantitative data was then obtained from the closed-ended questions. Firstly, the Friedman test was used to compare the mean rating scores given to the series of statements presented to the interviewees. This permitted the researcher to determine whether the responses varied significantly or were comparable. Secondly, the Mann-Whitney test was conducted to compare the mean rating scores of the interviewee categories and identify any significant differences between these categories, specifically between (1) LMEreps and SRSPs and (2) accountants and non-accountants.

### 3.5 Research Limitations

Despite substantial efforts to conduct a thorough analysis of the research topic, the study still faced some limitations. Participants' comments inherently reflected a level of subjectivity. Moreover, some discrepancies were noted between responses to open-ended questions and the scores assigned on the closed Likert scale, as well as in the explanations provided for those ratings. Furthermore, given that interviewees were allowed to use the Maltese language when they preferred to, certain meanings may not have been translated with full accuracy into English. In addition, some participants did not respond to all the questions, this leading to further challenges. Finally, the study incorporates relevant international developments with ac cut-off date of 31st March, 2024.

## 4 Findings and Discussion

### 4.1 The Potential and Current Accountant Involvement in ER

#### 4.1.1 How much should accountants be involved in ER?

While, Williams [12] identified potential support for accountants' involvement in SR, numerous studies have highlighted a general lack of such participation [7, 35, 36, 48].

Regarding the first role, nearly all interviewees (26/29) believed that accountants should play a role in identifying material environmental information for both internal and external reporting. Over half (14/26) advocated for direct involvement, primarily in the DMA, supported by technical experts. However, the remaining participants (12/26) favoured an indirect role, limited to consultancy and support, particularly in the DMA. Interestingly, some of these respondents (5/12) suggested that accountants might become more directly involved when dealing with EU taxonomy requirements.

Among those favouring indirect involvement, different roles were suggested, such as participating in "DMA discussions"(6/12), "challenging assumptions to ensure audit robustness" (4/12), "assisting in interpretations" (1/12), or "contributing to pre-assessment preparatory work" (1/12). These findings indicated that, while there was support for accountant involvement in the DMA, the nature of this involvement—direct or indirect—remained unclear. Moreover, nearly half the respondents (11/29) emphasised that accountant involvement should focus more on financial materiality rather than on the impact materiality aspect of the DMA.

For the second role, most respondents (21/29) did not see accountants as key players in setting KPIs, contrary to the study of Schaltegger and Zvezdov [11] and Mitali et al. [14]. Nevertheless, almost half (14/29) highlighted the need for accountants' indirect involvement, particularly in assessing the financial implications of meeting environmental

KPIs. They saw accountants as crucial in evaluating financial feasibility (5/8) and identifying financial benefits (3/8). Some respondents (7/15) suggested that accountants should be involved in discussions surrounding the KPI setting.

However, a minority (8/29) opposed accountant involvement in the KPI setting, citing reasons such as the need for technical expertise or the predetermined nature of KPIs under complex EU regulations. Moreover, most non-accountants in this group (6/8) voiced concerns about potential conflicts of interest, fearing that accountants might prioritise financial over environmental considerations, echoing [27]. As Pitcher [49] implied, addressing these concerns is vital to building trust and fostering collaboration between accountants and other stakeholders in sustainability initiatives.

Continuing with the second role, respondents provided insights into accountants' involvement in (i) identifying measures, metrics, and methodologies for depicting environmental aspects, (ii) designing policies and procedures for collecting environmental data, and (iii) the actual collection and measurement of such data. Most respondents did not see accountants as being directly involved in (i)(24/29), (ii)(21/29). However, almost half (14/29) of the interviewees envisioned some direct involvement in (iii), this being limited to collecting physical environmental data points, such as those found in bills and invoices, given their existing flow through the accounting system.

Despite limited direct involvement, nearly all respondents (27/29) anticipated indirect accountant involvement across these areas. This would include ”assessing audit-readiness”(20/27), ”assessing data availability”(6/27), ”assisting in gathering financial data”(5/27), and ”assessing feasibility”(2/27) for collecting environmental data points. Some respondents stressed that accountants should challenge non-accountants' assumptions, even if it initially causes friction, as this would eventually become standard practice.

Overall, these findings aligned with the study of Schaltegger and Zvezdov [11], suggesting that accountants were not expected to be technical contributors to environmental data collection, except where financial data was concerned. However, there was potential for accountants to expand their oversight to sustainability information, whether formally or informally responsible for such data, as per [50].

Regarding the third role, nearly all respondents (28/29) supported accountant involvement in presenting and disclosing environmental information, including KPIs, for both internal and external reporting. Similar to Role 1, respondents favoured both direct and indirect accountant contributions. Many supported direct involvement in consolidating environmental data for the annual report (17/28), while also noting that accountants could contribute indirectly by ”reviewing the environmental information” to ensure alignment with financial data, as suggested by AE [15].

In summary, the findings supported the potential for accountants to engage in SR, consistent with Williams [12]. However, only two LME representatives (2/16), both accountants, envisioned their accountants handling the entire ER process. Overall, the varying levels of involvement indicated that accountants' participation was uneven throughout the ER process, this is in alignment with the study of Schaltegger and Zvezdov [11] findings. Moreover, the frequent preference for indirect involvement suggested that accountants were seen primarily as a support function in the ER process. Nearly all interviewees (28/29) viewed the ideal role of accountants as being that of ensuring timely and compliance reporting with upcoming regulations. Some respondents (5/29), mostly accountants, echoed [11] by describing accountants as ”gatekeepers of sustainability information.” Others (7/29) saw accountants as a crucial link with external auditors, particularly if SR was not separately audited. Thus, this support role appeared to be limited to areas where accountants already had experience, in line with the study of Mitali et al. [14]. However, as accountants expanded their skillset in SR, they might offer new contributions to ER.

#### 4.1.2 Is there an accountant execution gap in ER?

Most LME representatives (14/16) indicated that their organisations were still in the early stages of their DMA, this being in alignment with KPMG [51]. Similarly, SRSPs(13/13) noted that discussions with LMEs about introducing such assessments were as yet ongoing. Most SRSPs (8/13) observed that, while accountants were involved in discussions about ER processes related to the CSR directive, the technical details were primarily handled by non-accountants. This limited participation by accountants echoed the findings of Vough et al. [24].

Some LME representatives(5/16) noted that accountants were already contributing to ER by inputting data from bills and invoices. However, most(11/16) reported that accountant involvement was limited or non-existent, mainly focusing on ensuring a clean audit opinion. This limited participation was attributed to the qualitative nature of the current NFR Directive compliance requirements, which contrasted with the more rigorous CSR directive, not yet implemented in Malta. A few LME representatives(2/11) noted that accountants were not needed because their entity did not yet have any ER processes. Others(3/11) indicated that their reporting was managed by a SR unit, with one respondent mentioning that their current SR was voluntary and had not required accountant involvement so far. However, as SR became part of statutory reporting, accountant involvement was being reconsidered, and this is in line with the study of Mitali et al. [14].

These findings revealed an execution gap between the potential and actual involvement of accountants in ER, as observed by Wahyuni [46]. At the time, accountant involvement was minimal, mainly consisting of reviewing environmental information for audit purposes and inputting data points. Despite obligations under the current

NFR Directive, there had been little pressure for accountant involvement beyond a cursory review. However, all respondents (29/29) anticipated greater accountant involvement in ER as the CSR Directive drove ER processes to mature. The increasing presence of accountants in ER discussions with SRSPs, albeit in a passive role, suggested that this execution gap might close as LMEs progress in their SR efforts to meet CSR Directive requirements.

### 4.2 Factors affecting Accountant Involvement

#### 4.2.1 Can the accountants' trustworthy reputation transfer over to their ER involvement?

Overall, the findings support by CAQ [26] and IFAC [52]'s emphasis on the value of the profession's trustworthy reputation. However, they also revealed varying opinions as to the extent of the value-adding nature of such reputation.

Firstly, respondents strongly agreed ($\overline{X}$=3.38) that the ethical principles of the accountancy profession rendered accountants' valuable participants in ER. However, a significant difference (p-value=0.025) in opinions was found between that of SRSPs and that of LMEreps, with the former strongly agreeing to such a statement ($\overline{X}$=3.77) while the latter only agreeing to it ($\overline{X}$=3.06). This may be because, by nature, SRSPs were external to LMEs, and were thus in a position to place more emphasis on receiving credible information to conduct their ER-related services. Clearly, the accountants' warrant assisted in providing such assurance, supporting the accountants' capacity to act as the link to external auditors.

Secondly, respondents agreed ($\overline{X}$=3.07) that users of environmental information, including investors, trusted accountants to engage in ER, this being in line with that advocated by the CAQ [26]. Two LMEreps (2/3), both accountants (2/2), added that users "do not only trust, but also expect" accountants to be involved in ER given that this would "touch" the annual report. Another LMErep (1/3), also an accountant (1/15), stated that the profession was traditionally considered as the "custodian of truth" in most entities, this following years of accountants ensuring accurate financial data. However, a significant difference in opinion was found between accountants and non-accountants (p-value=0.010), with accountants strongly agreeing ($\overline{X}$=3.40), and non-accountants only agreeing ($\overline{X}$=2.71) to the statement. While only a few respondents added their comments to this statement, the difference in opinions was probably due to non-accountants underappreciating the background that accountants had in handling the statutory report. In this connection, one non-accountant (1/14), LMErep (1/16), acting as the entity's CSO, indicated that s/he was unaware of the relevance of the accountants' code of ethics, and emphasised that, whether or not a person was regulated by such a code should not make a difference. Moreover, some non-accountants had previously perceived a "conflict of interest" within the accountancy profession with regards to sustainability initiatives, this being that accountants would be biased towards financial considerations, as opposed to the environmental ones.

Thirdly, respondents also agreed ($\overline{X}$=2.9) that the accountants' involvement in ER added credibility to the environmental information. A significant difference (p-value=0.007) was also found with respect to this statement: non-accountants marginally agreeing ($\overline{X}$=2.43) while accountants strongly agreeing ($\overline{X}$=3.33). One SRSP (1/13), an accountant (1/15), noted that at one of their engagements with clients, after initial discussions had been held with the CSO and the sustainability team, it had become apparent that the involvement of the CFO and the accounting team was a "must" for the entity to attain comfort that the environmental data was complete and credible. Such a necessity was later also confirmed on the part of the representative of the same LME who was also interviewed. Therefore, even though earlier findings indicated the potential for accountants to be involved in ER audit-readiness, accountants in LMEs might still need to advocate their potential contribution in this to non-accountants. From an external perspective, SRSPs might also need to push for accountants to be involved in this, as otherwise they might not always be initially involved until their importance became apparent.

#### 4.2.2 To what extent is sustainability expertise necessary for accountant involvement in ER?

Respondents overall agreed ($\overline{X}$=3.17) that at the time accountants lacked the necessary sustainability expertise for ER, this being in line with most findings in the literature. Additionally, while two respondents (2/29) commented that at the time no one had the "right expertise" to conduct ER, two other respondents (2/29) emphasised that environmental data is however "alien" to accountants. Thus, these findings helped to explain why potential accountant involvement in ER appeared to be limited to that of merely serving as a support function. Moreover, the lack of sustainability expertise might also be restricting the accountants' contribution to mostly lean towards the finance-related aspects of ER, as earlier also noted with respect to the DMA, for the setting of KPIs, and also for the collection of environmental data points. However, the findings also indicated that the level of sustainability expertise required by accountants might not be the same for every LME but might vary depending on both the type and extent of the LME's environmental impact. In this regard, four respondents (4/29) pointed out that the type of environmental information to be handled in certain entities, such as those in IT service companies (2/4) and banks (2/4), might not require a high level of sustainability expertise as most of their environmental impact is external and indirect rather than internal and direct. Given this, accountants were not expected to measure the environmental data points themselves but would rather depend on the reporting systems established by their value chain partners to provide the necessary environmental data. Additionally, one SRSP (1/13) noted that financial institutions would even prioritise accounting over sustainability expertise for their ER needs. Consequently, accountant involvement had the potential to be more direct in such a context.

#### 4.2.3 Do accountants have any necessary skills to transfer over to SR?

Overall, respondents were neutral ($\overline{X}$=2.38) with respect to the second skillset statement, that is, that accountants were bringing in the necessary skills to ER. However, a significant difference in opinion was revealed (p-value=¡0.001) between non-accountants and accountants, as the former disagreed with this statement ($\overline{X}$=1.57) while the latter agreed to it ($\overline{X}$=3.13). Firstly, it could be argued that non-accountants might be underappreciating the accountants' skillset or were insufficiently aware of the value they bring in. However, four respondents (4/29), most of whom were non-accountants (3/4), did state that accountants would not be able at all to transfer their knowledge from financial to ER owing to their lack of a "fundamental level of sustainability expertise". Thus, contrastingly, it may well be that accountants were overconfident about the current value they could bring in to ER. With respect to this, some accountant respondents(5/5) did, however, emphasise that accountants could bring in the necessary skills when it comes to managing environmental information, but not with respect to its collection.

Nonetheless, many respondents (19/29), both accountant (11/19) and non-accountant respondents (8/19), argued that one did not necessarily require being an accountant to handle ER. Some additionally stated that it was more important to ensure that such persons were able to "research on their own" (5/12), or be "data driven" (4/12), or work in a "structured manner" (1/12), or "used to working under tight deadlines" (1/12), or even "possessed curiosity" (1/12).

#### 4.2.4 To what extent should accountants extend their skillset to ER?

Despite the difference in opinion to the above-stated second-skill set statement, almost all respondents (27/29) did emphasise that the profession should indeed extend its skill set to SR, this being in line with Williams [12]. Six of these respondents (6/27), all accountants(6/6), added that, given the reporting regulations relating to ESG, accountants had no real option about this. A further eight (8/27), also accountants (8/8), commented that such knowledge extension would be "value-adding" (5/8), a "natural progression" (1/8), "conducive to integrated reporting" (1/8), and therefore "rejecting it is like saying that a mechanic does not want to learn how the machine works" (1/8). Moreover, most respondents (15/29) emphasised that accountants must have at least the necessary basic knowledge of the main legislation and reporting requirements. In connection with this, most other respondents (12/29) expected future accountants to have studied European Sustainability Reporting Standards (ESRSs) on top of the traditional IFRSs in their professional accountancy courses, and to the same extent as IFRSs. A number of respondents (7/29) also commented that future accountants might take ESG as one of their specialisms, this being in line with Ngwakwe [53].

Thus, overall, the findings indicated that accountants must begin to shift away from conventional accounting and include SR in their skill set. At the time, annual reports were still depicting a true and fair view picture of entity performance primarily via financial information. However, as SR was becoming mandated as part of such reports, a true and fair view picture of entity performance was beginning to include sustainability. Therefore, the accountancy profession needed to adapt to this integration, or else it might well easily lose its relevance as "custodians of truth" in LMEs. Moreover, such a need for integration implied that professional accountancy courses should not simply cover what the reporting requirements were mandating to be disclosed, but also help accountants appreciate the value-relevancy of sustainability data points in LMEs' decision-making. Nonetheless, while most respondents (19/29) did not perceive accountants as stretching their perceived competence too thin by engaging in ER, many such respondents (7/19), mostly non-accountants (6/7), emphasised that accountants could not aim at conducting the reporting process completely on their own, as such a process had to be a "team effort".

#### 4.2.5 Are accountants willing to be involved in ER, or are they simply being forced to do so?

Overall, respondents were neutral ($\overline{X}$=2.21) to the statement that accountants were generally willing to be involved in the ER process in LMEs. However, a significant difference (p-value= 0.040) in opinion between LMEreps and SRSPs was found, as the former viewed accountants as willing ($\overline{X}$=2.63) whilst the latter were neutral ($\overline{X}$=1.69) about such willingness. Despite LMEreps agreeing to the statement, about half of the respondents (14/29), most of whom LMEreps (9/14), stated that accountants were seeing ER as a "burden" or "headache", thus confirming the arguments made by Egan and Tweedie [16] and Bakarich et al. [21]. Moreover, about half the respondents(8/14) stated that accountants were seeing ER as a burden, with most of the LMEreps(5/8), in this group, adding that accountants were not really willing to accept such work, but that they were often being forced to do so by the changing regulatory framework. Thus, it might be more accurate to state that accountants have 'tolerated' or 'accepted' that their extent of reporting was at the time dependent on whether they were required to do it rather than on their 'willingness' to do so. This might explain why, at the time, accountants were barely involved in LME ER, as, wherever they could, they refrained from doing so. Furthermore, these findings might explain why potential accountant involvement was typically limited to it being a supporting rather than a direct one.

#### 4.2.6 Is societal pressure on LMEs sufficient to prompt accountants to contribute to the generation of environmental information?

Overall, respondents strongly agreed ($\overline{X}$=3.59) to the statement that LMEs were facing heightened pressures to gather environmental information. However, some respondents (8/29) pointed out that such pressures had only originated from the increased reporting regulations. With respect to this, according to their representatives, only three LMEs (3/14) were experiencing pressure from their stakeholders, namely from their suppliers (2/14), clients (1/14), or competitors (1/14). Such LMEs operated internationally and were not strictly domestic. Additionally, two SRSPs (2/13) corroborated the LMEs' stance by commenting that they only had a few clients under pressure from stakeholders, and these were also all internationally exposed.

Additionally, respondents agreed ($\overline{X}$=3.17) that Maltese investors did not reward LMEs for their increased environmental performance. Some respondents (7/29), most of whom (6/7) LMEreps, additionally commented that Maltese investors are only "concerned about the bottom line". However, a few interviewees (3/29) shared a positive outlook that such a prevalent attitude would change as the younger generation joins the market (1/3). Nonetheless, given the apparent lack of stakeholder pressure, it was therefore not surprising that almost all LMEreps (15/16) stated that their entities primarily gathered environmental information "merely for compliance". Moreover, only some of the LMEs (6/16) in question, mostly (4/6) operating internationally, were gathering environmental information to track also their environmental performance,

Overall, the above findings indicated that environmental performance had not yet become a key requirement for LME operation in Malta, this being in contrast with Ngwakwe [53]. However, one may also argue that at the time, most LMEs were not providing stakeholders with adequate information to take environmental performance even remotely into consideration. To date, such reporting had been mainly carried out by those LMEs falling within the scope of the NFR Directive, which scope had insufficient quality relating to the provision of useful information to users. Therefore, it might be argued that the CSR Directive would provide users with better opportunities for rewarding environmental performance, as users would be provided with more relevant, credible, and comparable information, such argument being consistent with Darnall et al. [54].

Despite environmental performance not yet being a key operational requirement, the findings did indicate that LMEs were experiencing significant pressures from the reporting regulations themselves to gather environmental information. Owing to this, most respondents (22/29), did respond in the affirmative that accountants were necessary to meet the prevalent level of demand for the collection of environmental information. Consequently, the absence of mandatory reporting requirements, previously noted by Mitali et al. [14] as a barrier to accountant involvement, appeared no longer to be applicable. Yet, the concern persisted that accountant engagement for ER in Malta may not as yet have stepped compliance.

#### 4.2.7 Is there sufficient human resource capacity within LMEs for ER?

With respect to accounting personnel, most respondents (22/29) stated that, in general, LMEs did not have and would not have enough accountants to engage in ER. Additionally, overall respondents agreed ($\overline{X}$=3.59) that LMEs had limited personnel for engaging in such process. Such findings thus indicated that accountant involvement might not be hampered only by the capacity of accounting personnel, but also by wider human resource constraints impeding the advancement of ER processes within such entities. Furthermore, some respondents (5/29) indicated that limited personnel should not be understood as solely a case of quantity, but also of quality of in-house expertise, this being in line with Habek and Wolniak [43]. Consequently, most LMEreps (14/16) indicated that they had engaged or were planning to engage external consultants. However, they considered this only a temporary solution to ER resource constraints. Furthermore, most SRSPs (10/13) expressed concern that LMEs were not dedicating sufficient time and resources to address such reporting, possibly leading to an unnecessarily extended duration in the LME reliance on external experts. In the LMEs' defence, one SRSPs (1/13) explained that Malta was at the time undergoing high labour turnover rates in view of the full employment situation, thus rendering LMEs hesitant about further investing in their human resources.

#### 4.2.8 Do LMEs understand the link between environmental and financial performance?

Overall, respondents agreed ($\overline{X}$=2.66) to the statement that LMEs had not yet clarified the link between environmental and financial performance. Moreover, some added (5/29) that LMEs' only clarification related to the financial costs that environmental performance entails, but not to the benefits of financial performance. In this regard, two LMEreps (2/16) suggested that for such a link to be clearly established, a further push is required by the public authorities, say through incentives and penalties.

Despite the above findings, overall respondents remained neutral ($\overline{X}$=2.34) that LMEs placed limited importance on environmental performance, this being in contradiction to Holt (2005). Nonetheless, the absence of integration between environmental and financial performance, coupled with the previous findings that indicated that most LMEs primarily gathered environmental data for compliance purposes, indicated that such entities were at a relatively low level of sustainability maturity. With respect to this, despite the emphasis in the literature about the pivotal role of

LME Boards in achieving such maturity, most SRSPs(7/13) referred to encounters wherein such Boards had in fact limited its advancement. Such SRSPs noted encounters of “Boards not understanding the magnitude of the new reporting requirements” (5/7), “a wait-and-see attitude” (4/7), and “a lack of board buy-in on the reporting process” (3/7). However, to the LMEs’ defence, the Maltese corporate environment was not helping LME sufficiently for them to transition to such maturity: it mostly merely expected compliance with the reporting regulations. In fact, some SRSPs (3/13) noted that LMEs were at the time being “sheltered” by the public authorities from environmental consequences such as that of rising energy prices, thus leaving LMEs without much pressure towards committing themselves to sustainability initiatives. Environmental performance seemed to be often perceived by LMEs as a mere marketing tool, with the accountants’ involvement being primarily driven by the external motive of compliance reporting rather than by any other significant internal motive.

#### 4.2.9 Where do accountants stand in ER?

LMEreps (16/16) indicated that most LMEs (8/14) had created sustainability teams to tackle all SR, including ER. Such teams were formed either within a separate sustainability unit (5/8), or as a separate ESG committee (2/8), or as an integral part of the finance/accounting function (1/8). Meanwhile, other LMEs had principal responsibility for SR falling directly on their finance/accounting teams (4/14). The rest (2/14) had a “compliance officer reporting to a risk officer” (1/2), or a “chief commercial officer” (1/2). Therefore, respondents indicated that ER fell under the finance/accounting function in only five of the LMEs (5/14), this consisting of the four LMEs (4/5) that had principal responsibility for SR falling directly on the finance/accounting teams and one LME (1/5) which had its sustainability team as an integral part of the finance/accounting function. As for the other LMEs (9/14), with respect to those with a separate sustainability unit (5/9), these either merely expected their finance/accounting functions to answer to any requests for assistance made by the sustainability units (4/5) – this being in line with Zvezdov et al. [36] – or involved their finance/accounting function limitedly with respect to the CSR directive (1/5). Meanwhile, those with a separate ESG committee had their finance/accounting representatives(2/9) sharing some of the responsibility for ER, while those (2/9) having a compliance officer (1/2) or a chief commercial officer(1/2) did not share at all any responsibility with the finance/accounting function. Therefore, overall, the findings indicated that, while many LMEs had finance/accounting functions sharing either all or partial responsibility for ER, nearly an equal number did not share any direct responsibilities at all.

Similar to the above findings, SRSPs (13/13) noted that during their provision of ER-related services to clients/potential clients, ER governance structures were seen to vary from one LME to another. For instance, a few SRSPs (4/13) pointed out that the HR function was engaged whenever LMEs had most of their ESG exposures emanating from the social rather than the environmental aspects. Furthermore, other SRSPs also noted engagements with the entities’ CEOs (4/13), risk functions (2/13), technical functions (2/13) and legal/compliance teams (1/13). However, respondents referred (10/13) to encounters with CSOs, sustainability teams, CFOs or other finance/accounting function representatives. Despite this, with respect to their meetings with CSOs or sustainability functions, most of the SRSPs (6/10) added that such engagements were not common, while, contrastingly, the rest noted that they were frequent (4/10). Similarly, with respect to their meetings with CFOs or finance/accounting functions, SRSPs were equally divided between such meetings not being common (4/8) and those being frequent (4/8).

Therefore, considering both findings from LMEreps and SRSPs, it remained unclear as to whether or not environmental information fell mainly ‘on the accountants’ lap’ or not. Additionally, the findings suggested that the LME governance structures for ER reporting were not all set in stone at the current stage, and thus the role of accountants would probably be subject to variations as ER processes further matured. Nonetheless, LMEs needed to persist in formalising their accountants’ role and responsibilities in ER, as the prevailing lack of clarity could risk enforcing the notion to LME accountants that such reporting was ‘dirty work’ to be delegated to other departments. These findings were in line with the implications of the previous studies [16, 37].

#### 4.2.10 Should accountants take the lead in ER?

According to most LMEreps (11/16), and almost half the SRSPs (6/13), accountants were well positioned in their entities for them to be involved in ER. Despite this, most respondents (21/29), including most accountants (9/15), opined against accountants being positioned as the leaders of such reporting. A number of those respondents (11/21), including some accountants (4/11), added that if ER was led by accountants, there would be the risk that tackling such reporting would ultimately become a mere ”compliance” exercise. Additionally, some respondents (17/29) commented on how they viewed their ideal ER structures, with most of them referring to the need for separate sustainability units (8/17) and/or ESG committees (7/17) to be set up in all LMEs. Others (2/17) noted that ER should ideally be led by engineers (1/2), or someone who is well versed in both financial and SR (1/2). In any case, most of these respondents (11/17) pointed out that it was essential for accountants to at least be ’partners’ in ER, indicating that accountants had the potential to collaborate with others as part of a team leading such reporting. Such a multi-disciplinary approach may indeed be most appropriate, this being in line with by AE [15], Cabezas and Diwekar [39], and Edwards [40]. However, given that accountants might not yet be prepared to voluntarily participate in ER and might even be less willing to take the lead, specific guidance to do so may be required from senior management or the LME Boards of directors, such a course of action being in line with Egan and Tweedie (2018).

## 5 Conclusions

The study concludes that support is generally evident for Maltese accountants to engage in ER. However, it also concludes that accountants may better engage in ER as supporters of the ER process, rather than as direct contributors. Furthermore, their involvement to date appears to be limited to aspects in which accountants are already somewhat experienced. Potentially, accountants may become more involved than at present, narrowing or closing the current execution gap emanating from the fact that LMEs are still in the infancy stages of their processes relating to ER. Clearly, the more such processes mature, the more this execution gap should narrow.

With respect to the accountant-led factors affecting accountant involvement, in addition to the presence of the accountants' ethical principles being positively taken into account, one may conclude that accountants are also perceived as being trustworthy by the ultimate users of the ER information, and that accountant involvement adds credibility to the environmental information. Contrastingly, a limiting accountant-led aspect affecting accountant involvement relates to their having as yet a deficient skillset with respect to sustainability. Therefore, accountants' skills are not generally deemed as necessary for ER by non-accountants, and this may further limit the accountants' involvement. However, support exists for accountants to extend their skillset to SR.

With respect to organisational factors affecting accountant involvement, LMEs are facing heightened pressures to gather their environmental information, this necessitating accountant involvement in ER. However, the study concludes that at present, organisational demand for environmental information stems primarily from the need for compliance and that little pressure is being exerted by the stakeholders to generate such data. Consequently, accountant involvement is currently limited to compliance reporting.

Moreover, the limited human resource capacity in LMEs, including accounting personnel restrictions, is impeding both the advancement of ER processes within such entities and the progress of ER beyond compliance, and thus also hindering the accountants' involvement. However, the study concludes that, on their part, many LMEs are also not ready to dedicate sufficient time and resources to address ER. LMEs appear to be at low levels of sustainability maturity as regards their link between financial and environmental performance. Such a link is generally not yet clarified, further limiting accountants' involvement. Furthermore, despite the pivotal role of LME Boards in fostering sustainability maturity, some such Boards appear not as yet to be doing this, and are consequently limiting the advancement of their sustainability maturity.

Moreover, while accountants are perceived as being well-positioned in LMEs to engage in ER, the study also concludes that the lack of clarity on the accountants' roles and responsibilities in ER, which currently persists, is risking the enforcement of the notion on the part of accountants that ER is simply 'dirty work' that is to be delegated to other departments. Finally, while accountants are not envisioned as being positioned in LMEs as the leaders of ER, the potential exists for them to act as partners in such reporting.

As this study has shown, accountants have a role to play in ER. However, the study clarifies that the accountancy profession should not aim to tackle ER, nor other aspects of SR reporting, on its own. Furthermore, by understanding the various aspects related to accountant-led and organisational factors, accountants will be better able to improve their contribution to ER. Nonetheless, external legislative pressures relating to SR appear to be shifting the definition of a true and fair view of entity performance from being one based solely on financials to another including sustainability. Therefore, clearly, there is probably no alternative to that of accountants incorporating SR as part of their skillset if they are to remain relevant as 'custodians of truth'. As one interviewee stated:

"Rejecting the profession's extension to sustainability is like saying that a car mechanic does not want to care about how its engine is functioning".

## Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

## Data Availability

Not applicable.

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## Conflicts of Interest

The authors declare no conflict of interest.

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