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Exploring Supplier Sustainability Audit Standards: Potential for and Barriers to Standardization

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Abstract: Global focal companies are increasingly required and expected to monitor the sustainability risks and activities in their supply chains, which has resulted in increasing supplier sustainability audit activity and growth in the number of sustainability initiatives/associations. While common, shared audit standards were originally conceived to reduce audit fatigue; with overlapping and converging supply chains there could be a need for cross-recognition or standardisation of supplier audit standards. This research aims to provide empirically grounded insight into sustainability audit activity, audit processes and standards for suppliers and the extent to which they overlap. Audit standards employed by eight multi-brand, voluntary sustainability initiatives/associations, focusing on supply chain sustainability (SMETA, PSCI, ICTI, FWF, ASI, JAC, amforiBSCI and RBA) were inductively analysed. This research compares the audit processes and standards, detecting common audit categories, analysing points of overlap and difference. We find empirical evidence of significant growth in supplier sustainability audit activity. We also find overlap among the standards in terms of audit process and steps, as well as at the level of audit focus categories. Deeper analysis reveals large differences at the granular level in terms of questions asked to assess specific topics. We conclude that there is potential for standardisation and cross-recognition but that significant barriers to agreement at the level of audit questions and how topics are evaluated remain. This research provides a first empirical overview of this important tool and its application in various industries for sustainable supply chain management.

Keywords: SSCM; supplier sustainability audits; ethical audits; sustainability alliances; industry initiatives; supplier audit fatigue

1. Introduction

Given that the global supply chains of multinational Focal Companies (FCs) constitute over 80% of trade worldwide [1], it is not surprising that influential FCs are increasingly held accountable for the (lack of) sustainability in their supply chains [2–4]. A mounting body of literature has focused on the importance of the purchasing/procurement function in FCs [5–8] and the strategic necessity of incorporating sustainability into supply chain management (SSCM) [2,3,9–12]. Supply chain sustainability expectations of influential global FCs have been steadily increasing [13–16]. As a result, FCs are expected to take responsibility for improving sustainability in their supply chains [17], by: formulating extensive sustainability requirements, analysing sustainability risks, measuring, monitoring and improving the sustainability performance of their suppliers and communicating about their SSCM activities [1,18–20]. The most common first response by firms to such sustainability expectations of their supply chain management (SCM) has been to formulate codes of conduct for their

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suppliers [21,22]. However, FCs are also required to determine their suppliers' compliance with such codes and monitor suppliers' efforts to improve sustainability in their supply chains [6,23–28].

By 2020 there has been a proliferation of different private, voluntary, corporate sustainability initiatives/associations [29-31] that have developed their own common audit standards. Member companies commission supplier sustainability audits that are carried out against these standards. Companies join such 'strategic alliances' [31–33] for a number of reasons, including to pool resources, increase the scope and reach of their SCM sustainability activities, share sustainability risk management efforts, reduce the redundancy and costs and correspondingly improve the efficiency of such activities [30,34–38]. In the context of SSCM, such initiatives also point to the urgent need to redress supplier assessment fatigue, and specifically audit fatigue [27,36,38–41]. Qualitative, empirical research on the practices and activities of these private strategic alliances for supply chain sustainability are lacking. Based on our evaluation of current SSCM developments, we surmise that the number of supplier sustainability audits is increasing worldwide. We further propose that numerous emerging supplier sustainability audit standards (SSAS), developed by and conducted for the FC members of voluntary sustainability initiatives and associations (SI/As), are potentially similar, both in terms of the audit process and the sustainability topics that they cover. Therefore, such audit standards could potentially be mutually recognised, not just within a SI/A but among different SI/As and thus various industries, and we can postulate about the potential of and limits to standardisation. The objective of this research is to explore and better understand the phenomenon of SSAS, including its prevalence. The researchers aimed to collect and generate empirical data on these audit standards in order to qualitatively analyse and compare them, to determine potential for cross-recognition and standardisation.

Many FCs have broad, complex supply chains that can involve many hundreds, multiple thousands or even tens of thousands of suppliers [14,42–44], meaning that suppliers can often supply parts or provide services to multiple industries. For example, the electronics industry increasingly overlaps with automotive [45] but also toy and children's entertainment industries [46]. Once suppliers are in business with multiple FCs that are members of different SI/As, each with their own audit standard, the chance of suppliers being audited against various, differing audit standards increases. Given a continual growth in SSCM activities [1,17,47–49], it is likely that audit activity will continue to proliferate and hence that more and more suppliers will be audited [50]. Furthermore, voluntary, private industry initiatives, raw material sustainability groups, corporate strategic alliances for supply chain sustainability (and so forth) continue to proliferate and each often employs its own sustainability standards and audits [30,50,51]. This could plausibly lead to an emerging situation of significantly overlapping audit activity and a new type of 'audit fatigue'. No longer caused by the audit requirements of individual global companies, but rather by overlapping, differing SI/A audit standards.

Thus, our research begins by exploring what different supplier sustainability audit standards (SSAS) there are. In this paper we identify eight different SSAS, each from a different industry initiative/sustainability association and analyse them in detail to understand what the supplier audits entail and what aspects of sustainability they cover. We then compare the scope and processes of the SSAS, to better understand the extent to which they overlap and what barriers there are to standardising SSAS, thus reducing supplier assessment fatigue and competition among SI/As. This leads to our research questions:

- RQ1: What are main audit process characteristics of supplier audits developed by multi-brand sustainability initiatives/associations and to what extent are they similar?
- RQ2: What are the main sustainability aspects covered by SSAS developed by SI/As and to what extent does the content of their audit standards overlap?

This research was undertaken based upon the central motivating research proposition that supplier sustainability audit standards (SSAS) are similar both in terms of process and structure, and that therefore, mutual recognition (not just within an industry initiative/corporate association) but also

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among SSAS should be practicable. In order to test this central proposition, we need to answer the research questions detailed above. In the next section we begin by presenting background information and a summary of literature on the development of audits as SSCM evaluation tools and on private sustainability initiatives and associations. We also clarify the term supplier sustainability audit, as this constitutes the unit of analysis for the present research. This is followed by a description of our empirical research approach, outlining which SSAS form the basis of our analysis and how the data was collected, compared and analysed. Thereafter we present our findings, outlining the similarities and differences among the SSAS in our sample. Finally, we discuss the significant similarities found but also the problematic differences at the level of the individual audit protocols/questions, depicting barriers that need to be overcome for supplier sustainability audit standardisation to become a practicable reality.

2. Literature Review

Multi-national companies have profited from globally dispersed supply chains (SCs) for some decades [27,52,53]. However, particularly in the last decade, sustained critical attention and increasing stakeholder pressure have focused public attention on the negative effects FCs have had by pursuing low-price purchasing strategies and critics underline the responsibility that FCs have to improve the sustainability in their SCs [2,7,13,16,54–56]. The emergence of SSCM, which began as a fringe sub-topic of supply chain management [57] can be seen as a response to this stakeholder pressure [2]. The remarkable growth and massive research activity in SSCM attest to the continued academic significance of the topic [3,10,15,58–60], which has also become a seemingly indispensable part of FCs' sustainability activities [2,6,61]. Roy et al. [15] take stock of the approaching overwhelming amount of literature on SSCM and develop a thematic landscape schematisation of SSCM research since 2000, in which they prescribe understanding SSCM as a process that begins with adoption, then implementation and extension, and continues with maintenance and then analyses of outcomes. By contrast, Dubey et al. [58] put forward a schematic categorisation, dividing SSCM into six major areas, each covering multiple SSCM aspects and activities (such as supplier codes of conduct, audits and assessments). Companies often begin with a supplier code of conduct, in which they stipulate their expectations of their suppliers in terms of minimal standards [22,38,62]. Thereafter, companies increasingly begin to apply monitoring mechanisms and tools to be able to prove whether suppliers were adhering to those stipulated standards [1,22] and as a means of sustainability risk management [2,7,63] and supply chain governance [18,24,64]. In the following section we summarise extant literature on supplier assessments in more detail, particularly audits, explaining our choice of the term supplier sustainability audit, narrowing in on the phenomenon of supplier audit fatigue and then finally the emergence of private, voluntary corporate sustainability initiatives and associations for supply chain sustainability. This provides more context for the inductive research at hand, making the gap in empirical understanding evident and the necessity for our research questions clearer.

2.1. Supplier Assessment for SSCM

A number of standard SSCM tools have been identified, which FCs employ to ensure minimum standards, identify and minimise risk and improve sustainability in their supply chains [7,18,25,31,58,62,65]. The most common, easily-implemented tool is the code of conduct for suppliers [22,66], followed by supplier self-assessment questionnaires and then by more resource-intensive supplier audits [1,13,67,68]. A code of conduct outlines a company's expectations of its suppliers' sustainability compliance. Self-assessments and audits can be employed to verify compliance with such codes as well as for sustainability risk management [7,63], to identify, analyse and manage sustainability risks and activities within the FC's supply chains. While pure self-assessment relies on the self-reported estimation of the supplier, audits are normally commissioned by a third party or a downstream SC actor (usually the FC) to determine the sustainability performance of the supplier and whether the supplier conforms with environmental and social sustainability requirements [1,20]. Because many FCs began by administering their own supplier sustainability

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assessments [40,69], many suppliers were subjected to a broad array of similar but different sustainability audits. Before moving on to explore the issue of supplier audit fatigue and the emergence of SI/As for SSCM, we briefly clarify the term supplier sustainability audit, which constitutes the primary focus and unit of analysis of the present research.

Clarification of Terminology: Supplier Sustainability Audits (SSAs)

The term sustainability audits can entail the following types of audits: CSR Audit, Social Audit, Ethical Audit, Environmental Audit, etc., as well as addressing a supplier of an FC. Although we note the use of the term 'ethical audit,' including references to audits of suppliers' sustainable behaviour [39,46,51], we consider that term too broad and open to too much interpretation. For example, ethical audits have been proposed as audits that evaluate a company's latent and manifest alignment in its operations with ethical values [70]. Hence for this research, we prefer the term *supplier sustainability audit* (SSA), which makes it clear that the audits are not optional, voluntary audits (such as SA 8000, ISO 45001 etc.) that an organisation decides to undertake itself, but rather are audits requested, commissioned and demanded by FCs. SSAs encompass audits of the suppliers' operations (headquarters and/or production facilities) with the aim of evaluating the supplier's sustainability practices and compliance with sustainability requirement, including an assessment of both social and environmental aspects of sustainability.

2.2. Supplier Audit Fatigue

Given the noteworthy increase in the focus on SC sustainability and companies' general preference for a voluntary approach to sustainability self-regulation [27,71,72], it is not surprising that there has been a corresponding increase in audit activity, voluntarily commissioned by focal companies [1,38–40,73,74]. The multiplicity of standards and assessments that confront supplier factories can lead to "audit fatigue" [27,38,40,41]. To gain an appreciation of the vast amount of supplier sustainability audit activity occurring, consider that an ethical trade service provider, Sedex, reported having conducted nearly 300,000 audits by 2018 [75]. From an FC perspective it can be a very demanding task to assess the sustainability activities of all direct suppliers in their supply base. Thus, FCs in various different industries join SI/As focused on SC sustainability, in order to pool resources, and implement common supplier sustainability assessment tools and systems [31,76]. Doing so removes the double disincentive of (1) high investment costs in sustainability activities and (2) being the 'only' FC with such demanding expectations of their suppliers [37,38]. Initially such strategic alliances of companies with similar goals led to process standardisation and efficiencies, reducing audit fatigue [38,69], so that suppliers no longer had to respond to the same type of assessment issued by competing purchasing FCs [22,36,37,73]. SI/As not only developed and share their own common audit standard, but also share audit results or even conduct common audit assessments i.e., [19,36,46,68,73,77,78].

2.3. Private Sustainability Initiatives and Associations for SSCM

In 2011, the OECD first released guidelines for multinational enterprises, in which they suggest that FCs engage and encourage their suppliers to improve their sustainability performance [19,20]. Already at that time, the OECD recognised the potential for 'conflicting requirements' that could overlap whereby a supplier is exposed to audits and other SSCM practices of multiple FCs [79]. The OECD guidance also encourages participation in cooperative arrangements among companies, e.g., in a common industry, to advance SSCM by coordinating tasks, including independent audits [12,79]. And indeed, private supply chain initiatives and associations were founded in response to pressure for increased sustainability compliance and monitoring and to fill a gap for such coordinated services [34,80]. Furthermore, they serve as a platform for FCs to exchange good practice regarding standards, processes, tools and approaches to sustainability in supply chain management such as sustainability audits [30,62,65,76,79]. Fransen et al. note that the majority of activity defining "appropriate business practices are taking place in collaboratively developed and governed CSR standards" [81]. They further

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indicate recent work done to compile a database of multi-stakeholder initiatives (for more detail, see M.S.I. Integrity 2017 [29]) and differentiate between different varieties of international CSR standards, private initiatives and associations, based on characteristics such as: composition between civil society, private firms and government, geographic focus on producing countries or buyer countries and degree of formalisation [81].

We note that there has been much focus on multi-stakeholder initiatives [29,37,38,73,82] and that various stakeholders are sceptical of business-driven standards and initiatives [39]. Canzaniello et al. [31] analyse intra-industry multi-brand strategic alliances and note that these are now focusing on collaborating to address supply chain sustainability risks. In a recent analysis of the German context, Mueller and Bessas find that "companies increasingly found or join industry initiatives (Brancheninitiativen) to achieve sustainability in supply chain management" [30]. Such initiatives can be considered strategic alliances [32,33] that involve a formal association of companies (often within a branch/industry) and that use their pooled knowledge and resources to develop common tools for assessing and evaluating supplier sustainability [30,71,83], including standards for supplier sustainability audits. Such initiatives have the potential to achieve consensus around sustainability standards in their respective industry's supply chains and thereby to sensitise suppliers in those respective industries [36]. Despite a seemingly common purpose, Mueller and Bessas find multi-brand supply chain sustainability initiatives and associations to be rather heterogeneous and to demonstrate widely varying focuses for their activities, including a range of instruments and tools [30].

Previous research had focused in depth on one or two initiatives/associations e.g., [36,37,73,84], normally with a specific industry focus or a high-level survey of what initiatives, associations and standards there are (e.g., Newitt [38]). Thus, our research aims to shine light on numerous emerging multi-brand SI/As for supply chain sustainability, to determine the current state of affairs with regard to their audit standards and activity, and then to explore the potential for aligning/standardising such audit standards. As Terwindt and Armstrong [50] convincingly argue, supplier sustainability audits are very much part of the current SSCM reality that has firmly established itself. Hence the onus is on academia to understand this phenomenon and seek to improve it. We began our exploratory research on SSAS by identifying a wide range of examples of such multi-brand, private SI/As that represent activities within and across multiple industries. We wanted to find illustrative examples of shared audit standards that are being employed by private company alliances for sustainable supply chains. The research then involved capturing the number of audits conducted over the last decade and the audit processes entailed in these shared audits. Furthermore, we intended to create a dataset including the structure of each audit standard (including the categories the audits address and specific content of the audit standards and audit protocols in the form of questions). In the following section, we describe the methods employed to identify the standards included in our sample and explain how the data was collected and analysed.

3. Data and Methods

In this section we outline our qualitative, inductive and exploratory research methods [85–88]. This includes how the exploratory research was approached, how the sustainability initiatives and associations (SI/As) with common sustainability audit standards for their suppliers were selected, how the audit data from the identified SSAS was collected and finally how it was collated, analysed and compared.

3.1. Research Approach

Our survey of the extant literature revealed no empirical insights into audit activity, neither an analysis or comparison of audits being employed as part of SSCM, nor a discussion about the implications of parallel audit standards. Discussing exploration as one of three purposes for qualitative research, Yin [88] notes that explorative research fulfils a number of functions while pursuing various research goals. These include an exploration of under-researched phenomena of interest, an account

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of *how* to explore the issue, as well as generating findings that may serve as the basis for more refined research. Our research began in late 2017 with a perceived increasing number of industry initiatives and corporate associations that have developed and aligned their own audit standards for monitoring supplier sustainability. The initial underlying assumption motivating this research was that if there are similar (or divergent/competing) overlapping audits, increasing in number and frequency, being conducted by a broad range of voluntary, multi-brand SI/As, such audit standards could be cross-recognised or eventually standardised to reduce duplication of effort and supplier audit fatigue. Before this proposition could be addressed, the researchers needed to gain a deeper qualitative understanding of what SI/As there are that focus on supply chain sustainability and also employ a common audit standard, conduct audits and share the audit results amongst members. The unit of analysis for this research is the supplier sustainability audit standard (SSAS). Initial SSAS data (such as audit process steps, audit standard structure, sustainability categories focused on and detailed composition down to the level of questions asked) were collected in the form of audit protocol/question catalogues, and analysed and compared in early 2018. The research took an iterative approach to collecting, analysing and generating data, whilst expanding the empirical sample [89].

This research employed an iterative 'purposeful sampling' approach [86,89], aiming to identify an array of standards that would provide rich, empirical data from a range of industries. The initial focus and research on the first few discovered SSAS (belonging to the SI/As: SMETA, ICTI, PSCI and FWF) helped attune the researchers to what to search for and how to collect further data. Once data had been collected and collated for all eight SSAS (see Table 1 below), text analysis, coding and detailed analysis of the audit standard data began in late 2019 and continued into 2020. Finally, in 2020 the researchers contacted various SI/As to gain access to older annual reports, ascertain missing audit number data and for final clarification of findings.

3.2. Data Collection

The research on initiatives and associations began in late 2017. The primary exploratory criteria for including SI/As were: publicly available audit protocols and audit process information; different industry representation; private, voluntary organisations (not primarily multi-stakeholder); and an audit standard that was actually being used and shared among members. Data from the following SI/As were downloaded in early 2018: SMETA, PSCI, ICTI and FWF. The sample was then expanded later in 2018 to include the audit protocols of: ASI, JAC, amfori BSCI and RBA. The intensive data collation and initial analyses began in 2018. All audit standards (SSAS) included in our sample were publicly available via the internet. The content of each audit standard/protocol was copy and pasted or transcribed into various excel tables, in order to compile master lists and a master table, to enable side-by-side comparison of their structure and content. Examples of the audit standard documentation and protocols as well as the tables created to compare and contrast the data can be found in the Supplementary Material.

Once a SSAS had been identified, initially screened for relevance and determined to be included in the sample, the search for different SSAS continued. Once a representative standard had been identified for a particular industry/branch focused association, no more effort was made to find further SSAS in the same industry. Rather, the focus was on other industries to generate a sample that was as broad as possible and hence as indicative as possible of SSAS irrespective of industry affiliation. Consequently, this research involved a comparative analysis of the SSAS of eight identified sustainable supply chain initiatives and associations. The SSAS that comprised our final sample can be found in Table 1.

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Table 1. Research sample of sustainability initiatives/associations & supplier audit standards (SSAS).

Name of SI/A (&SSAS)	Acronym	(SI/A) type [31]: Multi-brand vs. Multi-Stakeholder; Intra-industry vs. Cross-Industry; Horizontal vs. Vertical vs. Mixed	SSAS Documents Accessed/ Downloaded
Sedex (SMETA)	Sedex Members' Ethical Trade Audit	Multi-brand; Cross-industry; Mixed;	July 2018
ICTI (IETP)	Interntl. Council of Toy Industries ICTI Ethical Toy Program	Industry Focus: Toy manufacturing; multi-brand/multi-stakeholder; intra-industry; Mixed	July 2018
PSCI	Pharmaceutical Supply Chain Initiative	Industry Specific: Pharmaceuticals; Multi-brand; Intra-industry; Horizontal	July 2018
FWF	Fair Wear Foundation	Multi-stakeholder; Intra-Industry: Apparel; Horizontal	July 2018
ASI	Aluminium Stewardship Initiative	Industry (Raw Material) Specific; multi-brand & multi-stakeholder; Mixed	Sept. 2018
RBA (VAP)	Responsible Business Alliance (formerly EICC) Validated Audit Program	Multi-brand; Formerly intra-industry—Electronics—now increasingly cross-industry, from horizontal to increasingly mixed (smelters/component processing).	July 2018
JAC	Joint Audit Cooperation	Multi-brand; Intra-Industry (Telecom); Horizontal	Sept. 2018
amfori BSCI	Business Social Compliance Initiative	Multi-brand; cross-industry; Horizontal	Nov. 2018

Appendix D.

Although 11 industry initiatives and associations were initially identified, the actual audit protocols could only be accessed in nine cases. The final sample only includes eight SI/As because after further investigation, it became apparent that GSCP audit standard was more of an ideal for member companies to orient themselves toward, and not a standard that had been broadly audited against. Also, audit numbers could not be disclosed. The chemical industry's Together for Sustainability (TfS) was not included in the comparison because we could not find publicly available information on the audit questions included in their common standard. The conflict free smelter initiative (CFSI, later expanded to become the responsible minerals initiative—RMI) was initially considered, but due to the varying audit types, depending on supply chain role (i.e., whether the auditee is a manufacturer, traders, or processor etc.) could not be considered as one standard and were not comparable with the other unitary SSAS.

The data collected for this research was not intended to be used to create a complete or comprehensive database of all multi-brand SSAS but rather to enable a comparison of SSAS from a broad as possible range of different industries and from associations with different focuses to explore potential differences and similarities in terms of their potential for mutual recognition and standardisation.

3.3. Data Comparison and Analysis

As described in Section 3.1 and evident in Table 1, data collection occurred in a number of phases. This was also applied to the analysis and comparison of the SSAS data that was collected in an exploratory and iterative manner. Once the SSAS audit process and audit composition data could be accessed, it was downloaded. This information was converted into Excel format to enable a disaggregation and then itemisation of individual process steps and audit questions. Once the data had been tabularised and juxtaposed, the SSAS could be better compared. The first comparison involved a

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comparison and analysis of the audit phases and audit process steps of each SSAS. This was followed by an analysis of each SSAS to determine the major categories that comprised the audits, to understand how each of the audits were structured. Once this had been determined, the ensuing categorisations were employed to compare the SSAS in a structured manner (Appendix A). With comparable categorisations we could show the degree to which the SSAS overlapped and resembled each other at a higher level. Further analysis involved determining the number of individual questions to be answered or checked by the auditor on a certain topic as well as specific questions within a main category, to ascertain the potential for cross-recognition among SSAS and perhaps standardisation. In the following section we present our findings based on the explorative research.

4. Findings

Our exploration of various SI/As and the ensuing in-depth analyses of the audit processes and comparison of the content of the eight identified SSAS uncovered a lot of information. Not only could we understand and compare the standards' audit processes, but also the sustainability categories they focused on and the questions asked as part of such shared audits. To get a sense of how much audit activity is occurring (and to test our initial proposition that SI/A audits are increasing) and the scope of SI/A's activities, we compiled data on the number of shared audits conducted yearly by each SI/A (see Table 2).

Sust. Initative/ Association	Total 2010–2019	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Sedex SMETA	156,697	7893	9182	10,291	12,499	14,644	14,749	16,045	19,738	25,476	26,180
ICTI - IETP	29,626	2454	3507	2550	2057	2887	2761	3756	3721	3123	2810
PSCI	984			9	1			83	148	270	392
FWF	1588	8	79	120	175	161	187	220	230	212	196
ASI	80	-	-	-	-	-	-	-	-	16	64
RBA	4186	97	157	348	422	512	504	538	786	822	1007
JAC	539	21	18	35	37	37	61	68	89	89	84
amfori BSCI	124,265	0	0	35	215	9409	16,060	20,034	22,194	26,081	30,237
Total	318,972	10,488	12,958	13,394	15,420	27,665	34,338	40,744	46,906	56,089	60,970

Table 2. Annual Audits conducted by each multi-brand SSA initiative.

In general, as Table 2 depicts, we observe a significant increase in audit numbers (and by inference activity) over the previous ten years, with a total of around 10,000 audits reported in 2010, and over 60,000 audits conducted against the same respective common audit standards by 2019. Some SSAS first began auditing in the last five years but many have been conducting audits since at least 2010. The degrees of transparency surrounding reporting of core facts such as numbers of audits conducted were also highly variable. Some SI/As (IETP, FWF) were highly responsive to our official requests for information, either producing audit statistics on demand and/or directing our attention to old annual reports, not easily found online. Other SI/As only produced audit numbers after repeated inquiry (Sedex, PSCI, JAC, amfori BSCI). Exploring and collecting data on the actual audits conducted and shared helped us to refine our sample; for example, it became clear that the Consumer Goods Forum's Global GSCP (Global Social Compliance Programme) audit standard was more of a reference or best practice benchmark, and not a standard that was being recurrently audited against, the results of which were shared among members.

Furthermore, all initiatives apart from the Fair Wear Foundation (who conduct their own, intensive audits) employed the services of third-party auditors. Hence, we analysed the number, concentration and overlap of auditing companies that were commissioned to audit suppliers according to the corresponding SSAS. Our research shows that there is significant variance among the SSAS, with SMETA currently working with around 60 different auditing companies (as of April 2020), whereas the other SI/AS contracted between 4 and 13 auditing companies, as depicted in Table 3.

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Table 3. Number of auditing companies contracted to audit according to SSAS.

SMETA.	IETP	PSCI	FWF	ASI	RBA	JAC	Amfori BSCI
60	4	12	internal auditors	13	12	4	13

The most frequently contracted auditing service provider was SGS (used by seven of the eight SI/As) followed by Intertek and TÜV Rheinland (who both audit against five SSAS) and Bureau Veritas Certification, ELEVATE and UL—Responsible Sourcing Inc. (each contracted by four SI/As). For a full depiction of which SI/As worked with which audit companies, please consult Appendix B.

In the following, in Section 4.1, we detail the overlaps in the audit process prescribed by each of the initiatives and associations. We then present the findings of our comparison of the audit protocols in Section 4.2, wherein we identify the SSA main categories (such as "no child labour and underage worker protection" and "working hours") and compare their frequency, in order to determine the level of structural overlap among the audit standards. Finally, in Section 4.3, the article focusses more specifically on the level of audit subcategories, which entail the detailed individual audit questions within an audit main category.

4.1. Comparison of Audit Processes for Supplier Sustainability Audit Standards

Analogue to the process of analysis applied to the data, we begin by presenting our findings on the SSAS process. We were able to access the audit process information from eight of the SI/As identified for this research. The majority of the SI/As published their audit process online and these were publicly available. The ICTI Ethical Toy Program (IETP) provided detailed responses to our request for information on common audit process, pointing out that the process differs depending on whether an audit is announced or not. Five common main audit stages were identified: 1. Pre-Audit Planning, 2. Audit Preparation, 3. Audit Execution, 4. Audit Report & Corrective Action Plan (CAP) and 5. Follow-Up, Audit Closure. Stage 3. 'Audit Execution' was the most extensive stage across all SSAS analysed and we identified six audit steps within this phase that were nearly covered by all standards (see stages 3.1–3.6 in Table 4). The SSAS covered in our research demonstrated a high degree of homogeneity, as evident in the small number of exceptions where there was not 100% overlap among the SSAS in Table 4.

Table 4. Audit process phase-overlap among SSAS.

Identified Audit Process Stages/Steps:	Found in How Many SSAS:	SMETA	IETP	PSCI	FWF	ASI	RBA	JAC	Amfori BSCI
Pre-Audit Planning	7	х	0	х	х	Х	0	_	x
2. Audit Preparation	8	X	X	X	0	X	X	X	X
3. Audit Execution	8	X	X	x	X	x	X	X	X
3.1 Opening Meeting	8	•	•	•	•	•	•	•	•
3.2 Site Tour	8	•	•	•	•	•	•		•
3.3 Interviews	8	•	•	•	•	•	•		•
3.4 Document Review	8	•	•	•	•	•	•		•
3.5 Pre-Closing Meeting	7	•	•	•	•	•	•	_	•
3.6 Closing Meeting	8	•	•	•	•	•	•		•
4. Audit Report & CAP	8	x	x	x	x	x	х	x	x
5. Follow-Up, Audit Closure	8	x	x	X	X	0	X	X	x

x = phase covered by SSAS; $\bullet = \text{step covered by SSAS}$; $\bigcirc = \text{phase briefly mentioned}$; $_ = \text{not covered}$.

These findings address our first research question, as they clearly demonstrate that, in terms of audit process phases and steps (prescribed and carried out in thousands of audits around the world) for various industries, the SSAS do overlap to a large extent.

4.2. Common Audit Main Categories among Supplier Sustainability Audit Standards

By extracting the written structures and indexes of the SSAs and collating and juxtaposing them, we found a high level of overlap among the eight SSAS analysed. Thirteen main, common sustainability categories were identified, as displayed in Table 5 below. Of the 13 main categories identified, seven categories were found in all SSAS (marked bold in the table), including: 2. Freely chosen employment, 3. Child labour and protection of underage workers, 4. Fair remuneration, 5. Working hours, 6. No discrimination, 8. Freedom of association and 11. Facility safety systems. Six further main categories were identified that were identified in at least three quarters of the SSAS, but not all. The second column (Count) in Table 5 tallies the number of initiatives/associations that included these categories in their audit standard. The data revealed that, similar to audit processes (refer to Section 4.1 above), the SSAS we analysed demonstrated a high degree of overlap, in terms of their structure, main categories and overarching content.

	Identified Main Categories:	Frequency Count of Categories:	SMETA	IETP	PSCI	FWF	ASI	RBA	JAC	Amfori BSCI
1.	Management Systems	7	х	_	х	х	х	х	x	х
2.	Freely Chosen Employment	8	x	x	x	x	x	x	x	X
3.	Child Labour & Young workers	8	X	x	x	X	x	X	x	X
4.	Fair Remuneration	8	X	x	x	x	x	x	x	x
5.	Working Hours	8	x	x	x	x	0	x	x	X
6.	No Discrimination	8	x	x	x	X	x	X	x	X
7.	Business Ethics	7	0	0	x	_	0	X	X	X
8.	Freedom of Association	8	X	x	x	X	X	X	x	X
9.	Discipline, Discrimination Grievances	7	x	x		X	0	x	0	X
10.	Fire & Emergency	6		x	x	x	-	x	x	X
11.		8	X	x	x	x	X	X	x	x
12.	Environment	7	X	x	x		x	X	x	X
13.	Employment Practices	6	X	x	_	x		x	x	X

Table 5. Main sustainability categories identified and extent of coverage in SSAs.

Category in Bold = covered by all standards. X = SSAS covered topic in detail; x = SSAS includes category; O = SSAS briefly mentions category; O = SSAS only covers similar/neighbouring topic; O = SSAS only covered by SSAS.

However, upon closer inspection, it became clear that some SSAS covered certain main topics in great detail (i.e., with ten or more audit questions solely addressing the specific sustainability issue) and their audit protocols contained many questions to evaluate a supplier's conformance and activity within this category. Other SSAS explicitly mentioned the category as an area of focus but only documented a few questions to be asked about the issue. A few SSAS either did not cover the topic at all or only mentioned neighbouring topics. The extent of coverage is indicated by the symbols in each cell in Table 5 (please refer to the legend). Once we had collated the audit protocols/audits structures and juxtaposed them for clearer comparison, it became apparent that the SSAS covered the categories to differing degrees. The findings presented here in Section 4.2 provide an answer to our second research question ("What are the main sustainability aspects covered by SSAS and to what extent does the content of their audit standards overlap?") by identifying 13 common audit focus categories and confirming that there appears to be a lot of overlap, at least at the structural level of the standards. While the exploratory findings at this aggregated level of comparison are a good indication of audit standard similarity, they certainly do not provide enough information to confirm or refute our initial research proposition, that SSAS could be cross-recognised or potentially standardised.

4.3. Analysis of Sub-Categories among Supplier Sustainability Audit Standards (SSAS)

The preceding sections demonstrated the structural overlaps at the level of sustainability categories identified across most or all SSAS. But how much overlap was there at the detailed level of individual questions, asked as part of each SSAS? Compiling manageable tables from multiple-hundred-page audit protocols was a challenge for this research. In order to present the findings on the limits to

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the overlaps, a much more granular level of detail is required. We selected two common audit main categories (identified in Section 4.2) that feature in all eight SSAS, and compared audit focus areas at the sub-category level (within the category) to demonstrate overlap and differences among the sampled audit standards at a finer level. A more detailed impression of the granular differences and similarities can be gained by consulting the Supplementary Material. We demonstrate findings from two main categories that were found to be included in all SSAS, namely 'working hours' and 'child labour and young workers'. Due to considerations of article length, a further detailed analysis of the main category, 'fire and emergency' (included in six of the nine SSAS), can be found in Appendix C.

4.3.1. Comparison of Findings for Audit Standard Category: Child Labour and Young Workers

Child labour is one of the most prominent and publicly decried social sustainability/human rights issues [90], hence, unsurprisingly, this main category was covered by all SSAS in our sample. A closer look at the number of questions that each audit standard contained on the issue, however, revealed a much more differentiated picture. We found that three quarters of the SSAS analysed had 10 or less audit questions covering the issue of child labour/young workers as tallied in the third column of Table 6. On the other hand, the audit standard employed by amfori BSCI contained more questions (over 80) within the child labour and young workers category than all other standards combined.

	Audit Main Category: Child Labour & Young Workers	
SSAS	Section(s) and reference within respective SSAS:	Nr. of Questions in SSAS
SMETA	4. Child Labour Shall Not Be Used (p. 31–32)	5
IETP	Section 3: Employment Practices (p. 3–5); Section 4: Special Protections (p. 6)	7
PSCI	Labor (pp. 11-14)	3
FWF	Labour standards—No exploitation of child labour (A6: p. 55–56, B4: 68–69, C6: 86, D2: 93)	10
ASI	C. Social—10. Labour Rights (p. 16f)	4
RBA	A. Labor—A2) Young Workers (pp. 14-21)	23
JAC	A—Labour Requirements—2. Child Labour (p. 3f)	4
Amfori BSCI	2.8. Perf. Area 8: No Child Labour (p. 142–147) 2.9. Perf. Area 9: Special Protection for Young Workers (pp. 148–152)	86

Table 6. Number of audit questions on child labour & underage workers per SSAS.

Not only did we discover quantitative variance in the focus of the audits (represented by the number of questions dedicated to a certain main category or sub-category), we also discovered significant variance in the wording of the audit headings and questions. In the examples evident in Table 7 it becomes clear that a range of policies are being focused on by the audits and that different audit standards can ask different questions. Some SSAS want to confirm that no child labour occurs at the supplier site, while others deal with the contextual complexities that accompany the phenomenon of child labour (e.g., prevalence of migratory workers, lack of education opportunities, need to supplement family income, etc.). Differing age limits and cut-offs are named and some SSAS include the neighbouring topic of young workers, whereas others solely focus on child labour.

Table 7. Extracts from SSAS documentation, example questions on Child Labour policies.

		lit Main Category: Child Labour and Young Workers y Focus: Child Labour and Young Workers Policies & Checks
SSAS/Nr. of Questions in Category	Sub-Category:	Example Question(s) from Audit Documentation:
SMETA/ 5 Questions on Child Labour & Young Workers	General: 4. Child Labour Shall not be used	"Policy: No Child Labour Employed Check: 4.A Legal age of employment? 4.B Age of youngest worker found? 4.C Children present but not working? 4.D % under 18's at site (of total workers)? 4.E. Workers under 18 subject to hazardous materials?"
IETP/ 7 Questions on Child Labour & Young Worker	3.1 Policy; 3.3 Underage workers; 4.1 Young Workers	"Policy: Does the factory have a written minimum working age policy in line with legal and IETP requirements? Are the contents of the policy made available and effectively communicated to all workers? Checks: 3.3. Are underage workers prohibited in the factory? Does the factory have no cases of historical underage workers? 4.1. If young workers are present, are they working on allowable assignments, as specified by legal and IETP requirements? Does the factory keep a list of appropriate assignments for young workers?"
PSCI/ 3 Questions on Child Labour & Young Workers	Labour Policy; Child Labor and Young Workers	"Policy: Does the facility have a policy (or statement of commitment) regarding labor practices? Labor policy: Does the policy cover: Prohibition of child labor, etc., Please provide a link to the policy on your web site, or alternatively attach a copy of the policy. Checks: Does the facility ensure that no child labor takes place in their operations? Please list the documents reviewed. Does the facility ensure that workers under age 18 are not involved in hazardous or strenuous or physically demanding work?"
FWF/ 10 Questions on Child Labour & Young Workers	Labour Standards (Sub-Sections: A6, B4, C6, D2)—no exploitation of child labour	"Policy: What is the employment practice and policy of the enterprise regarding age? Since when is this policy in place What is the practice and policy regarding hazardous work (which is not allowed under the age of 18)? Check: How does management check the age of applicants? Is proof of age document kept in the records? Does the management allow juvenile workers (16 to 18 years) the opportunity to apply for a position in the factory? If yes, are there any schemes available to support such workers? In case child labour is found: (1) How many children are found working in the factory? (2) Do they work in specific departments? Are their wages lower than adult workers working in the same department? What document proving your age do you submit when applying for a job in this factory? Have you seen child labour in any other section of this industry? E.g., in the subcontracted jobs? C6. Labour standards—No exploitation of child labour In case child labour is found, check whether children are working in specific departments or/and are paid lower than adult workers hired for the same job? D2. Labour standards—No exploitation of child labour Are apparently young workers present? Do you get the impression that some workers are fleeing or kept out of sight? If so, find out why this has happened."
ASI/ 4 Questions on Child Labour & Young Workers	Sub-section 10.2: Child Labour	No Policy Question; " <u>Check</u> : The Entity shall neither use nor support the use of Child Labour as defined in ILO Conventions C138 and C182, and shall comply with related national and international law A basic minimum working age of 15 years. Not engaging in or supporting Hazardous Child Labour. Not engaging in or supporting Worst Forms of Child Labour."
RBA/ 23 Questions on Child Labour & Young Workers	A2 Sub-section Young Workers	"Policy: A2.1-Workers are not below minimum age. Checks: Records: (a) Personnel file sample shows all workers are above minimum age or above company policy minimum age (whichever is greater). The worker roster shows all workers are above minimum age or above company policy minimum age (whichever is greater). Auditors need to ensure that sample covers all types of workers/employees. Policy: A2.2-An adequate and effective policy and process is established to ensure that workers below the legal minimum working age are not hired either directly or indirectly via labor agencies/contractors. Checks: There is a reliable ID verification system to control the workers' access into the facility. Auditee does not refuse the worker's job application after the "child" worker's age meets legal requirements. Underage assistance: There is a procedure to assist underage children found working for the Auditee that is designed to provide for the welfare of the child. Inspect and cross-reference to verify the validity at least two types of official ID *. Reliable ID verification system to control the workers' access into the facility e.g., finger printing or ID card with owner's photograph to prevent under-age workers entering the facility by using another person's ID. ID types for verification and cross-reference."

Table 7. Cont.

		lit Main Category: Child Labour and Young Workers y Focus: Child Labour and Young Workers Policies & Checks
SSAS/Nr. of Questions in Category	Sub-Category:	Example Question(s) from Audit Documentation:
JAC/ 4 Questions on Child Labour & Young Workers	Sub-section A2.: Child Labour	"Policy: Child Labour (1) is strictly prohibited. No person is employed who is below the legal minimum age for employment. Check: Where no local legislation exists to define the minimum legal age, no person is employed below the minimum age which is the age of completion of compulsory schooling, or not less than 15 years (or not less than 14 years, in countries where educational facilities are insufficiently developed) in accordance with international conventions. Policy: Children under the age of 18 shall not be employed for any hazardous work or work that is inconsistent with their individual development. Check: Where no local law exists to define working hours and working conditions for children under the age of 18, the Supplier should not employ them for work that is hazardous, unsafe or unhealthy such as among others: work with dangerous machinery, equipment and tools, or work which involves the manual handling or transport of heavy loads, work in an unhealthy environment that may, for example, expose children to hazardous substances, agents or processes, or to temperatures, noise levels or vibrations damaging to their health"
Amfori BSCI/ 86 Questions on Child Labour & Young Workers	2.8 No Child Labour & 2.9 Special Protection for Young Workers	"8.1 Policy: Auditee does not engage in illegal child labour directly or indirectly. If child labour is found during the audit, immediate actions (defined in SSAS) shall be taken by the auditor at that very moment. Check: The auditee has taken the necessary measures to: - Understand what child labour is, building the awareness of supervisors and recruitment staff Identify likelihood of child labour in its industry or region (some industries have a higher risk of child labour than others) Not engage child labour indirectly (e.g., using recruitment agencies, allowing migrant/seasonal workers to use their own children to support them at work). The auditee keeps accurate records of: - Migrant and/or seasonal workers' children's names, ages, school schedules and information on their schools. - Age and identity cards of workers engaged via recruitment agencies Agencies' recruitment procedures to avoid engagement of children or illegal workers (among others). - The auditee keeps contact details of the stakeholder(s) to be involved in the solution of child labour cases 8.3 Policy: The auditee has adequate policies and procedures in writing toward protecting children from any kind of exploitation. Check: If procedure outlines: Necessary steps to ensure children are protected from exploitation; How to deal with the case of child labour in the most responsible and humane way. Business based in a region where family poverty driving force behind child labour? Any child labour programme or projects run in the area by government, NGOs or others? Any trade union which could provide support in cases of child labour? Any educational or vocational training facility nearby or in the regional vicinity? Are there available contact details and/or schedules? Can the education or social welfare authorities provide assistance? Is there financial compensation available for children to stop working so they can go to school?"

 $[\]ensuremath{^*}$ Please refer to References Section for a full list of links to audit standard materials.

4.3.2. Comparison of Results for Audit Standard Main Category Working Hours

Working hours can be seen as an indicator of the general working conditions at a worksite and excessive working hours can potentially be a quantitative indicator for more complex sustainability issues [13,91]. Thus, as with the main category "Child Labour" above, we found that all SSAS addressed this topic. However, the distribution of focus was equally split into three SSAS groups: audit standards with a minor focus on the issue (six or less questions on the issue), SSAS with a moderate focus (between 10 and 20 audit questions) and SSAS that focused in detail on the category, containing over 20 questions to assess the topic (see Table 8 for more details). As detailed in the case of Child Labour (Section 4.3.1 above), we again find that the RBA and amfori BSCI standards are the most exhaustive in terms of questions focused on working hours, but that the Fair Wear Association also had a significant of focus on this topic within their standard.

	Audit Main Category: Working Hours	
SSAS	Section(s) and Reference within Respective SSAS:	# Questions
SMETA	6: Working Hours are not Excessive (pp. 37–41)	15
IETP	Section 5: Working Hours (pp. 7–10) Section 8: Forced & Prison Labor (pp. 17–19)	13
PSCI	Labour (pp. 11–14)	3
FWF	Labour standards—No excessive working hours (A6 p. 59f, B4: 73, C6: 89, D2: 93)	21
ASI	C. Social—10.8 Working Time (p. 16f)	1
RBA	A. Labour—A3) Working Hours (pp. 22–29)	32
JAC	A—Labour Requirements – 4. Working Hours (p. 4)	6
Amfori BSCI	2.6. Performance Area 6: Decent Working Hours (pp. 114–118)	30

Table 8. Number of audit questions on working hours per SSAS.

A closer, comparative look at the detailed questions on working hours revealed interesting findings. There is much focus on maximum work allowed in a week/average workload over a defined period (month/year), with nearly all audit standards explicitly referring to a 48-h or maximally accepted 60-h working week. However, only five of the SSAS analysed appeared to require auditors to check if and how working hours were being recorded, measured and collected. In Table 9 we present the SSAS' questions used to determine how suppliers deal with the issue of excessive working hours, overtime and breaks, including what methods are used to track time worked.

A close reading of the detailed depictions of individual audit questions and checks as stipulated by all SSAS in our comparison demonstrates a significant range of approaches both in terms of depth and breadth. After this presentation of the findings across all eight SSAS and the two exemplary in-depth comparisons of how sub-topics were dealt with in the eight SSAS, we now turn to a discussion of these findings. We discuss how they relate to both our research questions and the guiding research proposition and what implications these findings might have for practice and academia.

Table 9. Extracts from SSAS documentation, example questions on Working Hours
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	Main Category: Working Hours; Sub-Category Focus: Recording/Documenting Excessive Working Hours				
SSAS/Nr. of Questions in Category:	Sub-Category:	Example Question(s) from Audit Documentation:			
SMETA/ 15 Questions	6: Working Hours are not Excessive (p. 37–41); Working hours' analysis	"Systems & Processes to determine working hours are not excessive: A. What timekeeping systems are used: time card etc.? B. Is sample size same as in wages section? F: Are workers provided with at least 1 day off in every 7-day-period, or 2 in 14-day-period: (Please select applicable: 1 in 7 days, 2 in 14 days, No; Is this allowed by local law?; Maximum no. of days worked without a day off (in sample). Overtime Hours worked: I: Actual overtime hours worked in sample (State per day/week/month): Highest OT hours:? J: Combined hours (standard/contracted plus= total 60) found?"			
ICTI/ 15 Questions	Section 5: Working Hours (p. 7–10)	"5.2 Documentation: Are all hours worked documented? Are all hours worked documented? Are all hours worked documented? Are workers aware of, and able to verify, their working hours in their time records? 5.3 Working Hours: Are maximum weekly working hours within IETP requirements? 5.4 Breaks: Are workers aware of, and able to verify, their working hours in their time records?"			
PSCI/ 3 Questions	Section: Labour	"Does the total number of weekly working hours (including overtime) per employee not exceed 60 h (as required per ILO standard on maximum working time of 60 h per week) or less if defined so by local law?"			

Table 9. Cont.

	Main Category: Working Hours; Sub-Category Focus: Recording/Documenting Excessive Working Hours				
SSAS/Nr. of Questions in Category:	Sub-Category:	Example Question(s) from Audit Documentation:			
FWF/ 21 Questions	Labour standards—No excessive working hours (A6 p. 59f, B4: 73, C6: 89, D2: 93)	"A6. Labour standards – No excessive working hours: What are the normal working hours, normal working week, for men and women? Management asked to explain the enterprise's overtime policy. Specific questions: What are the usual low and high season periods? How were they over the last year? How often does overtime occur? Which workers work overtime? What are the causes of overtime work; can the FWF member enterprise help to reduce overtime? Is this documented? Is there a documented working time register? B6. Labour Standards: What are the normal working hours, normal working week, holidays? Is this documented? What are the usual low and high season periods? How were they over the last year? How much overtime has the interviewee recently made. Try to get a picture as precise as possible, so that the records inspector can crosscheck it. Check for possible gender discrimination if overtime premium payments are paid. Who allocates overtime shifts? Do piece-rate workers make overtime because otherwise they cannot reach their production targets? Is there gender discrimination in the type of payment system—for example are most women on piece work while men are more likely to be able to earn premium rates for overtime?"			
ASI/ 1 Question	10.8 Working Time	"The Entity shall comply with Applicable Law and industry standards on Working Time (including Overtime working hours), public holidays and paid annual leave."			
RBA/ 32 Questions	A. Labor – A3) Working Hours (p. 22–29)	"A3.1 Hours worked in a workweek over the last 12 months does not exceed 60 h. Check Records: (a) Mandatory sample size of individual time records as well as summary reports, show the number of hours worked - including overtime - per worker per week should not exceed 60 h. A3.3 Adequate and effective policy and system/procedures are established to determine, communicate, record, manage and control working hours including overtime, including reliable and detailed records of workers' regular and overtime working hours. Check Policy: (a) Adequate and effective working hours/days off policies and procedures are in place to (i) Accurately determine (ii) Record (iii) Manage (iv) Control working hours including overtime and days off. (b) If non-conformance is detected, documented corrective action should be implemented and progress against the corrective action documented. Additional Records Checks: (a) Review the company's time records and system for recording time worked to determine that time is recorded accurately and completely. Additionally check: (b) All workers have a time record. (c) Each time record is accurate and can be cross-referenced with leave records, production records, maintenance, procurement or other relevant records. (d) Regular working time and overtime recording. (e) Adequate detail to allow for daily, weekly and monthly working time and overtime analysis. Recording devices: Time Recording Devices are present and all are in working order."			
JAC/ 6 Questions	4. Working Hours	"The Supplier shall ensure that normal working hours and overtime of individual employees do not exceed the maximum of limits set by local law. Where no local law defines a working week/overtime, Supplier expected to adopt the following: (a) a normal working week in line with ILO Convention in respect of applying the principle of the 8-h day or of the 48-h week and (b) overtime in line with limits as specified in SA8000: (i) in respect of 12 h overtime per week and (ii) in respect of one day off following every six consecutive working days."			
amfori BSCI/ 30 Questions	6. Decent Working Hours	"6.1 Is there satisfactory evidence that the auditee does not require more than 48 regular working hours per week, without prejudice to the exceptions recognised by the ILO? Are workers aware of the regular working hours and possible exceptions? Are exceptions documented and made available? 6.2—Is there satisfactory evidence that the auditee request of overtime is in line with the requirements of the amfori BSCI Code of Conduct? 6.3—Is there satisfactory evidence that the auditee grants workers the right to resting breaks in every working day? 6.4—Is there satisfactory evidence that the auditee grants workers the right to at least one day off every seven days?"			

5. Discussion

We began our research with the general observation and underlying hypothesis that supplier sustainability audits are increasing in number and scope worldwide. We noted that multi-brand, voluntary sustainability initiatives/associations (SI/As) have created their own audit standards and proposed that these audit standards are probably similar and therefore that the standardisation of such SSAS may be a possibility. In the following we begin with a discussion of our findings and how these findings relate to our assumptions, propositions and helped us to answer our research questions.

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Thereafter we point out the limitations of this research and make suggestions for further research before concluding the section by highlighting the relevance and implications for practice.

5.1. Discussion of Exploratory Findings

Our exploratory research of hundreds of pages of audit standards and protocols and numerous SI/A annual reports understandably generated an enormous amount of data. To make sense of the key findings we can categorise them into five discussion points: (Section 5.1.1) increasing audit activity; (Section 5.1.2) very similar audit processes; (Section 5.1.3) broad landscape of auditing companies; (Section 5.1.4) audit category overlap; (Section 5.1.5) divergent audit detailed content.

5.1.1. Increasing (SI/A) Audit Activity

Our findings, depicted in Table 2, certainly agreed with our assumption that supplier sustainability audits (carried out for SI/As) are increasing. We discovered an apparent proliferation of audit activity happening within and across various industries, conducted by both-stakeholder driven initiatives (such as FWF) and multi-brand associations (the majority of our sample), some with a longer history (such as the toy industry and BSCI) and others much more recently (e.g.: ASI, PSCI). Larger organisations like amfori BSCI and Sedex have conducted over 100,000 supplier sustainability audits each in the last decade. The other SI/As together accounted for around 38,000 audits in the same time frame. Our data denotes a growth in over 50,000 more audits per year in 2019, compared to the baseline in 2010. This represents a remarkable 481% growth in audit activity from 2010 to 2019 among the initiatives/associations included in this research. In surveying the SSCM literature we did not discover empirical research or data that gave a clear indication of actual supplier sustainability assessment activity; thus, these findings contribute to addressing such a gap. Many SI/As indicate that a desire to reduce redundant activity, improve efficiencies and reduce supplier audit fatigue were the reasons for coming together as an industry or association. However, given that only the eight SSAS that we explored were applied in the form of over 60,000 audits in 2019, we can only hope that these audits do not involve double auditing of suppliers according to different (competing) SSAS. Also given the trend that we have captured over the last ten years, we see support for the move toward standardisation, so that if audit activity continues to grow at such a pace, suppliers will be held up to the same standards.

5.1.2. Audit Process Similarity

Our first research question pertained to the main audit process characteristics and the extent to which these might overlap. Our comparative research and analysis of the standards found that SSAS *processes* are very similar. Recalling the findings in Table 4, our exploratory research revealed that eight SSAS have established nearly identical audit processes. Nearly all SSAS had the same wording when it came to audit phases and there was also a high degree of overlap when it came to the sub-phase audit steps for carrying out the audit execution itself. Common sense reassures us that most audits would need to be prepared, conducted and followed up, which is what the identified common phases conform to and such audit steps are probably neither specific to supplier audits nor sustainability audits. Hence, it is conceivable and possible that such SSA could be standardised, at least from a process perspective.

5.1.3. Audit Company Landscape

All SI/As included in our research, apart from FWF, do not conduct the audits themselves and thus hire external auditing companies to audit suppliers against their standards. We found some significant overlap among the initiatives/associations in terms of the auditing companies whom they partner with (recall Table 3, see Appendix C for greater detail). There was particular convergence on the companies Intertek, TÜV Rheinland, Bureau Veritas Certification, ELEVATE and UL—Responsible Sourcing Inc, who were contracted by at least half of the SI/As surveyed. In terms of our research proposition and questions, we argue that—from the perspective of the service providers—the potential for alignment and standardisation is demonstrated by globally distributed and different auditing companies carrying

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out audits against the standards. Thus, assuming alignment among different initiatives, in terms of the focus of audits, the questions to be asked and the length of the audits necessary, we see the potential for standardisation.

5.1.4. Audit Standard Categories

As demonstrated in Table 5, our analysis of the eight available supplier sustainability audit protocols and documents revealed 13 main sustainability categories that were found in all, or the majority, of the SSAS. This clearly demonstrates that, at the structural level of the audit, the SSAS have a high degree of thematic overlap, which has been pointed out in the literature (see for example: 81 for a summary of proliferation of private, voluntary supply chain standards). Despite the organisational, industry, size and temporal differences among the SI/As included in our research, we found that the SSAS were focussing on remarkably similar topics at a higher level. We surmise that this sample probably reflects the spectrum of sustainability challenges and risks in global value chains [59]. It also points to a degree of convergence and emerging consensus on what constitute important sustainability risks, that need to be monitored and managed at supplier locations [63]. This discovered SSAS overlap gives the impression that our initial proposition, that SSAS are similar and could be standardised, is plausible. Had our analysis and comparison stopped at this level of analysis, we could infer that there is a lot of potential for standardisation and cross-recognition of each other's standards, as all standards were dealing with the same aspects of sustainability.

5.1.5. Audit Standard Detailed Content

As depicted in Table 5, different audit standards covered different categories to varying degrees of detail. This research is not evaluating which standards are better, or arguing that more questions are necessarily a sign of quality, but rather highlighting the detailed differences between standards. While the main categories demonstrate much intersection, there were also specialist categories, such as responsible raw material sourcing, that were more pertinent to certain associations/industry initiatives (e.g., RBA, ASI). Due to constraints of length and complexity, it was not possible to compare every sub-topic and outlying question that was possibly present in only one SSAS. Hence this research is intended to be exemplary, rather than exhaustive; providing an exploratory insight into potential convergence among audit standards. Other SSAS were initially conceived as a tool for social sustainability monitoring (not environmental) and thus did not cover the ecological category in as much detail/at all. We surmise that this broad sustainability category alignment among the SSAS potentially reflects iterative processes that occurred within each initiative/association. When considering the potential for standard alignment (as currently being undertaken by the Sustainable Supply Chain Initiative—SSCI) it would be necessary to find broad agreement first among members in such multi-brand/multi-stakeholder associations, as member would presumably not agree to implement a shared audit standard that was considered inadequate or insufficient, compared to the standard they are currently used to applying. Standardisation should not cause a race to the bottom or force agreement on the lowest common denominator. Once such private/voluntary organisations agree to adopt a global, inter-operative standard, only then could the difficult process of alignment on the details begin.

5.1.6. Potential/Limitations of Audit Standardisation

Our more detailed analysis of the content of the audit categories revealed wide divergence in terms of the number of questions on sustainability aspects within that category, differentiated sub-categories, as well as much variance in the number and type of questions that are posed to the supplier. There are no doubt plausible explanations for why one initiative/association thought that category 'XYZ' could be adequately evaluated with three questions, whereas another initiative determined 40 questions to deal with the topic. Moreover, as critical literature has repeatedly pointed out, having many well-formulated questions, excellent audit statistics and documentation does not necessarily reflect

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audit quality, let alone guarantee effectiveness [50,72,83,92,93]. Nonetheless, this divergence in audit questions poses an array of fundamental challenges to our major proposition of standardising such SSAS to reduce inter-industry audit fatigue. In order for audits to be able to be mutually recognised or standardised, there would have to be overarching alignment that ensures agreement on a standard audit process and more pertinently on common audit categories that comprise an acceptable audit (which our research showed), as well as the questions asked/contained in audit protocols. Furthermore, it remains to be seen whether companies/initiatives are willing to accept an audit that they have not designed themselves.

Designing a type of global audit standard that could be applied across diverse industries and supply chain stages and in all geographies would require a form of governance discussion among existing standards (and others not covered by this paper) and a long process of discussion about which categories, sub-categories and questions must be included (or excluded). Moreover, a solution would need to be designed to account for certain specialty areas, which are of key concern for particularly industries, but not relevant enough to be included in a global, general audit standard. Perhaps this would require an international, independent body (such as the UN, ILO or OECD), involving broad worker-participation and civil society representation [94] to bring in an aspect of arbitration and legitimacy for such a standardisation project. Given the lack of such overarching hybrid governance [64] on global value chains at present [71] and the how arduous such a global supplier sustainability audit standardisation process would be, it is worth critically considering whether such standardisation is realistic at present and worth pursuing in the future. This needs to be weighed up against the apparent continual increase in auditing activity and the self-fulfilling nature of more activity that could eventually see (sub-)suppliers serving various industries being audited multiple times by different initiatives/associations—for example electronics sub-suppliers that produce components for the toy, automotive and mobile devices industries [45,95].

Critical literature continues to query the effectiveness of sustainability audits [93], particularly as a stand-alone instrument [13,72,83], and challenges the legitimacy and independence of auditing companies [96,97]. Some authors note that effectiveness depends on institutional pressure and follow-up activities for audits to address problems and support their improvement [13,72,92]. In the context of our research, it can be argued that standardised and shared supplier assessment [76], such as supplier sustainability audits, should also aim to improve their effectiveness. Standardising better audit standards would free up both suppliers' and focal companies' resources (time, budgets and personnel) by reducing redundant/overlapping audits and thereby allow both suppliers and FCs to focus more on addressing the identified gaps and other sustainability problems. Whilst noting valid concerns in critical research on audits, our research provides empirical evidence of how well-established supplier sustainability audits have become. As Terwindt and Armstrong [50] argue, such audits are here to stay, and we reveal the scope they cover and demonstrate that they are increasing in number. Therefore, it makes sense to research this phenomenon in further detail and contemplate standardising them to reduce redundant activity and increase their effectiveness as a tool for SSCM.

5.2. Recommendations for Further Research

Our research was exploratory in nature as no other research could be identified that compared so many common supplier sustainability audit standards, despite the key role that such audits fulfil in current SSCM strategies, approaches and toolkits. While we discovered and analysed audit standards that had been applied in over 300,000 supplier audits (recall Table 2.), the authors are cognisant of the inbuilt limitations that accompany inductive reasoning [85], namely how generalisable such findings might be. We endeavoured to counteract this by including established standards, new standards, large and smaller SI/As and including SSAS from different industries. Nonetheless, more research and more empirical data to build on and extend our findings could be useful. Much SSCM literature treats these monitoring instruments as neutral tools [58,62] taken in a positivistic sense and considers them to be self-explanatory, objective measuring devices to carry out SSCM.

However, it is important to recognise the many critical voices that question the effectiveness of audits specifically [91,92] and the self-legitimising nature of private, voluntary self-regulation by companies in general, as generating a type of pseudo-legitimacy and technocratic distraction from more systemic issues [64,84,98]. Further research should aim to bridge the gap between critical literature that fundamentally questions the validity of the instruments and the private-voluntary governance that surrounds them on the one hand, and SSCM/operations/international business research which tends to approach the tools, structures and mechanisms in an apolitical manner.

We noted two cases in the extant literature, where databases have been created, to gather empirical data on the sustainability activities of companies [1] and on the array of multi-stakeholder industry initiatives for sustainability [29]. The former had a limited industry focus (food/produce, wood/timber and textiles/apparel) and the latter primarily focused on initiatives with a strong civil-society, multi-stakeholder component, but only covered a few multi-brand, voluntary initiatives such as those covered in more depth in this research. Future research could draw on all three approaches, to more comprehensively cover the overlaps among different types of initiatives. While the empirical reality of SSCM (as it is practised), is being documented, continued research should focus on long-term impact and improvement resulting from the increased audit activity. The question of auditor neutrality, auditor accountability and effectiveness must also be brought into the management and SSCM considerations [4,96]. The persistence of serious problems in the conduct and thus results of audits presents serious risks for the legitimacy of such programmes and the results that FCs report based on such audits. As Fransen et al. [81] argue, there is clear need for an integration of insights gained in global governance literature, political economy, labour relations and compliance and international business, specifically SSCM research. Researchers should also continue to undertake critical research into the actual effectiveness of audits, both in terms of genuinely reducing risk exposure and in terms of improving sustainability performance and conditions in the supply chain. This research must, however, consider that audit activity is increasing and attempt to address the reasons for why this is the case. Finally, SSCM and global value chain (GVC) governance research could and should collaborate, building on this paper by suggesting a standardised audit standard, with modular additions (for specialist areas), as well as accountability measures, and survey the potential openness and acceptance among various supply chain actors and stakeholders for such an idea.

5.3. Relevance for Practice

Our findings will hopefully serve as a good benchmarking reference for practitioners who want to gain insight into a cross-section of current supplier sustainability audit activity. We also anticipate that this research could be an important reference for future supply chain initiatives that are yet to design and/or align on a common audit structure. Governments, focal companies, suppliers, workers and NGOs should continue to critically analyse the efficacy and presumed role that audits play in addressing sustainability issues in global value chains. Audits are increasing in number, despite the standardisation (and intended reduction in redundant re-auditing) and audit sharing that is occurring within multi-brand and multi-stakeholder initiatives. Fair Wear Foundation has taken note of critical inquiry into the limited effectiveness of monitoring (e.g., [73,83]) and consequently endeavoured to develop a holistic and more collaborative approach to improving conditions at suppliers' factories, whilst also holding participating brands more accountable to their commitments to sustainability improvement [68]. Many other sustainability initiatives/associations (SI/As) surveyed in this research increasingly stress that audits are an important measuring tool, but that the important focus needs to be on what is done with the results of audits [46,68,78]. SSCM tools cannot be considered in a vacuum, independent of questions of accountability and governance.

Suppliers should assess the varying audit requests they are receiving and point out the overlap to the buying companies/customers requiring them to undertake such audits. Industry initiatives/sustainability associations should enter into dialog with other organisations that employ a similar audit standard (they could draw on our research to demonstrate such overlaps) and consider

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steps towards reducing audit fatigue among suppliers that supply to multiple industries. The SSCI is currently one vehicle for sustainability standards to undergo a benchmarking and it is plausible that this organisation could play a key role in supporting cross-initiative standardisation [99]. Further attention should be paid to developing review and effectiveness management into all supply chain audit schemes, ensuring a race to the top in terms of better standards; not a race to the bottom, in which companies pick the easiest standards with the least accountability.

6. Conclusions

Sustainability is increasingly becoming a central tenet of many discourses and global supply chains are no exception to this trend. Focal companies have developed numerous strategies and tools to manage sustainability risks in their supply chains. This qualitative research focused in-depth on sustainability audits as a core element of SSCM toolkits. The research contributes to literature on SSCM, sustainability/ethical audits and sustainability initiatives by providing empirical evidence for an increasing amount of global audit activity and by describing how supplier audit standards are structured and differ. Global FCs are increasingly combining their efforts in multi-brand SI/As to pool resources, share good practices and to reduce supplier audit fatigue and redundant activities. We identified eight supplier sustainability audit standards (SSAS) from differing industries and found that supplier sustainability audit activity is increasing. Our inductive analysis of the data collected confirmed our underlying research assumption and we found very similar processes for conducting supplier sustainability audits and some convergence in the choice of service providers for such audits. Qualitative text analysis of the SSAS also demonstrated a high level of overlap in terms of the structure of the audits (sustainability issues covered as main categories). However, at a granular level, the SSAS were highly heterogenous. Thus, whilst standardisation of SSAS is conceivable, it would be much more complex than initially hypothesised. This is because audit standardisation would mean alignment of SSAS at the micro-level of the audit protocol questions, which would entail broad-ranging, granular agreement and conceivably necessitate an arbitrating governance body that could determine which aspects of which SSAS could become the one global standard. Given the evidence we found for increased global audit activity, it would be advisable to understand these critical SSCM tools in more detail, and work to make them more effective and standardisable to further reduce audit fatigue and free up supplier and FC resources for implementing continuous sustainability improvements in global supply chains rather than just monitoring supplier compliance.

Supplementary Materials: The following are available online at http://www.mdpi.com/2071-1050/12/19/8223/s1. Working Tables Collating and Comparing Audit Protocols, and all relevant audit documents from the sustainability initiatives/associations that featured in this research.

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Conflicts of Interest: The authors declare no conflict of interest.

Appendix A. Comparison of SSAS Categories

Table A1 depicts an overview of the 13 identified sustainability categories contained in the audit standards, and the respective SSAS chapters that cover related issues.

Table A1. Sustainability category coverage by supplier sustainability audit standard.

No.	Category	SMETA	ICTI	PSCI	FWF	ASI	RBA (EICC)	JAC	Amfori BSCI
1	Management System	0B. Management systems & code implementation	(brief mention) 1: Audit Process 7.1 Policy	A. Management Systems	A1. Basic facts; B1. General; A5, C5. Factory Management system; A3., C3. FWF Affiliate's System to monitor & remediate working conditions	Policy and management Transparency	E. Management System	E. Measurement & Continuous Improvement	1: Social Management System and Cascade Effect
2	Freely Chosen Employment	Freely chosen Employment	8. Forced and Prison Labour	C. Freely Chosen Labour	A6., B4., C6., D2 Employment is freely chosen	10.3 Forced Labour	A1) Freely Chosen Employment (1.1, 1.2, 1.5)	3. Forced Labour	11: No Bonded Labour
3	Underage/Child Labour	4. Child Labour	3.1 Policy, 3.2 Training; 3.3 Underage Workers; 4. Special protections (Young/Pregnant Workers)	C. General, Child Labour and Young Workers	A6., B4., C6., D2. No exploitation of child labour	10.2 Child Labour	A2) Young Workers	2. Child Labour	8: No Child Labour 9: Special Protection for Young Workers
4	Fair Remuner-ation	5. Living Wages and Benefits 6: Working Hours are not Excessive	6. Compensation	C. Wages, Benefits, and Working Hours	A6, B4, C6. Living wage A6., B6. Legally binding employment relationship; B4. Employment freely chosen; A6. No excessive work hours	10.7 Remuneration	A4) Wages and Benefits	5. Fair Remuneration 4. Working Hours	5: Fair Remuneration 6: Decent Working Hours
5	Working Hours	6. Working Hours	5. Working Hours 8: Forced and Prison Labour	C. Wages, Benefits, and Working Hours	A6., B4., C6., D2. ◆ No excessive working hours	10.8 Working Time	A3) Working Hours	4. Working Hours	6: Decent Working Hours
6	No Discrimination	7. Discrimination	9. Discrimination	C. • Non-Discrimination and Fair Treatment	A6., B4., C6., D2. No discrimination in employment	10.4 Non-Discrimination	A6) Non-Discrimination	7. Discrimination	4: No Discrimination
7	Business Ethics	10C. Business Ethics	2. Business Ethics	B. Ethics	(brief mention) A2., B2., C2. Sourcing practices of the FWF affiliate	(brief coverage) 1. Business Integrity	D. Ethics	D—Ethics & Anti-Corruption	13: Ethical Business Behaviour
Category #	Sustain-ability Category	SMETA	ICTI	PSCI	FWF	ASI	RBA (EICC)	JAC	amfori BSCI
8	Freedom of Association	2. Freedom of Association and Right to Collective Bargaining	10. Grievance Mechanisms	C. • Freedom of Association	A6, B4, C6, D2.freedom of association & right to collectivebargaining; A4, B3, C4, D1 communication, consultation & grievance procedure	10.1 Freedom of Association & Right to collective Bargaining; 10.5 Communication & engagement	A7) Freedom of Association E7) Communication E8) Worker Feedback and Participation	8. Freedom of Association & Right to Collective Bargaining	3: The Rights of Freedom & Association and Collective Bargaining 2: Workers Involvement & Protection
9	Discipline, Discrimination & Grievances	9. Harsh or Inhumane Treatment	7. Disciplinary Practices 9. Discrimination 9.3 Reporting Mechanismpartially 10: Grievance Mechanism	No Mention //	A4., B3., C4., D1. Communication, consultation and grievance procedure (partly)	(Limited coverage) 10.6 Disciplinary practices	A5) Humane Treatment	6. Disciplinary Practices	4: No Discrimination – 4.3

Table A1. Cont.

No.	Category	SMETA	ICTI	PSCI	FWF	ASI	RBA (EICC)	JAC	Amfori BSCI
10	Fire & Emergency	No Mention //	12: Fire & Emergency	Health & Safety Compliance and Risk Management – Emergency Preparedness & Response, Hazard Information	D2. Labour standards – OHS Requirements tick list (partly)	(Limited coverage) A. Governance – 2. Policy and Management (2.6 Emergency Response Plan)	B. Health & Safety – B2) Emergency Preparedness	(Limited coverage) B—Health & Safety—13. Accident and Emergencies Readiness	7: OHS – 2.7.6. Accident & Emergency Procedures; 2.7.9. Escape Routes & Emergency Exits
11	Facility Safety & Hygiene	3. Safety and Hygienic Working Conditions	13. Environmental, Health & Safety 11. Facilities	E. Health & Safety Compliance and Risk Management	A6., B4., C6., D2. Safe & healthy working environs, OHS Requirements	11. Occupational health and safety	B. Health & Safety	B—Health & Safety	7: Occupational Health and Safety
12	Environment	10B2. Environment 2-Pillar; 10B4. Environment 4-Pillar	13.12 Environmental	D. Environmental Protection	No Mention //	B. Environment	C. Environment	C- Environment	12: Protection of the Environment
13	Employment Practices	8. Regular Employment 8A. Sub-Contracting & Homeworking 10A. Entitle-ment to Work & Immigration	3. Employment Practices	C. Freely Chosen Labour	A6., B4., C6., D2. Legally binding employment relationship	No Mention //	A1) Freely Chosen Employment (1.3, 1.4)	1. Contract of Employment	10: No Precarious Employment

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Appendix B. Audit Company Comparison

In Table A2 we present an overview of Auditing Companies contracted (as of April, 2020) by the multi-brand voluntary sustainability associations/initiatives that constitute the sample in this research:

Table A2. Auditing companies conducting supplier sustainability audits for sustainability initiatives.

Auditing Companies	SMETA	ICTI	PSCI	FWF	ASI	RBA	JAC	Amf.BSCI	Total
Total auditing companies contracted:	60	4	12	Internal	13	12	4	13	
ABS Quality Evaluations Inc.	х							x	2
Accordia	x								1
ACTE International	x								1
AJA Bangladesh	X								1
ALGI	X							X	2
APCER								X	1
API Audit Limited AQM HK Limited	х							x	1 1
ARCHE Advisors Inc.	x								1
AUS-MEAT	x								1
Benchmarks Company Ltd.	x				x				2
BNQ					x				1
BSI (Group)	x		x			x			3
Bureau Veritas Certification	X		X		x			x	4
Centre Testing International Corporation	X								1
China Quality Testing Int.Corp					x				1
Chola MS Risk Services Control Union Certifications			х						1 2
Cosultivo	Х		x			Х			1
CSR Solutions	x		^						1
Dekra	^		x						1
Deloitte			x				x		2
DNV GL	x				x	x			3
DQS CFS Gmbh	x				x	x			3
Ecocert IMOswiss AG	x								1
ELEVATE	X	X				x		X	4
Environmental Resources Management (ERM)			X						1
ERM CVS Ethical Trade Services Africa					Х				1 1
EUROCERT SA	x x								1
Extensive Standard Technical Services Co. Ltd.	x								1
FLO-Cert	x								1
Globalgroup Certification Limited	x								1
Goler Associates			x						1
GREENMENT						x			1
GSCS International Limited	X								1
GUTcert (AFNOR Group)					x				1
Hong Kong Q.C. Center	X								1 1
IBL Certification Insite Compliance	x x								1
International Associates	Α.				х				1
International Compliance Group	x				Α				1
International Safety Systems			x						1
Intertek	x		x			x	x	x	5
IQC	x								1
IQNet	x								1
Leverage Limited	X		DOOT	-					1
Auditing companies contracted:	SMETA	ICTI	PSCI	FWF	ASI	RBA	JAC	Amf. BSCI	Total
LRQA Manumit87	x x								1 1
MPS-ECAS	X								1
NSF Certification	x								1
Openview Service Limited	x								1
Partner Africa (prev. Africa Now)	x								1
Primus Auditing Ops	x								1
PwC Australia	x								1
QIMA Limited	x							x	2
Q-Inspect	x								1
QMSCERT	X								1
Reassurance Network	x								1
RINA SCS Global Services	x x						Х		2 1
SGS Global Services	x x	х	х		x	х	x	x	7
555	^	^	^		^	^	^	^	1
SIPAS CR - Peru	x								
SIPAS CR - Peru SMT Global	x x								1
		x							
SMT Global	x	x			x				1

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Tab	le	A2.	Cont.

Auditing companies contracted:	SMETA	ICTI	PSCI	FWF	ASI	RBA	JAC	Amf. BSCI	Total
TUV Nord Cert	x							x	2
TÜV Rheinland	x		X		x	x		X	5
TÜV SUD	X					x		x	3
UL—Responsible Sourcing Inc.	X	x				x		X	4
URS Verification	x								1
Verisio	x								1
Verité						x			1
Verner Wheelock	x								1
V-Trust Inspection Service	x								1
Wieta	X								1

Appendix C. Deep Dive into Further SSAS Category: Fire & Emergency Safety

Analogous to our analysis approach to the two main audit sustainability categories (in Sections 4.1 and 4.2 of the main article) we also counted the number of questions in the SSAS that related to fire safety capacity and emergency response procedure. Similar to the findings presented in Sections 4.3.1 and 4.3.2, the SSAS demonstrated varying degrees of detailed coverage. We identify three groups: those SSAS with low coverage (between 0–9 questions on the issue), those containing 10–29 audit questions on the matter, and finally those audit standards that covered the topic in a high degree of detail (over 40 questions just for this category). Table A3 displays our findings for this category. It becomes apparent that the IETP, RBA and amfori BSCI covered this specific topic each in more detail alone than the combined number of questions of the other five standards.

Table A3. Number of audit questions on Fire and Emergency Safety per SSAS.

Main Category: Fire Safety & Emergency Response							
SSAS	SSAS Section(s) and reference within respective SSAS:						
SMETA	None	0					
IETP	Section 12: Fire & Emergency (pp. 31-41)	46					
PSCI	Health & Safety Copmpliance and Risk Management (pp. 21-33)	15					
FWF	D2. Labour standards—OHS Requirements tick list (pp. 94–100)	10					
ASI	A. Governance— 2.Policy and Management (p. 10f)	1					
RBA	B. Health & Safety (pp. 52–97)	75					
JAC	B—Health and Safety (pp. 6-9)	9					
Amfori BSCI	2.7. Performance Area 7: Occupationals Health and Safety (p. 119–141)	49					

Comparative findings of detailed questions on fire and emergency safety: as the Rana Plaza catastrophe and many other horrendous factory fires have demonstrated, the ability for workers to be able to respond to a fire and stop it from spreading can have an immediate positive impact on social sustainability and health outcomes of workers in such emergencies. Thus, we decided to compare detailed questions within the category of fire and emergency safety on audit questions regarding the availability of fire-fighting equipment. As can be seen in Table A4, the particulars of how to audit for firefighting capacity are wide-ranging in the different SSAS; not just in terms of breadth and thoroughness but also in terms of how to check systems that enable firefighting.

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 Table A4. Extracts from SSAS documentation, example questions on Fire Safety.

SSAS:	Sub-Category:	Example Question(s) from Audit Documentation:
IETP	Section 12: Fire & Emergency (p. 31–41); 12.5 Fire Fighting System:	"Is the fire safety system inspected by a qualified entity? Is the number of functional and appropriate fire extinguishers in line with legal requirements? Are fire extinguishers properly installed? Are fire extinguishers clear from obstruction? Are fire extinguishers fully charged and inspected monthly? Is the sprinkler and fire hydrant system functional? Is the sprinkler and fire hydrant system clear from obstructions? Is the sprinkler and fire hydrant system inspected monthly? Is the water supply adequate for fire hydrant or sprinkler system? Are emergency response personnel trained on the proper usage of firefighting equipment?"
PSCI	Health & Safety Compliance and Risk Management (pp. 21–33); "Emergency Preparedness and Response"	"Are the following areas of the facility equipped with fire detection/protection systems? (Site areas, Fire/smoke detectors, Sprinkler or suppression systems): -Raw material warehouse, -Flammable liquid storage tanks, -Process areas, -Finished product warehouse Does the facility ensure that an adequate amount of fire water is maintained for fire protection? Are new facilities constructed of fire resistive or non-combustible materials? Are emergency exits and evacuation routes clearly marked, kept free of obstructions (unlocked), and illuminated with emergency backup power? Are regular emergency evacuation drills conducted, and what is the frequency? Is the fire alarm system monitored 24 h a day (including weekends and holidays) with prompt notification to emergency services (within 5 min)? Does the facility provide sufficient portable fire extinguishing equipment for the hazards present? Is the facility emergency response equipment (fire extinguisher, fire pumps, sprinkler systems) visually inspected monthly, comprehensively inspected annually, and documentation maintained for all inspections?
GSCP	5. Health and Safety (Appendix C, pp. 20–27); 5.4 Physical Employment site Inspection	"There are at least 2 unlocked/unblocked fire exits on each floor of the employment site. There are a sufficient number of fire extinguishers, fire hydrants and sprinklers to provide sufficient coverage for the whole employment site. All fire safety equipment should be appropriate and have been checked within the past year. All fire exit signage should be clearly visible and fire exits must not be blocked 5.4.14 Fire Safety Precautions Safeguards against fire are provided, including: fire extinguishers and/or hoses; fire and smoke detectors; emergency exits which open outwards and are unlocked/unblocked at all times; fire exit and warning signage; hazard/emergency lighting which runs in the event of a power cut or emergency; fire alarms which can be activated by detectors or workers and can be heard throughout the employment site. Fire safety equipment is regularly maintained with written documentation and that it is in good conditions."
FWF	D2. Labour standards-OHS Requirements tick list (p. 94–100); Fire Safety	"Fire extinguishers are appropriate to the types of possible fires in the various areas of the factory, are regularly maintained and charged (check dates), and are mounted on appropriate places."

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Table A4. Cont.

	Main Category: Fire Safety & Emergency Response Sub-Category Focus: Capacity for Response to Fire/Fire-Fighting						
SSAS:	Sub-Category:	Example Question(s) from Audit Documentation:					
RBA	B. Health & Safety (p. 52–97); B2.2 Adequate and effective fire detection, alarm and suppression systems are in place.	"Process: Automatic fire sprinklers (if required by law or insurance company), portable fire extinguishers, heat and smoke detection, and an alarm and notification system are inspected, tested and maintained for good state of operation on a regular basis, as required by insurance company or common practice Records: (a) The inspection frequency for portable fire extinguishers shall not be less than monthly. The inspection frequency for single unit smoke detectors shall not be less than semi-annually. (b) Inspection for all other fire safety equipment, testing and maintenance frequency shall not be less than that required/recommended by the manufacturer, local code or insurance company whichever is more stringent Fire suppression (a) Portable fire extinguishers are installed (b) Fire extinguisher inspection tags (c) automatic fire sprinklers as required by insurance company (d) Fire hose inspection tag"					
JAC	B—Health and Safety (p. 6–9); 13. Accident & Emergencies Readiness	[Supplier] "Shall identify and assess potential emergency situations and events, and minimize their impact by appropriate fire detection, sufficient extinguishers"					

Appendix D. Sustainability Initiative/Association Resources and Links

- Sedex/Sedex Members' Ethical Trade Audit (SMETA):
 - o General Information: https://www.sedexglobal.com/about-us/
 - Audit documents protocol (downloaded July, 2018): https://www.sedexglobal.com/smeta-audit/smeta-documents/
- International Council of Toy Industries (ICTI)/ICTI Ethical Toy Programme (IETP)
 - General Information: https://www.ethicaltoyprogram.org/en/who-we-are/
 - Audit document/protocol (downloaded July, 2018): https://prismic-io.s3.amazonaws.com/wdr-test-icti%2Fc6f5027e-af47-4eda-8ba6-49b93e94fcea_ietp+checklist+version+2018+v1.
 0.pdf
 - Annual Reports and Specific IETP information: https://www.ethicaltoyprogram.org/en/resources/publication-library/
- Pharmaceutical Supply Chain Initiative (PSCI)
 - o General Information: https://pscinitiative.org/about
 - Audit document/protocol (downloaded July 2018): https://pscinitiative.org/resource? resource=32
- Fair Wear Foundation (FWF)
 - General Information: https://www.fairwear.org/about-us
 - Audit document/protocol (downloaded July 2018): https://www.fairwear.org/wp-content/ uploads/2016/06/FWFauditmanual-march2012.pdf
 - Annual Reports and Specific FWF information: https://www.fairwear.org/resources-and-tools/resource-documents
- Aluminium Stewardship Initiative (ASI)
 - o General Information: https://aluminium-stewardship.org/about-asi/

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 Audit document/protocol (downloaded July 2018): https://aluminium-stewardship.org/asistandards/asi-assurance-manual/

- Responsible Business Alliance—RBA (previously EICC)
 - o General Information: http://www.responsiblebusiness.org/about/rba/
 - Audit document/protocol (downloaded July 2018): http://www.responsiblebusiness.org/ media/docs/CodeInterpretationGuidance.pdf
 - Annual Reports and Specific RBA information: https://www.responsiblebusiness.org/publications/ar2019/ https://www.responsiblebusiness.org/publications/ar2018/ https://www.responsiblebusiness.org/publications/ar2017/
- Joint Audit Cooperation (Telecommunications Industry)—JAC
 - General Information: https://jac-initiative.com/about-us/
 - Audit document/protocol (downloaded November 2018): https://jac-initiative.com/download/ jac-audit-process/
- Amfori BSCI (Business Social Compliance Initiative)
 - General Information: https://www.amfori.org/content/amfori-bsci https://www.amfori.org/ content/amfori-bsci-code-conduct-
 - Audit document/protocol (downloaded November 2018): https://www.amfori.org/sites/ default/files/amfori%20BSCI%20System%20Manual_ENG.pdf

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