

Article

Assessing CSR Reports of Top UK Construction Companies: The Case of Occupational Health and Safety Disclosures

Stefanos Fotiadis ¹, Konstantinos I. Evangelinos ^{1,*}, Foteini Konstantakopoulou ²  and Ioannis E. Nikolaou ³

¹ Department of Environment, School of Environment, University of the Aegean, 81100 Mitilini, Greece

² Engineering Protect Management (DCHT), School of Science and Technology, Hellenic Open University, 26335 Patra, Greece

³ Department of Environmental Engineering, Polytechnic School, Democritus University Thrace, 69100 Komotini, Greece

* Correspondence: kevag@aegean.gr

Abstract: As health and safety in construction is a major concern worldwide, this paper examines the occupational health and safety (OHS) disclosures of leading companies. A composite disclosure index was devised, based on the Global Reporting Initiative (GRI) Standards for Corporate Social Responsibility (CSR) Reporting, and focuses on the information found in such reports of corporations pertaining to the United Kingdom (UK) construction industry, in an attempt to identify trends in OHS reporting from a sample of fifteen corporations. The results disclose that construction companies fall short in reporting OHS objectives. The prevention and mitigation measures of OHS impacts and occupational health services are the only indicators in which companies reach medium to good performance. In contrast, issues of young workers exposed to hazards pertaining to suppliers are not reported by the sample. Five sample firms were identified as not revealing any information on OHS, while there was no disclosure by at least nine companies.

Keywords: OHS; CSR reporting; construction; sustainability



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1. Introduction

Corporate social responsibility (CSR) has gained ground in the business sector and scientific community due to their common target, which is a continuous effort to achieve a new sustainable model applicable to all economies in the world [1]. Apropos the construction sector, CSR is of top priority, which is probably due to the fact that it requires an increasing number of workers [2] to implement and carry out all the activities during a construction project [3]. CSR and OHS issues are integrated in recent years since CSR standards focus on OHS aspects to protect workers and promote decent conditions [4].

Construction companies are well known for their high-risk and severe working conditions, which in turn lead to a series of OHS accidents and work-related ill-health incidents [2,5]. In order to cope with the constantly increasing needs of the industry, many companies often put profit as the top priority, setting aside environmental and social parameters such as the protection of the local environment or providing safe working conditions [2,6]. Work-related ill health is a fundamental topic in construction companies. In the UK, there are approximately 4000 health-related worker deaths annually (compared to an average of 39 due to accidents) and 80,000 people suffering some type of disability [7]. Deaths are mostly due to cancers particularly those related to asbestos exposure; breathing disorders such as silicosis and COPD (chronic obstructive pulmonary disease) are also widespread. This situation as described above appears in many countries around the world. The aforementioned causes of death occur throughout the construction sector within the European Union, as well as throughout the world [8–16].

Organizational OHS and issues of organizational learning and knowledge management are growing in prominence as a core agenda in the literature [17–20]. Knowledge is

one of the main determinant factors in the implementation of a rigorous OHS management system [19,21–23], especially in the construction sector. Developing a culture of knowledge transfer in the construction sector faces many difficulties because of the specific nature of project activities. The existence of many cultures and differing opinions in project operations from other organizations across the supply chain complicates matters [24]. All these professionals have a different point of view when approaching a project or a work plan or focus on issues less important to others. This means that although they receive safety information from a plethora of sources, they behave differently depending upon the project team culture [25].

Although several legal frameworks on OHS objectives exist [19], there is a need to specify and divide them into categories depending on which working environment or industry is their focus. Organizational learning of OHS will not be fully covered from governmental general legal frameworks. Context related safety experience and cognitive skills of employees, give an extra added value to safety, promoting innovation and attracting new highly skilled employees [18]. Additionally, other groups of stakeholders such as investors and financial institutions (e.g., banks and stock-exchanges) require information for OHS to anticipate potential accidents and avoid financial losses [26].

Culture is an organizational mindset with great influence over procedures, protocols, ethics, and human capital, impacting on employees by disseminating knowledge and experience [27]. Cultural change is the prerequisite in order for construction companies to enact improvements in OHS performance [27]. In order to ensure stability in OHS and achieve success in the fragmented supply chain, it is necessary to share accountability for the transmitted information and knowledge on OHS among all stakeholders [25].

Despite the importance of informing stakeholders about various issues relating to construction companies, previous studies have highlighted the limited number of methods for informing stakeholders about various topics [28]. In particular, ref. [29] identified that the construction industry displays poor disclosure behavior about OHS information very important for stakeholders' decisions. There is a need for a comprehensive CSR system to evaluate and guide the construction industry to assess CSR (including OHS) performance scientifically in order to inform stakeholders, to gain legitimacy and increase levels of accountability [3]. Ref. [30] have highlighted the limited nature of OHS information disclosed by the construction industry which could play a critical role in socioeconomic costs.

The lack of OHS disclosure information from the construction industry stems from the limited number of evaluation tools informing stakeholders. Additionally, there is no uniform and standard system to inform stakeholders about the OHS performance of the construction industry creating unsafe conditions for stakeholders and the industry itself. The low degree of construction industry accountability creates conditions of liability for the participants in the construction market since extreme incidents of OHS will create financial problems for the participants. To overcome such problems, this paper suggests a methodology to extract information regarding the OHS performance of the industry from CSR reports. This methodology aims to respond to the limited research exploring the accountability of OHS information towards the stakeholders in the construction industry. The following research questions will be addressed:

- (A) What types of OHS information are disclosed by the construction industry?
- (B) Is the OHS information disclosed in the sustainability reports complete and high quality?

As previously mentioned, this information is extracted from CSR reports prepared under standards and internationally accepted guidelines and principles (e.g., GRI, SASBs and IR). These principles help in some way to prepare information that is reliable and follows commonly accepted standards. The suggested methodology is also based on the Global Reporting Initiative (GRI) guidelines and scoring/benchmarking systems in order to prepare indicators to evaluate OHS information in order to develop a uniform framework to retrieve comparative information from any construction company. It was applied to a sample of 50 CSR reports published by large companies (based on the 2017 revenue performance) from the UK construction sector. Some interesting findings show that many

items of OHS have been reported, including the following: management approach, worker participation, hazard identification and management systems.

The rest of the paper includes four sections. The first section provides information regarding the theoretical background of sustainability reporting and OHS. It gives a general picture of OHS information presentation in CSR reports. Then, the methodology follows describing the approach implemented to assess the reports. Finally, the results, discussion and conclusion are presented.

2. Literature Review

2.1. CSR Reports and Rating Systems

Today, the business community has placed Corporate Social Responsibility (CSR) issues (including OHS information) at the centre of their daily management. Although there is no commonly accepted definition for CSR since many terms are utilized (e.g., corporate citizenship, corporate sustainability, corporate responsibility), most scholars in the field agree that its content includes three dimensions: (a) the economy, (b) the environment and (c) society [31,32]. The priority given to CSR issues is either due to mandatory or voluntary reasons [33]. The former implies that specific regulatory requirements enforce firms to adopt CSR strategies [33] and the latter that voluntary motivations persuade firms to implement CSR projects [34].

Many scholars have tried to clarify the content of CSR and make it more user-friendly by classifying it into different aspects related to the economy, environment and society [35]. They incorporate CSR under the umbrella of sustainability. These methodologies are based on benchmarking systems to incorporate economic (e.g., strategy weight, project cost, profitability, client satisfaction, and timeliness), environmental (e.g., sustainable site, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality) and social criteria (impact on community, resources consumed, internal human resources, external population, stakeholder participation) to measure the CSR performance of the construction industry [36]. Similarly, Ref. [37] identified 82 sustainability indicators relating to construction projects, 27 of which were classified as economic, 18 as environmental and 37 as social indicators. Similarly, Ref. [38] develop a measurement system based on the triple bottom line approach with economic indicators (e.g., to measure management and organizational performance, financial performance, and external perception), environmental indicators (e.g., to measure environmental practices and performance), and social indicators (e.g., to measure internal and external social practices and performance).

The permanent questions in the CSR field are why and how firms inform stakeholders about their performance on CSR topics [39]. To answer the first question, a number of studies, explaining why firms disclose CSR information, have been conducted using the stakeholder theory [40], the legitimacy theory [41] and the institutional theory [42]. To respond to the second question, the existing studies analyse the content of disclosed information from different sectors of firms. The findings show variability in the disclosed CSR information between sectors [43], countries [44], the size of firms [45] and ownership [46].

One significant factor that explains the focus of sustainability reporting of firms is the sensitivity of the sector regarding environmental or social issues. For example, environmentally sensitive sectors (e.g., chemical and mining) disclose much information regarding the protection of the natural environment [47], while sectors sensitive to workplace accidents provide more information on health and safety issues [48]. Although the majority of firms adopt GRI to disclose CSR information, there is not a consistent manner of disclosing this information. Great variability is evident among the types of information disclosed, as well as its quality, materiality and measurement units.

To extract systematic and comparative information from CSR reporting, many scholars have suggested rating systems based on commonly accepted standards and guidelines such as the GRI [49,50]. It is worth mentioning that the Global Reporting Initiative propose the GRI guidelines in order to assist firms in preparing and disclosing information regarding CSR performance in economic, environmental and social aspects. These systems could

be classified into two categories: content analysis and scoring/benchmarking systems. The former category includes methodologies to measure different types of information by estimating the number of sentences, paragraphs and pages that refer to specific information [51]. The second category focuses on scoring/benchmarking systems which provide a rating system to measure the quantity and quality of information disclosed for each CSR item [52]. These systems suggest a measurement system from 0 for non-disclosure of information to 4 or 5 according to the qualitative or quantitative character of information.

2.2. OHS Information in CSR Reports

Construction companies are considered health and safety sensitive companies since their operations are associated with many risks and potential accidents [53]. Construction projects without safety terms might have an enormous impact on the employees and residents of local communities. Dealing with these problems has been a major priority for construction companies in recent times, either to comply with current legislation or as a voluntary initiative to satisfy the demands of interested groups.

One significant topic for construction companies and stakeholders is the level of accountability regarding OHS issues. According to the International Labor Organization (ILO) the term OHS includes issues regarding the prevention of work-related injuries (e.g., accidents, injuries) and diseases (e.g., sickness) as well as to promote the mental, physical and social well-being of employees. Many groups of stakeholders require OHS information before offering the ‘social license to operate’, while other stakeholder groups demand OHS information to eliminate potential risks in order to collaborate with the construction industry. The former includes local communities and the labor market which require safety measures from the construction industry to protect their employees and avoid accidents. The latter includes financial stakeholders which need OHS information to eliminate potential penalties due to accidents which might translate into financial losses for them [29].

To meet these needs, quality information regarding the OHS issues of construction companies are needed. Such types of information are disclosed either from standalone safety reports to estimate risks of accidents or from CSR reports. Currently, OHS thematic objectives are inextricably linked to the CSR plan of action and CSR reports. Many guidance documents have driven forward OHS topics in the context of CSR management practices. In particular, the Green Paper of the European Commission [54] for “promoting a European framework for Corporate Social Responsibility” categorically points out that the CSR agenda should be assessed in the context of CSR motivating enterprises to commit to voluntary initiatives and achieve OHS targets which exceed the standard statutory provisions. Many voluntary tools and frameworks have been recommended to support companies in handling OHS topics such as the Swedish TCO labelling scheme, the Dutch Safety Contractors checklist and OHSAS 18,001 [55,56].

Business entities do their best to not be involved in difficult situations related to the working environment (e.g., work accidents) which could bring about undesirable consequences to their reputation and lead to fines or disciplinary sanctions [57]. From this perspective, many large firms, especially those which come up against a rising number of risks link to occupational accidents, because of the nature of their activities, (e.g., the chemical, mining, construction, oil and gas industries) [58,59], have embraced and included OHS voluntary tools and topics into their CSR strategies. Furthermore, the continuous increasing focus on OHS issues, is also backed up by the quantity and the quality of information disclosed in many CSR reports [48,60].

There have been many statements supporting the need of increasing the effectiveness of OHS through CSR [61,62] such as the natural environment. However, these fall short of knowledge about how employee affairs are presented in CSR reporting. OHS accounting and reporting is associated with the gathering, processing, and disclosure of specific information in order to speed up organizational leadership and managerial effectiveness, and strengthening stakeholder decision-making [63]. Many research studies have focused

on OHS disclosure (OHSD) in the framework of wider corporate non-financial reporting procedures e.g., [64–67]. Research results indicate that the providing of OHS information can result to direct positive effects in the workplace [68,69], attracting new, high-skilled employees [70], building and maintaining customer loyalty [71,72], along with reputational and credibility benefits [73]. Even so, OHS information disclosed in CSR reports has received limited attention in sustainability reporting research [60,74–76] although poor OHS conditions have an effect on workforce well-being [77] and may result in a variety of negative socioeconomic consequences [78,79].

Limited research exists and that which does presents a small number of OHS information disclosures in CSR reports. In particular, ref. [80] examined the CSR reports from the Jordanian public shareholding and found that less than 10% of the information was relevant to OHS concerns. Ref. [60] focused on CSR (CSR reports) and highlighted a small number of OHS issues. Such issues are associated with human resources, work–life balance, human rights and safety and public health issues. Ref. [48] revealed that about 11% of a CSR report related to OHS information and underlined that a principal part of OHS information refers to occupational health (44%) with less than 22% focused on employee well-being.

A small number of research studies identified that companies perform well in disclosing OHS information in CSR reports. Ref. [81] examined eight Australian companies, which integrate thorough OHS disclosures. In addition, ref. [82] pointed out that OHS information disclosures occupied a major part of CSR reports. Additionally, some researchers e.g., [26,82] emphasized that high risk industries with workplace safety concerns, such as mining, and oil and gas, achieve a more satisfactory level of OHS information disclosure than those pertaining to less hazardous sectors such as banks.

In line with the above, there are several studies which state that the frequency of OHS information on such aspects as employment conditions is high [83,84]; however, the understanding of such disclosures is still at a non-satisfactory level and allows companies to report, or not, as many aspects as they want [85,86]. Many researchers confirm the shortage of consistency and understanding across enterprises regarding voluntary OHS information disclosure [85,87–89].

Increasing pressures and efforts from several interested parties can redirect and emphasize the need for OHS organizational policies. Local communities and workers use all means of pressure on hazardous industrial sectors to respond to OHS demands in an effective manner [90,91]. As such, the publication of OHS information, either by independent OHS reports or CSR reports, comes from companies' efforts to build trustworthy relations with local stakeholders in order to avoid receiving negative feedback. Indeed, in many cases the integration of OHS strategies and policies by companies depends on the location in which they do business. Companies improve their OHS indicators in order to comply with the legal framework and adhere to the measures and procedures emerging from the institutional requirements of each country [53].

3. Sample and Methodology

In order to extract OHS information from the CSR reports of the construction industry, a methodological framework was designed based on four steps (Figure 1). The first step describes the research questions of this study emerging from the literature review. A literature review was carried out to highlight information on the scientific gaps in the field of OHS information and the construction industry. Two streams of literature have been analyzed: one is related to OHS and the construction industry and the other on corporate reporting evaluation of OHS information and CSR reporting. The second step analyzes the scoring technique based on the GRI guidelines to determine specific items and the current literature to underscore experience from existing scoring evaluation systems. The main task in this step was to examine the current benchmarking systems from relevant literature and the GRI guidelines. The former analysis assists in identifying the strengths and weaknesses in previous scoring/benchmarking systems which could be useful to prepare the suggested methodology. The latter analysis is made in order to extract useful information regarding

OHS from the GRI guidelines and indicators. As previously mentioned, GRI provides uniform information to measure different aspects of sustainability and the CSR performance (including OHS information) of organizations. The next step focuses on selecting suitable CSR reports from the construction industry in the GRI database. At this stage, some criteria will be introduced in order to identify valuable and applicable reports from the construction industry (more details are presented in the next sections). The final step analyzes the findings. This step describes the main results of the suggested scoring/benchmarking systems through evaluation of the reports selected. The findings provide feedback relating to relevant literature mainly on OHS issues in the construction industry, CSR reporting regarding the construction industry and general CSR and scoring benchmarking systems.

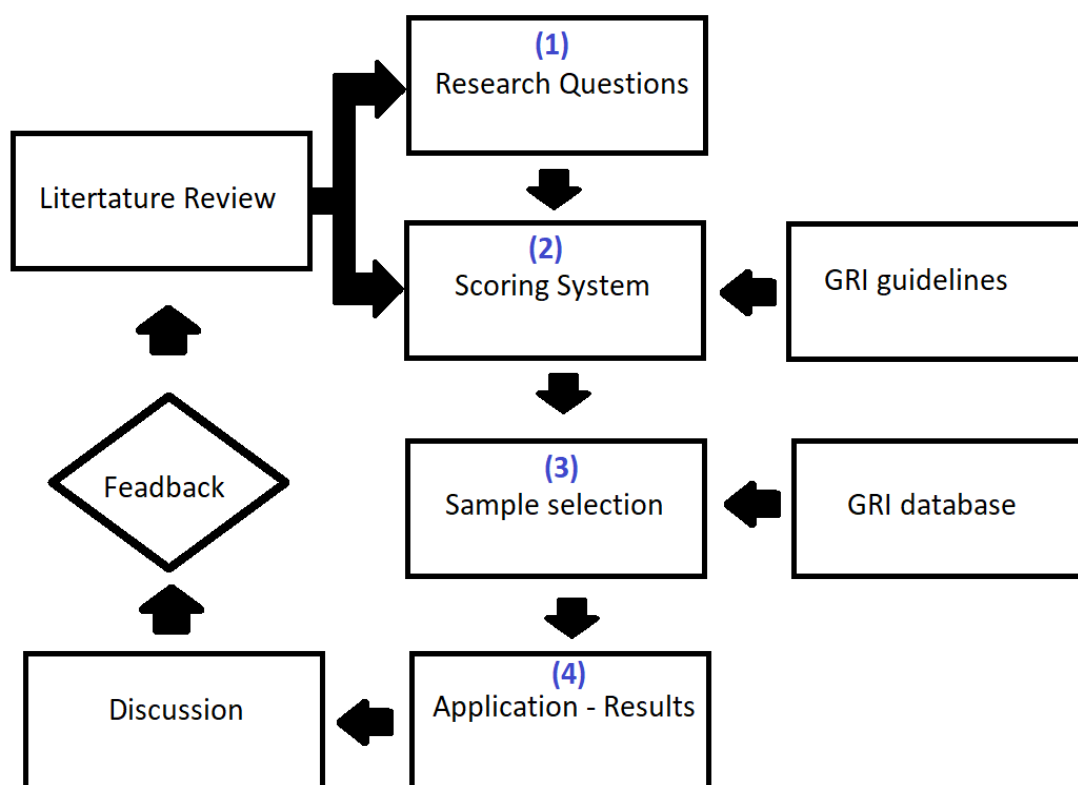


Figure 1. Structure of research.

3.1. Research Questions

Some important research issues in the existing literature are why firms disclose OHS information, how they do so and in what degree they achieve it. The first topic (why) has been a main research question for many years in the field of sustainable reporting [53] and by extension in the topics of OHS which are mainly voluntary initiatives of businesses [92]. One significant reason to explain why firms disclose OHS information on a voluntary basis is to gain legitimacy [93] and, obviously, the higher level of accountability implies higher level of legitimacy among the stakeholders of firms [94]. One way to measure accountability of firms in OHS topics is to identify what types of information the firms disclose. For this reason, the first research question is:

Research Question 1 (RQ1): What types of OHS information are disclosed by construction companies?

Another important topic in order to examine the degree of accountability of firms in relation to OHS disclosures is their quality. Despite the significance of the number of disclosures, the quality of this information is also very important. The quality of OHS disclosures implies that accurate, complete, comparative and quantitative information is disclosed by firms. This leads to the following research question:

Research Question 2 (RQ2): Is the OHS information disclosed in the sustainability reports complete and high quality?

3.2. Rating System

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 [30,95–97]. This measure was derived from specific disclosure requirements of the GRI Standards—the first global standards for sustainability reporting—that refer to firm-specific OHS management and performance reporting objectives (Table 1). These items, presented in Table 2, were rated on a five-point scale and the generic scoring scheme applied to the assessment is outlined in Table 3. Based on the defined t_i OHS topics criteria ($i = 1, 2, \dots, 10$), the proposed composite OHSD index for corporation j was constructed as follows:

$$OHSD_j = \sum_{j=1}^4 t_j$$

where t_j equals to zero for non-disclosure, 1 if the organization i discloses vague information on the j th topic, 2 if it provides relevant but inadequate information/data, 3 if the coverage is comprehensive and 4 if it is fully in line with the GRI Standards' implementation manual. This results in an index with a maximum score of 44 points. These disclosure scores are expressed in percentages. The assessment was performed independently by two researchers with previous experience of relevant coding schemes and content analysis assessment. The assessment was carried out in two phases. The first was held between March and May 2020 and the second started one month later, June 2020 lasting until August 2020 where all organizations' disclosure scores were re-evaluated in order that discrepancies, issues of inter-coding errors and any needs for further emphasis on such material topics to be eliminated.

Table 1. Components comprising the proposed OHSD index.

GRI Disclosures	Description
102-56 *	External assurance on occupational health and safety
103 **	Management approach on occupational health and safety
403-1	Occupational health and safety management system
403-2 ***	Hazard identification, risk assessment, and incident investigation
403-3	Occupational health services
403-4	Worker participation, consultation, and communication on occupational health and safety
403-5	Worker training on occupational health and safety
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships
403-9	Work-related injuries
403-10	Work-related ill health
408-1 *	Operations and suppliers considered to have significant risk for incidents of young workers exposed to hazardous work

* The item was adapted to fit the purpose of this study. ** All the three sub-categories of this disclosure (103-1, 103-2103-3) were taken into consideration and adapted accordingly. *** Second parts of b and c reporting requirements are excluded. The provided information is irrelevant to this paper.

For reliability and validity reasons, each report was evaluated from two independent researchers. The discrepancies in the rating scores between the two researchers were insignificant, a fact that justifies the use of all reports in our sample.

Table 2. 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/programs, and relevant monitoring results for addressing the issue. The organization meets the GRI OHS-specific requirements, allowing comparison with other organizations

3.3. Data Selection

To respond to the research questions of this paper, our sample, encompassing fifteen out of one hundred of the largest corporations (based on revenue in 2017) from the UK construction industry, was gathered from reliable UK website lists, 'the construction index' and 'Construction News' in 2018 (Tables 3 and 4). In particular, the first fifty companies of the former source were crosschecked with the latter. Those entities that were not found in the second, were excluded from the evaluation. The selection of the particular industrial sector was based on Eurostat's two remarkable observations in the EU-28 in 2017 [98]: The first was that the industry had the highest incidence of non-fatal accidents at work, with 2876 per 100,000 people employed. The second was that fatal accidents were most common in construction, with 733 people killed, 20.6% of the total. As such, it is important to shed light on the OHS challenges the industry faces as well as the lack of the UK industry-level evidence on trends in voluntary OHS-specific corporate disclosure. The focus was on CSR reports or any official document including CSR affairs published by these firms in 2017 or 2018 with reference to performance achievements of 2017.

Table 3. Sample of firms' descriptive information.

Rank According to The-constructionindex.co.uk	Rank According to Constructionnews.co.uk	Firms	Reporting Period	Turnover (£m) 2017 According to Firms' Financial or Official Reports and Websites
1	1	Balfour Beatty plc	17 December	8234
2	2	Kier Group plc	17 June	4282.30
3	3	Interserve plc	17 December	3250.80
4	6	Galliford Try plc	17 June	2820.20
5	5	Morgan Sindall	17 December	2793
6	7	Amey UK plc	17 December	2581.30
8	8	Mace	17 December	2036.90
9	4	Laing O'Rourke plc	17 March	2.00
10	9	Skanska UK plc	17 December	1802.70
11	11	Costain Group plc	17 December	1728.90
12	10	ISG plc	17 December	1708.80
13	12	Wates Group Ltd.	17 December	1530.22
14	14	Willmott Dixon Holdings Ltd.	17 December	1296.41
15	15	Multiplex Construction Europe Ltd.	17 December	1155.40

Table 3. Cont.

Rank According to The-constructionindex.co.uk	Rank According to Constructionnews.co.uk	Firms	Reporting Period	Turnover (£m) 2017 According to Firms' Financial or Official Reports and Websites
16	16	BAM Construct UK Ltd.	17 December	953
17	17	Sir Robert McAlpine	October 17	942.5
18	18	Bowmer & Kirkland Ltd.	17 August	928.3
21	19	Vinci plc	17 December	870.7
22	20	VolkerWessels UK Ltd.	17 December	870
23	27	Lendlease	17 June	800.4
25	23	J Murphy & Sons Ltd.	17 December	711.9
26	31	Eurovia UK Ltd.	17 December	486.2
27	25	ENGIE2 * (Keepmoat)	17 March	423.2
28	24	BAM Nuttall Ltd.	17 December	673.8
29	28	McLaren Construction Group plc	17 July	600.3
30	22	Robertson Group (Holdings) Ltd.	17 March	579.9
31	29	Renew Holdings plc	17 September	560.8
32	13	Bouygues (U.K.) Ltd.	16 December	-
33	30	Carey Group plc	17 March	549.2
34	32	NG Bailey Group Ltd.	18 February	481
35	33	Winvic Group Ltd.	17 January	461.8
36	34	Buckingham Group Contracting Ltd.	17 December	423
37	61	John Sisk & Son Ltd.	16 December	239.4
38	35	Keltbray Group (Holdings) Ltd.	October 17	417.5
41	38	Northstone (NI) Ltd.	16 December	375
42	39	Ardmore	17 September	370
43	40	Imtech	17 December	368
45	41	Osborne	17 March	348.1
47	42	McAleer & Rushe	17 December	334.1
48	43	SSE Contracting Ltd.	17 March	330
49	44	Byrne Group plc	17 May	321.7
50	45	T Clarke plc	17 December	311.2
52	46	Watkin Jones plc	17 September	301.9
53	47	Lakehouse	17 September	299.5
54	48	North Midland Construction plc	17 December	291.8
55	49	Higgins Group plc	17 July	290.6
56	58	FM Conway Ltd.	17 March	290.2
57	50	RG Carter Group	16 December	286.4
58	53	Ogilvie Group	17 June	216
59	51	Severfield plc	17 March	274.2

* The item was adapted to fit the purpose of this study.

Table 4. Information pertinent to CSR, GRI and OHS objectives.

Companies	Type of (Basic) Report Including the Examined Disclosures	Reports in GRI Database Including 2017 Information	Reports in GRI Database without Including 2017 Information	Reports Are Not Found in GRI Database	Type of Standards Followed by Companies to Compile Their CSR Reports	Nominative OHS Systems/Standards within Report
Balfour Beatty plc	CSR	✓	-	-	Non-GRI Report	-
Kier Group plc	CSR	✓	-	-	GRI Standards	-
Interserve plc	Annual	-	✓	-	Non-GRI Report	✓
Galliford Try plc	Annual	✓	-	-	Non-GRI Report	✓
Morgan Sindall	CSR	✓	-	-	GRI Standards	✓
Amey UK plc	CSR	-	-	✓	Non-GRI Report	-
Mace	Annual	-	-	✓	Non-GRI Report	-
Laing O'Rourke plc	Annual	-	-	✓	Non-GRI Report	-
Skanska UK plc	Annual	-	✓	-	GRI Standards	✓
Costain Group plc	CSR	-	-	✓	GRI Standards	✓
ISG plc	CSR	-	-	✓	Non-GRI Report	✓
Wates Group Ltd.	Annual	-	-	✓	Non-GRI Report	-
Willmott Dixon Holdings Ltd.	Annual	✓	-	-	Non-GRI Report	-

Table 4. Cont.

Companies	Type of (Basic) Report Including the Examined Disclosures	Reports in GRI Database Including 2017 Information	Reports in GRI Database without Including 2017 Information	Reports Are Not Found in GRI Database	Type of Standards Followed by Companies to Compile Their CSR Reports	Nominative OHS Systems/Standards within Report
Multiplex Construction Europe Ltd.	CSR	-	-	✓	Non-GRI Report	✓
BAM Construct UK Ltd.	Integrated	-	-	✓	GRI Standards	✓
Sir Robert McAlpine	CSR	-	-	✓	Non-GRI Report	-
Bowmer & Kirkland Ltd.	2016–2017 Group Accounts	-	-	✓	Non-GRI Report	✓
Vinci plc	Annual	-	-	✓	Non-GRI Standards	-
VolkerWessels UK Ltd.	Annual	-	-	✓	Non-GRI Standards	-
Lendlease	Annual	-	-	✓	Non-GRI Standards	-
J Murphy & Sons Ltd.	Business Review	-	-	✓	Non-GRI Standards	✓
Eurovia UK Ltd.	CSR	-	-	✓	Non-GRI Standards	-
ENGIE2 (Keepmoat)	Annual and Financial	-	-	✓	Non-GRI Standards	-
BAM Nuttall Ltd.	Report and Accounts	-	-	✓	Non-GRI Standards	✓
McLaren Construction Group plc	Annual Report and Financial Statements	-	-	✓	Non-GRI Standards	-
Robertson Group (Hodlings) Ltd.	Annual and Accounts	-	-	✓	Non-GRI Standards	-
Renew Holdings plc	Annual and Accounts	-	-	✓	Non-GRI Standards	-
Bouygues (U.K.) Ltd.	CSR	-	-	✓	Non-GRI Standards	-
Carey Group plc	online	-	-	✓	Non-GRI Standards	-
NG Bailey Group Ltd.	CSR	-	-	✓	Non-GRI Standards	✓
Winvic Group Ltd.	Financial statements	-	-	✓	Non-GRI Standards	-
Buckingham Group Contracting Ltd.	Financial statements	-	-	✓	Non-GRI Standards	✓
John Sisk & Son Ltd.	Directors' and Financial statements	-	-	✓	Non-GRI Standards	-
Keltbray Group (Holdings) Ltd.	Sustainable Development	-	-	✓	Non-GRI Standards	-
Northstone (NI) Ltd.	Annual and Financial	-	-	✓	Non-GRI Standards	-
Ardmore	Profile	-	-	✓	Non-GRI Standards	-
Imtech	CSR	✓	-	-	Non-GRI Standards	✓
Osborne	Sustainability Strategy	-	-	✓	Non-GRI Standards	-
McAleer & Rushe	Financial statements	-	-	✓	Non-GRI Standards	✓
SSE Contracting Ltd.	Directors' and Financial statements	-	-	✓	Non-GRI Standards	✓
Byrne Group plc	H&S Statement Policy	-	-	✓	Non-GRI Standards	✓
T Clarke plc	Annual Report and Financial Statements	-	-	✓	Non-GRI Standards	-
Watkin Jones plc	Annual Report and Financial Statements	-	-	✓	Non-GRI Standards	-
Lakehouse	Annual	-	-	✓	Non-GRI Standards	-
North Midland Construction plc	Annual	-	-	✓	Non-GRI Standards	✓
Higgins Group plc	Annual	-	-	✓	Non-GRI Standards	✓
FM Conway Ltd.	CSR	-	-	✓	Non-GRI Standards	-
RG Carter Group	Accounts	-	-	✓	Non-GRI Standards	✓
Ogilvie Group	Health and Safety Statement of Intent	-	-	✓	Non-GRI Standards	-
Severfield plc	Annual Report	-	-	✓	Non-GRI Standards	✓

Note: ✓ denotes that the information is in line with the description of the column title; - denotes that no information is provided or found.

4. Results

The results are presented in terms of individual GRI items (Figure 2) in the UK construction industry, as well as overall (OHS) scores of individual items per company (Figure 3). In addition, the overall (OHSD) scores assigned to each report with an attempt to summarize trends both among companies and GRI indicators are addressed in Figure 4.

Taking into account industry trends per GRI Standards (Figures 2 and 3), it was found that reports from the examined sector reveal a low level of sensitivity to OHS issues. Overall, the construction sector only provides a good level of performance in prevention and mitigation measures (403-7), describing companies' approaches to preventing or mitigating significant negative occupational health and safety impacts that are directly linked to its operations. Likewise, they present almost comprehensively that occupational health services (403-3) contribute to zero high-risk incidents. Indeed, twenty-nine reports fully complied with the former item and eighteen with the latter.

The remaining construction reports show many gaps in coverage. Among the remaining GRI Standards, there is room for improvement concerning worker participation and formal joint management–worker health and safety committees (403-4); a big part of their tasks is to be authorized to make decisions about OHS, among other workplace decisions. This group of information is reported by 76% of the sample, thirteen of which reach 100% of coverage. Construction companies indicate almost similar scores, providing slightly less information on OHS management approach (103), hazard identification, risk assessment and incident investigation (403-2), as well as on OHS management system (403-1). Between the three, major shortcomings are detected in the OHS information for the implementation of the management system due to legal requirements or standards/guidelines and the reasons of workforce and activities covered by it. This means that 74% of sample firms reported this item, whereas 82% and 86% exhibit information for 403-2 and 103 GRI Standards, respectively. It is worth mentioning that there was no OHS indicator found reported by all the firms sampled.

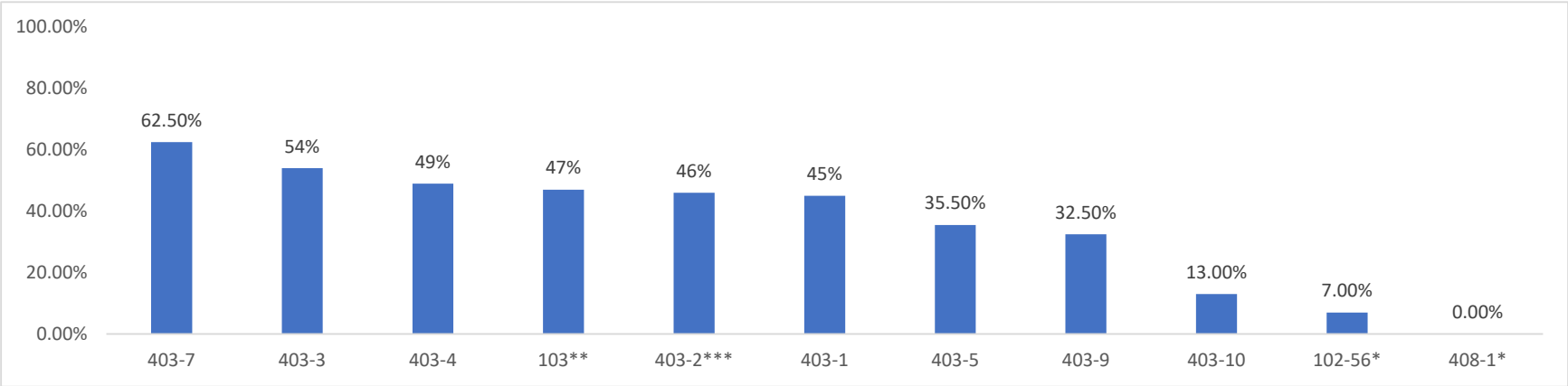


Figure 2. Occupational health and safety disclosure (OHS) scores per Global Reporting Initiative (GRI) Sustainability Reporting Disclosures OHS-specific indicator according to the UK construction sector. Results per GRI-G4 OHS-specific item/indicator (%). * means that the item was adapted to fit the purpose of this study. ** All the three sub-categories of this disclosure (103-1, 103-2, 103-3) were taken into consideration and adapted accordingly. *** Second parts of b and c reporting requirements are excluded.

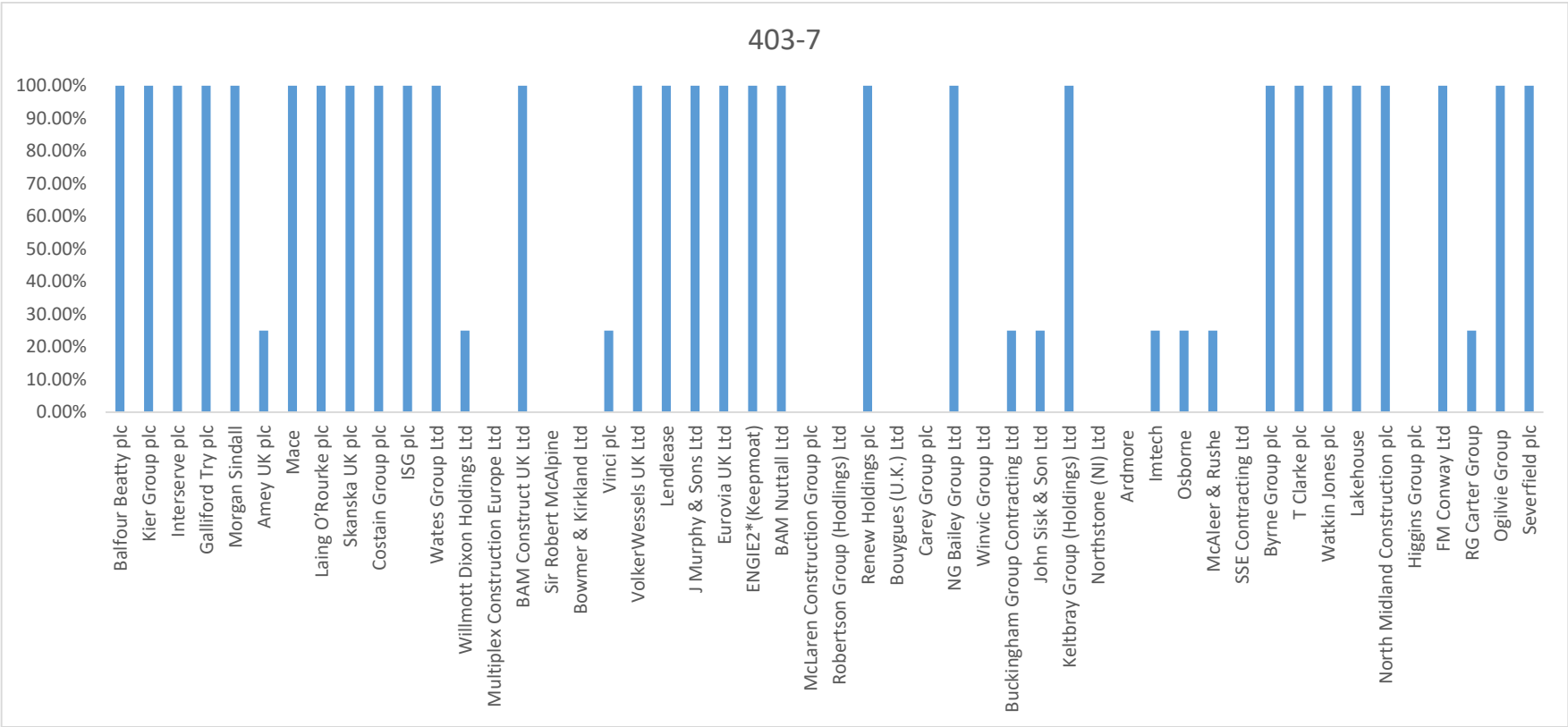


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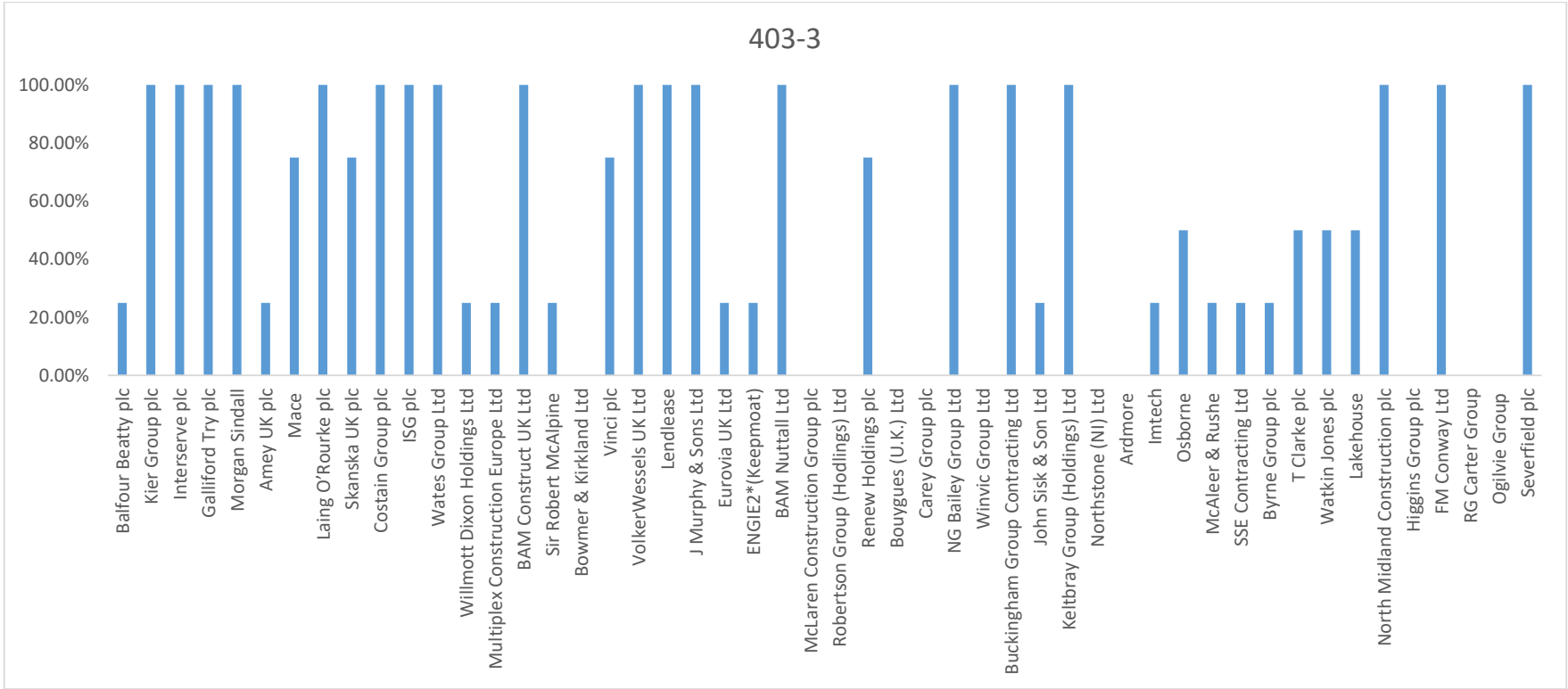


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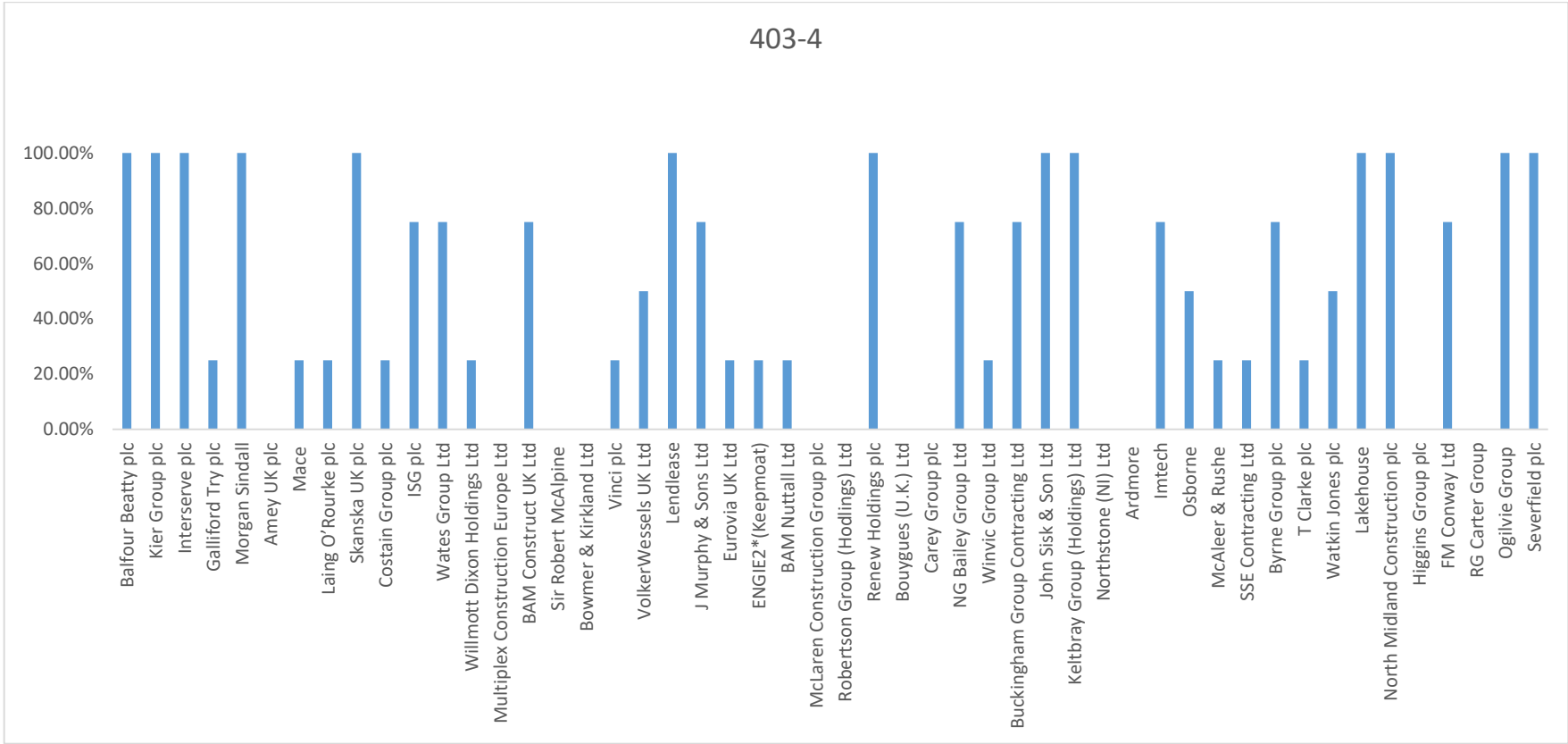


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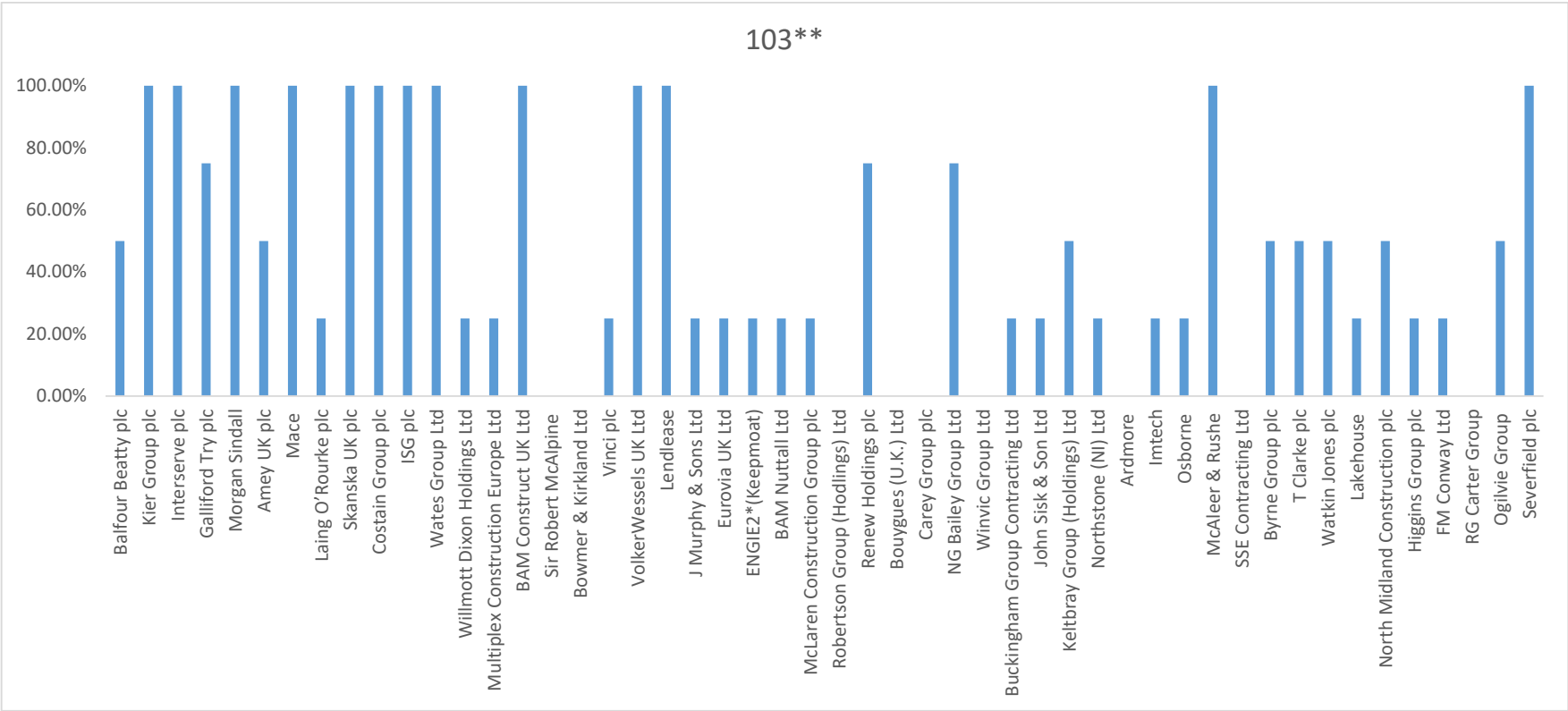


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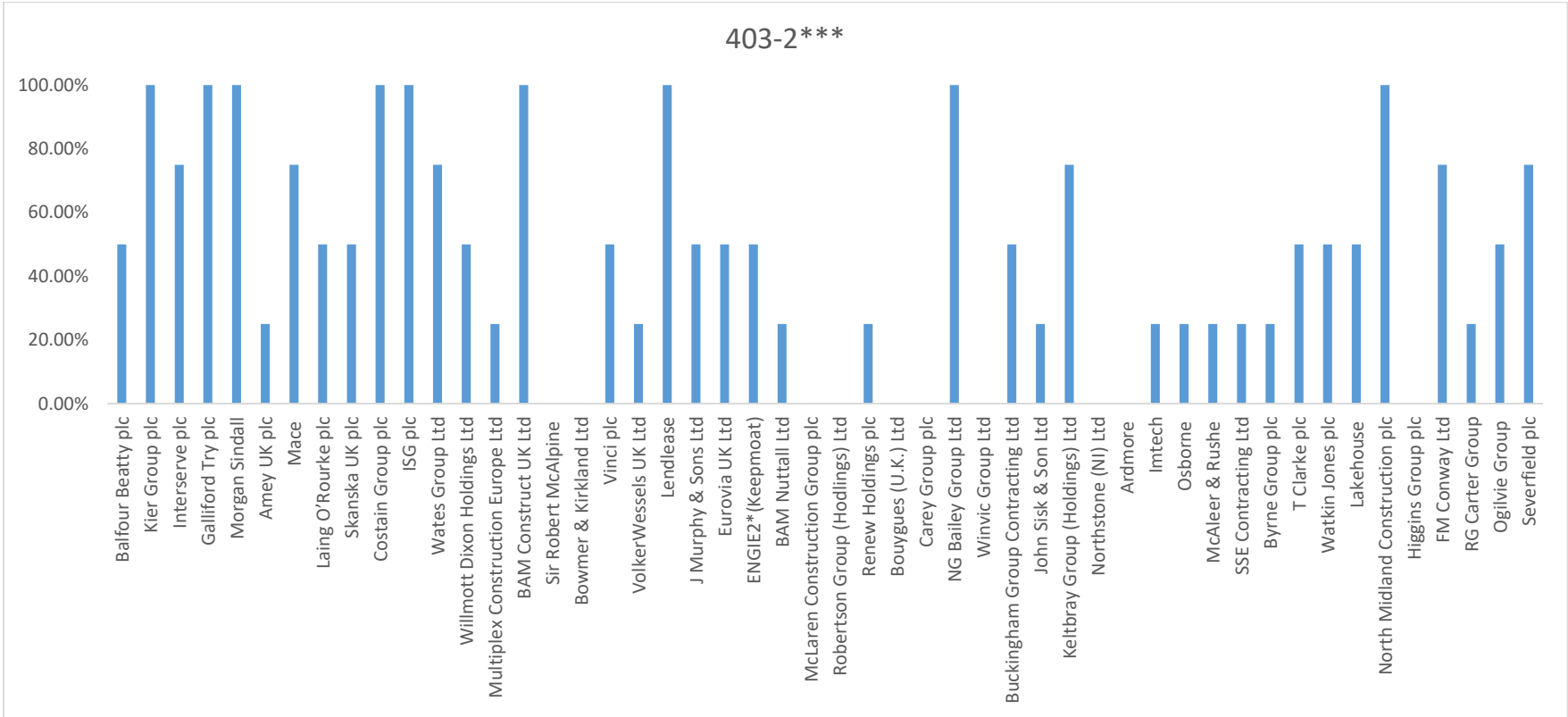


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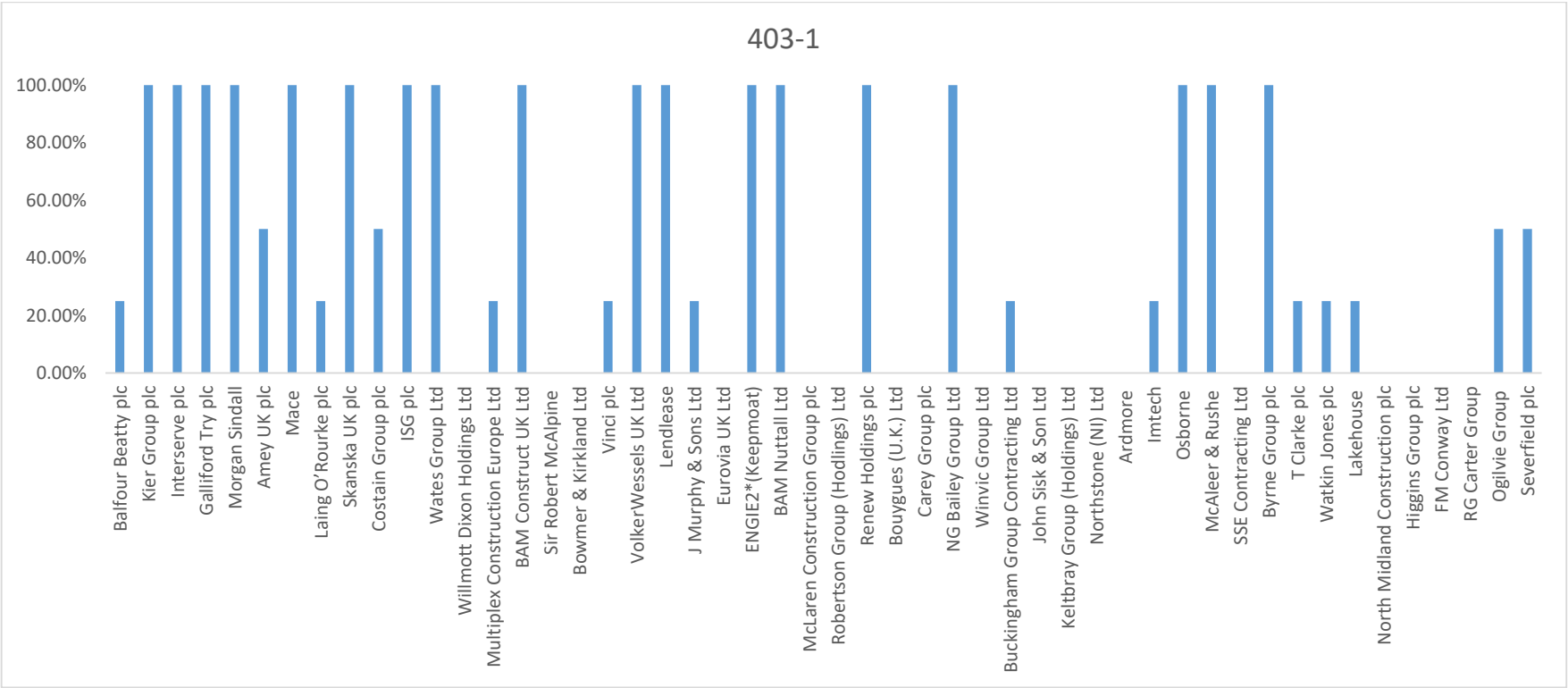


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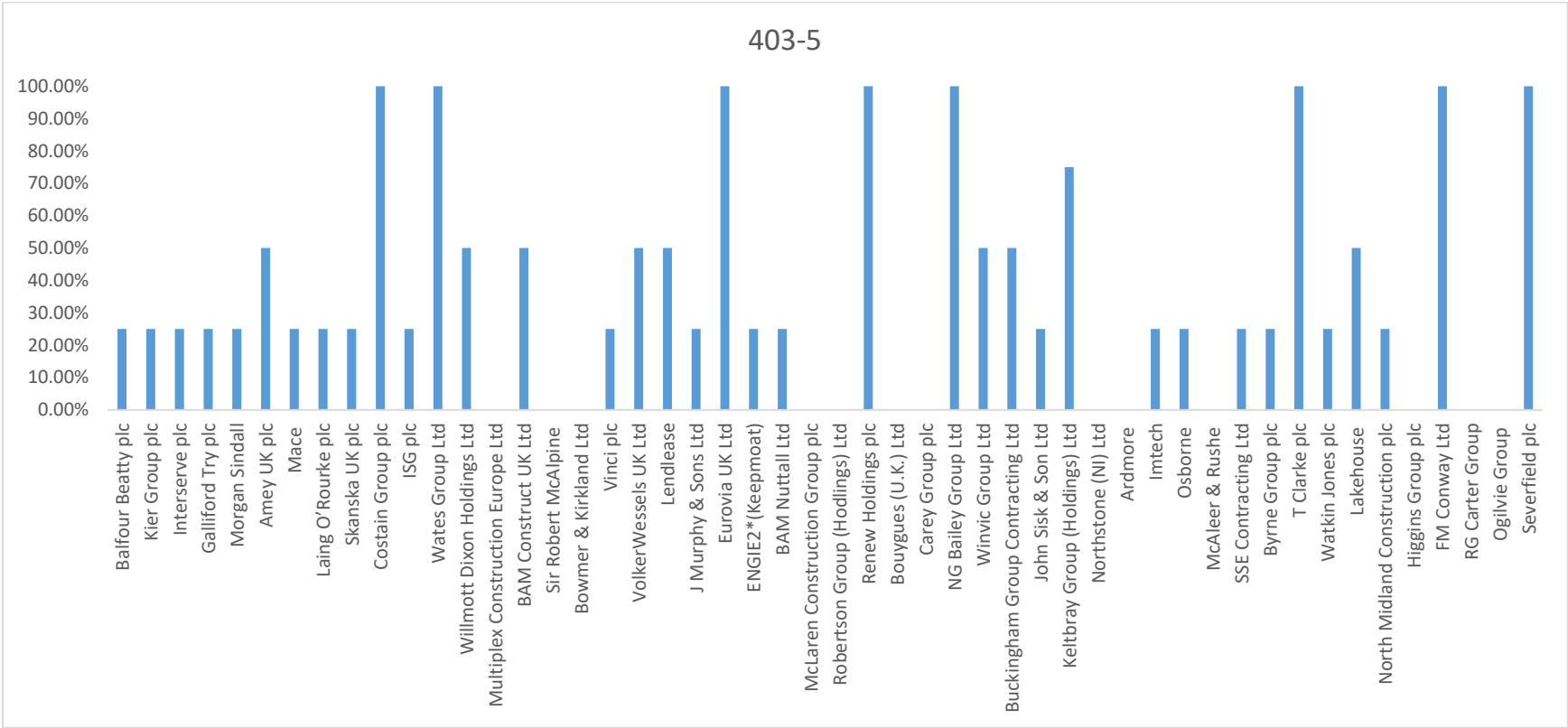


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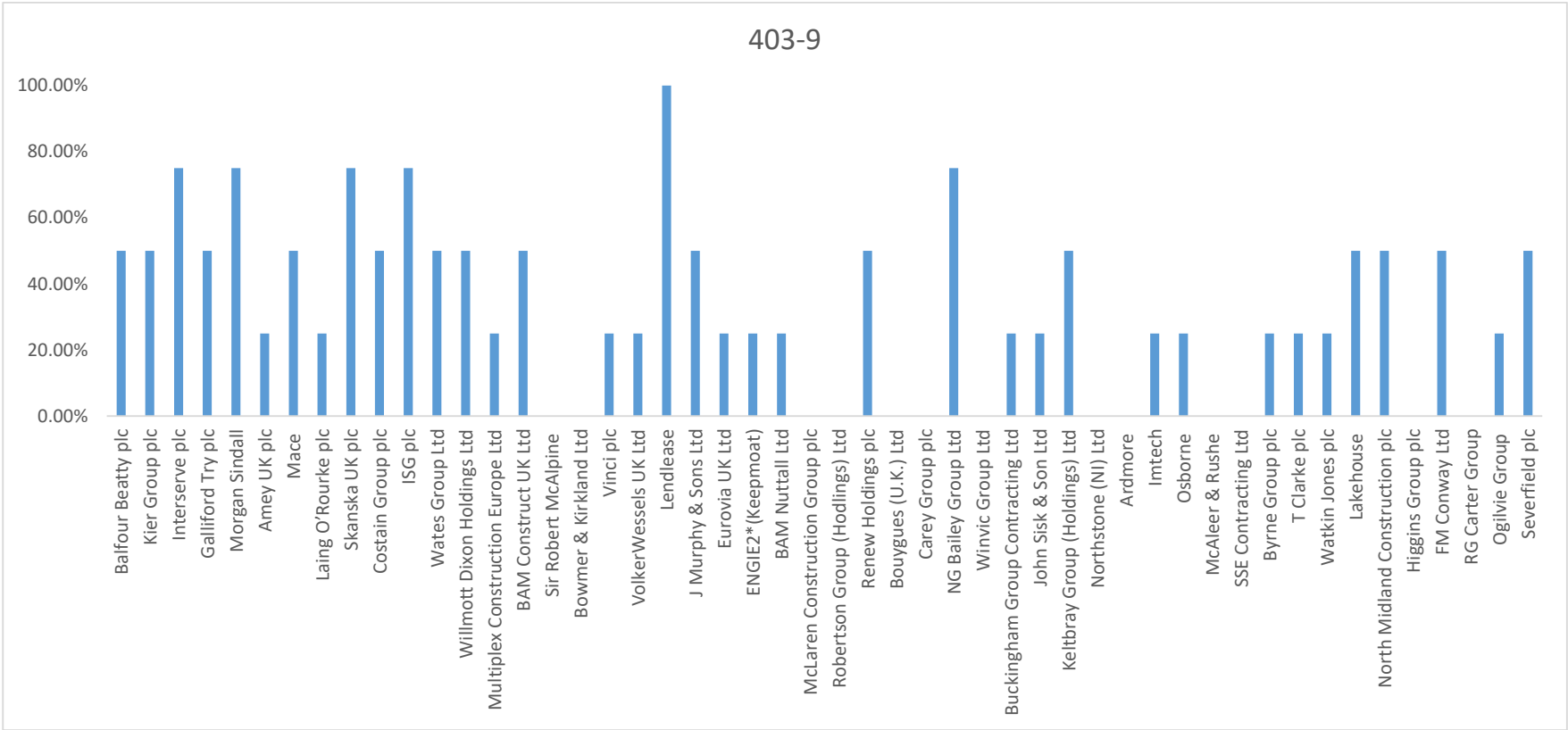


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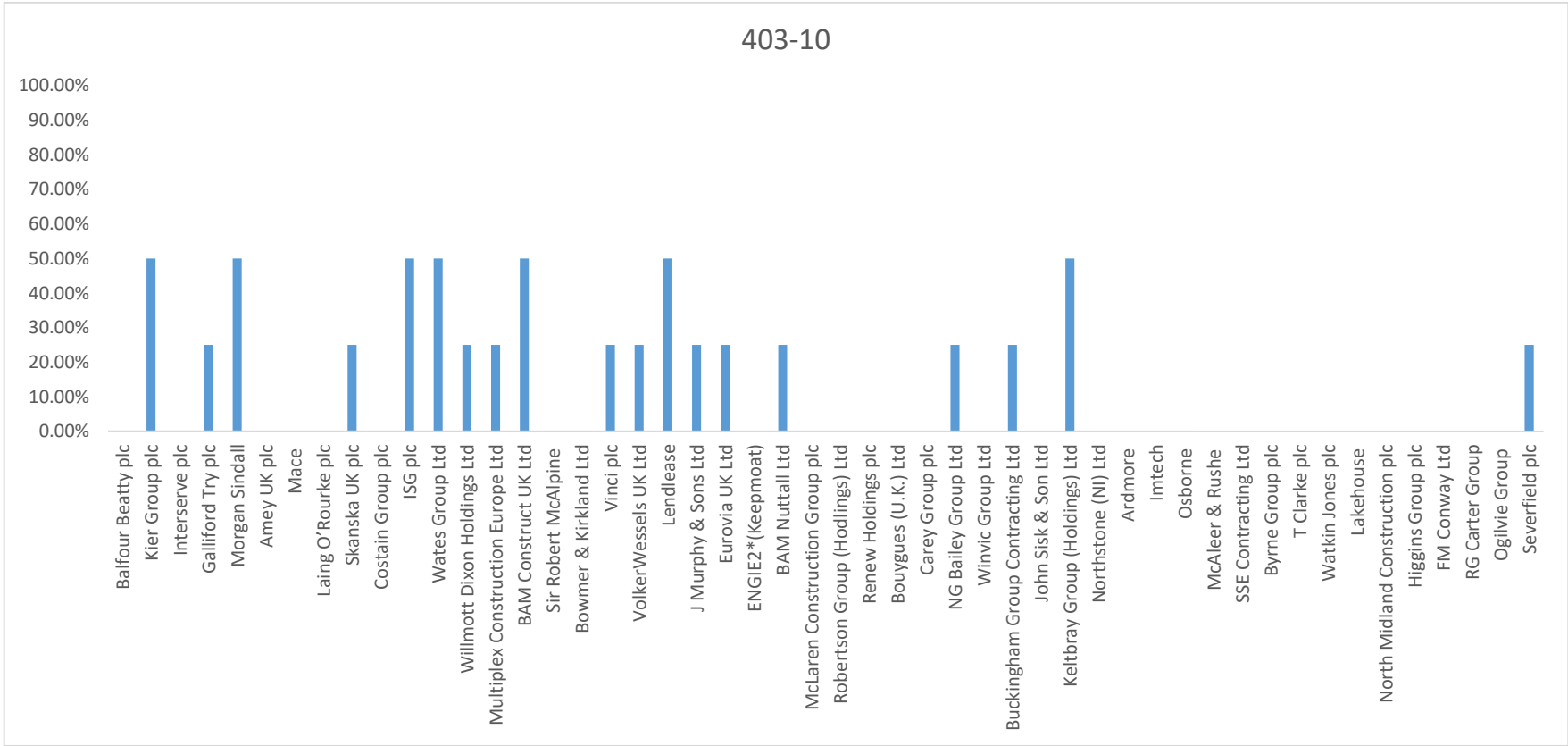


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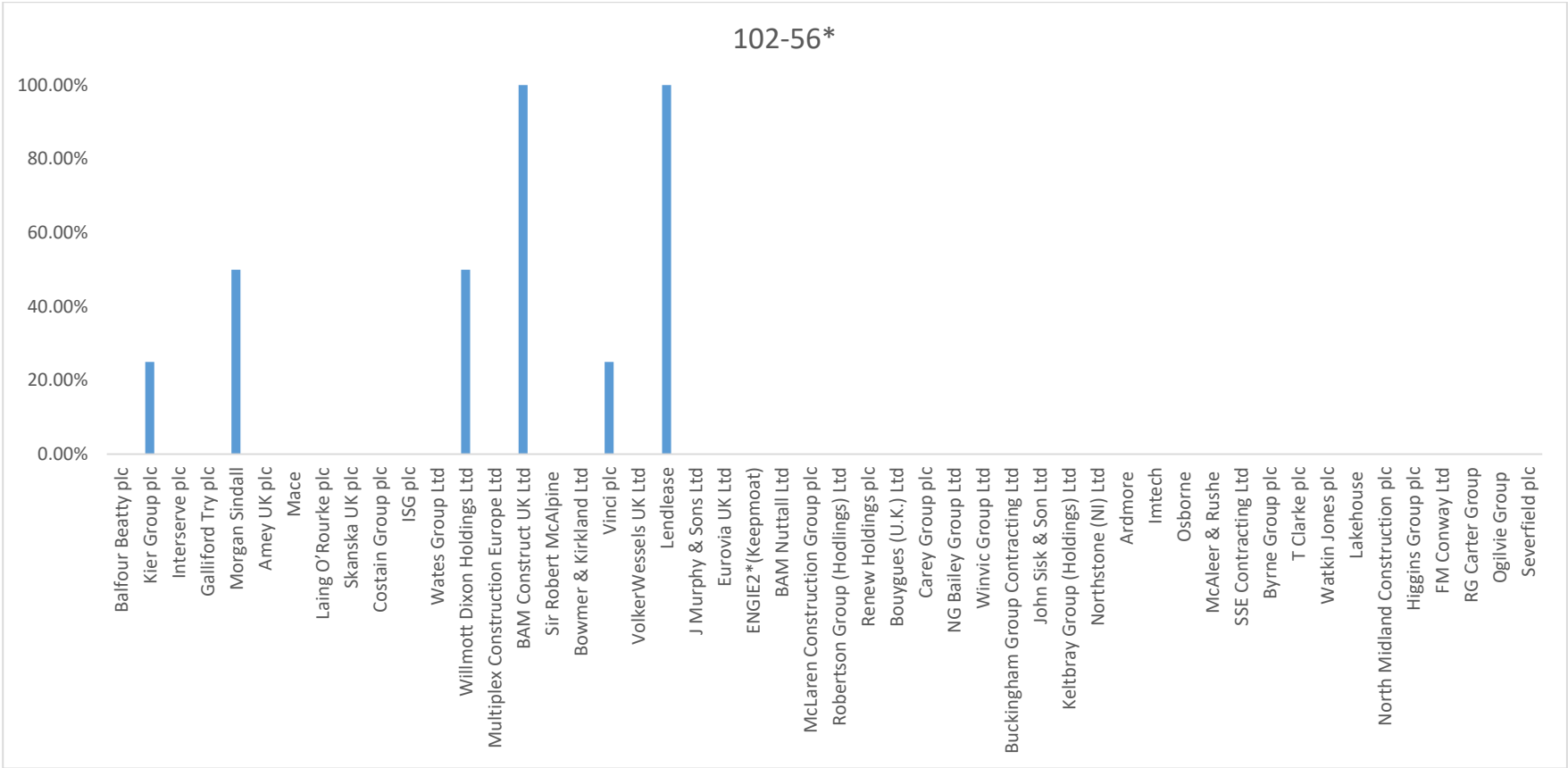


Figure 3. Cont.



Figure 3. Occupational health and safety (OHS) sustainability reporting scores of individual corporations per GRI Disclosure OHS-specific item/indicator. The orange line indicates the OHS scores per item: (Results in %). * means that the item was adapted to fit the purpose of this study. ** All the three sub-categories of this disclosure (103-1, 103-2, 103-3) were taken into consideration and adapted accordingly. *** Second parts of b and c reporting requirements are excluded.

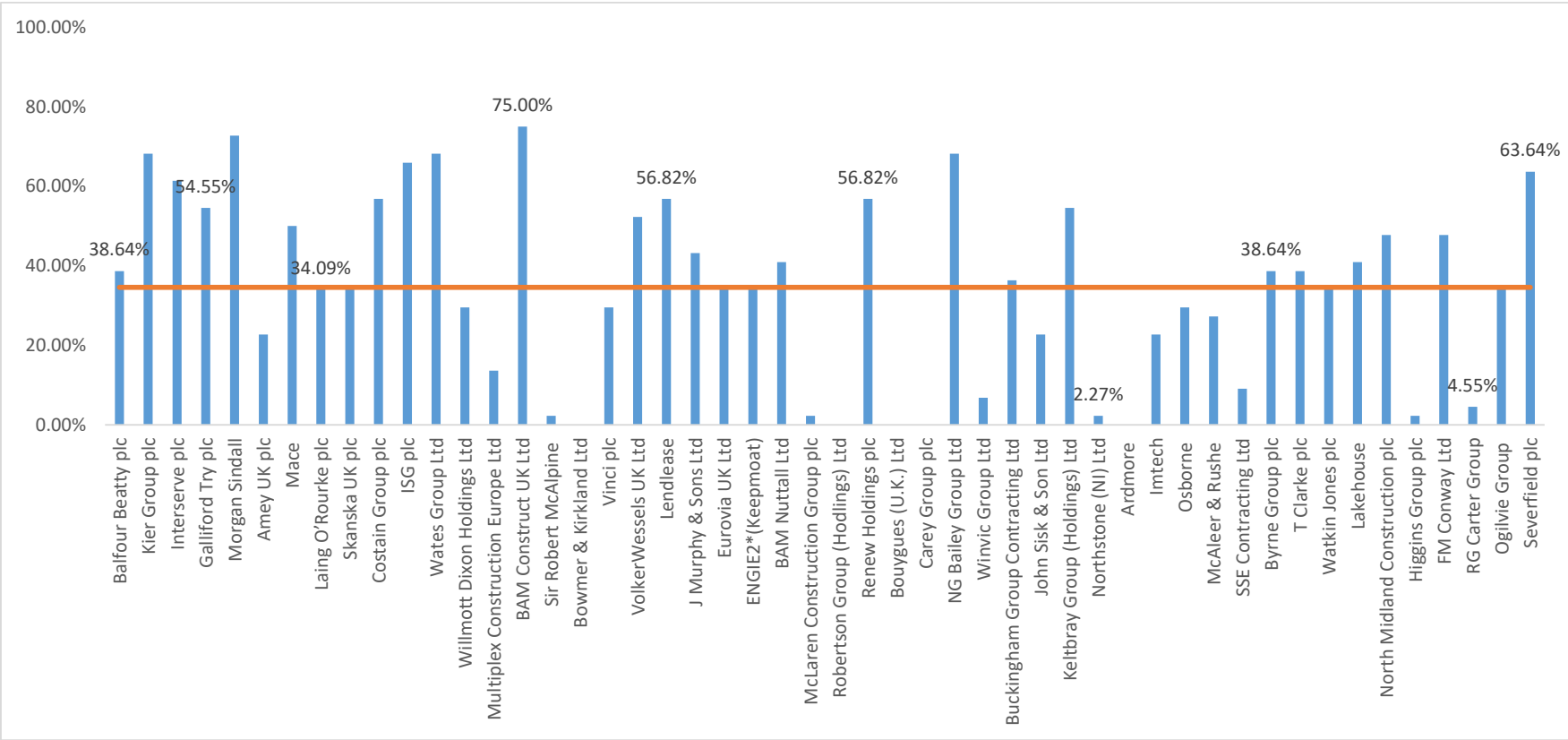


Figure 4. Total occupational health and safety disclosure (OHSD) scores of individual corporations. The orange line indicates the average OHSD score: 34.59%.

In addition, the construction sector falls short in describing any OHS training provided to workers, including generic training as well as training on specific work-related hazards, hazardous activities or hazardous situations (403-5). Only three reports sufficiently or fully present (greater than or equal to 75%) the information provided. As far as the two main quantitative indicators of this study are concerned (work-related injuries (403-9) and work-related ill health (403-10)), our sample demonstrates gaps in reporting them. The main gaps are associated with the latter, where just seven sustainability reports reveal information, while none of them exceeded 50% accountability on this topic. This indicates that extremely little information is provided regarding the specific reporting requirements of this topic: the number of fatalities as a result of work-related ill health, the number of cases of recordable work-related ill health, the main types of work-related ill health, the work-related hazards that pose a risk of ill health and any useful contextual information, such as if any workers have been excluded from this disclosure, including the types of worker excluded.

Companies have a very limited level of response in seeking external assurance on the OHS information reported (102-56), pointing out deficiencies in revealing firms' policies and practices with regard to seeking external assurance for the report, references to the external assurance report, the relationship between the organization and the assurance provider and how senior executives are involved in seeking external assurance for the organization's sustainability report. Yet, they totally fail to report operations and suppliers considered to have significant risk for incidents of young workers exposed to hazardous work (408-1).

Taking into consideration the total (OHSD) yields per corporation (Figure 4), the construction sector seems to identify OHS issues, but fails to present it adequately, as is evident from the fact that sustainability reports have serious gaps in coverage (average score: 34.59%). In particular, the majority of the assessed corporations (35) scored under 50%, with 16 less than 25%. In contrast, only two firms provide enough and clear information ($\approx 73\%$ and 75% accordingly) and have developed the necessary systems and processes for data collection on OHS topics and attempt to present it in a consistent manner. Furthermore, no company report can be characterized as 'full', addressing all the OHS GRI Standards and their reporting requirements 100%. Finally, it is worth mentioning that five companies do not include any information relevant to OHS affairs.

Finally, in order to examine the potential association between the OHSD index and the descriptive variable of revenue, a scatter plot was constructed with respect to the UK construction industry (Figure 5). Visual inspection of the scatter plot between OHSD and revenue indicates no association.

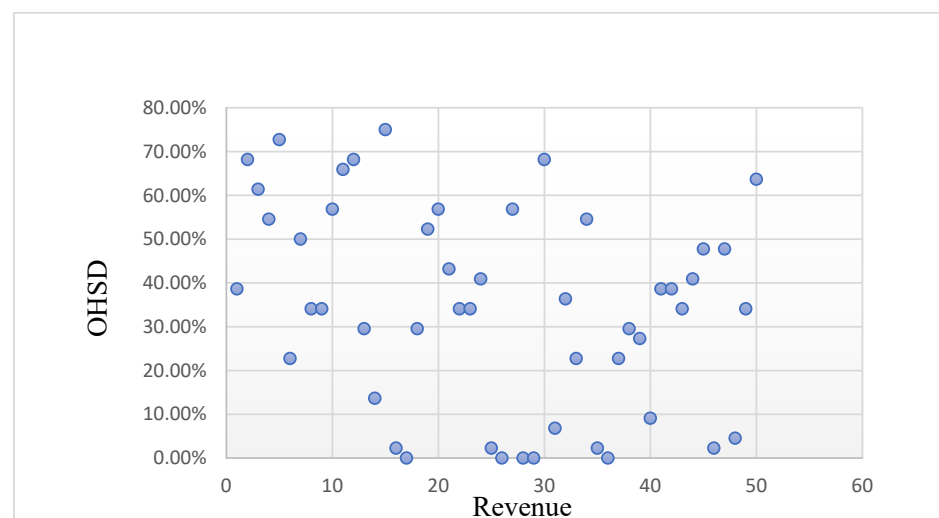


Figure 5. Scatter plot of the association between the occupational health and safety disclosure (OHSD) index and revenue.

5. Discussion

Based on the results, our paper is in line with recent research studies associated with OHS information [30,48,53] revealing that the extent of the published OHS items is poor. Likewise, many differences between firms within the UK construction industry are recognized among the eleven contributors of our proposed OHSD index. This also aligns with the findings of a previous study [30] regarding problems in cross-comparing performance and in evaluating OHS implementations by stakeholders (i.e., information asymmetry). Sample firms have a propensity to place emphasis on moderation measures reflecting negative OHS impacts or in cases where some have no control over both the work and workplace, it still has a responsibility to make additional efforts about them, including exercising any leverage they might have, but lag behind major quantitative indicators. This is also confirmed by the study of [75], which identifies considerable information regarding injuries and training issues in OHS. Similarly, the study of [99] shows poor disclosure levels for OHS information years, 2018 and 2019. They identify that sample firms only cover 33% of the benchmark score (16.5). As shown in [100], this might be explained by the fact that some executives in construction firms lack sufficient knowledge about health and do not assume the responsibility for health risks as they do for safety. OHS issues regarding young workers exposure to risk developed by operation and suppliers were not reported at all. In contrast to [30], OHS information associated with seeking external assurance for the report or topics disclosing the relationship between companies and assurance providers are underreported. For the same issue, [101] highlight that the assurance of reports is achieved through utilizing the GRI guidelines which encourage some specific and useful principles to prepare sustainability reports such as clarity, materiality, accuracy, comparability and reliability. This implies that OHS issues emerging from sustainability reports are based on similar principles and assurance. However, the credibility of sustainability reporting is strengthened in the case where disclosed information is confirmed from certification systems. As seen in this study, the majority of assessed reports (29), as outlined in Table 3, did not include any externally developed management standards (e.g., OHSAS 18001; ISO 45001 [102]).

OHS training/learning is highlighted as a material aspect for the construction industry as it contributes to reducing accidents [103]. This outcome is not in line with our results. According to research assessment, OHS training objectives including information such as: how training needs are assessed, how the training is designed and delivered, whether the training is provided free of charge and how the effectiveness of the training is evaluated seem to be of little importance in the UK sector. It is obvious from our sample that these companies consider occupational health services as an issue of interest as they explain in a comprehensive way how each of them ensures the quality of these services (e.g., whether the services are provided by competent individuals with recognized qualifications and accreditations, and whether it complies with legal requirements and/or recognized standards/guidelines) and facilitates workers' access to them (e.g., whether it provides these services at the workplace and during working hours; whether it arranges transport to health clinics or expedites service there; whether it provides information about the services, including in a language easily understood by workers; and whether it adjusts workloads to allow workers to make use of these services).

Although OHS has been underlined as a key priority area in most of the assessed corporations, there appears to be a clear antithesis when it comes to disclosure scores. The reported OHS performance in management approach, worker participation (including, inter alia, information on formal participation based on legal requirements; participation through engagement with formally recognized workers' representatives; direct participation, particularly by affected workers; the use of committees, and how these committees are established and operated; participation in the occupational health and safety management system; how obstacles to participation are identified and removed), hazard identification and management systems (regarding details about the type of OHS responsible for the management system and how the continual improvement of the management system is

achieved) designate that the examined thematic group of disclosures are not consistent with this level of materiality.

This is a significant finding since regulatory compliance and workers collective bargaining due to the fact that GRI promote such issues. The low level of OHS disclosures to these issues could be explained as a result of the focus of sustainability reporting mainly being on environmental and social issues. Although the standard clearly mentions the recording of information on the legal commitments of companies in matters of the health and safety of employees and on their right to develop OHS committees and collective labor bargaining, it seems that most companies emphasize the environmental issues that are daily issues of society over the last decade.

Finally, as far as the managerial implications are concerned, this research is fully in line with a growing number of studies [10,24,69,104–109] on the contribution of inclusive OHS information reporting in respect of many corporate dimensions (e.g., consumers, working conditions, brand image and reputation, business strategy, employee–management and consumer–company dialogue and fruitful engagement) and on the fact that this group of disclosures are underreported [110].

6. Conclusions

Our research contributes to previous studies concentrating on significant issues of CSR reporting with special attention on OHS topics. Our main research objective was to evaluate these kinds of reports from fifty leading companies in the UK construction industry.

Based on our sample, some useful principal conclusions can be drawn concerning OHS disclosures. Overall, the construction sector reveals a low level of sensitivity to OHS issues. Despite prevention and mitigation measures and occupational health services for which firms show medium to good accountability to their stakeholders, all the remaining disclosures imply clear and major gaps in reporting, implying the necessity to be more accurate, detailed and comprehensive. Furthermore, although the specific group of disclosures is a top priority area for almost all the sample firms, some reports were found with no reference on it. Moreover, our results highlighted that good financial performance is not connected with better accountability.

Specifically, it is identified that the majority of sample firms surpassed the average score of the rating system (62.5%) regarding business prevention and mitigation impacts for OHS (GRI 403-7). Many of the sample firms (35%) achieved a score below 20% of the maximum rating score. This means not many ad hoc practices are adopted by firms to protect their staff. Similarly, many firms achieved a high score over the average of the maximum rating score for OHS services (GRI 403-3) and only 30% of the sample firms scored below the average. Finally, the majority of the sample firms achieved a very low score regarding OHS management systems and external assurance on OHS.

The low score of firms regarding assurance and OHS management systems could be associated with the type of sustainability reports which place more emphasis on environmental issues and the regulatory regime of the country and sector where the sampled firms operate. This finding requires further examination in order to identify if tough regulatory regime is more effective compared to voluntary strategy (such as OHS management systems) and create more trust for stakeholders.

The study has three main limitations. First, only hard copies of official documents of firms (i.e., annual or CSR reports, OHS statements, leaflets, etc.) with reference to OHS issues in 2017 were assessed. This means that, for instance, any documents signed or revised after 2017 (e.g., 2019) and that did not provide any information about the year launch, that is, 2017 or earlier, were not taken into consideration during the assessment period. Second, online sources such as companies' official websites were not considered for the purposes of this research, as the vast majority only included the current or previous year's OHS information. Third, our results cannot be generalized as representative of all OHS reporting in the construction industry. This research serves as a starting point for the further analysis of OHS reporting in the industry from different countries. The need

for further OHS reporting is also reinforced by the fact that research on OHS reporting is very limited.

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