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# Exploring the connections among CSR performance, reporting, and external assurance: Evidence from the hospitality and tourism industry

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## ABSTRACT

This study explores the connections among corporate social responsibility performance, reporting, and external assurance in the hospitality and tourism industry by incorporating the Global Reporting Initiative framework. The originality of the study is that it tests signaling theory and the greenwashing tendency by examining different facets of corporate social responsibility engagement using a holistic approach with a cross-country sample. The data for the study were derived from the Thomson Reuters Eikon database for the years between 2012 and 2018. A panel data analysis with a Random-Effects estimator was run to test the hypothesized associations. Several conclusions were drawn based on the study. First, higher corporate social responsibility performers among hospitality and tourism companies have a higher propensity to publish corporate social responsibility reports. Second, higher corporate social responsibility achievements are a significant driving force behind the Global Reporting Initiative framework adoption. Third, among corporate social responsibility reporters, higher corporate social responsibility performers are more likely to assure their corporate social responsibility reports externally. Fourth, among corporate social responsibility reporters, Global Reporting Initiative framework adopters are more likely to assure their corporate social responsibility reports externally. Overall, the results verified the signaling theory but reject a greenwashing tendency in the hospitality and tourism sector. The proven links among the four dimensions of CSR incorporated into the study models indicate complementarity among the indicators. Besides, it should be noted that there is still a gap for improvement, particularly for non-corporate social responsibility reporters and for non-Global Reporting Initiative adopters.

## 1. Introduction

The travel and tourism sector experienced 3.5% growth in 2019 and accounted for 10.3% of global Gross Domestic Product (GDP) and 10.4% of total employment (WTTC (World Travel and Tourism Council), 2020). Although the hospitality and tourism (H&T) sector significantly contributes to countries' economies by bringing much-desired investment, employment, and tax revenue (Scheyvens and Hughes, 2019), it is criticized due to its detrimental socio-cultural and environmental impacts. For instance, natural resource transformation for tourism development can create significant environmental problems, such as the deforestation of mountainsides, loss of biodiversity, over-use of water sources, draining of coastal wetlands, etc. (Holden, 2005), which can

cause intense public attention and criticism. The World Tourism Organization (UNWTO) estimated that the tourism sector contributed approximately 5% of human-induced carbon emissions in 2005 (UNWTO, 2008). Recently, Lenzen et al. (2018) measured tourism carbon footprint more comprehensively considering both direct (from accommodation and transportation activities) and indirect (from supply chain activities) emissions and determined that tourism-related emissions accounted for 8% of global greenhouse gas (GHG) emissions in 2013. International tourist arrivals increased from 770 million in 2005 to 1.2 billion in 2016 and expected to reach 1.8 billion in 2030 (UNWTO, 2019), which may lead to an increase in negative tourism impacts.

H&T firms have a variety of stakeholders, including employees, volunteers, customers, shareholders, and local residents (Coles et al.,

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2013). The increasing concerns of these stakeholders regarding social and environmental issues have highlighted the need for involvement in corporate social responsibility (CSR) practices in the H&T sector and have led H&T firms to reinforce their commitment to CSR to gain legitimacy (Serra-Cantallops et al., 2018) and to enhance their images (Horng et al., 2018). CSR initiatives can help H&T firms to manage their relationships with stakeholders, to achieve positive stakeholder outcomes,<sup>1</sup> resulting in improvements in customer loyalty (Latif et al., 2020), customer satisfaction (Su et al., 2017; Latif et al., 2020), employee job satisfaction and commitment (Zientara et al., 2015; Kim et al., 2017; Wang et al., 2020), and organizational citizenship behavior (Kim et al., 2017). Stakeholders not only demand that H&T firms act socially and environmentally responsible but also expect the communication of the outcomes of their CSR practices (de Grosbois, 2012). As H&T firms aim to send a signal to their stakeholders to show their CSR commitment, these firms are increasingly undertaking sustainability-related activities and engaging in CSR reporting practices (Suárez-Cebador et al., 2018). Despite the growing stakeholder concerns about tourism-related social and environmental impacts and the increasing importance of CSR-related issues in the H&T sector, CSR reporting practice has been rarely examined in the prior literature (de Grosbois, 2012). This study addresses this gap by examining CSR and its reporting in the H&T context.

The relationship between CSR performance and CSR reporting is controversial. While numerous studies documented that firms with greater CSR performance being more likely to disclose their favorable CSR performance (Patten, 2002; Clarkson, Richardson, & Vasvari, 2008; Uyar et al., 2020), other studies revealed that weak CSR performers being more likely to publish their positive efforts (Clarkson et al., 2011; Braam et al., 2016). These contradictory findings result from firms' different reporting tendencies as they can engage in CSR reporting for *signaling* or *greenwashing* purposes. On the one hand, firms can use CSR reports to show their commitment to sustainability (Alon and Vidovic, 2015) and to *signal* their social and environmental achievements (Clarkson et al., 2008; Mahoney et al., 2013). On the other hand, firms can use a CSR report as a mechanism of *greenwashing* by exaggerating their CSR disclosures to polish their images even when they have poor CSR performance (Noronha and Wang, 2015). Several previous studies have drawn attention to the danger of greenwashing practices in the H&T industry (Henderson, 2007; Font et al., 2012; Smith and Font, 2014; Rahman et al., 2015), justifying the examination of the association between CSR performance and CSR reporting in the H&T sector.

In practice, firms prepare and publish their CSR reports in a free format or by adopting the Global Reporting Initiative (GRI), which is a trustworthy framework used commonly worldwide (Fernandez-Feijoo et al., 2015; Sethi et al., 2017) in addition to other frameworks such as Sustainability Accounting Standards Board (SASB) standards (Busco et al., 2020) and Task Force on Climate-related Financial Disclosure (TCFD) (O'Dwyer and Unerman, 2020). The GRI provides rich resources for its users to seek help them during the adoption and implementation process and publishes sector supplements to properly address the sector-specific reporting needs of companies (Kuzey & Uyar, 2017). The GRI framework facilitates the comparability of sustainability reporting across companies and over the years (Uyar, 2017). As the GRI has been the most widely used and popular framework of sustainability reporting (Nobanee and Ellili, 2016) and Thomson Reuters Eikon database provides information only on GRI adoption, this study uses the GRI to measure firms' tendency to report CSR-related issues.

Independent external assurance from third parties plays a crucial role in certifying whether CSR reports reflect underlying practices without bias and whether they send stakeholders the correct message

(Perego and Kolk, 2012). Assurance, defined as "a process used to provide confidence as to the degree of reliance that can be placed on the reported data, can be undertaken in a number of ways," including internal assurance, expert input, stakeholder panels, and external assurance (Jones et al., 2016a, 154). The most widely adopted approach in assurance is receiving an assurance statement from an independent external assurance service provider, which ensures the integrity and the credibility of the report (Jones et al., 2014a). Firms with high CSR commitment have incentives to publish credible information not easily mimicked by poor CSR performers (Clarkson et al., 2011), suggesting a positive association between CSR performance and assurance. Furthermore, firms with poor CSR performance have incentives to engage in CSR assurance to build stakeholders' trust and to enhance the legitimacy of their operations (Braam et al., 2016). Tourism's survival depends on its ability and success in minimizing its negative impacts on the society and environment (Kasim, 2006). The clarification of the associations between CSR performance, reporting, and assurance can help the H&T sector achieve sustainable development. However, in the literature specifically related to the H&T industry, the link among CSR performance, GRI adoption, and external assurance for CSR reporting has not yet been examined. The present study addresses this gap in knowledge by focusing on firms in the H&T industry. Thus, the aim of this study is threefold: first, to examine the associations of CSR performance with CSR reporting and GRI adoption to understand whether H&T firms engage in CSR reporting to signal their strong CSR performance (signaling purposes) or to disguise their weak CSR performance (greenwashing purposes); second, to examine whether higher CSR performers assure their CSR reports externally; and third, to explore whether GRI framework adopters assure their reports externally.

By fulfilling these aims, the current study contributes to the literature in four ways. First, several studies have investigated the relationships between two facets of CSR, such as between CSR performance and CSR reporting (Cho et al., 2013) or CSR reporting and assurance (O'Connor and Spangenberg, 2008). By identifying links among CSR performance, CSR reporting, and external assurance by incorporating the GRI framework, this study's results contribute to understanding four facets of the CSR process in an integrated way. Second, studies related to CSR performance, CSR reporting, or CSR report assurance in a specific industry are rare given that industry characteristics may influence firms' CSR reporting practices (Sweeney and Coughlan, 2008). As H&T is one of the major sectors in the global economy and its impacts on the society and environment is receiving growing attention from the stakeholders, research on H&T firms' CSR engagement and communication gains prominence. Nonetheless, there is limited empirical evidence on the aspects of CSR reporting in the H&T industry (de Grosbois, 2012; Coles et al., 2014; Ettinger et al., 2018; Uyar et al., 2019). This study's results have generated new knowledge related to CSR practices for policy-makers and firms in the H&T industry, including hotels, motels & cruise lines, restaurants & bars, casinos & gaming, and leisure & recreation sub-industries. Third, the investigation was based on a cross-country sample, which produces more generalizable outcomes for the H&T industry compared to country-specific studies (Nyahunzvi, 2013; Pérez and Rodríguez del Bosque, 2014; Ettinger et al., 2018). Fourth, two conflicting tendencies, signaling and greenwashing, were tested by examining different facets of CSR engagement using a holistic approach.

To achieve these aims, a panel data analysis with a Random-Effects estimator was performed to test the hypothesized relationships, and subsequently, the robustness of the results was confirmed by alternative methodologies. The relevant data were collected from the Thomson Reuters Eikon database for publicly traded H&T firms between 2012 and 2018.

The remainder of the paper is structured as follows. The next section reviews the relevant CSR literature, which is followed by the establishment of the theoretical background and hypotheses. Subsequently, the research methodology is described and the findings are presented. Finally, discussions, conclusions, implications, limitations, and future

<sup>1</sup> See the paper of Guzzo, Abbott, and Madera (2020) for a recent and comprehensive review of literature on micro-level CSR outcomes in the H&T sector.

research avenues are discussed.

## 2. Literature review

Over the last decade, an increasing number of H&T firms engage in CSR reporting (Uyar et al., 2019). While CSR efforts of H&T firms has been studied by a significant number of researchers (Kang et al., 2012; Latif et al., 2020; Moneva et al., 2020; Wang et al., 2020),<sup>2</sup> CSR reporting practices of the H&T sector have received less attention and are not yet well-addressed. For example, Holcomb et al. (2007) investigated whether and to what extent the top hotel companies disclose CSR information in their websites, annual reports, and CSR reports and determined that while socially responsible activities with regard to charitable donations and diversity policies were mostly reported items, limited information on environmental initiatives were provided. Relying on the analysis of the top 150 hotels' websites and online published reports, de Grosbois (2012) determined that while the majority of hotel companies reported commitment to CSR goals, few of them provided information on the details of specific initiatives undertaken to achieve these goals and the actual performance with respect to these goals. Moreover, de Grosbois (2016) examined CSR reporting in the cruise tourism industry through the analysis of corporate websites and sustainability reports and documented that there is limited use of a formal reporting guideline, absence of independent third-party assurance of disclosed information, and unclear presentation of information on websites. Likewise, by examining the websites of the world's leading hotel chains, Jones, Hillier, and Comfort (2014b) determined that only one hotel chain reported about independent external assurance, highlighting the need for greater transparency and credibility of the CSR reporting process in the global hotel industry. Furthermore, some researchers explored the extent and nature of CSR disclosures in the H&T sector focusing on a certain country, such as Austria (Ettinger et al., 2018) and Zimbabwe (Nyahunzvi, 2013). For example, Nyahunzvi (2013) examined websites and annual reports of Zimbabwe's hotel groups and determined that Zimbabwean hotels attach more importance to financial performance rather than social and environmental initiatives in their CSR reporting. Based on a sample of Austrian CSR-certified hotels, Ettinger et al. (2018) examined how and to what extent Austrian hotels communicate CSR on their websites and determined that product and service quality, supplier relations, environmental issues, and community relations were mostly reported CSR dimensions. The aforementioned studies have shown that research on CSR reporting within the H&T industry has mostly focused on a single country (Nyahunzvi, 2013; Ettinger et al., 2018), a small sample of firms (Jones et al., 2014b), or a specific sub-sector of tourism (Holcomb et al., 2007; de Grosbois, 2012; Jones et al., 2014b; de Grosbois, 2016). This study adds to prior research by examining CSR reporting in the H&T sector using a wider sample of firms in an international setting, which reinforces the generalizability of the findings.

An additional strand of research has examined the relationship between CSR performance and CSR reporting. For example, Wang, Hsieh, and Sarkis (2018) and Bacha and Ajina (2019) analyzed the association between CSR performance and the readability of corporate reports to determine whether firms with poor CSR performance are likely to *window-dress* their reports by reducing readability. Both of these studies identified a significant positive association between CSR performance and the readability of corporate reports, implying that companies with greater CSR performance are more likely to provide transparent disclosures with higher readability. Likewise, Clarkson et al. (2008) and Clarkson et al. (2011) analyzed whether environmental disclosures provided by companies are related to their actual environmental

performance. While Clarkson et al. (2008) determined that firms with good environmental performance are more likely to disclose their environmental efforts, Clarkson et al. (2011) found that poor environmental performers are more likely to publish environmental information. In the context of the H&T sector, only Font et al. (2012) examined the link between CSR performance and CSR disclosure to determine whether a performance-disclosure gap exists and determined considerable discrepancies between policy and performance, implying that hotels' corporate systems were not necessarily reflective of their actual operations. This study aims to address this lack of research by analyzing the association between CSR performance, CSR reporting, and GRI framework adoption in the H&T sector, exploring whether H&T firms with greater or lower performance are more likely to engage in CSR reporting practices, thus providing sector-specific evidence on the link between CSR performance and CSR reporting.

There is increasing interest in the external independent assurance of the information published within sustainability reports because it is viewed as a crucial mechanism in ensuring the accuracy, credibility, and transparency of these reports (Jones et al., 2016b). In the literature, a strand of research focused on the factors influencing the provision of sustainability reporting assurance, the content of executed assurance processes, and the quality of the assurance process (Odriozola and Baraibar-Diez, 2017; Datt et al., 2018). Using an experimental design, Cheng, Green, and Ko (2015) examined the influence of the external assurance of disclosed sustainability information on nonprofessional investors' decisions and determined that external assurance has a significant signaling role in communicating the importance of the disclosed information to investors. More specifically, Braam et al. (2016) analyzed the links between environmental performance, environmental reporting, and external assurance for a sample of Dutch companies and found that firms with poor environmental performance are more likely to disclose objective and verifiable information and to externally assure their sustainability reports. Previously, Font et al. (2012) emphasized the necessity of external assurance for CSR reports as a remedy to greenwashing tendencies among hotel enterprises; however, although the above-cited studies provide highly useful insights, they are mostly two-dimensional, tending to examine the link between firm characteristics and CSR assurance or between CSR reporting and CSR assurance. As current CSR literature is undergoing rapid evolution, it requires a broader perspective and a multi-faceted approach. Hence, this study extends previous studies by incorporating four dimensions of CSR issues, including CSR performance, CSR reporting, GRI adoption, and CSR assurance, with a particular focus on the H&T industry on a global scale.

## 3. Theoretical framework and hypothesis development

Signaling theory suggests that one party attempts to disclose information about itself to a second party when information asymmetry exists (Spence, 1973; Connelly et al., 2011). Firms use CSR reporting to reduce information asymmetry between management and its stakeholders (Hahn and Kühnen, 2013). By reporting CSR efforts, firms deliver the message, "we are doing good business," which signals stakeholders to consider these firms as performing better than others (Su et al., 2016); however, firms will not adopt or implement costly CSR practices if they cannot enjoy the benefits associated with successfully signaling their CSR efforts (Clarkson, Richardson, & Tsang, 2019). This implies that H&T firms that have good CSR performance are more likely to engage in CSR reporting to signal their superior CSR performance to their stakeholders (Mahoney et al., 2013), to make their CSR accomplishments known to the public (de Grosbois, 2012), and to distinguish themselves from poor CSR performers (Clarkson et al., 2011).

Conversely, socio-political theories (i.e. political economy, legitimacy, and stakeholder theories) suggest that CSR reporting is a function of public and regulatory pressures to which firms are exposed (Clarkson et al., 2008). These theories assume that firms with poor CSR performance may be subject to the greater public and regulatory pressures and

<sup>2</sup> See the papers of Coles et al. (2013); Serra-Cantalops et al. (2018), and Rhou and Singal (2020) for a review of the literature on CSR in the H&T industry.

may experience threatened legitimacy (Patten, 2002; Clarkson et al., 2008, 2011). In particular, legitimacy theory predicts that firms with a poor CSR commitment may use CSR reports for *greenwashing* by disclosing less verifiable and selective CSR information to mitigate legitimacy threats (Clarkson et al., 2019). In this context, firms that do not perform well on CSR issues would have greater incentives to report a higher level of information to alter their public images than firms that perform well (Patten, 2002; Clarkson et al., 2011), to avoid public criticism, legal claims, the imposition of penalties, and reputation loss (Singal, 2014), and to gain endorsement from stakeholders (Ettinger et al., 2018). Furthermore, positive publicity would help these firms improve their corporate images and reputations (Camilleri, 2018). Signaling and socio-political theories can provide foundations for the links between CSR performance, CSR reporting, GRI adoption, and external assurance. In this study, the researchers tested signaling and greenwashing arguments in the H&T sector.

### 3.1. CSR performance and CSR reporting

Greater CSR engagement of H&T firms can enhance employee morale and commitment and customer satisfaction, which in turn improves corporate image and financial performance (Singal, 2014). The CSR involvement of H&T firms can also strengthen their relationships with governments (Kucukusta et al., 2013). In this sense, companies may publish CSR reports to signal to their stakeholders that they have a good CSR performance (Clarkson et al., 2011, 2019; Uyar et al., 2020) and that they consider the social and environmental impacts of their operations (Braam et al., 2016). Therefore, H&T firms with greater CSR performance are expected to have a strong tendency to engage in CSR reporting and to communicate their CSR efforts because this reflects their commitment to socially and environmentally responsible behaviors and distinguishes them from firms with poor CSR performance. Consistent with signaling arguments, Patten (2002) and Clarkson et al. (2008) empirically documented that companies with good environmental performance are likely to provide a higher level of environmental information. Likewise, Uyar et al. (2020) found that companies with good CSR performance are more likely to publish a CSR report than companies with poor CSR performance.

Nevertheless, not all firms engaging in CSR practices reach high CSR performance levels or realize substantial CSR practices. From a stakeholder theory perspective, weak CSR performance leads to a bad reputation for an H&T firm, which is then punished by the stakeholders (Franco et al., 2020). In these cases, firms with low performance in CSR practices or those performing CSR practices at only a symbolic level may consider CSR reporting a marketing or *window dressing* tool (Bacha and Ajina, 2019) and may report their CSR practices to attract consumers and investors in the capital market. By doing so, these firms gain legitimacy associated with CSR reporting while exerting minimal effort to address CSR issues (Bacha and Ajina, 2019). This has been called the *greenwashing tendency* (Aggarwal and Kadyan, 2014; Noronha and Wang, 2015; Gatti et al., 2019). Supporting the greenwashing tendency, Clarkson et al. (2011) and Braam et al. (2016) documented that firms with poor environmental performance are more likely to report environmental information than firms with better environmental performance.

In line with signaling arguments, it is assumed that H&T firms with greater CSR performance are more likely to issue CSR reports than those with poor performance, and thus the following hypothesis (H) is proposed:

**H1.** Higher CSR performers in the H&T industry are more likely to issue CSR reports.

### 3.2. Does the CSR reporting framework matter?

Various measurement, accreditation, and reporting initiatives exist

to document the CSR efforts and the performance of H&T firms, such as the World Tourism Organization's Global Code of Ethics for Tourism, United Nation's Global Compact, Green Globe Company Standard, Carbon Disclosure Project, and the GRI (Hughes and Scheyvens, 2016). Many firms report their CSR achievements without following any structure or framework; however, the content or scope of the reports can evoke concerns for both customers and actors in the capital market who want to understand how serious the firms are about their CSR practices (Fernandez-Feijoo et al., 2014). Hence, some firms follow some structure or framework (e.g. GRI) to report their CSR performance because the framework helps firm stakeholders compare the CSR performance of firms over years and between firms. GRI is a non-governmental organization that helps firms prepare their CSR reports in globally acceptable and applicable frameworks by developing and disseminating related guidelines (Buhr et al., 2014). This framework also helps stakeholders compare firms' CSR performance and eliminates some credibility issues for investors and customers concerned with the accuracy and reliability of the provided information (Brown et al., 2009).

GRI includes a set of CSR disclosures related to economics, labor practices, human rights, and societal, environmental, and product responsibility (GRI, 2015). According to signaling theory, higher CSR performers are expected to adopt such a framework that covers a wide range of CSR initiatives in a balanced way to demonstrate they are serious about CSR issues, to signal the reliability, credibility, and accuracy of CSR disclosures, to emphasize their CSR commitment, and to distinguish themselves from poor performers. Socio-political theories (i.e. political economy, legitimacy, and stakeholder theories) state that firms with poor CSR performance would be less likely to adopt the GRI framework because these firms tend to avoid disclosing an objective and externally verifiable measure of sustainability and environmental performance included in this framework (Clarkson et al., 2011). Therefore, while signaling theory assumes that firms with high CSR performance are more likely to adopt the GRI framework to signal their strong CSR commitment, socio-political theories assume that firms with poor CSR performance are less likely to adopt the GRI framework to avoid publishing verifiable CSR information. Consequently, both of these theories suggest a positive association between CSR performance and GRI adoption. In line with these arguments, firms with good CSR performance are more likely to adopt the GRI framework than those with poor performance. Thus, the following hypothesis is proposed:

**H2.** Among CSR reporters, higher CSR performers in the H&T industry are more likely to adopt the GRI framework.

### 3.3. Does assurance for CSR reporting (framework) matter?

When stakeholders cannot differentiate between firms truly stating their CSR commitment and firms that use CSR reporting as a marketing tool (de Grosbois, 2012), the credibility and reliability of the information in CSR reports may be questionable due to the probability of greenwashing (Berrone et al., 2017). Firms seek methods to increase the credibility and reliability of their reports (Du and Wu, 2019). One common method is to use an assurance service from an external organization with relevant expertise. Although firms may increase the credibility and reliability of the reports via their internal procedures, an objective external assessment and verification would help alleviate concerns related to greenwashing. The relationship between the credibility and the assurance of CSR information has been empirically supported by previous studies (Braam et al., 2016; Odriozola and Baraibar-Diez, 2017; Datt et al., 2018; Du and Wu, 2019).

Signaling theory suggests that firms with a higher CSR commitment are more likely to obtain assurance for their CSR reports to signal their high CSR performance, to show their commitment with transparent and reliable CSR information (Braam et al., 2016), and to distinguish themselves from greenwashing firms (Du and Wu, 2019). Furthermore, socio-political theories (i.e. legitimacy theory) suggest that firms with

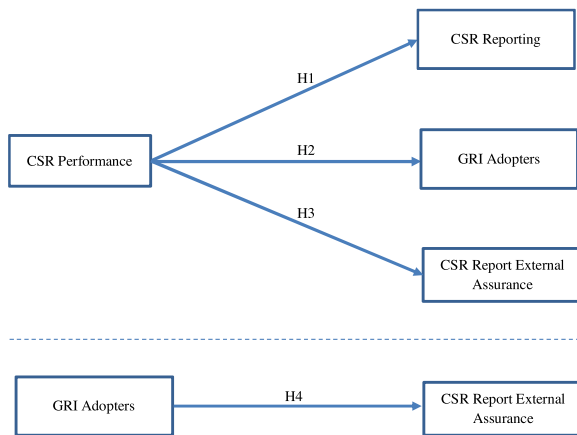


Fig. 1. Theoretical framework and hypothesized relationships.

low CSR commitment may use CSR reporting to greenwash by providing unverifiable information to change stakeholder perceptions, implying the greater demand for credibility enhancing mechanisms by high commitment firms (Clarkson et al., 2019). In essence, both signaling and socio-political theories may predict a positive association between CSR performance and CSR assurance. While signaling theory states that good CSR performers are more likely to disclose verifiable information and hence are more likely to obtain an external assurance statement, socio-political theories state that low CSR performers are more likely to disclose unverifiable information and hence are less likely to obtain an external assurance statement. However, one could also argue that firms with poor CSR performance are more likely to demand external assurance to distinguish themselves from greenwashers and to show that CSR reporting is not simply a way of changing perceptions of weak performance or diverting attention from areas of concern (Weber, 2018). Furthermore, poor CSR performers are more likely to demand external assurance to enhance societal confidence in the credibility and reliability of disclosed information and to build legitimacy (Braam et al., 2016). Empirically, while Alon and Vidovic (2015) and Clarkson et al. (2019) found that firms that have a high CSR performance are more likely to obtain external assurance for their CSR reports, Braam et al. (2016) determined that firms with poorer environmental performance in terms of GHG emissions are more likely to assure their environmental disclosures externally.

Stakeholder perceptions, expectations, and interests can vary across sectors which would lead to differences in companies' CSR tendencies and assurance demand. However, no prior study analyzed the association between CSR performance and assurance focusing on a particular industry, such as the H&T industry, and thus did not document any sector-specific evidence on that association. This study tested the association between CSR performance and assurance in the H&T sector. In line with theoretical arguments suggesting a positive association between CSR performance and assurance, we assume that companies with high CSR performance are more likely to have their CSR reports assured. Thus, the following hypothesis is formulated:

**H3.** Among CSR reporters, higher CSR performers are more likely to assure their CSR reports externally.

Moreover, the level of quality of a CSR report may improve its credibility, which in turn may inhibit stakeholder skepticism and improve corporate reputation (Odriozola and Baraibar-Diez, 2017). CSR assurance can signal that the released information is accurate and reliable and can assure investors and other stakeholders of the trustworthiness of corporate CSR performance (Braam et al., 2016). For example, third-party carbon assurance can signal that the firm has addressed environmental risks and climate change-related issues in its operations (Datt et al., 2018). Although GRI (2013) does not require independent

assurance, it encourages organizations to assure their sustainability reports with an external assurance service provider because this assurance provides a variety of benefits, such as enhancing trust and credibility, reducing risk, and improving internal reporting and management systems. Therefore, it can be asserted that companies that have adopted the GRI framework are more likely to acquire external assurance for their CSR reports from external assurance organizations to strengthen the perceived credibility and reliability of disclosed CSR information. Thus, the following hypothesis is developed:

**H4.** Among CSR reporters, GRI framework adopters are more likely to assure their CSR reports externally.

Consequently, a research model (Fig. 1) is proposed that addresses the links among CSR performance, CSR reporting, and the external assurance of CSR report in the H&T industry by integrating GRI framework adoption into CSR reporting. In the Figure, while CSR performance assesses composite ESG (i.e. environmental, social, and governance) score ranging between 0 (worst) and 100 (best), CSR reporting indicates whether a firm issues a sustainability/CSR report or not, GRI adopters show whether a firm follows GRI guidelines in the preparation of the sustainability/CSR report or not, and CSR Report External Assurance denotes whether the sustainability/CSR report's content is verified by an external assurer. CSR reporting, GRI adopters, and CSR Report External Assurance are all binary variables that take 1 for the existence of CSR report, GRI adoption, and CSR Report External Assurance, respectively, and 0 otherwise.

## 4. Research methodology

### 4.1. Sample

The data for the financial, CSR, and board-related variables for H&T companies were derived from the Thomson Reuters Eikon database for the years between 2012 and 2018. In the selection of the study period, three factors played a role; one is to provide recent evidence on the studied subject, second is the completeness and availability of the CSR performance, CSR reporting, GRI framework adoption, and external assurance data in the database, and third is the widespread adoption of GRI framework in the H&T industry after the 2010s (Uyar et al., 2019). Thomson Reuters Eikon is one of the most comprehensive databases and provides company fundamentals (financial information and management commentary publicized in quarterly and annual reports) covering 99% of worldwide market capitalization. Its reach extends over 150 countries and 72,000+ public companies on a global spectrum. It allows for retrieving market data, news, financial information, board, and CSR data related to the wealth of countries and firms (Refinitiv, 2019a). Thomson Reuters Eikon's business classification includes 10 economic sectors, 28 business sectors, and 54 industry groups. H&T is one of the industry groups included in the database covering hotels, motels & cruise lines, restaurants & bars, casinos & gaming, and leisure & recreation industries (Refinitiv, 2019b). This database was used for numerous previous studies in deriving financial and corporate governance as well as CSR data (Yekini and Jallow, 2012; Dell'Atti et al., 2017; Helfaya and Moussa, 2017).

The data were subject to preprocessing, which is an important step before testing the proposed hypotheses. Data screening included missing data analysis, imputation, determining the outliers, and removing records with a high proportion of missing values or outliers. Thomson Reuters Eikon database contains financial data for 1721 H&T companies. However, only 89 companies had both ESG and financial data in 2012 which increased to 172 companies in 2018. As a result, the initial sample included 861 firm-year records between 2012 and 2018 where both the ESG and financial data available. The board gender diversity and free float percentage variables had 11 and nine firm-year records of missing values, respectively. Data were imputed by multiple imputation methods. The Little's MCAR test was used for the missing data analysis.

The results showed that the missing values were random (Chi-Square = 5.56; df = 2; p-value: .062). The Markov chain Monte Carlo (MCMC) imputation method using linear regression as the model type for scale variables was performed to replace the missing values. The multivariate outlier detection approach of the Minimum Covariance Determinant (MCD) estimator was used to robustify the Mahalanobis distances (Verardi and Dehon, 2010). Following this, five firm-year extreme records were removed from the data set. No records with a high percentage of missing values listwise were detected. After the data screening process, the final sample size was 856 firm-year records, with 89 records in 2012, 92 records in 2013, 96 records in 2014, 114 records in 2015, 139 records in 2016, 156 records in 2017, and 170 records in 2018.<sup>3</sup> The details of the firm-year distribution of the firms included in the sample are provided in Tables A1 and A2 in the Appendix.

#### 4.2. Variables

To measure CSR performance (CSRperf), the ESG scores (comprising environmental, social, and governance pillars) provided by Thomson Reuters Eikon were used as a proxy (Helfaya and Moussa, 2017). Thomson Reuters Eikon adopts a percentile ranking scoring methodology (results in a relative performance), which considers the number of companies that have (a) a worse score than the current one, (b) the same score, and (c) a score at all (Refinitiv, 2019c). It includes the calculation of 10 category scores, including themes in resource use, emissions, workforce, human rights, shareholders, CSR strategy, etc., which then are combined into three environmental, social, and corporate governance scores and the final ESG score (Refinitiv, 2019c).<sup>4</sup> This database's ESG Scores are a substitution and improvement to the ASSET4 Equal Weighted Ratings (EWR). In total, ESG ratings are based on 178 individual metrics (Refinitiv, 2019c). To measure CSR performance (CSRperf), ESG scores were used as a proxy, and they range from 0 (worst) to 100 (best) (Dell'Atti et al., 2017). The ESG data have been maintained for more than 7000 firms globally since 2002 (Refinitiv, 2019c). Previous studies also used ESG scores as a proxy for CSR performance (Luo et al., 2015; Dell'Atti et al., 2017; Wang et al., 2018). Moreover, CSR reporting, external audit or assurance, and the GRI framework adoption data were also downloaded from the Thomson Reuters Eikon database (Refinitiv, 2019c). CSR reporting practices were measured by a dichotomous variable (CSRreport), which receives 1 if a firm issues a separate sustainability/CSR report or publish a section in its annual report on sustainability/CSR and 0 otherwise (Shamil et al., 2014). Of these CSR reporters, those who adopted the framework of GRI (GRIframe) in reporting is represented by 1 and 0 otherwise (Uyar et al., 2019). In the Thomson Reuters Eikon database, there is no identification regarding which version of GRI has been used in CSR reporting practices, which did not pose an issue for this investigation because the focus was following any GRI guidelines rather than a specific GRI framework. Furthermore, in line with Liao, Lin, and Zhang (2018), whether a company had an external auditor statement on its sustainability/CSR report (ExtAudit), which takes a value of 1 if it existed and 0 otherwise, was determined.

The board and ownership-related and financial control variables, including board size, board gender diversity, board independence, free float percentage, firm size, leverage, and profitability, were selected based on prior studies because the board characteristics, ownership structure, and financial characteristics of firms are likely to impact CSR practices (Kuzey and Uyar, 2017; Liao et al., 2018; Pucheta-Martínez and Gallego-Álvarez, 2019; Uyar et al., 2020). While board size, board

<sup>3</sup> Thomson Reuters Eikon database includes the financial data of 1,721 H&T companies; however, only about 10% of the companies had ESG data in 2018. The ratio of companies with ESG data is even lower for the previous years.

<sup>4</sup> Please see Refinitiv (2019c) for a more detailed description of the ESG scoring methodology.

**Table 1**  
List of variables.<sup>a</sup>

| Variable      | Definition  |
|---------------|---|
| CSRreport     | 1 if a firm issues a sustainability/CSR report, 0 otherwise   |
| GRIframe      | 1 if a firm adopts the GRI framework in the preparation of the sustainability/CSR report, 0 otherwise |
| ExtAudit      | 1 if a firm assures its sustainability/CSR report's content by an external assurer, 0 otherwise       |
| CSRperf       | CSR performance proxied by composite ESG score ranging between 0 (worst) and 100 (best)               |
| BoardSize     | Number of directors on the board  |
| GenDiv        | Percentage of female directors of all directors on the board  |
| BoardInd      | Percentage of non-executive directors of all directors on the board                                   |
| DualCEO       | 1 if a firm's CEO chairs the board simultaneously, 0 otherwise  |
| FFP           | Percentage of free float shares of all outstanding shares   |
| FirmSize      | Natural logarithm of total assets   |
| Leverage      | Percentage of liabilities relative to total assets  |
| Profitability | Return on asset calculated by the ratio of profit before tax to total assets (percentage)             |

<sup>a</sup> All variables were downloaded from the Thomson Reuters Eikon database.

independence, and board gender diversity were found to be significant predictors of CSR reporting (Pucheta-Martínez and Gallego-Álvarez, 2019) in a cross-industry study, Uyar et al. (2020) found that board independence and gender diversity are significant determinants of CSR reporting in the logistics sector.<sup>5</sup> On the other hand, while Liao et al. (2018) proved that board gender diversity is a significant predictor of obtaining external verification on CSR reports,<sup>6</sup> they could not prove that board size and independence were significant predictors of obtaining an external assurance statement. Furthermore, Kuzey and Uyar (2017) and Uyar et al. (2020) could not find a significant association between free float percentage and CSR reporting. Moreover, the findings regarding firm size, leverage, and profitability did not produce consistent results across prior studies. While Pucheta-Martínez and Gallego-Álvarez (2019) found that firm size was influential in CSR reporting, Liao et al. (2018) and Uyar et al. (2020) could not determine that it has a significant influence on CSR reporting or on obtaining external assurance for CSR reports, respectively. Finally, while leverage has generally been found to be insignificant (Liao et al., 2018; Pucheta-Martínez and Gallego-Álvarez, 2019; Uyar et al., 2020), profitability has been found to have positive (Liao et al., 2018; Uyar et al., 2020), negative (Pucheta-Martínez and Gallego-Álvarez, 2019), and neutral effects (Kuzey and Uyar, 2017) on CSR practices. The descriptions of all variables are provided in Table 1.

#### 4.3. Logistic regression analysis for binary panel data

To decide between the Pooled Logistic regression and the Panel Logistic regression analysis, initially, a likelihood-ratio (LR) test of  $\rho = 0$  was employed to select either a pooled estimator (Ordinary Logistic regression) or a panel estimator. A panel estimator is not different from a pooled estimator if  $\rho = 0$ , which is the proportion of total variance contributed by the panel-level variance component. According to the LR test of  $\rho = 0$  (Model 1  $\chi^2 = 184.73$ , p-value: 0.001; Model 2:  $\chi^2 = 141.97$ , p-value: 0.001; Model 3:  $\chi^2 = 102.38$ , p-value: 0.001; Model 4:  $\chi^2 = 89.86$ , p-value: 0.001), the  $\rho$  was significantly statistically different from zero. The test results indicated that the Panel Data regression analysis should be used as the methodology to test the proposed models rather than the Ordinary (Pooled) Logistic regression analysis. The Panel Logistic regression analysis using the Huber/White/sandwich VCE estimator (Wooldridge, 2002) was used to test proposed models in which the sample was a firm-year data set and the dependent variables

<sup>5</sup> The sign of the regression coefficient for board independence was negative in the cited two studies.

<sup>6</sup> If the boards have three or more female directors.

**Table 2**  
Descriptive statistics.

| Variable      | Full sample |       |       |        |        | CSR reporters |       | Non-CSR reporters |       |
|---------------|-------------|-------|-------|--------|--------|---------------|-------|-------------------|-------|
|               | Obs.        | Mean  | S.D.  | Min    | Max    | Obs.          | Mean  | Obs.              | Mean  |
| CSRperf       | 856         | 49.74 | 17.13 | 12.65  | 91.25  | 423           | 61.04 | 433               | 38.70 |
| BoardSize     | 856         | 9.15  | 2.72  | 1.00   | 26.00  | 423           | 10.09 | 433               | 8.23  |
| GenDiv        | 856         | 16.63 | 12.40 | 0.00   | 57.14  | 423           | 18.62 | 433               | 14.68 |
| BoardInd      | 856         | 73.83 | 15.92 | 0.00   | 100.00 | 423           | 74.06 | 433               | 73.61 |
| FFP           | 856         | 74.29 | 23.19 | 4.06   | 100.00 | 423           | 73.17 | 433               | 75.38 |
| FirmSize      | 856         | 21.68 | 1.43  | 17.66  | 24.48  | 423           | 22.20 | 433               | 21.17 |
| Leverage      | 856         | 62.00 | 29.55 | 5.55   | 260.88 | 423           | 61.51 | 433               | 62.48 |
| Profitability | 856         | 8.67  | 10.09 | -62.88 | 47.08  | 423           | 8.64  | 433               | 8.70  |

| DualCEO   | Full sample |           |         | GRI framework adopters |         | Non-GRI framework adopters |         |
|-----------|-------------|-----------|---------|------------------------|---------|----------------------------|---------|
|           | Category    | Frequency | Percent | Frequency              | Percent | Frequency                  | Percent |
| DualCEO   | Exist       | 380       | 44.39   |                        |         |                            |         |
|           | Non-exist   | 476       | 55.61   |                        |         |                            |         |
|           | Total       | 856       | 100.00  |                        |         |                            |         |
| CSRreport | Exist       | 423       | 49.42   |                        |         |                            |         |
|           | Non-exist   | 433       | 50.58   |                        |         |                            |         |
|           | Total       | 856       | 100.00  |                        |         |                            |         |
| GRIframe  | Exist       | 205       | 48.46   |                        |         |                            |         |
|           | Non-exist   | 218       | 51.54   |                        |         |                            |         |
|           | Total       | 423       | 100.00  |                        |         |                            |         |
| ExtAudit  | Exist       | 131       | 30.97   | 110                    | 53.66   | 21                         | 9.63    |
|           | Non-exist   | 292       | 69.03   | 95                     | 46.34   | 197                        | 90.37   |
|           | Total       | 423       | 100.00  | 205                    | 100.00  | 218                        | 100.00  |

were measured using dichotomous variables.

To choose between Fixed-Effects or Random-Effects, the Random-Effects (RE)-Logit was compared to the Fixed-Effects (FE)-Logit in each proposed model using Hausman’s test. The null hypothesis stated that the preferred model is the Random-Effects model (Greene, 2008). The results of Hausman’s test indicated that the Random-Effects Logistic model should be utilized compared to the Fixed-Effects model (See Table 4,  $p$ -values > 0.05). Therefore, the baseline analysis incorporated the Random-Effects Logistic regression analysis for the panel data. The proposed models were developed based on the Panel Logistic regression data analysis methodology in which the variables, such as CSRreport, ExtAudit, and GRIframe, were binary dependent variables coded as ones and zeros. The descriptions of the dependent, independent, and control variables are listed in Table 1.

The proposed models represented by the given functional relationship are:

$$\text{Model (1) CSRreport} = \beta_0 + \beta_1\text{CSRperf} + \beta_2\text{BoardSize} + \beta_3\text{GenDiv} + \beta_4\text{BoardInd} + \beta_5\text{DualCEO} + \beta_6\text{FFP} + \beta_7\text{FirmSize} + \beta_8\text{Leverage} + \beta_9\text{Profitability} + \varepsilon_{it}$$

$$\text{Model (2) GRIframe} = \beta_0 + \beta_1\text{CSRperf} + \beta_2\text{BoardSize} + \beta_3\text{GenDiv} + \beta_4\text{BoardInd} + \beta_5\text{DualCEO} + \beta_6\text{FFP} + \beta_7\text{FirmSize} + \beta_8\text{Leverage} + \beta_9\text{Profitability} + \varepsilon_{it}$$

$$\text{Model (3) ExtAudit} = \beta_0 + \beta_1\text{CSRperf} + \beta_2\text{BoardSize} + \beta_3\text{GenDiv} + \beta_4\text{BoardInd} + \beta_5\text{DualCEO} + \beta_6\text{FFP} + \beta_7\text{FirmSize} + \beta_8\text{Leverage} + \beta_9\text{Profitability} + \varepsilon_{it}$$

$$\text{Model (4) ExtAudit} = \beta_0 + \beta_1\text{GRIframe} + \beta_2\text{BoardSize} + \beta_3\text{GenDiv} + \beta_4\text{BoardInd} + \beta_5\text{DualCEO} + \beta_6\text{FFP} + \beta_7\text{FirmSize} + \beta_8\text{Leverage} + \beta_9\text{Profitability} + \varepsilon_{it}$$

While the full sample is incorporated in Model 1, a sub-sample with firm-year records of the existence of sustainability/CSR reports is utilized in Model 2, 3, and 4 because of the following reasons. A firm must have a CSR report before the report can be identified as GRI-based or free-format; however, to precisely predict the direction of the causality between GRIframe and CSRperf, the Granger causality test was used (Granger, 1969). For this purpose, a software module (Joly, 2010; Lopez and Weber, 2017) was used. The results indicated that CSRperf Granger causes GRIframe ( $\chi^2(1) = 7.81$ ;  $p$ -value: 0.0052), while the GRIframe

does not Granger cause CSRperf ( $\chi^2(1) = 2.85$ ,  $p$ -value: 0.0911). Thus, the direction for the causality was from CSRperf to GRIframe, and the analysis was run accordingly. In Model 3, ExtAudit was the dependent variable, and CSRperf was the independent variable, where firm-year records with a CSRreport were used as a sub-sample. The restriction of the sub-sample to firm-year records with a CSRreport was applied because a firm must have a CSR report before obtaining external assurance for it. Finally, ExtAudit was the dependent variable, and GRIframe was the independent variable in Model 4 in which firm-year records with a CSRreport were once again used as a sub-sample. In all models, BoardSize, GenDiv, BoardInd, DualCEO, FFP, FirmSize, Leverage, and Profitability were used as the control variables because board, ownership, and financial characteristics are likely to affect firms’ CSR practices (De Beelde and Tuybens, 2015; Liao et al., 2018).

#### 4.4. Descriptive statistics

Table 2 summarizes the descriptive statistics for mean, standard deviation (i.e. SD), and minimum and maximum values. The descriptive statistics were based on firm-year observations. Of the final sample of 856 firm-year records, 49.42% of the observations (corresponding to 423 records) had a sustainability/CSR report published by 83 firms,<sup>7</sup> and 48.46% of these reports (corresponding to 205 records) followed any of the GRI frameworks in preparing their report contents, 30.97% (corresponding to 131 records) had an external assurer for their sustainability/CSR reports’ content, and 44.39% had a CEO who concurrently chaired the board (or the board chairman has been the company CEO). The average CSRperf was 49.74, ranging between 12.65 and 91.25, which represents on average a moderate CSR performance of a maximum score of 100. The mean CSR performance was in line with other sectors’ CSR performance that utilized the same proxy (i.e. ESG

<sup>7</sup> This value is not included in Table 2 but is available from the authors upon request. To avoid overloading the manuscript with too many tables, the authors preferred not to include it.

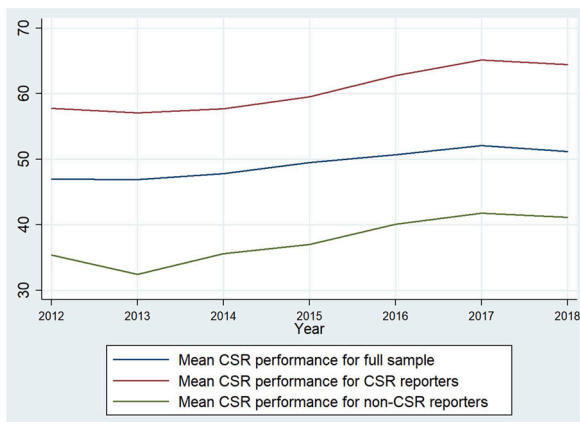


Fig. 2. CSR performance trend over time.

score) (Velte, 2019; Uyar et al., 2020).<sup>8</sup> In addition, the mean values of board and financial characteristics are as follows: BoardSize was 9.15, GenDiv was 16.63%, BoardInd was 73.83%, FFP was 74.29%, firm size was 21.68, leverage was 62%, and ROA was 8.67%. When these statistics are compared with those of other studies, it is observable that the H&T sector's boards are more diverse and independent than other sectors' boards, including for logistics (11.81% and 57%, respectively) (Uyar et al., 2020) and basic materials, consumer cyclicals, consumer non-cyclicals, energy, health care, industrials, technology, telecommunication services, and utilities (average; 11.77% and 63.28% for GenDiv and BoardInd, respectively) (Pucheta-Martínez and Gallego-Álvarez, 2019); however, the H&T sector's board size is slightly lower than the cited industries (9.98 and 10.90 directors, respectively) (Pucheta-Martínez and Gallego-Álvarez, 2019; Uyar et al., 2020), and its profitability is higher than the nine sector's average profitability (6.44%, cited in Pucheta-Martínez and Gallego-Álvarez, 2019).

Moreover, Table 2 reports descriptive statistics for sub-samples for CSR reporters and non-CSR reporters as well. The statistics highlighted considerable variations between the two sub-groups in terms of CSR engagement. The CSR reporters had remarkably higher mean values of CSR performance (61.04 versus 38.70), a larger board size (10.09 versus 8.23), and a greater proportion of female directors on the board (18.62% versus 14.68%) than those of non-CSR reporters; however, it is observable that both sub-groups are not much different from each other in terms of financial characteristics.

In addition, to highlight the trend in CSR performance over time, Fig. 2 was drawn. It depicts that beginning from 2013, there was an increasing trend in overall CSR performance for the full sample as well as for the CSR reporters and non-CSR reporters except for a slight decline in 2018. Overall, the figure shows an improvement in CSR commitment in the H&T sector over the sample period of 2012–2018.

#### 4.5. Correlation analysis

Some variables used in the study were categorical; therefore, a non-parametric Spearman's correlation analysis was used to investigate the bivariate linear correlation between the variables (Field, 2013). The results are shown in Table 3. Panel A shows the correlation coefficients based on the whole sample ( $n = 856$ ). Panel B indicates the correlation coefficients based on a partial sample, including only the firm-year

<sup>8</sup> The cross-sector sample had a mean value of 54.3% (former study), and the logistics sector had a mean value of 49.89% (latter study). The authors also checked the mean ESG scores of some other industries from the Thomson Reuters Eikon database and found the following values: Energy was 51.2%, Healthcare was 50.2%, and Financials was 49.9% for the same period of 2012–2018.

observations with a sustainability/CSR report ( $n = 423$ ). The authors constructed two separate panels because Model 1 was run for the full sample, whereas Model 2, Model 3, and Model 4 were run for the sub-samples.

In Panel A, CSRperf ( $p < .05$ ), BoardSize ( $p < .05$ ), GenDiv ( $p < .05$ ), and FirmSize ( $p < .05$ ) had a significant positive linear correlation with CSRreport and GRIfame, while BoardInd ( $p < .05$ ) had a significant positive linear correlation with only GRIfame. As shown in Panel B, the Spearman's correlation analysis included only the firm-year records with a CSR report. Accordingly, the results revealed that CSRperf ( $p < .05$ ) and GRIfame ( $p < .05$ ) as well as BoardSize ( $p < .05$ ), GenDiv ( $p < .05$ ), BoardInd ( $p < .05$ ), and FirmSize ( $p < .05$ ) had a significant positive linear correlation with ExtAudit.

The correlation coefficients (Table 3) and variance inflation factors (VIFs) indicated no multicollinearity issues among the independent variables. The values of VIFs in Model 1 ranged from 1.09 to 1.59. In Model 2 and Model 3, the VIFs ranged from 1.16 to 1.57. In Model 4, the VIFs ranged from 1.14 to 1.43. The values of the VIFs were lower than the cut-off value of 10 (Hair et al., 2010).

## 5. Findings

The results of Model 1 and Model 2 are shown in Table 4 (Columns 1 and 2). In line with the theoretical propositions, CSRperf had a significant positive relationship with CSRreport ( $p < .01$ ) and GRIfame ( $p < .01$ ). These results support the hypothesis that H&T companies with high CSR performance are more likely to issue sustainability/CSR reports and to adopt the GRI framework when preparing the reports. This validates H1 and H2, proving that in the H&T industry, CSR reporting and adopting the GRI framework are associated with higher CSR performance, hence supporting the signaling theory but rejecting the greenwashing tendency. In addition, BoardSize ( $p < .01$ ) and FirmSize ( $p < .05$ ) had a significant positive association with CSRreport, and BoardInd had a weakly significant negative association with CSRreport ( $p < .10$ ). This means that H&T companies with larger boards and more assets have a higher propensity to issue a CSR report, whereas firms with a greater independent director ratio have a lower tendency to issue a CSR report (weak relationship).

The results of Model 3 (Column 3) and Model 4 (Column 4) are presented in Table 4. The results indicate that the independent variables, namely CSRperf ( $p < .01$ ) in Model 3 and GRIfame ( $p < .01$ ) in Model 4, have a significant positive association with ExtAudit. These findings suggest that H&T companies with high CSR performance are more likely to assure their CSR reports using external verification. In addition, H&T companies that adopt the GRI framework for their CSR reports are more likely to assure their reports externally. These outcomes lend support to H3 and H4, respectively. Moreover, GenDiv ( $p < .01$ ) had a significant positive association while free float percentage (FFP) ( $p < .05$ ) and Leverage ( $p < .01$ ) had a significant negative association with ExtAudit in Model 3. Finally, GenDiv ( $p < .01$ ) and FirmSize ( $p < .05$ ) had a significant positive association with ExtAudit in Model 4, while Leverage had a significant negative association with it. Thus, H&T companies with more female directors on the boards and greater total assets are more likely to assure their CSR reports, whereas firms with higher leverage and free float ratios are less likely to acquire assurance statements for their CSR reports.

Moreover, the proposed Model 1, 2, 3, and 4 are subject to Probit Regression analysis with maximum-likelihood Probit model (Long and Freese, 2014) since the dependent variables were binary categorical variables. The robust standard errors with Huber-White-sandwich estimator of the variance are reported. The results of the Probit regression analysis are provided in Table 5. Accordingly, the results show that CSRperf had a significant positive association with CSRreport ( $p < 0.01$ ; Model 1), GRIfame ( $p < 0.01$ ; Model 2), and ExtAudit ( $p < 0.01$ ; Model 3). In addition, GRIfame had a significant positive relationship with ExtAudit ( $p < 0.01$ ; Model 4). Hence, Probit regression analysis results



**Table 3**  
Spearman's correlation coefficients.

| Panel A (n = 856 - Complete sample) |               |         |         |          |          |          |          |
|-------------------------------------|---------------|---------|---------|----------|----------|----------|----------|
| Variable                            |               | V1      | V2      | V3       | V4       | V5       | V6       |
| 1                                   | CSRreport     | 1       |         |          |          |          |          |
| 2                                   | GRIframe      | 0.5678* | 1       |          |          |          |          |
| 3                                   | CSRperf       | 0.6602* | 0.5629* | 1        |          |          |          |
| 4                                   | BoardSize     | 0.3371* | 0.3799* | 0.3661*  | 1        |          |          |
| 5                                   | GenDiv        | 0.1592* | 0.1246* | 0.3886*  | 0.1360*  | 1        |          |
| 6                                   | BoardInd      | -0.0133 | 0.0981* | 0.2482*  | 0.2208*  | 0.2070*  | 1        |
| 7                                   | DualCEO       | 0.001   | 0.022   | -0.0076  | 0.0995*  | -0.1278* | 0.1433*  |
| 8                                   | FFP           | -0.0249 | -0.0574 | 0.1650*  | 0.0091   | 0.3088*  | 0.3161*  |
| 9                                   | FirmSize      | 0.3820* | 0.2982* | 0.4167*  | 0.4352*  | 0.0291   | 0.1245*  |
| 10                                  | Leverage      | 0.0295  | 0.0485  | 0.1851*  | 0.2043*  | 0.2900*  | 0.2273*  |
| 11                                  | Profitability | -0.0256 | -0.0199 | -0.0033  | 0.0038   | 0.0328   | -0.0471  |
| Variable                            |               | V7      | V8      | V9       | V10      | V11      | ..       |
| 7                                   | DualCEO       | 1       |         |          |          |          | ..       |
| 8                                   | FFP           | 0.0281  | 1       |          |          |          | ..       |
| 9                                   | FirmSize      | 0.1952* | 0.0298  | 1        |          |          | ..       |
| 10                                  | Leverage      | 0.0667  | 0.1891* | 0.2369*  | 1        |          | ..       |
| 11                                  | Profitability | -0.0356 | 0.0402  | -0.2945* | -0.1457* | 1        | ..       |
| Panel B (n = 423 - CSRreport:Exist) |               |         |         |          |          |          |          |
| Variable                            |               | V1      | V2      | V3       | V4       | V5       | V6       |
| 1                                   | ExtAudit      | 1       |         |          |          |          |          |
| 2                                   | CSRperf       | 0.5074* | 1       |          |          |          |          |
| 3                                   | GRIframe      | 0.4759* | 0.4472* | 1        |          |          |          |
| 4                                   | BoardSize     | 0.2732* | 0.3619* | 0.3475*  | 1        |          |          |
| 5                                   | GenDiv        | 0.2846* | 0.4338* | 0.0626   | 0.0897   | 1        |          |
| 6                                   | BoardInd      | 0.2429* | 0.2846* | 0.1798*  | 0.3457*  | 0.2048*  | 1        |
| 7                                   | DualCEO       | 0.08    | -0.0739 | 0.037    | 0.0919   | -0.3006* | 0.1789*  |
| 8                                   | FFP           | -0.007  | 0.2220* | -0.0576  | -0.0956* | 0.3750*  | 0.1899*  |
| 9                                   | FirmSize      | 0.2374* | 0.3292* | 0.1624*  | 0.2932*  | 0.004    | 0.2605*  |
| 10                                  | Leverage      | -0.0119 | 0.2387* | 0.0603   | 0.1511*  | 0.3081*  | 0.2485*  |
| 11                                  | Profitability | -0.0218 | -0.058  | -0.0088  | 0.0679   | -0.0054  | -0.1078* |
| Variable                            |               | V7      | V8      | V9       | V10      | V11      | ..       |
| 7                                   | DualCEO       | 1       |         |          |          |          | ..       |
| 8                                   | FFP           | -0.0918 | 1       |          |          |          | ..       |
| 9                                   | FirmSize      | 0.3535* | -0.0027 | 1        |          |          | ..       |
| 10                                  | Leverage      | 0.0141  | 0.1529* | 0.2450*  | 1        |          | ..       |
| 11                                  | Profitability | -0.0113 | 0.0451  | -0.2984* | -0.2416* | 1        | ..       |

\* p < .05.

confirmed the validity of the Random-Effects Logistic regression analysis results. The next sub-section documents the outputs of other Robustness tests.

5.1. Robustness check

The robustness check of the initial analysis was investigated using various approaches. First, within the sample, there were 15 firms with only one-year observations, which could cause possible bias and weak causality in the results. Therefore, the authors re-ran the baseline regression analysis with the Random-Effects Logistic regression analysis for panel data by excluding the single observations. The results are shown in Table A3 in the Appendix. Accordingly, CSRperf had a significant positive association with CSRreport (Model 1), GRIframe (Model 2), and ExtAudit (Model 3), while GRIframe had a significant positive association with ExtAudit (Model 4). The results are consistent with the initial baseline analysis shown in Table 4.

In addition, the sample included multi-level panel data records. Therefore, the proposed models were subject to an alternative estimation method of a Multi-Level Mixed-Effects Models Logistic regression analysis. Multilevel models with binary responses have been used widely in the social sciences (Leyland and Goldstein, 2001; Grauel and Gotthardt, 2016; Swierzy et al., 2018). For this approach, the countries, years as well as the firms were specified as the multi-levels. The results are shown in Table A4 in the Appendix. The results showed that CSRperf

had a significant positive relationship with CSRreport, GRIframe, and ExtAudit, while GRIframe had a significant positive relationship with ExtAudit. Thus, the results are in line with the initial baseline analysis shown in Table 4.

Moreover, the independent variables, namely CSRperf and GRIframe, were included in Model 3 and Model 4 separately to test their individual effects on the dependent variables in the baseline analysis. As a robustness check, these independent variables were subject to the same analysis by incorporating them into the model jointly as well as with their interaction effects, as shown in Table A5 in the Appendix. The results indicated that CSRperf and GRIframe still had a significant positive association with ExtAudit even when they were subject to the analysis simultaneously (Table A5, Column 3). Furthermore, the interaction of CSRperf and GRIframe was not statistically significantly associated with ExtAudit (Table A5, Column 4).

The Fixed-Effects Logistic regression analysis results with the likelihood based-observed information matrix (OIM) robust standard errors (StataCorp., 2015) of the proposed models are shown in Table A6 as part of the robustness check. Using this approach, the firm, the year, and the country of headquarters were controlled. During the analysis, the initial sample size was reduced in each model because multiple positive outcomes within groups were observed; thus, the records with all positive or all negative outcomes were dropped. Hence, the results indicated that CSRperf had a significant positive association with CSRreport, GRIframe, and ExtAudit, while GRIframe had a significant positive

**Table 4**  
Random-Effects Panel Logistic regression analysis (column #2, #3, and #4 when CSRreport exists).

| Independent variables                 | (1) Model 1<br>RE-Logit<br>CSRreport | (2) Model 2<br>RE-Logit<br>GRIframe | (3) Model 3<br>RE-Logit<br>ExtAudit | (4) Model 4<br>RE-Logit<br>ExtAudit |
|---------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| CSRperf                               | 0.20***<br>(8.63)                    | 0.20***<br>(5.65)                   | 0.16***<br>(4.37)                   |                                     |
| GRIframe                              |                                      |                                     |                                     | 3.58***<br>(4.88)                   |
| BoardSize                             | 0.45***<br>(3.46)                    | 0.22<br>(1.45)                      | 0.047<br>(0.31)                     | 0.10<br>(0.70)                      |
| GenDiv                                | -0.029<br>(-1.27)                    | -0.045<br>(-1.30)                   | 0.14***<br>(3.27)                   | 0.19***<br>(4.36)                   |
| BoardInd                              | -0.034*<br>(-1.65)                   | 0.019<br>(0.65)                     | 0.045<br>(1.37)                     | 0.036<br>(1.17)                     |
| DualCEO                               | -0.087<br>(-0.14)                    | 0.62<br>(0.65)                      | 0.39<br>(0.38)                      | 0.29<br>(0.30)                      |
| FFP                                   | -0.020<br>(-1.46)                    | -0.023<br>(-1.22)                   | -0.045**<br>(-2.06)                 | -0.033<br>(-1.57)                   |
| FirmSize                              | 0.53**<br>(1.97)                     | -0.32<br>(-0.81)                    | 0.67<br>(1.55)                      | 0.91**<br>(2.17)                    |
| Leverage                              | -0.014<br>(-1.39)                    | -0.019<br>(-1.34)                   | -0.050***<br>(-2.83)                | -0.041***<br>(-2.59)                |
| Profitability                         | 0.0038<br>(0.18)                     | -0.023<br>(-0.88)                   | 0.023<br>(0.49)                     | 0.027<br>(0.63)                     |
| Constant                              | -20.5***<br>(-3.42)                  | -5.33<br>(-0.64)                    | -28.2***<br>(-2.93)                 | -27.5***<br>(-2.93)                 |
| N                                     | 856                                  | 423                                 | 423                                 | 423                                 |
| Hausman's Test<br>( $\chi^2$ /d.f.:9) | 16.05                                | 15.54                               | 8.59                                | 15.43                               |
| $\chi^2$ -stat                        | 99.62***                             | 38.29***                            | 36.87***                            | 40.54***                            |

t Statistics in parentheses.

- \* p < 0.10.
- \*\* p < 0.05.
- \*\*\* p < 0.01.

association with ExtAuit. These results are also in line with the initial analysis shown in Table 4. In summary, all the robustness tests confirmed the validity of the baseline results, implying that the findings are robust to alternative sampling and methodologies.

## 6. Discussion and conclusion

### 6.1. Conclusions

The H&T sector's ability to survive depends on its success in diminishing its negative effects on the environment and society (Kasim, 2006). In this study, the hypothesized associations among CSR performance, CSR reporting, GRI framework adoption, and verification of CSR reports by external assurance were explored in the H&T sector. The aim was to include four important dimensions of CSR initiatives in a single study and to clarify the relationships among them to help the H&T sector achieve sustainable development. This is because sustainable development involves the consideration of stakeholders' rights by addressing environmental and social issues and by generating economic value for communities. This investigation is crucial as the tourism sector under pressure for its growing direct or indirect GHG emissions as pointed out at the beginning of the study.

When practicing and reporting CSR, firms address specific issues and

**Table 5**  
Probit regression analysis (column #2, #3, and #4 when CSRreport exists).

| Independent variables | (1) Model 1<br>CSRreport | (2) Model 2<br>GRIframe | (3) Model 3<br>ExtAudit | (4) Model 4<br>ExtAudit |
|-----------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| CSRperf               | 0.080***<br>(14.33)      | 0.058***<br>(7.90)      | 0.060***<br>(7.16)      |                         |
| GRIframe              |                          |                         |                         | 1.46***<br>(8.23)       |
| BoardSize             | 0.11***<br>(4.12)        | 0.11***<br>(3.74)       | 0.041<br>(1.38)         | 0.042<br>(1.33)         |
| GenDiv                | -0.0041<br>(-0.70)       | -0.016**<br>(-2.32)     | 0.037***<br>(4.37)      | 0.060***<br>(6.81)      |
| BoardInd              | -0.021***<br>(-4.63)     | 0.0066<br>(1.37)        | 0.012**<br>(2.05)       | 0.011*<br>(1.85)        |
| DualCEO               | 0.042<br>(0.34)          | 0.15<br>(0.96)          | 0.55***<br>(3.08)       | 0.49***<br>(2.58)       |
| FFP                   | -0.0059**<br>(-2.15)     | -0.0080**<br>(-2.45)    | -0.012***<br>(-3.05)    | -0.0058<br>(-1.50)      |
| FirmSize              | 0.093*<br>(1.81)         | -0.14**<br>(-2.25)      | 0.086<br>(1.21)         | 0.19***<br>(2.70)       |
| Leverage              | -0.0085***<br>(-3.64)    | -0.0020<br>(-0.73)      | -0.016***<br>(-4.79)    | -0.016***<br>(-4.74)    |
| Profitability         | 0.0016<br>(0.27)         | -0.0094<br>(-1.29)      | -0.00096<br>(-0.10)     | 0.0051<br>(0.55)        |
| Constant              | -4.43***<br>(-4.11)      | -1.08<br>(-0.88)        | -6.61***<br>(-4.45)     | -6.80***<br>(-4.62)     |
| N                     | 856                      | 423                     | 423                     | 423                     |
| $\chi^2$ -stat        | 547.97***                | 128.04***               | 179.38***               | 198.27***               |

t statistics in parentheses.

- \* p < 0.10.
- \*\* p < 0.05.
- \*\*\* p < 0.01.

communicate how they contribute to a clean environment and the well-being of society. For example, the GRI framework requires its followers to disclose CSR practices along with 91 individual items under three main sub-headings (i.e. economic, environmental, and social) (Orazalin and Mahmood, 2018). These individual items include concrete information disclosure on energy consumption by decomposing it into its types (i.e. renewable and fuel, external and internal energy consumption, change in energy consumption), greenhouse gas emissions, materials usage (i.e. by volume and weight, recycled, non-renewable and renewable, etc.), and supplier environmental assessment (GRI, 2015). The sector appears to need to adopt the GRI framework as prior studies showed that while social dimensions such as donations and diversity policies are among the most reported items, environmental disclosures attracted considerably less attention (Holcomb et al., 2007) or limited information on specific CSR initiatives are disclosed in CSR reports (de Grosbois, 2012). Furthermore, the four facets of CSR commitment (i.e. CSR performance, CSR reporting, GRI framework adoption, and external assurance) are complementary rather than supplementary, and the hypothesized relationships show the existence or lack of greenwashing in the H&T sector. Testing signaling theory or greenwashing tendency by focusing on the highlighted four facets of CSR on a cross-country sample is unique as several prior studies have drawn attention to the danger of greenwashing practices in the H&T industry (Henderson, 2007; Font et al., 2012; Smith and Font, 2014; Rahman et al., 2015). Although greenwashing will likely provide a short-term benefit, it may backfire in

the form of penalization by non-governmental organizations (Lyon and Maxwell, 2011) and consumer backlash (Rahman et al., 2015) in the long-term.

To highlight the conclusions drawn from this study, first, higher CSR performers among H&T companies are more likely to publish a CSR report. This implies that engagement in CSR initiatives encourages and motivates companies to disclose the CSR practices that they have exercised during the reporting period. The descriptive statistics also support this empirical finding by highlighting the variation in terms of CSR performance between CSR reporters versus non-CSR reporters, which could be considered a call to the latter sub-group for greater CSR engagement. Fernandez-Feijoo et al. (2015) asserted that sustainability reports are the best tools to help organizations showcase their social and environmental achievements. Although Font et al. (2012) found a gap between CSR performance and disclosure in the H&T industry, it was based primarily on a descriptive rather than an empirical analysis and was limited to 10 international hotel groups. Several prior studies also showed that CSR reports might signal firms' high CSR performance (Patten, 2002; Clarkson et al., 2008; Uyar et al., 2020), some other studies unveiled that CSR reports are utilized to disguise poor CSR performance as a tool of greenwashing (Clarkson et al., 2011; Braam et al., 2016). Besides, Wang et al. (2018) and Bacha and Ajina (2019) also found that higher CSR performers distinguish themselves from poor CSR performers by disclosing more clear and readable CSR reports facilitating stakeholders' understanding. Thus, the findings of this study provide empirical, incremental, and internal evidence supporting signaling theory by identifying a significant association between CSR performance and reporting in the tourism sector.

Second, higher CSR achievements are a significant driving force behind GRI framework adoption. As the descriptive statistics show, almost half of CSR reporters used GRI guidelines (48.46%) when structuring their reports. Fernandez-Feijoo et al. (2015) and Sethi et al. (2017) cited the GRI framework as the leading and the most trusted framework in sustainability reporting. The empirical results prove that the GRI adopters are high scorers in CSR performance; however, it is also notable that non-GRI followers are 51.54% of CSR reporters, which implies that they prepare free-format reports or by following some other formats. Thus, this study's results could motivate these firms to adopt the GRI framework in future periods as it provides several advantages, such as standardizing disclosure items, enabling comparability of the CSR reports across periods and with other firms in the sector, and accounting for balanced tracking and disclosure of the three dimensions (i. e. economic, social, and environmental) (Calabrese et al., 2013; Helfaya and Moussa, 2017). A recent empirical study showed that GRI-based CSR reports have higher accuracy than non-GRI-based CSR reports in terms of scope, definitions, and methodology (Ballou et al., 2018). Besides, an interview-based qualitative study revealed that CSR managers have a consensus on the integrality of GRI framework concerning how and what CSR initiatives need to be disclosed (Dixon et al., 2019). Third, among CSR reporters, higher CSR performers are more likely to assure their CSR reports externally. In line with this finding, although most prior studies confirm a positive link between CSR performance and external assurance (Alon and Vidovic, 2015; Clarkson et al., 2019), Braam et al. (2016) determined that firms with weak environmental performance may also seek external assurance for environmental disclosures.

The three findings of the study outlined so far alleviate or eliminate the risk of greenwashing in the H&T sector because prior studies showed that firms reporting their CSR engagements may intend to affect public perception rather than to be a good corporate citizen (Ackers and Eccles, 2015). Nevertheless, the descriptive statistics show that 30.97% of the CSR reporters assured their reports by an external organization, whereas the majority of them (i.e. 69.03%) did not assure their reports. Although the majority of non-assurers may have some sort of justification for their decision, such as the cost of assurance, previous studies have implied that there is a requirement for independent assurance to improve the

credibility of CSR reports (de Grosbois, 2016; Helfaya and Moussa, 2017). By examining the websites of the leading hotel chains globally, Jones et al. (2014b) highlighted the scarcity of external assurance on CSR reports and voiced the need for greater transparency and credibility in the sector. Likewise, de Grosbois (2016) detected the absence of independent third-party assurance of CSR reports in the cruise industry. Hence, this study highlighted the global outlook of the tourism sector in terms of getting independent assurance on CSR reports and asserted its role in the signaling high CSR performance.

Fourth, among CSR reporters, GRI framework adopters are more likely to assure their CSR reports externally. Although the GRI does not mandate acquiring an external assurance statement of sustainability reports, assurance is recommended to enhance the credibility of the reports (GRI, 2013; Sethi et al., 2017). This finding justifies two points: the uptake of GRI's recommendation by H&T companies and the realization of one of the aims of GRI in elevating sustainability reports to a level of auditability similar to financial reports (Junior and Best, 2017); however, there is still a gap between assured and non-assured reports by an external organization for H&T companies; while the assurance rate among GRI adopters is 53.66%, it is only 9.63% among non-GRI adopters, which supports the empirical finding but also highlights the need for greater assurance engagement for non-GRI followers. Following the baseline analysis, the authors ran several robustness tests by considering alternative sampling and methodologies; the outputs of all these methodologies confirmed the validity of the baseline results.

## 6.2. Implications

The results suggest several implications for policymakers, the H&T sector, and the GRI. The proven links among the four dimensions of CSR incorporated into the study models indicate complementarity among the indicators. The results provide empirical evidence that H&T companies are striving to be good corporate citizens, as confirmed by the links between the different dimensions of CSR commitment; however, it should be noted that there is still a gap for improvement, particularly for non-CSR reporters and for non-GRI adopters as pointed out in the preceding paragraph. At the same time, the proven link among four facets of CSR engagement shows that the sector is attempting to meet the expectations of the stakeholders by communicating its CSR practices, verifying CSR reports' content by independent assurance, and following GRI guidelines for reporting consistency.

The rise and popularity of CSR among organizations have caused some skepticism concerning greenwashing and window-dressing posed by society (Mahoney et al., 2013; de Grosbois, 2016; Wang et al., 2018). Greenwashing represents disclosing misleading CSR information to the public without devoting substantial effort to CSR achievements or selectively disclosing positive CSR information to legitimize themselves in society (Ackers and Eccles, 2015; Wang et al., 2018). Firms may use CSR reporting as a perception management tool to gain the advantages of being a good corporate citizen rather than realizing concrete practices to the extent they claim (Henderson, 2007; Helfaya and Moussa, 2017). Rahman et al. (2015) determined that greenwashing is an ongoing critical issue in the lodging industry that negatively affects consumer behavior. While CSR performance shows the H&T industry's CSR initiatives undertaken, CSR reporting demonstrates the communication ability of the companies to their stakeholders. CSR reporting promises some incremental advantages to the organizations, such as establishing public relations, reducing conflicts, building reputation, and achieving legitimacy (Golob and Bartlett, 2007). Moreover, in CSR communication, one of the key challenges is the skepticism of consumers or other stakeholders regarding the reliability of CSR reports (Rahman et al., 2015; Bachmann and Ingenhoff, 2016). Therefore, the verification of the CSR reports' contents by an external assurer may strengthen the credibility of the report contents, enhance stakeholder trust in CSR engagement and reports, decrease information uncertainty, and reduce information risk (Fernandez-Feijoo et al., 2015; Martínez-Ferrero and

García-Sánchez, 2017). These benefits may interest both the H&T sector and its stakeholders. Due to these cited benefits, although firms may check and verify CSR reports for content reliability through their internal processes, they also seek external independent verification by an objective expert evaluation (Jones et al., 2014a). Font et al. (2012) previously voiced the need for the external assurance of CSR disclosures to prevent greenwashing among hotel enterprises. Furthermore, the adoption of the GRI framework should be of interest to companies because the adoption of a framework provides a systematic structure and comparability of the contents for report readers (Junior and Best, 2017).

These findings suggest a roadmap for relevant parties (i.e. policymakers, the H&T sector, and the GRI) to ensure sustainable development within the H&T industry by highlighting the importance of acting in a socially and environmentally sustainable manner, communicating the outcomes with society in a transparent manner, and verifying that communication reflects the achievements and failures of the firms without bias. By studying the significant relationships identified through this study, H&T firms can examine the links among different facets of CSR engagement, leading to full CSR engagement. Moreover, managers of H&T firms can benefit from the results of this study in shaping corporate strategy to deliver a clear and complete message to relevant parties. They can also revise their corporate structure and establish and review their internal structure to connect the highlighted CSR dimensions. This study's results draw the attention of managers to the vitality of signaling true CSR commitment and demonstrate that their actions are noted by stakeholders. The results might also promote the development of new strategies or approaches among H&T managers related to ensuring the credibility of CSR engagements, such as installing an internal check and balance system as well as acquiring an independent assurance service from an independent body. Policymakers can mandate or suggest policies to enhance CSR practices, encourage communication related to those practices, and ensure the reliability of CSR reporting. The GRI can also use the findings of this study to address different aspects of sustainable development and to draft a possible H&T sector GRI supplement. The results also have implications for academia regarding the H&T domain or CSR discipline. By drawing on the connections among the different facets of CSR, they can incorporate this approach into further studies, such as to determine how joint consideration of these CSR practices improves organizational performance, customer loyalty, brand building, competitive position, and so on. They can also test the validity of the results of this study in certain jurisdictions to suggest context-specific implications to local H&T authorities. Finally, as Cheng et al. (2015) pointed out, the examined dimensions of CSR engagement of the H&T industry and the findings may facilitate investing decisions of shareholders in the stock market, in particular, those who seek socially responsible investments.

### 6.3. Limitations and future research avenues

The results of this study are specific to the H&T industry. They may not be generalizable to other industries; however, the methodology of the study can be adopted to test the validity of the findings in other

environmentally sensitive industries, such as energy, logistics, aviation, chemicals, mining, and other manufacturing industries. Besides, as the firms included in the sample are publicly traded firms on stock exchanges, the results may not completely hold for small H&T firms which are likely to be constrained by scarce resources to allocate to CSR initiatives. However, this limitation poses a research opportunity to test whether hypothesized relationships hold for those small H&T firms by collecting data through a survey. In addition, the authors acknowledge that the time period may impose a constraint on the findings as CSR engagement of firms may change by time as Fig. 2 depicts. Furthermore, due to the cross-country nature of the data, a limitation arises originating from the potential regulation of some sort of CSR issue, such as environmental aspects; thus, the reader should be aware that such differences, if any, were not considered during the data collection and analyses. The study does not assess whether the hypothesized relationships differ among different sub-sectors (e.g. hotels, motels & cruise lines, restaurants & bars) to which H&T firms belong to. For example, cruise lines' negative environmental impact (e.g. chemical pollution, solid waste and oil consumption, and disrupting marine animals) places the sector increasingly under the spotlight which might trigger greater CSR engagement due to legitimacy concerns. This might be an investigation of future research studies focusing on different H&T sub-sectors. Moreover, whether external assurance was received from an accounting body or other consultancy services and the type of assurer, the scope of assurance, and assurance standards adopted are not considered. These issues might also be addressed in future studies, for example, examining external assurance quality and to see whether assurance quality is affected by the type of assurer. The study also does not consider the version of GRI frameworks adopted in CSR report preparation. Furthermore, to document how the hypothesized relationships in the study are realized in a company and to explore human resources or information system configurations, a case study could be useful to provide specific guidelines to firms to improve their CSR commitment. As a potential research avenue, the value relevance of the four dimensions of CSR (i.e. performance, reporting, GRI framework adoption, and external assurance) used in this study could be investigated to provide important insights, particularly for shareholders in the H&T sector. In addition, some formal and informal institutional characteristics, such as regulatory frameworks, ethics, culture, and stakeholder-orientation versus shareholder-orientation of the countries could play roles in CSR achievements, choosing to adopt GRI guidelines, or deciding whether to assure CSR reports. Finally, 50.58% of the H&T firms in the sample do not issue a CSR report, and among CSR reporters, 51.54% do not follow GRI guidelines and 69.03% do not get external assurance for their CSR reports. The firms in these classifications deserve to be the focus of future studies too to explore the reasons (e.g. cost, lack of managerial priority, external forces, and weakness of stakeholders) behind their non-adoption behavior.

### Appendix A

**Table A1**

Firm - year distribution of the included firms.

| Firm                 | Year |      |      |      |      |      |      | Total |
|----------------------|------|------|------|------|------|------|------|-------|
|                      | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |       |
| 888 Holdings PLC     |      |      |      |      | x    | x    | x    | 3     |
| AMC Entertainment H. |      |      |      |      | x    | x    | x    | 3     |
| Accor SA             | x    | x    | x    | x    | x    | x    | x    | 7     |
| Ainsworth Game Tech. | x    | x    | x    | x    | x    | x    | x    | 7     |
| Aitken Spence PLC    | x    | x    | x    | x    | x    | x    | x    | 7     |
| Alsea SAB de CV      |      |      |      |      |      | x    | x    | 2     |
| Aramark              |      |      | x    | x    | x    | x    | x    | 5     |

(continued on next page)

Table A1 (continued)

| Firm                  | Year |      |      |      |      |      |      | Total |
|-----------------------|------|------|------|------|------|------|------|-------|
|                       | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |       |
| Arcos Dorados Holdi.  |      |      |      |      |      |      | x    | 1     |
| Ardent Leisure Grou.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Aristocrat Leisure.   | x    | x    | x    | x    | x    | x    | x    | 7     |
| Autogrill SpA         | x    | x    | x    | x    | x    | x    | x    | 7     |
| BJ's Restaurants Inc  |      |      |      |      | x    | x    | x    | 3     |
| Berjaya Sports Toto.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Bloomin' Brands Inc   |      |      |      | x    | x    | x    | x    | 4     |
| Bluegreen Vacations.  |      |      |      |      |      |      | x    | 1     |
| Booking Holdings Inc  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Boyd Gaming Corp      |      |      |      |      | x    | x    | x    | 3     |
| Brinker Internation.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| CVC Brasil Operador.  |      |      |      |      |      |      | x    | 1     |
| Caesars Entertainme.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Cafe De Coral Holdi.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Cannae Holdings Inc   |      |      |      |      |      | x    | x    | 2     |
| Carnival Corp         | x    | x    | x    | x    | x    | x    | x    | 7     |
| Carnival PLC          | x    | x    | x    | x    | x    | x    | x    | 7     |
| Carrols Restaurant.   |      |      |      |      |      | x    | x    | 2     |
| Cheesecake Factory.   | x    | x    | x    | x    | x    | x    | x    | 7     |
| China International.  |      |      |      |      |      |      | x    | 1     |
| China Travel Intern.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Chipotle Mexican Gr.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Choice Hotels Inter.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Churchill Downs Inc   |      |      |      | x    | x    | x    | x    | 4     |
| Chuy's Holdings Inc   |      |      |      |      |      |      | x    | 1     |
| Cinemark Holdings Inc |      |      |      |      | x    | x    | x    | 3     |
| Cineplex Inc          | x    | x    | x    | x    | x    | x    | x    | 7     |
| Cineworld Group PLC   |      |      |      |      | x    | x    | x    | 3     |
| City Lodge Hotels Ltd | x    | x    | x    | x    | x    | x    | x    | 7     |
| Collins Foods Ltd     |      |      |      |      | x    | x    | x    | 3     |
| Compass Group PLC     | x    | x    | x    | x    | x    | x    | x    | 7     |
| Corporate Travel Ma.  |      | x    | x    | x    | x    | x    | x    | 6     |
| Cracker Barrel Old.   |      |      |      | x    | x    | x    | x    | 4     |
| Crown Resorts Ltd     | x    | x    | x    | x    | x    | x    | x    | 7     |
| Ctrip.Com Internati.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| DXB Entertainments.   |      |      |      |      |      | x    | x    | 2     |
| Darden Restaurants.   | x    | x    | x    | x    | x    | x    | x    | 7     |
| Dave & Buster's Ent.  |      |      |      |      | x    | x    | x    | 3     |
| Del Taco Restaurant.  |      |      |      |      |      | x    | x    | 2     |
| Denny's Corp          |      |      |      |      |      | x    | x    | 2     |
| Dine Brands Global.   |      |      |      |      | x    | x    | x    | 3     |
| Domino's Pizza Ente.  |      |      | x    | x    | x    | x    | x    | 5     |
| Domino's Pizza Grou.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Donaco Internationa.  |      |      | x    | x    | x    | x    | x    | 5     |
| Drive Shack Inc       |      |      |      |      |      |      | x    | 1     |
| Dunkin' Brands Grou.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| EI Group PLC          | x    | x    | x    | x    | x    | x    | x    | 7     |
| El Pollo Loco Holdi.  |      |      |      |      | x    | x    | x    | 3     |
| Eldorado Resorts Inc  |      |      |      |      |      | x    | x    | 2     |
| Elior Group SA        |      |      |      |      | x    | x    | x    | 3     |
| Empire Resorts Inc    |      |      |      |      |      | x    | x    | 2     |
| Expedia Group Inc     | x    | x    | x    | x    | x    | x    | x    | 7     |
| Extended Stay Ameri.  |      |      |      |      | x    | x    | x    | 3     |
| Famous Brands Ltd     | x    | x    | x    | x    | x    | x    | x    | 7     |
| Fiesta Restaurant G.  |      |      |      |      |      | x    | x    | 2     |
| Fleetwood Corp Ltd    | x    | x    | x    | x    | x    | x    | x    | 7     |
| Flight Centre Trave.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Flutter Entertainme.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Formosa Internation.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| GVC Holdings PLC      |      |      |      |      | x    | x    | x    | 3     |
| Galaxy Entertainmen.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Genting Bhd           | x    | x    | x    | x    | x    | x    | x    | 7     |
| Genting Malaysia Bhd  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Genting Singapore Ltd | x    | x    | x    | x    | x    | x    | x    | 7     |
| Golden Entertainmen.  |      |      |      |      | x    | x    | x    | 3     |
| Great Canadian Gami.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Greek Organisation.   | x    | x    | x    | x    | x    | x    | x    | 7     |
| Greene King PLC       | x    | x    | x    | x    | x    | x    | x    | 7     |
| Greggs PLC            | x    | x    | x    | x    | x    | x    | x    | 7     |
| Gulf Hotel Group BSC  |      |      |      |      | x    | x    | x    | 3     |
| Hilton Grand Vacati.  |      |      |      |      |      | x    | x    | 2     |
| Hilton Worldwide Ho.  |      |      |      | x    | x    | x    | x    | 4     |
| Hosken Consolidated.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Huazhu Group Ltd      |      |      |      |      |      |      | x    | 1     |

(continued on next page)

Table A1 (continued)

| Firm                  | Year |      |      |      |      |      |      | Total |
|-----------------------|------|------|------|------|------|------|------|-------|
|                       | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |       |
| Hyatt Hotels Corp     | x    | x    | x    | x    | x    | x    | x    | 7     |
| Imperial Pacific In.  |      |      |      |      | x    | x    | x    | 3     |
| InterContinental Ho.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| International Game.   | x    | x    | x    | x    | x    | x    | x    | 7     |
| International Speed.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| J D Wetherspoon PLC   | x    | x    | x    | x    | x    | x    | x    | 7     |
| Jack in the Box Inc   |      |      |      | x    | x    | x    | x    | 4     |
| Jollibee Foods Corp   | x    | x    | x    | x    | x    | x    | x    | 7     |
| Jumbo Interactive Ltd |      |      |      |      |      |      | x    | 1     |
| Kangwon Land Inc      | x    | x    | x    | x    | x    | x    | x    | 7     |
| Kindred Group PLC     |      |      |      |      | x    | x    | x    | 3     |
| Las Vegas Sands Corp  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Lindblad Expedition.  |      |      |      |      | x    | x    | x    | 3     |
| MGM China Holdings.   | x    | x    | x    | x    | x    | x    | x    | 7     |
| MGM Resorts Interna.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Marcus Corp           |      |      |      |      |      | x    | x    | 2     |
| Marriott Internatio.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Marriott Vacations.   | x    | x    | x    | x    | x    | x    | x    | 7     |
| Marston's PLC         | x    | x    | x    | x    | x    | x    | x    | 7     |
| McDonald's Holdings.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| McDonald's Corp       | x    | x    | x    | x    | x    | x    | x    | 7     |
| Melco International.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Melco Resorts & Ent.  |      |      |      |      |      | x    | x    | 2     |
| Merlin Entertainmen.  |      |      |      | x    | x    | x    | x    | 4     |
| Millennium & Copho.   | x    | x    | x    | x    | x    | x    | x    | 7     |
| Minor International.  |      |      | x    | x    | x    | x    | x    | 5     |
| Mitchells & Butlers.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Monarch Casino & Re.  |      |      |      |      | x    | x    | x    | 3     |
| NH Hotel Group SA     | x    | x    | x    | x    | x    | x    | x    | 7     |
| Nathan's Famous Inc   |      |      |      |      |      |      | x    | 1     |
| Noodles & Co          |      |      |      |      |      |      | x    | 1     |
| Norwegian Cruise Li.  |      |      |      | x    | x    | x    | x    | 4     |
| On The Beach Group.   |      |      |      |      |      |      | x    | 1     |
| Oriental Land Co Ltd  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Pandox AB             |      |      |      |      |      |      | x    | 1     |
| Papa John's Interna.  |      |      |      |      | x    | x    | x    | 3     |
| Paradise Co Ltd       |      |      |      | x    | x    | x    | x    | 4     |
| Penn National Gamin.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Planet Fitness Inc    |      |      |      | x    | x    | x    | x    | 4     |
| PlayAGS Inc           |      |      |      |      |      |      | x    | 1     |
| Potbelly Corp         |      |      |      |      | x    | x    | x    | 3     |
| Rank Group PLC        | x    | x    | x    | x    | x    | x    | x    | 7     |
| Reading Internation.  |      |      |      |      | x    | x    | x    | 3     |
| Red Robin Gourmet B.  |      |      |      |      |      | x    | x    | 2     |
| Red Rock Resorts Inc  |      |      |      |      | x    | x    | x    | 3     |
| Redcape Hotel Group.  |      |      |      |      |      |      | x    | 1     |
| Restaurant Brands I.  |      |      |      | x    | x    | x    | x    | 4     |
| Restaurant Brands N.  |      |      |      | x    | x    | x    | x    | 4     |
| Restaurant Group PLC  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Retail Food Group Ltd |      | x    | x    | x    | x    | x    | x    | 6     |
| Round One Corp        | x    | x    | x    | x    | x    | x    | x    | 7     |
| Royal Caribbean Cru.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Ruth's Hospitality.   |      |      |      |      |      | x    | x    | 2     |
| SJM Holdings Ltd      | x    | x    | x    | x    | x    | x    | x    | 7     |
| SSP Group PLC         |      |      |      |      | x    | x    | x    | 3     |
| Sands China Ltd       | x    | x    | x    | x    | x    | x    | x    | 7     |
| Sankyo Co Ltd         | x    | x    | x    | x    | x    | x    | x    | 7     |
| Scientific Games Corp | x    | x    | x    | x    | x    | x    | x    | 7     |
| SeaWorld Entertainm.  |      |      |      | x    | x    | x    | x    | 4     |
| Sealink Travel Grou.  |      |      |      | x    | x    | x    | x    | 4     |
| Shake Shack Inc       |      |      |      | x    | x    | x    | x    | 4     |
| Shangri-La Asia Ltd   | x    | x    | x    | x    | x    | x    | x    | 7     |
| Shenzhen Overseas C.  |      |      |      |      |      |      | x    | 1     |
| Six Flags Entertain.  |      |      |      | x    | x    | x    | x    | 4     |
| Skycity Entertainme.  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Sodexo SA             | x    | x    | x    | x    | x    | x    | x    | 7     |
| Speedway Motorsport.  |      |      |      |      |      | x    | x    | 2     |
| Spur Corporation Ltd  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Star Entertainment.   | x    | x    | x    | x    | x    | x    | x    | 7     |
| Starbucks Corp        | x    | x    | x    | x    | x    | x    | x    | 7     |
| Sun International Ltd |      | x    | x    | x    | x    | x    | x    | 6     |
| Tabcorp Holdings Ltd  | x    | x    | x    | x    | x    | x    | x    | 7     |
| Texas Roadhouse Inc   |      |      |      | x    | x    | x    | x    | 4     |
| Thomas Cook Group plc | x    | x    | x    | x    | x    | x    | x    | 7     |

(continued on next page)

Table A1 (continued)

| Firm                 | Year |      |      |      |      |      |      | Total |
|----------------------|------|------|------|------|------|------|------|-------|
|                      | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |       |
| Transat AT Inc       | x    | x    | x    | x    | x    | x    | x    | 7     |
| TripAdvisor Inc      | x    | x    | x    | x    | x    | x    | x    | 7     |
| Tsogo Sun Holdings.  |      |      |      | x    | x    | x    | x    | 4     |
| Tui AG               | x    | x    | x    | x    | x    | x    | x    | 7     |
| Vail Resorts Inc     |      |      |      | x    | x    | x    | x    | 4     |
| Webjet Ltd           | x    | x    | x    | x    | x    | x    | x    | 7     |
| Wendy's Co           | x    | x    | x    | x    | x    | x    | x    | 7     |
| Whitbread PLC        | x    | x    | x    | x    | x    | x    | x    | 7     |
| William Hill PLC     | x    | x    | x    | x    | x    | x    | x    | 7     |
| Wingstop Inc         |      |      |      |      | x    | x    | x    | 3     |
| Wyndham Destination. | x    | x    | x    | x    | x    | x    | x    | 7     |
| Wyndham Hotels & Re. |      |      |      |      |      | x    | x    | 2     |
| Wynn Macau Ltd       | x    | x    | x    | x    | x    | x    | x    | 7     |
| Wynn Resorts Ltd     | x    | x    | x    | x    | x    | x    | x    | 7     |
| Yum China Holdings.  |      |      |      |      |      | x    | x    | 2     |
| Yum! Brands Inc      | x    | x    | x    | x    | x    | x    | x    | 6     |
| Total                | 89   | 92   | 96   | 114  | 139  | 156  | 170  | 856   |

Table A2

Country – year firm records.

| Country of headquarters  | Year |      |      |      |      |      |      | Total |
|--------------------------|------|------|------|------|------|------|------|-------|
|                          | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |       |
| Australia                | 9    | 11   | 13   | 14   | 15   | 15   | 17   | 94    |
| Bahrain                  | 0    | 0    | 0    | 0    | 1    | 1    | 1    | 3     |
| Brazil                   | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 1     |
| Canada                   | 3    | 3    | 3    | 4    | 4    | 4    | 4    | 25    |
| China                    | 1    | 1    | 1    | 1    | 1    | 2    | 5    | 12    |
| France                   | 2    | 2    | 2    | 2    | 3    | 3    | 3    | 17    |
| Germany                  | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 7     |
| Gibraltar                | 0    | 0    | 0    | 0    | 1    | 1    | 1    | 3     |
| Greece                   | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 7     |
| Hong Kong                | 6    | 6    | 6    | 6    | 7    | 8    | 8    | 47    |
| Ireland; Republic of     | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 7     |
| Isle of Man              | 0    | 0    | 0    | 0    | 1    | 1    | 1    | 3     |
| Italy                    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 7     |
| Japan                    | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 28    |
| Korea; Republic          | 1    | 1    | 1    | 2    | 2    | 2    | 2    | 11    |
| Macau                    | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 21    |
| Malaysia                 | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 21    |
| Malta                    | 0    | 0    | 0    | 0    | 1    | 1    | 1    | 3     |
| Mexico                   | 0    | 0    | 0    | 0    | 0    | 1    | 1    | 2     |
| New Zealand              | 1    | 1    | 1    | 2    | 2    | 2    | 2    | 11    |
| Philippines              | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 7     |
| Singapore                | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 7     |
| South Africa             | 4    | 5    | 5    | 6    | 6    | 6    | 6    | 38    |
| Spain                    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 7     |
| Sri Lanka                | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 7     |
| Sweden                   | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 1     |
| Taiwan                   | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 7     |
| Thailand                 | 0    | 0    | 1    | 1    | 1    | 1    | 1    | 5     |
| United Arab Emirates     | 0    | 0    | 0    | 0    | 0    | 1    | 1    | 2     |
| United Kingdom           | 17   | 17   | 17   | 18   | 20   | 20   | 21   | 130   |
| United States of America | 26   | 26   | 27   | 39   | 55   | 68   | 73   | 314   |
| Uruguay                  | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 1     |
| Total                    | 89   | 92   | 96   | 114  | 139  | 156  | 170  | 856   |

**Table A3**  
Robustness check of the proposed models by excluding 15 one-year observations from the sample.

| Independent variables | (1) Model 1<br>RE-Logit<br>CSRreport | (2) Model 2<br>RE-Logit<br>GRlframe | (3) Model 3<br>RE-Logit<br>ExtAudit | (4) Model 4<br>RE-Logit<br>ExtAudit |
|-----------------------|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| CSRperf               | 0.20***<br>(8.56)                    | 0.20***<br>(5.67)                   | 0.17***<br>(4.36)                   |                                     |
| GRlframe              |                                      |                                     |                                     | 3.52***<br>(4.79)                   |
| BoardSize             | 0.47***<br>(3.51)                    | 0.24<br>(1.59)                      | 0.064<br>(0.41)                     | 0.10<br>(0.69)                      |
| GenDiv                | -0.035<br>(-1.49)                    | -0.052<br>(-1.49)                   | 0.13***<br>(3.05)                   | 0.19***<br>(4.27)                   |
| BoardInd              | -0.034<br>(-1.63)                    | 0.017<br>(0.59)                     | 0.042<br>(1.30)                     | 0.034<br>(1.09)                     |
| DualCEO               | -0.023<br>(-0.04)                    | 0.60<br>(0.63)                      | 0.48<br>(0.46)                      | 0.27<br>(0.27)                      |
| FFP                   | -0.020<br>(-1.42)                    | -0.025<br>(-1.30)                   | -0.045**<br>(-2.03)                 | -0.035<br>(-1.60)                   |
| FirmSize              | 0.44<br>(1.58)                       | -0.32<br>(-0.81)                    | 0.64<br>(1.44)                      | 0.95**<br>(2.18)                    |
| Leverage              | -0.013<br>(-1.35)                    | -0.019<br>(-1.34)                   | -0.049***<br>(-2.78)                | -0.040**<br>(-2.52)                 |
| Profitability         | 0.0023<br>(0.11)                     | -0.022<br>(-0.84)                   | 0.024<br>(0.51)                     | 0.028<br>(0.64)                     |
| Constant              | -18.6***<br>(-3.06)                  | -5.47<br>(-0.66)                    | -27.7***<br>(-2.85)                 | -28.1***<br>(-2.92)                 |
| N                     | 841                                  | 420                                 | 420                                 | 420                                 |
| χ <sup>2</sup>        | 97.69***                             | 38.68***                            | 36.51***                            | 39.60***                            |

t Statistics in parentheses.

One-year observations are removed from the initial sample. Using Random-Effects Logistic regression for panel data by excluding 15 observations with only one firm-year observation.

\*p < 0.10.  
\*\* p < 0.05.  
\*\*\* p < 0.01.

**Table A4**  
Multilevel Mixed-Effects Logistic regression using country and firm.

| Independent variables | (1) Model 1<br>RE-Logit<br>CSRreport | (2) Model 2<br>RE-Logit<br>GRlframe | (3) Model 3<br>RE-Logit<br>ExtAudit | (4) Model 4<br>RE-Logit<br>ExtAudit |
|-----------------------|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| CSRperf               | 0.12***<br>(9.37)                    | 0.11***<br>(7.15)                   | 0.14***<br>(6.29)                   |                                     |
| GRlframe              |                                      |                                     |                                     | 2.83***<br>(7.37)                   |
| BoardSize             | 0.28***<br>(3.99)                    | 0.12*<br>(1.91)                     | -0.059<br>(-0.70)                   | 0.024<br>(0.30)                     |
| GenDiv                | -0.0061<br>(-0.44)                   | -0.024<br>(-1.59)                   | 0.070***<br>(3.33)                  | 0.13***<br>(5.79)                   |
| BoardInd              | -0.022*<br>(-1.68)                   | -0.0063<br>(-0.46)                  | 0.012<br>(0.62)                     | 0.024<br>(1.30)                     |
| DualCEO               | 1.36***<br>(4.08)                    | 0.28<br>(0.71)                      | 1.76***<br>(3.12)                   | 1.72***<br>(2.92)                   |
| FFP                   | 0.0081<br>(1.08)                     | -0.012<br>(-1.54)                   | -0.034***<br>(-3.33)                | -0.023**<br>(-2.28)                 |
| FirmSize              | 0.61***<br>(4.52)                    | -0.0069<br>(-0.05)                  | 0.50**<br>(2.54)                    | 0.54***<br>(2.61)                   |
| Leverage              | -0.0071<br>(-1.30)                   | -0.0048<br>(-0.92)                  | -0.033***<br>(-4.20)                | -0.035***<br>(-4.45)                |
| Profitability         | -0.0068<br>(-0.53)                   | -0.020<br>(-1.38)                   | 0.014<br>(0.64)                     | 0.036*<br>(1.72)                    |
| Constant              | -19.8***<br>(-6.51)                  | -5.40*<br>(-1.68)                   | -19.1***<br>(-4.20)                 | -16.9***<br>(-3.56)                 |
| N                     | 856                                  | 423                                 | 423                                 | 423                                 |
| χ <sup>2</sup>        | 170.62***                            | 66.71***                            | 71.66***                            | 77.92***                            |

t Statistics in parentheses.

\* p < 0.10.  
\*\* p < 0.05.  
\*\*\* p < 0.01.



**Table A5**  
Combining Model 3 and Model 4 with an interaction variable.

| Independent variables | (1) Model 3<br>RE-Logit<br>ExtAudit | (2) Model 4<br>RE-Logit<br>ExtAudit | (3) Model 3 & Model 4<br>RE-Logit<br>ExtAudit | (4) Model 3 & Model 4 with Interaction term<br>RE-Logit ExtAudit |
|-----------------------|-------------------------------------|-------------------------------------|---|--|
| CSRperf               | 0.16***<br>(4.37)                   |                                     | 0.12***<br>(3.36)                             | 0.16***<br>(3.13)  |
| GRIframe              |                                     | 3.58***<br>(4.88)                   | 3.00***<br>(3.99)                             | 7.09*<br>(1.90)  |
| CSRperf * GRIframe    |                                     |                                     |   | -0.064<br>(-1.13)  |
| BoardSize             | 0.047<br>(0.31)                     | 0.10<br>(0.70)                      | 0.042<br>(0.29)                               | 0.022<br>(0.16)  |
| GenDiv                | 0.14***<br>(3.27)                   | 0.19***<br>(4.36)                   | 0.15***<br>(3.56)                             | 0.14***<br>(3.51)  |
| BoardInd              | 0.045<br>(1.37)                     | 0.036<br>(1.17)                     | 0.036<br>(1.17)                               | 0.035<br>(1.15)  |
| DualCEO               | 0.39<br>(0.38)                      | 0.29<br>(0.30)                      | 0.54<br>(0.55)                                | 0.48<br>(0.50)   |
| FFP                   | -0.045**<br>(-2.06)                 | -0.033<br>(-1.57)                   | -0.039*<br>(-1.84)                            | -0.039*<br>(-1.89)   |
| FirmSize              | 0.67<br>(1.55)                      | 0.91**<br>(2.17)                    | 0.57<br>(1.42)                                | 0.56<br>(1.40)   |
| Leverage              | -0.050***<br>(-2.83)                | -0.041***<br>(-2.59)                | -0.051***<br>(-3.08)                          | -0.048***<br>(-2.84)   |
| Profitability         | 0.023<br>(0.49)                     | 0.027<br>(0.63)                     | 0.027<br>(0.58)                               | 0.020<br>(0.45)  |
| Constant              | -28.2***<br>(-2.93)                 | -27.5***<br>(-2.93)                 | -24.8***<br>(-2.78)                           | -26.5***<br>(-2.95)  |
| N                     | 423                                 | 423                                 | 423   | 423  |
| χ <sup>2</sup>        | 36.87***                            | 40.54***                            | 44.20***                                      | 44.03***   |

t Statistics in parentheses.

- \* p < 0.10.
- \*\* p < 0.05.
- \*\*\* p < 0.01.

**Table A6**  
Fixed-Effects Logistic regression analysis for panel data.

| Independent variables | (1) Model 1<br>FE-Logit<br>CSRreport | (2) Model 2<br>FE-Logit<br>GRIframe | (3) Model 3<br>FE-Logit<br>ExtAudit | (4) Model 4<br>FE-Logit<br>ExtAudit |
|-----------------------|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| CSRperf               | 0.093***<br>(3.79)                   | 0.17***<br>(4.12)                   | 0.099**<br>(1.96)                   |                                     |
| GRIframe              |                                      |                                     |                                     | 1.81**<br>(2.27)                    |
| BoardSize             | 0.41**<br>(2.02)                     | 0.031<br>(0.14)                     | -0.30<br>(-1.18)                    | -0.29<br>(-1.11)                    |
| GenDiv                | -0.038<br>(-1.31)                    | -0.053<br>(-0.98)                   | 0.18**<br>(2.39)                    | 0.24***<br>(3.15)                   |
| BoardInd              | 0.015<br>(0.41)                      | -0.022<br>(-0.43)                   | -0.0099<br>(-0.16)                  | -0.039<br>(-0.63)                   |

**Table A6 (continued)**

| Independent variables        | (1) Model 1<br>FE-Logit<br>CSRreport | (2) Model 2<br>FE-Logit<br>GRIframe | (3) Model 3<br>FE-Logit<br>ExtAudit | (4) Model 4<br>FE-Logit<br>ExtAudit |
|------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| DualCEO                      | 0.19<br>(0.14)                       | 0.96<br>(0.57)                      | 0.12<br>(0.06)                      | -0.14<br>(-0.07)                    |
| FFP                          | 0.013<br>(0.50)                      | -0.026<br>(-0.85)                   | -0.077*<br>(-1.94)                  | -0.097**<br>(-2.30)                 |
| FirmSize                     | 0.56<br>(0.90)                       | -0.72<br>(-0.98)                    | 1.42<br>(1.28)                      | 1.83<br>(1.60)                      |
| Leverage                     | 0.017<br>(0.96)                      | -0.027<br>(-1.61)                   | -0.065**<br>(-2.24)                 | -0.064**<br>(-2.10)                 |
| Profitability                | -0.0060<br>(-0.21)                   | -0.039<br>(-1.23)                   | 0.059<br>(0.63)                     | 0.092<br>(0.93)                     |
| Firm/Year/<br>Country Effect | Yes                                  | Yes                                 | Yes                                 | Yes                                 |
| N                            | 193                                  | 149                                 | 121                                 | 121                                 |
| χ <sup>2</sup>               | 36.44***                             | 30.63***                            | 31.24***                            | 32.78***                            |

t statistics in parentheses.

- \* p < 0.10.
- \*\* p < 0.05.
- \*\*\* p < 0.01.

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