

RESEARCH ARTICLE

Occupational health and safety disclosures in sustainability reports: An overview of trends among corporate leaders

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Abstract

The purpose of this study is to assess the comprehensiveness of voluntary occupational health and safety (OHS) disclosures of large business entities. We devise a composite disclosure index, relying on well-established performance indicators, and focus on the information found in the sustainability reports of corporations pertaining to the oil and gas, chemical, airline, and construction industries, in an attempt to shed light on the current status and emerging trends in OHS reporting from a diverse group of business entities. The findings indicate that companies tend to place emphasis on their overall management approach to OHS, but fall short in reporting quantitative and qualitative information beyond the 'conventional' metrics of occupational injury rates. OHS issues within the supply chain and relevant monitoring systems/mechanisms in place are topics that are underreported, while OHS training programmes are an aspect that is inadequately analyzed in quantitative terms, being the least reported indicator in the sample reports. In contrast, companies from all four industries seek assurance for the OHS information that they report and place emphasis on the externally developed management standards/initiatives that they subscribe to, support, or have adopted.

KEYWORDS

corporate responsibility, occupational health and safety, sustainability reporting, sustainable development, voluntary disclosure

1 | INTRODUCTION

Nowadays, the majority of large corporations publicly disclose their efforts in pursuit of sustainability through a single document: the sustainability report. Such reports have been identified as the new corporate 'business card'; a potentially valuable instrument for informing external and internal stakeholders of the firm on long-range planning and performance pertaining to critical economic, environmental, and social (i.e. triple bottom line) aspects of the firm's operation (Asif, Searcy, Santos, & Kensah, 2013; Kolk, 2010; Miralles-Quiros, Miralles-Quiros, & Arraiano, 2017). This report can provide a meaningful outline of progress and evidence over target setting beyond the financial domain, reduce information asymmetry, and solidify organizational reputation and legitimacy, while adding transparency in business

activities (Elijido-Ten, Kloot, & Clarkson, 2010; Martínez-Ferrero, Ruiz-Cano, & García-Sánchez, 2016; Romolini, Fissi, & Gori, 2014). Such reporting channels are primarily of a voluntary nature across the world, however recent regional policy developments towards mandatory reporting requirements have intensified (see European Parliament, Council of the European Union, 2014).

Responding to the United Nation's Sustainable Development Goal 3 (SDG3) ('ensure healthy lives and promote well-being for all'), occupational health and safety (OHS) reflects a core parameter of the corporate sustainability strategy and agenda for action as employees represent a primary internal stakeholder group for any corporation (Ketola, 2010; Welford, Chan, & Man, 2008). OHS is generally defined as a multidimensional construct concerned with the anticipation, recognition, evaluation, and control of hazards arising in or from the

workplace that could impair the health and well-being of workers, taking also into account possible impacts on the surrounding communities and the environment (Alli, 2008). It is a continuously evolving field shaped by socioeconomic, political, and technological changes: competitive industry pressures, globalization, and the liberalization of world trade; demographic fluctuations and population movements; disruptive (technological) innovations; developments in transport and communication; regulatory changes; shifting employment patterns; and transitions in the size as well as the structure and life cycle of enterprises (Alli, 2008). In this context, reporting on OHS issues reflects a critical point of corporate sustainability disclosure against a turbulent environment that generates new forms of employment hazards, exposures, risks, and opportunities (Celma, Martínez-García, & Coenders, 2014; Rikhardsson, 2004; Sarkis, Helms, & Hervani, 2010).

OHS accounting and reporting pertain to the collection, processing, and disclosure of related information with the aim of facilitating organizational leadership and managerial effectiveness, and empowering stakeholder decision-making (Rikhardsson, 2004). Several studies have examined OHS disclosure (OHSD) in the context of broader corporate non-financial reporting mechanisms (e.g. Campbell & Rahman, 2010; Holcomb, Upchurch, & Okumus, 2007; Li, Toppinen, Tuppura, Puumalainen, & Hujala, 2011; Toppinen, Li, Tuppura, & Xiong, 2011). Research findings suggest that OHS information provision can yield tangible benefits in bringing internal improvements to the working environment (Jain, Leka, & Zwetsloot, 2011; Williams & Adams, 2013), attracting a new, talented workforce (Earle, 2003), increasing customer loyalty (Dixon, Nordvall, Cukier, & Neumann, 2017; Neumann, Dixon, & Nordvall, 2014), along with reputational and legitimacy gains (Mäkelä, 2013). Nevertheless, OHS has received limited attention in sustainability reporting research despite the fact that poor OHS conditions influence employees' well-being (Takala et al., 2014) and may incur striking socioeconomic costs (Rose, Orrenius, & Neumann, 2013; Tompa, Culyer, & Dolinski, 2008; World Health Organization, 2010). Researchers denote that the frequency of information provision on such aspects as employment conditions is high (Islam & Deegan, 2008; Sotorrio & Sanchez, 2010), yet the comprehensiveness of such disclosures is still moderate and leaves much to be desired (Jones, 2011; Walker & Parent, 2010). Available evidence reveals a lack of consistency and comprehensiveness across companies in terms of discretionary OHS data disclosure (Brown & Butcher, 2005; Bouten, Everaert, Van Liedekerke, De Moor, & Christiaens, 2011; Koskela, 2014; Searcy, Dixon, & Neumann, 2016). O'Neill, McDonald, and Deegan (2015) relatively indicate the critical importance of severity metrics in disclosing lost time injuries to ensure meaningful social accountability and avoid incomplete or potentially misleading information provision. Cahaya, Porter, Tower, and Brown (2017) report that a mere 30% of publicly listed companies in Indonesia provide OHSDs in their annual reports and note an industry effect in the level of information reported. In this respect, O'Neill, Flanagan, and Clarke (2016) find that firms in hazardous industries provide more OHS performance information than those pertaining to less hazardous sectors, with a strong reliance on highly aggregated frequency rates and efforts to reduce the visibility of high-consequence safety system failures over time. Likewise, focusing on the annual reports of airline companies, Vourvachis, Woodward, Woodward, and Patten (2016) point out increases in OHSD after major airline

accidents (as a response to potential legitimacy threats) and stress the need for greater transparency and comparability across reports. Such evidence casts doubt on the ability to empower stakeholders' decision-making and allow meaningful comparisons over time and across business entities, exacerbating issues pertaining to information asymmetry (Fortanier, Kolk, & Pinkse, 2011; Searcy et al., 2016; Young & Marais, 2013).

With this in mind, and motivated by the scant attention that OHS reporting has received in the corporate accountability literature, this study assesses the quality and comprehensiveness of OHSDs in sustainability reports published by large corporations of selected industries: the oil and gas, construction, airline, and chemical sectors. To achieve this, an OHSD index was developed, relying on related performance measures suggested by the Global Reporting Initiative (GRI) G4 guidelines. Our key contribution to the literature pertains to the quantitative examination of a critical, yet understudied, aspect of discretionary corporate reporting with the aim of identifying trends and discrepancies that provide fruitful ground towards the refinement and readjustment of current voluntary OHS reporting mechanisms and performance disclosures (with managerial and policy implications).

The rest of the paper is structured as follows. In the next section, the material and methods are described. In the third section, the findings of the study are presented. The paper ends with a discussion and concluding remarks, pointing out managerial and policy implications as well as future research perspectives.

2 | MATERIAL AND METHODS

Our sample consists of ten of the largest corporations (based on revenue) from each one of the following industries: oil and gas, construction, aviation, and chemicals. These 40 corporations were drawn from the Forbes World's Biggest Companies List 2014 (Tables 1 and 2). The selection of the particular industrial sectors was based on the diverse issues pertaining to OHS that these business activities face as well as the lack of international industry-level evidence on trends in voluntary OHS-specific corporate disclosure. We focused on the stand-alone Corporate Social Responsibility (CSR) reports published by these firms in 2015 (i.e. referring to performance achievements of the previous year).

In order to assess the comprehensiveness of reported information, a composite disclosure index was devised for each corporation j , in line with the structure and rationale of previous rating schemes suggested in the literature (Skouloudis et al., 2013; Evangelinos, Skouloudis, Jones, Isaac, & Sfakianaki, 2016; Halkos & Skouloudis, 2016). This measure was derived from specific disclosure requirements of the GRI G4 guidelines for sustainability reports that refer to firm-specific OHS management and performance reporting themes. These items, presented in Table 3, were rated on a five-point scale and the generic scoring scheme applied to the assessment is outlined in Table 4. Based on the defined t_l OHS topics criteria ($l = 1, 2, \dots, 10$), the proposed composite OHSD index for corporation j was constructed as follows:

$$OHSD_{(j)} = \sum_{l=1}^{10} I_{\{t_l\}} \quad (l = 0, 1, 2, 3, 4)$$

TABLE 1 Sample firms – descriptive information

Sector	Companies	Country of origin	Revenue (2014)	Employees	International Presence ¹
Oil and gas	Sinopec	China	455.06 \$ bn	~358,600	70
	CNPC	China	432 \$ bn	~534,700	37
	Shell	Anglo-Dutch	422 \$ bn	94,000	>70
	ExxonMobil	USA	394 \$ bn	83,700	>50
	Saudi Aramco	Saudi Arabia	378 \$ bn	61,000	6
	BP	Iran	358.7 \$ bn	84,500	~80
	Total	France	260 \$ bn	~100,310	>130
	Kuwait Pet.Cor.	Kuwait	252 \$ bn	~18,570	9
	Chevron Cor.	USA	192 \$ bn	~64,700	30
	Lukoil	Russia	144 \$ bn	>110,000	7
Construction services	Vinci	France	38.7 \$ bn	68,000	~100
	Bechtel	USA	37.2 \$ bn	58,000	160
	ACS Group	Spain	35.504 \$ bn	210,345	>40
	Hochtief	Germany	22.1 \$ bn	~68,430	>20
	Bouygues Constr.	France	11.726 \$ bn	>130,000	80
	Kiewit	USA	10.38 \$ bn	25,700	3
	Royal Bam Group	Netherlands	9.97 \$ bn	~26,100	13
	Balfour Beatty	UK	8.8 \$ bn	~40,000	>80
	Skanska	Sweden	7.3 \$ bn	~58,000	10
	Laing O'Rourke	UK	4.41 \$ bn	~11,300	9
Airlines	America Airl. Gr.	USA	42.65 \$ bn	113,300	150
	Delta	USA	40.36 \$ bn	80,000	57
	Unit.Contin.Hold.	USA	38.90 \$ bn	84,000	58
	Lufthansa Group	Germany	31.9 \$ bn	~118,780	100
	AirFrance-KLM	France and the Netherlands	26.5 \$ bn	96,000	115
	Emirates Group	UAE	26.24 \$ bn	~84,150	81
	IAG	UK and Spain	21.46 \$ bn	~59,490	>80
	Southwest	USA	18.61 \$ bn	>49,000	7
	China Southern	China	16.99 \$ bn	90,000	40
	China Eastern	China	14.69 \$ bn	~68,880	26
Chemicals	BASF	Germany	74.326 \$ bn	~113,300	>90
	Dow	USA	58.167 \$ bn	53,000	35
	LyondellBasell	USA	45.61 \$ bn	13,100	19
	Sabic	Saudi Arabia	50.36 \$ bn	40,000	>50
	Bayer	Germany	42.239 \$ bn	118,000	75
	Dupont	Mexico	35.7 \$ bn	63,000	>90
	Linde	Germany	17.047 \$ bn	~65,600	>100
	Henkel	Germany	16.428 \$ bn	49,750	>75
	PPG	USA	15.360 \$ bn	44,400	~70
	AirLiquide	France	15.358 \$ bn	50,300	>80

¹Number of countries where the corporation operates.

where $I_{\{t_{ij}\}}$ is an indicator variable for measuring the i OHS topics criteria in company j that equals zero for non-disclosure, one if the organization j discloses vague/sententious information on the i th topic, two if it provides relevant but inadequate information/data, three if the coverage is comprehensive, and four if it is fully in line with the GRI's implementation manual. This results in an index with a maximum score of 40 points. These disclosure scores – presented in the following section – are expressed in percentages. The assessment was performed between July 2016 and October 2016 independently by four researchers with previous experience of relevant coding schemes and content analysis assessment. While there were a negligible number of scoring criteria where discrepancies in evaluation scores were identified, these were re-examined by the coders and modified accordingly in order to address issues of inter-coding errors and any needs for further emphasis on such reliability issues.

3 | FINDINGS

The results are presented in terms of individual GRI items (Figure 1) as well as the overall score assigned to each report (see Figure 2),

with an attempt to summarize trends both among sectors and GRI indicators.

Taking into account industry trends (Figure 1), we find that reports from chemical companies reveal a high level of sensitivity to OHS issues. Overall, they provide a satisfactory level of disclosures, detailing their approach to OHS management (G4-DMA) as well as the relevant standards and initiatives that they subscribe to (G4-15), apart from the quantitative indicator pertaining to the annual amount of OHS training hours per employee (LA9) which is not covered in any of the assessed reports. Construction companies retain a similar approach to OHS reporting, providing slightly more information on OHS training programmes (LA9), but falling short in terms of third-party assurance of disclosed OHS performance data (G4-33). Oil and gas companies tend to disclose information on all the components comprising the OHSD index. Major shortcomings are identified in the disclosure of quantitative data on OHS training hours (LA9) and the specification of (formal) agreements between the company and trade unions with regards to OHS issues (LA8). Nevertheless, these corporations present comprehensively in their reports the OHS-specific initiatives and standards that they have adopted (G4-15) while they actively endorse the verification of performance-related OHSDs included in

TABLE 2 Information relative to CSR and OHS issues

Companies	Number of pages in CSR report 2014	Number of pages on OHS in CSR report 2014	OHSAS 18001:2007	SAI SA8000:2008	PN-ISO 26000:2012
Sinopec	98	7	-	-	-
CNPC	56	2.5	PI	-	Included
Shell	57	2	-	-	-
ExxonMobil	75	12	Included	-	-
Saudi Aramco	82	10	PI	-	-
BP	52	8	PI	PI	PI
Total	60	1	PI	-	-
Kuwait Pet.Cor.	Online	Online	-	-	-
ChevronCor.	26	3	Included	-	-
Lukoil	126	5	Included	-	-
Vinci	Within annual	Online	Included	-	Included
Bechtel	37	Limited	-	-	-
ACS Group	106	4	PI	-	-
Hochtief	Within annual	3	PI	-	-
Bouygues Constr.	64	4	PI	-	-
Kiewit	Online limited	Extremely limited	-	-	-
Royal Bam Group	254	1	Included	-	Included
Balfour Beatty	14	1	Included	-	-
Skanska	36	Limited	PI	-	-
Laing O'Rourke	77	0.5	-	-	-
America Airl. GR.	Online	Online	-	-	-
Delta	81	4	-	-	-
Unit.Contin.Hold.	Online	Online	-	-	-
Lufthansa Group	113	2	Included	-	-
AirFrance-KLM	88	3	Included	-	-
Emirates Group	52	Online	-	-	-
Inter.Airl.Grroup	Within annual	1	-	-	-
Southwest	170	2	-	-	-
China Southern	72	2	-	-	-
China Eastern	84	2	-	-	Included
BASF	232	4	Included	-	-
Dow	177	6	-	-	-
LyondellBas.	Online	Online	-	-	-
Sabir	79	8	-	-	-
Bayer	310	3	Included	-	Included
Dupont	11	1	PI	-	-
Linde	106	3	PI	-	-
Henkel	48	2	PI	Included	-
PPG	Online	Online	-	-	-
AirLiquide	362	4	PI	-	-

Note. Extremely limited: one to four lines or some scattered information associated with OHS issues; Limited: a few lines relative to OHS issues; Included: the specific standard/guidance is fully adopted by the company; PI: the specific standard/guidance is partially included/adopted by the company; - there is no indication/reference to the specific standard. CSR = Corporate social responsibility; OHS = occupational health and safety.

their reports (G4-33). Reports by airline companies suffer from major gaps in OHS reporting and the non-disclosure of critical OHS information such as the existence of OHS clauses in the formal agreements with trade unions (LA8) and the screening of suppliers under OHS performance criteria (LA14). Yet, they do provide the overall management approach of the company to OHS challenges (G4-DMA), while six of them sought external verification of the reported OHS information (G4-33).

Sample firms from all four assessed industries identify in their reports the critical importance of OHS-related practices and disclose with no significant discrepancies their management approach to OHS (G4-DMA), pointing out policies, plans, and programmes in place to promote a safe and healthy work environment (Figure 2). Likewise, 98% of the assessed corporations elaborate on the externally developed OHS-related charters, principles, standards, or other initiatives to which they subscribe, implement, or actively endorse (G4-15).

TABLE 3 Components comprising the proposed OHSD index

GRI item	Description
G4-DMA*	Disclosure of management approach to OHS
G4-15*	List externally developed OHS-related charters, principles, or other social initiatives to which the organization subscribes or which it endorses
G4-33*	Assurance of OHSDs or third-party verification of the OHS management system in place
LA5	Percentage of the total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programmes
LA6	Rates of injury, occupational diseases, lost days, and absenteeism, and the number of work-related fatalities by region and gender
LA7	Incidence or high risk of diseases related to workers' occupations
LA8	Health and safety topics covered in formal agreements with trade unions
LA9	Average hours of OHS training per year per gender, and by employee category
LA14*	Percentage of new suppliers (or partners, contractors) screened using OHS practices criteria
LA15*	Significant actual and potential negative impacts on OHS practices in the supply chains and actions taken

*We adapted this item to fit the purpose of the study. OHSD = Occupational health and safety disclosure; GRI = Global Reporting Initiative; OHS = occupational health and safety.

TABLE 4 Basic rating qualification scale

Points	Rating qualifications/requirements
0	The report does not include any information relevant to the specific GRI topic/indicator. No coverage
1	The report provides generic or brief statements, without specific information on the organization's approach to the topic/indicator
2	The report includes valuable information on the topic/indicator but there are still major gaps in coverage. The organization identifies the assessed issue, but fails to present it sufficiently
3	The provided information is adequate and clear. It is evident that the reporting organization has developed the necessary systems and processes for data collection on the assessed topic/indicator and attempts to present it in a consistent manner
4	Coverage of the specific issue can be characterized as 'full' in the report. It provides the organization's policy, procedures/programmes, and relevant monitoring results for addressing the issue. The organization meets the GRI OHS-specific requirements, allowing comparison with other organizations

GRI = Global Reporting Initiative.

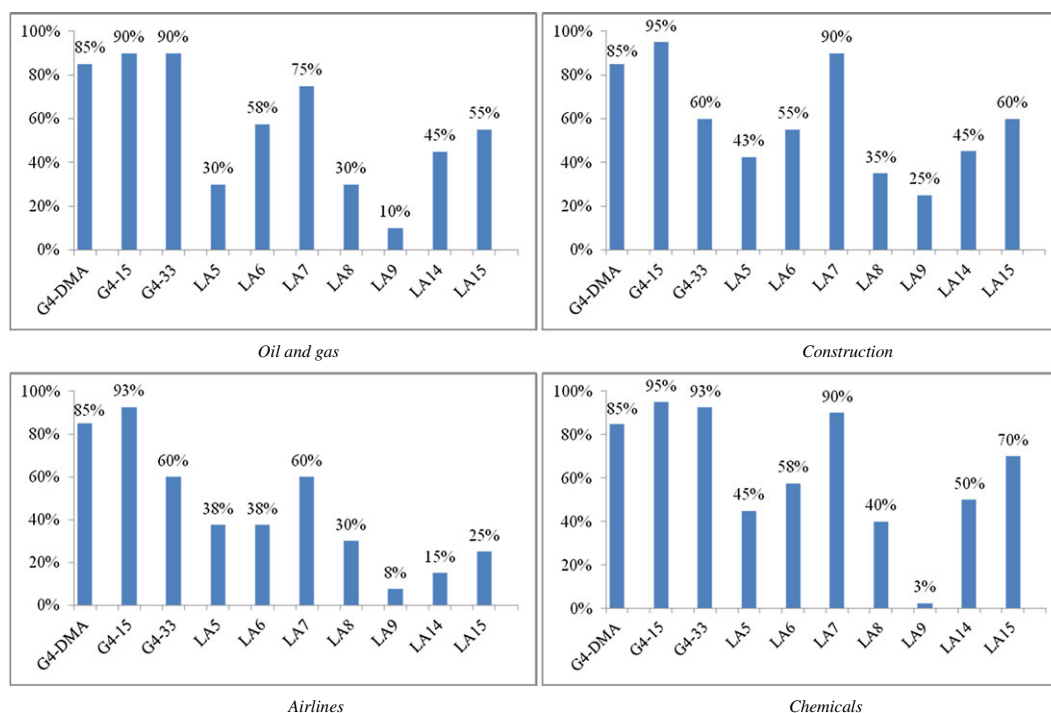


FIGURE 1 Occupational health and safety (OHS) sustainability reporting scores per Global Reporting Initiative G4 OHS-specific indicator according to the different sectors. Results per GRI-G4 OHS-specific item/indicator (%) [Colour figure can be viewed at wileyonlinelibrary.com]

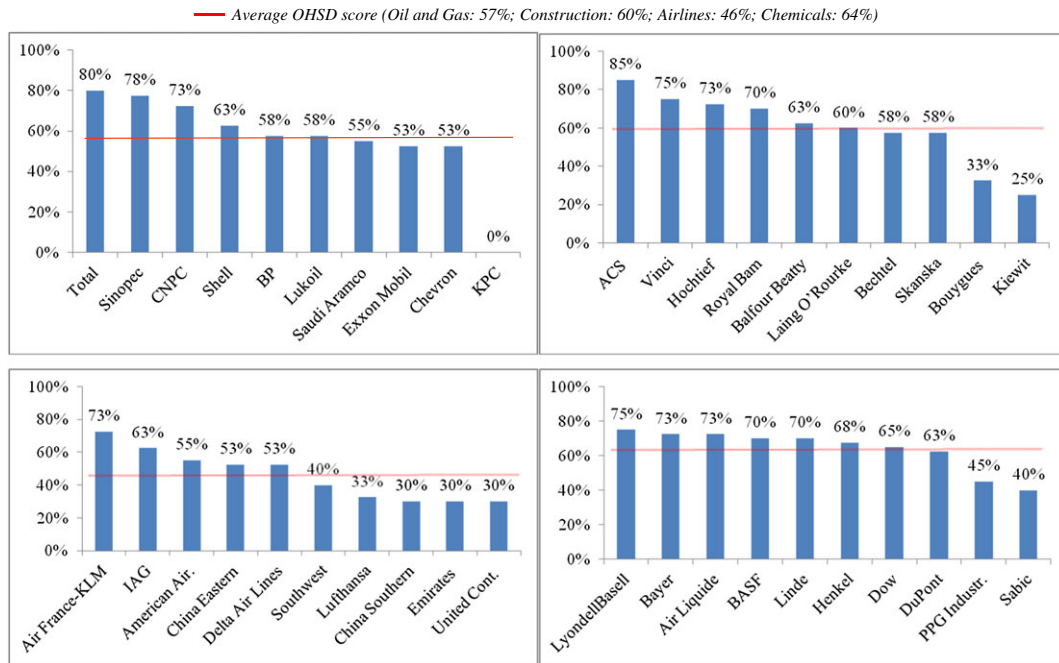


FIGURE 2 Total occupational health and safety disclosure (OHSD) scores of individual corporations per sector. The red line indicates the average OHSD score: oil and gas 57%; construction 60%; airlines 46%; and chemicals 64% [Colour figure can be viewed at wileyonlinelibrary.com]

However, all sample firms fail to report on joint management-worker health and safety committees which can help monitor and advise on OHS programmes (LA5). In this respect, the percentage of the total workforce represented in such formal committees is not disclosed in the assessed reports.

In contrast, quantitative OHS indicators (i.e. rates of injury by type, occupational diseases, lost days, absenteeism, number of work-related fatalities, etc.) are reported by 95% of the sample (LA6), often utilizing graphs and tables to communicate performance achievements. Yet, airline companies tend to disclose less OHS performance data, focusing primarily on injury rates and/or the number of fatal accidents. Construction and chemical industries disclose comparatively more comprehensive information on disease-specific incidents or risks for workers which are linked to their occupation, followed by the oil and gas companies (LA7). Airline companies exhibit a less uniform approach to this OHS aspect, with some firms discussing the topic in detail and/or in a clear manner while others elaborate on such risks superficially. OHS topics covered and included in formal agreements with trade unions of the reporting entity (LA8) are an issue that is mostly overlooked by most corporations of our sample, as only 15% of them present sufficient information on the topic, with the rest either providing vague and brief disclosures or choosing not to raise any points on the existence of such arrangements with their trade unions. Likewise, information about employee training on OHS issues (LA9) is scarce, as only three firms (pertaining to the oil and gas and the construction sectors) specify absolute or relative figures related to hours of OHS training per gender and/or employee category.

Chemical and oil and gas companies tend to provide comparatively more disclosures on screening criteria that they have in place for their new and existing suppliers, partners, and/or contractors in terms of applied OHS management practices (LA14), while only three airline companies disclose relevant information in terms of generic

statements and vague remarks referring to supply chain management. Similarly, the identification of actual and potential negative impacts on OHS practices in the supply chains (LA15) is an issue that is addressed in very few of the CSR reports of airline firms, with the other three sectors providing a rather uniform approach in disclosing relevant information. Finally, third-party verification of OHS performance data and related organizational assertions (G4-33) is endorsed by all the chemical industries of the sample, followed by the majority of the oil and gas corporations.

Figure 3 presents the average OHSD scores according to region and business sector. Higher levels of OHSD are generally evident for chemical enterprises in comparison to the other sectors, and for companies located in Europe, with the only exception being Asian companies operating in the oil and gas sector.

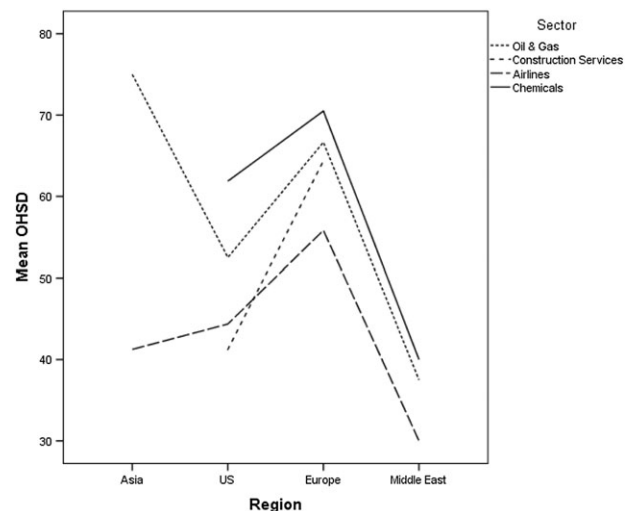


FIGURE 3 Line plot of the average occupational health and safety disclosure (OHSD) scores according to the various sectors and regions

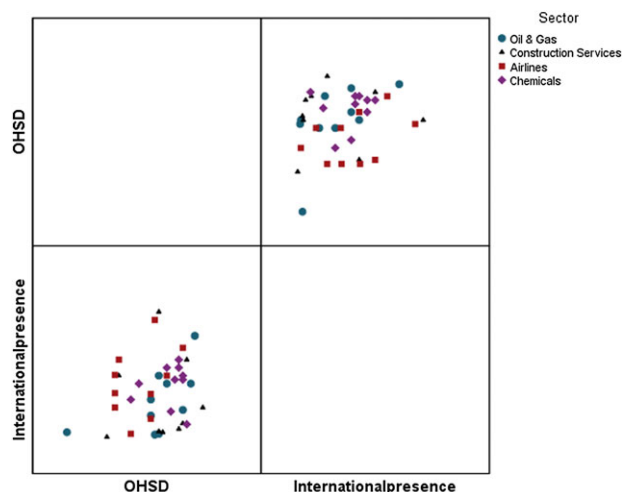


FIGURE 4 Scatter plot of the association between the occupational health and safety disclosure (OHSD) index and the international presence of companies according to the different sectors [Colour figure can be viewed at wileyonlinelibrary.com]

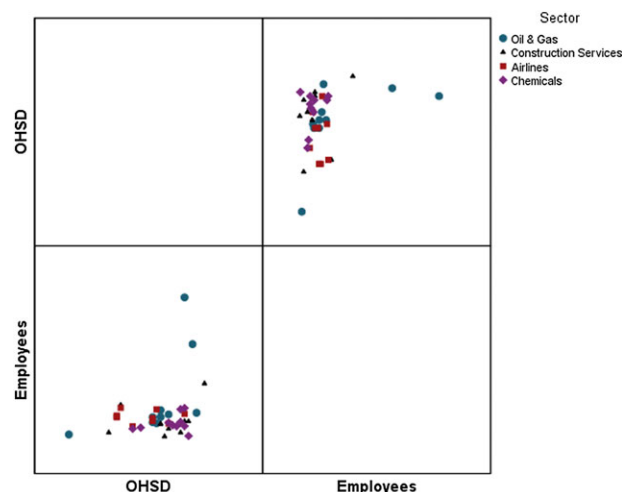


FIGURE 6 Scatter plot of the association between the occupational health and safety disclosure (OHSD) index and the number of employees according to the different sectors [Colour figure can be viewed at wileyonlinelibrary.com]

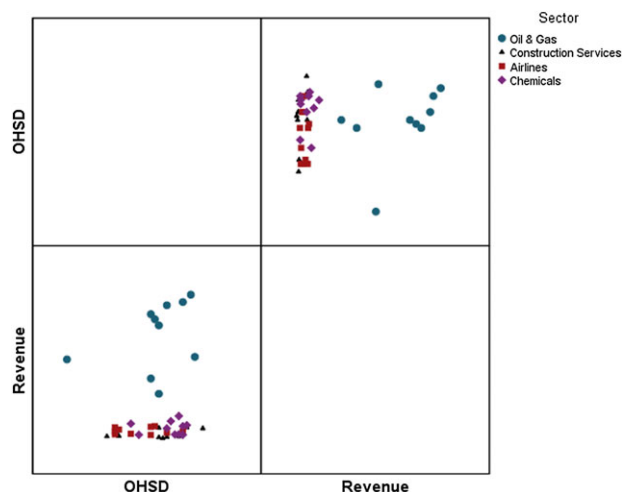


FIGURE 5 Scatter plot of the association between the occupational health and safety disclosure (OHSD) index and revenue according to the different sectors [Colour figure can be viewed at wileyonlinelibrary.com]

In order to examine the potential associations between the OHSD index and the descriptive variables of international presence, revenue, and the number of company employees, scatter plots were constructed with respect to the different types of selected industries (Figures 4–6), illustrate scatter plots between the latter variables with respect to the different types of selected industries. Visual inspection of the scatter plot between OHSD and the companies' international presence indicates no association (Figure 4). Partial associations between OHSD and revenue are observed, with the exception of those firms operating in the oil and gas sector (Figure 5). Finally, the scatter plot in Figure 6 shows a rather linear trend for the construction, airline, and chemical firms, which indicates a positive association between OHSD and the number of employees, and a non-linear association for the oil and gas companies. The corresponding scatter plots with respect to various regions (derived from the firm's country of origin) are presented in Figures A1–A3 in Appendix A and generally reveal similar results..

4 | DISCUSSION

Reflecting on the overall findings, our assessment is in accord with the recent wave of studies pertaining to organizational accountability on work environment issues (see Jain et al., 2011; Koskela, 2014; Searcy et al., 2016; Williams & Adams, 2013) and reveals variations in the comprehensiveness of corporate OHSDs both between and within sectors. Such differentiated levels of information provision are also identified among the ten components of the proposed disclosure index and highlight problems in cross-comparing performance and in the appraisal of OHS practices by stakeholders (i.e. information asymmetry). Companies tend to emphasize their overall management approach to OHS, but fall short in reporting quantitative data (along with complementary information) beyond occupational injury and absenteeism rates. OHS issues within the supply chain and relevant monitoring systems/mechanisms in place are also topics that are underreported. Similarly, relevant workforce training programmes are an aspect that is mostly overlooked and not adequately analyzed in quantitative terms, being the least reported indicator in the sample reports. Yet, companies from all four case industries seek assurance of the disclosed OHS information which should be considered in conjunction with the emphasis that they attach to the externally developed management standards and initiatives (e.g. OHSAS 18001; Global Compact principles). This is mostly evident among the oil and gas and chemical corporations, while a similar emphasis on occupational disease-related risks is observed in the reports of the latter as well as those of construction firms.

While OHS has been pinpointed as a material issue in the respective reports of these industries, there seems to be a mismatch in importance attached to reported OHS performance as it tends to be 'reduced' to the disclosure of the management systems in place and the number of occupational accidents/absenteeism rates. It is evident from the assessed reports that these companies consider OHS as a priority issue; sophisticated programmes and projects are implemented by most of them with the aim of driving improvements in the OHS terrain. Yet, the reported information does not fully signal the importance attached to this critical area of the workplace environment. The respective disclosures do not correspond with this

level of importance as reporting entities tend to rely on data and information available according to their legal requirements as well as the OHS standards that they apply, and they tend to avoid disclosing additional or more detailed analysis in OHS terms. In this respect, target setting in relation to health and safety in the workplace is an aspect that is covered fragmentarily, and related SMART¹ targets are not frequently reported in order to communicate progress and long-range planning in this area. Deegan, Rankin, and Tobin (2002) relatively indicate that 'where there is limited concern, there will be limited disclosures' (p. 335), and OHS reporting of assessed firms indeed leaves much to be desired as gaps and shortcomings confirm the findings already identified in other studies and sectors (Branco & Rodrigues, 2008; Hinson, Boateng, & Madichie, 2010; Khan, Halabi, & Samy, 2009).

The study encapsulates managerial implications as more comprehensive OHS reporting could contribute to better monitoring of OHS risks and opportunities as well as to meaningful stakeholder communication. Such managerial implications highlight the need to design engagement programmes for meaningful employee input in this regard, as long as such accountability schemes are developed around the workforce's demands or expectations and built around fruitful employee consultation processes (Williams & Adams, 2013). In addition, better OHS reporting could support strategic marketing advantages given the growing number of consumers who are willing to support and choose products/services from companies providing credible information on their working conditions (e.g. Neumann et al., 2014). Such competitive advantages (Porter & Kramer, 2006) could act as motivators within the firm to enhance and maintain a higher level of accountability on employee working conditions and occupational hazards, and to endorse a healthy and safe working environment. By linking more transparent reporting around the OHS agenda with brand image and organizational reputation (Hunter & Van Wassenhove, 2011), managers may leverage the differentiation strategy of the firm and shape new or boost existing marketing advantages while increasing customer loyalty (Neumann et al., 2014; Randall, 2005). Hence, OHS reporting may encapsulate an untapped reservoir of added value for the firm and attending the issue in a manner similar to promoting 'green' products or environmentally benign behaviour can contribute to the sustainability (reporting) agenda, primarily in terms of employee-management and consumer-company dialogue and fruitful engagement (Bolis, Brunoro, & Szelwar, 2014; Mason & Simmons, 2011; Zink & Fischer, 2013). Nevertheless, recent evidence suggests that consumers do not receive adequate information on the working conditions of firms (Dixon et al., 2017), a problem which should be alarming to top management executives in terms of underlying inefficiencies and the potential scepticism or mistrust around OHS performance that mere 'aspirational talks' may spawn (Behm & Schneller, 2011; Boiral, 2013; Christensen, Morsing, & Thyssen, 2013).

5 | CONCLUDING REMARKS

While our results are far from conclusive on corporate OHSD and do not allow generalizations, they indicate that further steps towards less inconsistent and more comprehensive OHS reporting are required. Our assessment did not examine the actual performance of firms and focused only on the disclosures included in the sustainability report. Hence, companies that operate robust systems of OHS

management but choose to publish little information in their report will score low on the OHSD index. Likewise, firms that may cover superficially all OHSD components may receive a similar score as peers that focus on a limited set of items/indicators but address them in detail.

As Western corporations scored higher than their Middle Eastern and Asian peers, researchers could explore institutional determinants of OHSD taking into account developments such as the recent EU directives for non-financial reporting of large undertakings and groups. Future research could also shed light on regional and/or industry-specific factors influencing OHS reporting. This could be achieved either through quantitative analysis on larger samples, including other communication channels (beyond the sustainability report) and other themes pertaining to the work environment, or by employing action research assessments on how OHS reporting is devised, how material OHS aspects and indicators are selected for disclosure, and how external guidelines (such as the GRI) are adopted and incorporated in the process. It is research endeavours such as the above which could add to a better understanding of how OHS reporting contributes to long-term win-win-win conditions for organizations, their workforce, and society at large.

DISCLOSURE STATEMENT

Konstantinos Evangelinos, Stefanos Fotiadis, Ioannis Nikolaou, and Antonis Skouloudis are responsible for the conception and design of the study, the acquisition and analysis of the data as well as for drafting and approving the final version of the article. Nadeem Khan, Shaun Lundy, and Foteini Konstandakopoulou offered their input in the data analysis and interpretation and were involved in critically revising the paper.

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¹SMART is an acronym for specific, measurable, attainable, realistic, and timely.

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How to cite this article: Evangelinos K, Fotiadis S, Skouloudis A, et al. Occupational health and safety disclosures in sustainability reports: An overview of trends among corporate leaders. *Corp Soc Resp Env Ma*. 2018;1–10. <https://doi.org/10.1002/csr.1512>

APPENDIX A

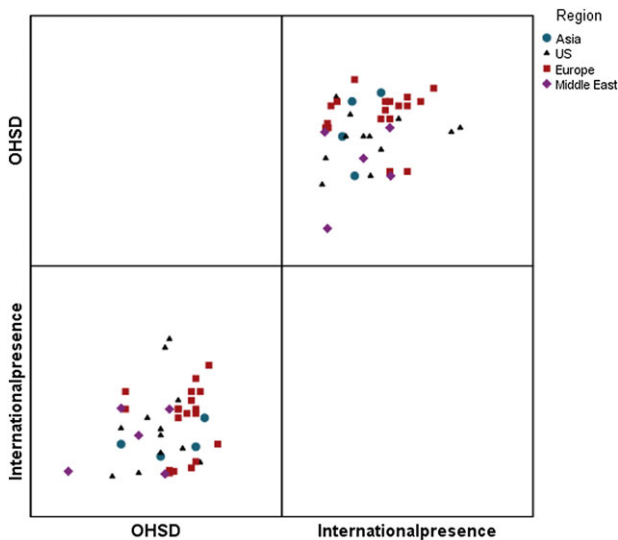


FIGURE A1 Scatter plot for the association between OHSD index and international presence of companies, broken down by the different regions [Colour figure can be viewed at wileyonlinelibrary.com]

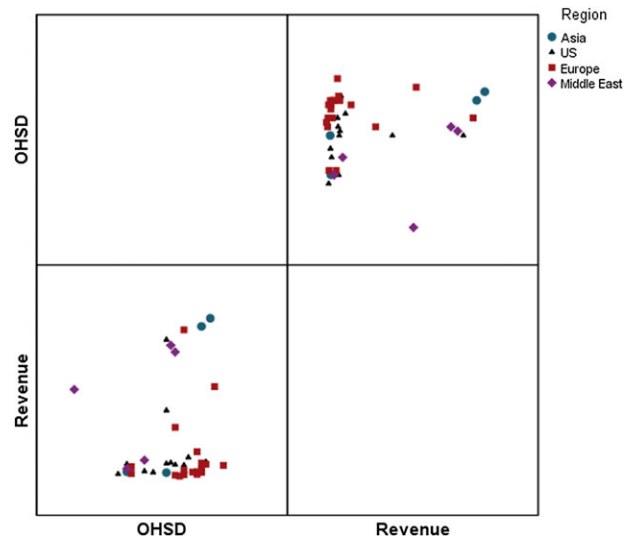


FIGURE A2 Scatter plot for the association between OHSD index and revenue of companies, broken down by the different regions [Colour figure can be viewed at wileyonlinelibrary.com]

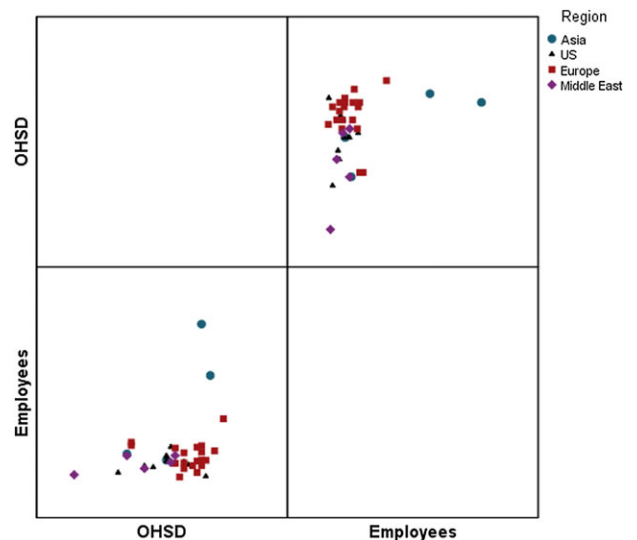


FIGURE A3 Scatter plot for the association between OHSD index and number of employees, broken down by the different regions [Colour figure can be viewed at wileyonlinelibrary.com]