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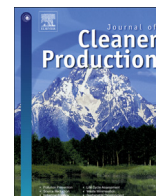
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Communicating actionable sustainability information to consumers: The Shades of Green instrument for fashion

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ABSTRACT

There is growing information about sustainability and growing consumer awareness about these issues, but none of these are readily translating into action. In this paper we look at why the information provided to consumers on sustainability issues and their solutions are not sufficiently actionable, and propose an alternative method of communicating product-related sustainability information to consumers. Our *Shades of Green* (SoG) instrument is designed to help and support consumers in their decision-making by providing simple yet comprehensive information about the environmental and social sustainability impacts of products. It brings clarity to sustainability communication on the consumer-company interface by incorporating a set of key sustainability issues over the product's life-cycle by dividing these issues into three levels from minimum through advanced integration of sustainability to innovation for sustainability. Additionally, the SoG instrument makes it easier for companies to structure their sustainability communication into a more actionable form. We illustrate the operationalization of the SoG instrument for the textile domain.

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1. Introduction

It is an ongoing frustration for sustainable consumption research and practice that consumers' sustainability-oriented attitudes do not readily translate into action. Research suggests that at least two broad approaches can make sustainability knowledge bear upon consumption decisions. The first is by providing more information and knowledge about sustainability that can trigger cognitive responses in consumers (Phipps et al., 2013). The second is by appealing to emotions that can trigger affective components towards sustainability behaviours (Matthes et al., 2014). In the past couple of decades a vast amount of information has accumulated about sustainability issues and their potential solutions. The same goes for emotionally appealing messages and images supporting sustainable consumption choices. Yet the gap has still not been bridged between sustainability attitudes and consumption behaviours (White et al., 2019; Wiederhold and Martinez, 2018).

In this paper we take the starting point that much of the information provided to consumers about sustainability issues and

their solutions is not actionable. Consumers are increasingly aware of the urgency of their action, and companies increasingly recognize the impact of sustainability on their competitive position (Ciasullo et al., 2017). Sustainability labels have proliferated and sustainability marketing efforts have escalated. For the consumer, it is quite challenging to navigate through industry-specific sustainability communication in various domains such as food (Lazzarini et al., 2018; Grunert et al., 2014), cosmetics (Ghazali et al., 2017; Cervellon and Carey, 2011) or fashion (McKeown and Shearer, 2019; Henninger et al., 2016; Henninger, 2015). There is clearly a need for overarching and comprehensive, yet simple, clear and reliable sustainable information to support consumers' decision-making.

Consumer-oriented sustainability communication has taken two main forms: companies have either turned to third-party verified sustainability labels (Horne, 2009; Testa et al., 2015) or resorted to free-form sustainability communication (Peattie and Crane, 2005). Third-party verified sustainability labels support communication at the product level. A company can acquire a verified label to help communicate the environmental sustainability of a product (Evans et al., 2015; Salo et al., 2019). Sustainability labels that enjoy high consumer reliability include the Nordic Swan, EU Eco-Flower and the German Blue Angel label (Eurobarometer, 2013). There are also various environmental

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feature labels, such as for organic food and organic cotton. As far as social sustainability is concerned, the most comprehensive and globally recognized ethical label is FairTrade (2020), but there are also other commercial labels, such as Max Havelaar. Third-party verified sustainability labels bring trustworthiness to environmental information about the labelled products (Leire and Thidell, 2005), at least for those consumers who know their way around the jungle of the various and relatively specific eco-labels.

Apart from using eco-labels, companies employ their own free-form communication about the sustainability of their products to appeal to consumers' emotional rather than cognitive side. For example, they may point out that they do not use unethical materials or ingredients (e.g. Fashion companies banning fur, see PETA, 2019), that they are committed to creating 'sustainable' collections or sub-brands (e.g. Conscious Collection by H&M; Garnier Bio by Garnier), or that they are involved in international sustainability initiatives (e.g. G7 Initiatives; Global Fashion Agenda Commitment about Circular Fashion). Overall, the confusing and ambiguous concept of 'sustainability' is reflected in the associated communication, and may therefore add to the sense of confusion and ambiguity among consumers.

Neither the labels nor the free-form communication of sustainability are optimal for turning consumers' sustainability attitudes into purchasing behaviour. For the majority of consumers it is difficult to know the contents of many labels, and the free-form claims suffer from reliability issues. From the company perspective, a further problem is that the process of gaining and using verified labels involves a lot of red tape and requires extensive documentation and manpower (Evans et al., 2015: 18). Therefore these labels tend to be feasible only for larger corporations. This effectively precludes small enterprises with sustainable products from gaining access to interested consumer segments (see e.g. Yenipazarli, 2015).

This conceptual paper is based on the premise that a sustainable future will require actions both from end-consumers who prefer sustainable offerings, and from businesses (of all sizes) who need to offer products and services that will enable more sustainable consumption. Actionable information may empower consumers to make more sustainable decisions and help companies to clarify their sustainability communication. In an attempt to improve the actionability of sustainability communication directed to consumers, we propose in this paper an instrument that offers consumers simple yet comprehensive information about the environmental and human rights impacts of products with a view to supporting their decision-making processes.

This paper is organized as follows. It begins with an indepth literature review on consumer decision-making in the context of sustainability. It then moves on to examine the current actions and hindrances that companies face when they offer sustainability information to consumers. Then, the paper proceeds to the literature on which our middle-ground instrument builds and lays out the instrument. Finally, the theoretical contribution and managerial implications of the instrument are discussed, followed by the limitations of the instrument and future research needs that spring from these limitations.

2. Literature review

It is widely acknowledged that there is an urgent need for action towards a sustainable future (Eisenhardt et al., 2016; Ferraro et al., 2015; Howard-Grenville et al., 2014). While views differ over whether it is consumers, businesses or governments

that should take the lead, there is broad consensus that the efforts of all are needed to move production, business and consumption onto a sustainable pathway (Ferraro et al., 2015; GSDR, 2019). In this paper we not only lend our support to the view of shared responsibility for sustainable development (GSDR, 2019), but also stress that businesses and consumers need each other to make speedy changes. Businesses must develop products and services that help consumers make sustainable choices, while consumers must favour such products and services in actual purchasing situations. With this at the back of our mind, our focus here is on the business-consumer interface, specifically on the provision of actionable information that supports consumer choices of sustainable products.

2.1. Consumer decision-making in the context of sustainability

Transparent and understandable information about sustainability may help to support consumer decision-making. A distinction can be made between three main types of individual decision-making: (1) *cognitive* (a linear process that starts from problem recognition and proceeds through information search and evaluation of alternatives to decision); (2) *habitual* (routine or habitual decision-making with little or no conscious effort); and (3) *emotional* (decision is guided by affective or emotional responses) (Solomon, 2018). Previous research has shown that sustainability attributes are particularly relevant for consumers' search for information and product choices (e.g. Zander and Hamm, 2012; Phipps et al., 2013), and therefore cognitive decision-making processes in particular can be seen to play a central role in choices of products that are not yet familiar to the consumer (Bangsa and Schlegelmilch, 2019). In this case, third-party verified sustainability labels such as the EU Eco-Flower and FairTrade may support the consumer's decision-making. In addition, some sustainability communication appeals to the emotional side of consumption decisions (Pickett-Baker and Ozaki, 2008). For example, companies' free-form sustainability communication, such as promises of traceable and ethically grown cocoa beans in 'Slave Free Chocolate' (Tonys Chocolonely, 2019) or a specified percentage of organic or recycled materials in the 'Conscious Collection' (H&M, 2019), may aim to elicit an emotional response in consumers.

Although information on sustainability challenges is more readily available than ever, the translation of awareness into action has been very slow (Park and Lin, 2018; Caruana et al., 2016). Part of the inaction can be explained by the *attitude-behaviour gap* (Perry and Chung, 2016; Wiederhold and Martinez, 2018; White et al., 2019): for multiple reasons, part of consumers' positive sustainability intentions do not translate into actual purchasing behaviours.

We acknowledge that consumer decision-making is influenced by a myriad of factors (Phipps et al., 2013), and therefore it is unlikely that more sustainability information will fully bridge the attitude-behaviour gap (Wiederhold and Martinez, 2018; White et al., 2019). Actionable sustainability communication may, however, offer a stepping stone towards a shared language between consumers and companies and thus steer both towards more sustainable solutions.

2.2. Sustainability information available for consumers

Companies are faced with growing demands for transparency about their supply chains and sustainability practices, from many different directions (Kolk, 2008; Gardner et al., 2019). For stakeholder and investor needs, sustainability reporting systems and

various sustainability assessment tools are used to report about sustainability behaviour at the corporate level (e.g. [Searcy 2016](#); [Youn et al., 2017](#); [Gasparatos, 2010](#); [de Boer, 2003](#)). Such reporting and assessment tools require a degree of sustainability knowledge on the part of users and thus are useful mainly for parties other than consumers. Sustainability information directed to consumers takes two predominant forms: (1) third-party verified sustainability labels and (2) non-regulated sustainability (marketing) communication. Next we move on to examine these two forms of communication, showing that while both of them have their merits, neither fully responds to the need for actionable sustainability information for purposes of consumer decision-making.

Despite the persistent efforts to bring clarity to sustainability practices through eco-label schemes, the sustainability information available in the consumer market is relatively fragmented and context dependent ([Egels-Zandén and Hansson, 2016](#)). Third-party verified sustainability labels are awarded by various institutions and companies, and different industries may have industry-specific labels. In the apparel and textile industry, for example, sustainability labels such as the EU's Eco-Flower and the Nordic Swan have specific environmental requirements concerning harmful substances and pollution. The standard behind the Öko-Tex label, on the other hand, mainly monitors textile chemicals that are harmful to health. The GOTS label, then, stands for an organic textile material. Social sustainability aspects, such as fair and ethical labour conditions, can be monitored through other labels such as FairTrade. These labels focus on different areas of sustainability ([Henninger, 2015](#)), and they may take into account diverse issues at different life-cycle stages of production ([Bratt et al., 2011](#)). Furthermore, there is some overlap between different labels, which may in part be complementary. While current third-party verified sustainability labels offer reliable and thorough information to consumers, no label caters for the full spectrum of needs for sustainability information. In other words, there is no single label that addresses the concerns of a consumer interested in both working conditions in the supply chain and the product's environmental footprint.

As well as addressing a relatively narrow set of sustainability issues, labels are based on a binary logic, i.e. products either have a label or do not have a label. The dominant majority of labels offer no scale that would differentiate between the relative sustainability of products and so help the consumer identify a highly sustainable offering as opposed to one that just barely meets the label criteria. The EU energy efficiency label for white goods (washing machines, refrigerators, etc.) is the only label currently available that gives consumers sustainability information on a graded scale. It classifies appliances based on their electricity consumption on a scale from A to G ([European Commission 2019a](#)).

It is worth noting that third-party verified sustainability put companies of different size in somewhat unequal positions. It is easier for larger corporations to acquire verified eco-labels because compiling the necessary documentation requires time and expertise ([Evans et al., 2015](#)). Information must be supplied for the whole supply chain, which may be a tough task for smaller companies that have less influence over their suppliers. Tracking the practices of their suppliers and their supplier networks can prove impossible ([Gardner et al., 2019](#)). Furthermore, if the third-party verified sustainability label is awarded, the company will have to pay licensing fees in order to keep the label. For small firms who do not enjoy economies of scale and therefore have to charge higher prices than their large competitors, these extra fees may seep into product prices (see e.g. [Yenipazarli, 2015](#)), in the worst case driving away a

critical mass of customers (e.g. [Salo et al., 2019](#)).

At the other end of the sustainability communication spectrum are the non-regulated free-form sustainability communication and marketing efforts of companies ([Testa et al., 2011](#); [Peattie and Crane, 2005](#)). This communication is ridden with an abundance of non-comparable environmental terms (e.g. [Caniato et al., 2012](#)). It tends to come close to environmental advertising, which often aims to appeal to the emotional side of consumers' decision-making process. This may, however, prove to be counterproductive, where the increasing number of sustainability claims made in advertising may even add to consumer scepticism about such claims ([Peattie and Crane, 2005](#)).

In summary, while third-party verified sustainability labels provide trustworthy and accurate sustainability information for consumers, for mainstream consumers making sense of these labels is comparable to orienteering in a jungle: the many and varied labels provide fragmentary information and are thus not always actionable. Free-form sustainability claims, on the other hand, lack in trustworthiness. We argue that there is a need for new thinking about sustainability communication at the business-consumer interface.

In order to take the discussion to a more concrete level, we have chosen in this article to focus on the textile fashion industry. The textile industry is known for its high environmental and social costs ([European Environment Agency, 2019a, 2019b](#)) and for its global relevance and long supply chains ([EEA Report, 2019](#)). The European Commission identifies textiles as one of the priority product categories for the Circular Economy Action Plan ([European Commission 2019b](#)), and it is currently preparing a textile strategy that aims to make sustainable products the norm in the EU market ([European Commission, 2020](#)).

Alongside the regulatory developments, there have been some practical attempts reminiscent of our Shades of Green approach in the textile and fashion industry. According to the [OECD \(2016\)](#) companies have become increasingly involved in developing their own labelling schemes. For instance, the sports brand Decathlon has created its own environmental labelling system to rank its products, and some online fashion marketplaces, such as Ivalo.com and Weecos, have elaborated similar communicational criteria to justify the sustainability of fashion brands sold on their platforms ([Decathlon, 2020](#); [Ivalo.com, 2020](#); [Weecos, 2020](#)). NGOs, too, have come up with their own solutions: [Greenpeace \(2017\)](#) has created an A-F rating for consumer electronic brands, and [Rank-a-Brand \(2020\)](#) has developed a scoring system which compares the sustainability of brands by evaluating the sustainability communication offered on their websites. The brand-level sustainability ranking is also used in the "Good On You" app, which evaluates fashion brands in terms of planet, people and animal aspects ([Good On You, 2020](#)). Most sustainability rankings and evaluations use the brand as their unit of evaluation.

These are all promising applications, but we argue that they would benefit from a more solid backbone that provides an explicit reasoning for evaluation frameworks that go beyond current sustainability labels. Therefore, we here propose one potential solution, a middle-ground instrument that addresses the key sustainability aspects of a product group and that communicates them to consumers in a simple and actionable way. Our solution, which we discuss in more detail in the following section, is also applicable to small companies, and the thinking is applicable to products beyond this industry.

3. Towards the middle-ground (Shades of Green) instrument

Next we propose the instrument for combatting the problem of information overload from multiple sustainability labels that each address a narrow sustainability aspect and for simultaneously overcoming the cacophony that free-form sustainability claims cause in the minds consumers. We consider this as a middle-ground instrument, by which we mean that in the spectrum of sustainability communication it can be positioned between verified sustainability labels and free-form sustainability claims. In contrast to third-party verified sustainability labels that focus on a relatively narrow set of sustainability issues and for which they set precise cut-off values, our instrument is more overarching and flexible. It covers multiple sustainability aspects of the focal products and also indicates the respective products' level of sustainability. But compared to free-form communication, the instrument sets requirements for sustainability aspects and their levels that should be communicated. The need for this kind of middle-ground instrument has been identified by companies struggling to give consumers systematic information about the multifaceted sustainability aspects of their products, as will be shown below.

3.1. Developing the instrument

The starting point for the proposed Shades of Green instrument is the widely accepted World Commission on Environment and Development (WCED, 1987) definition of sustainable development: "... development that meets the needs of the present without compromising the ability of future generations to meet their own needs". The WCED definition stresses the importance of (1) including considerations of environmental, social and economic sustainability, and (2) the need for their continuous development. The SoG instrument has two main cornerstones. First, it covers both the environmental and social dimensions embedded in economic value creation. Second, the instrument divides sustainability practices between different levels depending on their impact (Wu et al., 2018). Impact refers to the combined outcomes along the supply chain of the product for the environment and societal stakeholders (e.g. reducing adverse impacts on the environment by replacing the material used with a less harmful alternative, or improving human rights impacts by assuring responsible working conditions at different stages of the supply chain) (Halme et al., 2018). These form the different levels that call for continuous development. The philosophical fundamentals of the SoG instrument consist of a combination of key sustainability issues on both the environmental and social dimensions of sustainability, and levels of sustainability performance.

Moving towards the operational aspects of developing the SoG instrument, we draw on the prior corporate sustainability literature that addresses businesses' sustainability actions and performance (e.g. Halme and Laurila, 2009; Voegtlin and Scherer, 2017). While corporate sustainability strategies can be classified in multiple ways (Lankoski, 2016), it is only rarely that the sustainability actions of businesses have been structured into different levels. One exception is Halme and Laurila (2009) work which suggests three action-based ways in which a company can integrate sustainability into its business: (1) *philanthropy* – sustainability is implemented through actions outside of the company's core business, such as charity or sponsorships; (2) *integration* – sustainability concerns are integrated into the current business by conducting operations in a more responsible way; and (3) *innovation* – the development of new products, services, processes or business models starts out from a specific environmental or social sustainability challenge and aims to solve that challenge (Halme and Laurila, 2009).

Voegtlin and Scherer (2017) address corporate sustainability from a results and implications perspective. Rather than

considering 'what' has been done, they emphasize the consequences and impact of doing it. Based on their approach, all sustainability actions can be divided into two categories: those that *do less harm* to the environment and/or society and those that *do good* for people and/or for the planet. For example, reducing pollution or energy or water consumption is a valuable step towards sustainability, and therefore doing less harm is better than doing nothing at all. In the long term, companies that have advanced further with their sustainability actions may do good, for example, by developing alternative materials or completely new business models, which may boost sustainable development (Voegtlin and Scherer, 2017). Contrasting this with the diverse forms of sustainability in the framework of Halme and Laurila (2009), the reduction of harmful activities can be regarded as 'integration', whereas more advanced companies may aim to do good (Voegtlin and Scherer, 2017) through sustainable innovations (Halme and Laurila, 2009). Furthermore, the do good/do less harm actions suggested by Voegtlin and Scherer (2017) can be evaluated in the light of their impact: whether the sustainable action has short-term benefits or a long-term positive impact (Wu et al., 2018).

Drawing on these frameworks, we develop a three-level assessment instrument for evaluating the sustainability of products. The SoG instrument will help to categorize products into different levels of sustainability based on their environmental and social features. The different levels of sustainability and the logic of our 'Shades of Green' instrument acknowledge the relative and process-like nature of sustainability. The thinking is that some products are categorized as better than others depending on whether they do less harm in the short term by improving the sustainability performance of current offerings, or do good in the long term by innovating new more sustainable products, services or business models (Halme and Laurila, 2009; Voegtlin and Scherer, 2017; Wu et al., 2018). Importantly however, not all products qualify even at first, light green, level of the SoG, but are so-called "brown products" (Yenipazarli and Vakharia, 2017) outside of the instrument levels.

The 'Shades of Green' logic classifies products from light through medium to dark green based on key environmental and social sustainability criteria (Fig. 1). The SoG instrument shown in Fig. 1 applies to the domain of textiles. This is because SoG operationalizations only make sense within a certain category of products. More specifically, the relevant categories for assessing the textile products' environmental impact relate to *Design*, *Material* (sourcing and production), *Production* (apparel manufacturing) and *Support services*. Support services refer to any services that help to prolong the use life of the product, and thereby reducing the natural resources intake in the system. The social sustainability -dimension contains the *Working conditions* at different stages of the supply chain. The key issues, categories and levels of sustainability would not be the same across all industries/domains (food, textiles, cosmetics etc.), but depend on performance expectations for the domain concerned. This is apparent for instance from the Shades of Green criteria previously developed for the classification of sustainable investments and green bonds (Cicero, 2015).

In the SoG instrument, 'light green' refers to offerings that represent actions and solutions that reduce harm in the existing system (Cicero, 2015). We call this the 'minimum integration' level. In the case of the textile and fashion industry's environmental impact, this can refer, for example, to organic cotton in terms of material choices or reduction of production waste from apparel manufacturing. From a social sustainability perspective, it can refer to the assurance of decent working conditions in tier 1 of apparel manufacturing. In other words, 'light green' implies a reduction in harm in the environmental or social spheres, but mainly on a short term basis or in the last phase of manufacturing (see Voegtlin and Scherer, 2017; Wu et al., 2018). Actions at the 'Medium green', or

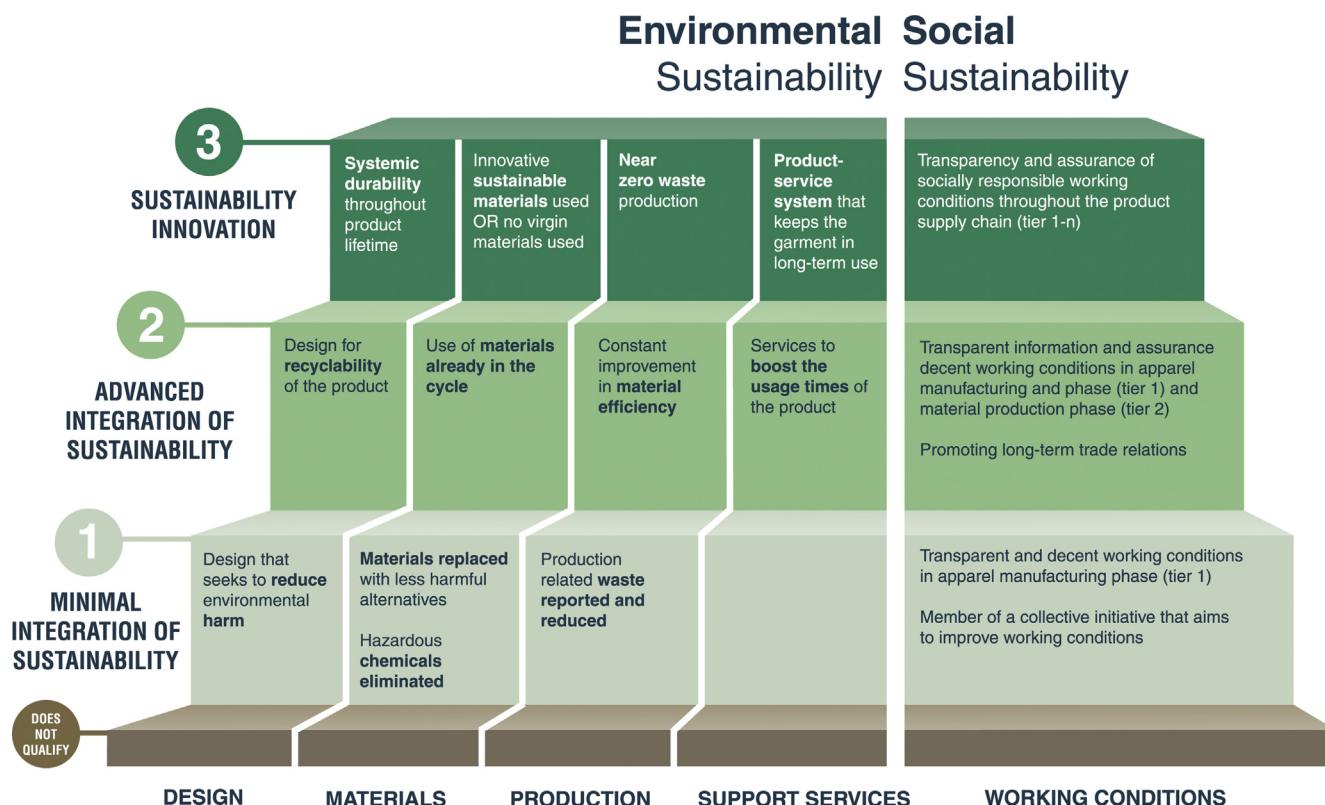


Fig. 1. Shades of Green instrument comprising of the levels of environmental and social sustainability for textile products.

'advanced integration' as we call it, are more forward-looking. They represent the efficient use of resources and/or various solutions promoting circular use of materials. For example, the products at the 'advanced integration' level are expected to be designed for recyclability, and include raw materials already in the cycle (reuse fabric or use recycled fibre), or pursuits to constantly improve material efficiency in garment production. From a social sustainability perspective, medium green products' transparency is also secured for tier 2 (i.e. material production) working conditions. The social sustainability levels follow the SA8000® guidance (2014) and Fair Wear Foundation's (2016) Code of Labor Practices.

The most sustainable level, 'dark green', builds on the idea of innovation that addresses a major sustainability problem by providing a new solution (Halme and Laurila, 2009). It represents the long-term value of a product 'doing good' as opposed to doing less harm (Voegtlin and Scherer, 2017). Operationalized to the context of textile fashion, it requires systemic durability of garments both style-wise and in terms of physical durability. These are actions that starting from design prolong product's life in a variety of ways through material choices, and support services that help keeping the garment in long-term use. In terms of social sustainability, this dark green level of the instrument requires transparency for responsible working conditions throughout the supply chain.

The different levels or 'shades' in the instrument offer a flexible and ever-evolving sustainability-level based frame that should be applied and interpreted against the context. The criteria for these specific levels have been drawn from existing certification systems for environmental and social sustainability. The levels implicitly emphasize process-like guidance: sustainability is not treated as a

black-or-white issue (Gasparatos, 2010). Instead, the SoG instrument aims to encourage companies to strive towards higher levels of sustainability and to inform consumers about the stage the product has reached on its sustainability journey.

While existing free-form rankings often evaluate sustainability on the brand level, the SoG instrument is designed to focus on the product as the unit of assessment. This is expected to enhance the specificity of the information. Supply chains in the textile industry are extensive, and brands may include various product categories with multiple supply chains. Taking the product as the unit of assessment offers concrete information for consumers and is a more unambiguous target of analysis than a brand.

The criteria at the different levels from minimum integration through advanced integration to sustainability innovation have been designed in such a way that they progressively build upon each other. In other words, the requirements at the minimum integration level (light green) should be met before the product can be considered for the next levels (medium and eventually dark green).

3.2. Pilot and product tests with the SoG instrument

The Shades of Green instrument development work has proceeded in roughly three phases portrayed in Fig. 2. We discuss these next.

In the first phase of the development process the SoG instrument logic was grounded in previous literature. This first instrument iteration was then further refined with the help of 12 stakeholder interviews (Appendix 1). Throughout the stakeholder interviews, the Shades of Green instrument raised noteworthy

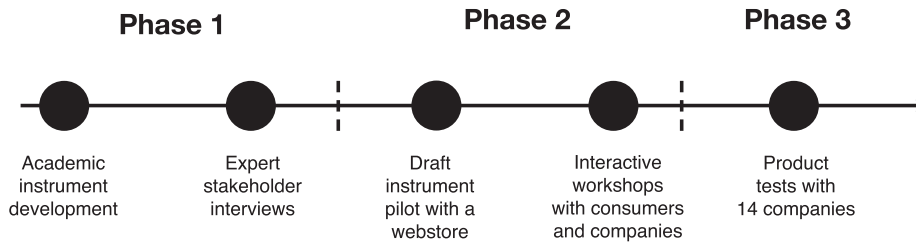


Fig. 2. Phases of the Shades of Green for Fashion -instrument development.

Table 1

Data sources and their main implications.

Data source	Bases of data/informants	Main implications & findings
Piloting the early version of the instrument	Instrument pilot in a webstore for sustainable fashion with an international brand portfolio and customer base.	Value for customers visiting & shopping in the webstore: <ul style="list-style-type: none"> Instrument helps to structure the multi-faceted sustainability aspects for customers Products become comparable Value for brands available in the platform: <ul style="list-style-type: none"> Potential customers get the sustainability information in an easier and more trustworthy way Transparency and standardized form for the relevant sustainability issues regarding products the webstore
Interactive workshops	50 sustainability-oriented consumers 45 textile & fashion company representatives	Current criteria for sustainability in garments: <ul style="list-style-type: none"> Current environmental labels are not sufficient for guiding consumers' decision-making An instrument that pulls together multiple dimensions of the product's sustainability would ease the decision making of sustainability-oriented consumers Quality of the garment is regarded as relevant cue of sustainability Perceptions of the instrument's logic, structure, and its usability: <ul style="list-style-type: none"> Participants suggested the instrument to visually show the "brown" level (not sustainable), to combat the risk that the light green level may be interpreted as low performance. The instrument was revised accordingly. <ul style="list-style-type: none"> How to best communicate that even the minimum sustainability i.e. the first level (light green) is good achievement? Internationalization of the SoG labelling is critical to its success because textile fashion globally connected industry. Practical implications: Does the product have only "one shade of green" or can it have multiple shades if environmental and social sustainability scores differ? Decision for only one shade was made as detailed in the text.
Product tests with companies	Products of 14 textile companies were tested with the instrument. Company types were: <ul style="list-style-type: none"> Design brands (6) Outdoor brands (3) Retailing chains (2) Knitwear brand (1) Workwear brand (1) Interior decoration & textile brand (1) Product categories represented: Product categories represented: <ul style="list-style-type: none"> T-shirt (3) Jersey/tricot shirt (3) Dress (2) Quilted jacket (1) Woolen jacket (1) Shell jacket (1) Beanie (1) Base layer set of underwear (1) Bath towel (1) 	Inclusion of product context specificity: <ul style="list-style-type: none"> Wordings for criteria were modified based on the reasonable availability of data at brand level. e.g. criteria concerning water & CO2 footprints through whole product lifecycle are unavailable for individual products. Revisions regarding balance between specific and generalizable criteria across different categories of textile products were made. Scope/unit of analysis: <ul style="list-style-type: none"> Additional clarity was brought to decisions related to: Product vs. brand level, and small vs. big companies The supporting and specifying lists (e.g. in terms of hazardous chemicals, environmentally preferred materials) should be provided and continuously updated by the host of the instrument Practical implications: Next step is to decide about <ul style="list-style-type: none"> Mechanism for verifying truthfulness of the information brands provide for their products Host of the instrument

enthusiasm, which indicates a true need for comprehensive yet actionable instrument that communicates the sustainability of a product towards consumers. The interviewees are specified and main implications of the interviews are summarized in [Appendix 1](#).

In the second phase the instrument was piloted with a webstore specializing for sustainable fashion ([Table 1](#)). Simultaneously, the instrument development continued in interactive workshops – first with consumers then with company representatives ([Table 1](#)). Receiving direct evaluation and feedback from sustainability-oriented

consumers was valuable. Most importantly, the interest towards a simplifying instrument for sustainability-oriented navigation in fashion context became clearly evident in the consumer workshop. The interactive workshop with fashion and textile company representatives also pointed to a number of useful refining needs and options. To highlight the main ones, the data indicates the analysed product does not always meet the same level of both environmental and social sustainability. Two main options for solving this problem were suggested: either communicating the two dimensions

separately or ranking on the basis of the weaker dimension. Further, workshop data pointed to the need to show the “brown” (not sustainable) level visually so as to prevent consumers interpreting the light green as low performance. Such a misinterpretation would practically make the dark green as the only desirable category. The implication for instrument implementation is to communicate clearly that even the minimum, light green sustainability criteria are demanding, and that only some products reach them.

Finally, we moved to the third phase of product testing with companies. Altogether 14 fashion and textile companies were involved in testing the instrument for their own product. Different types of companies were involved – from design brands to work-wear brand, and knitwear brand to retailing chains (Table 1). Product testing yielded further modifications of instrument. For example, we learned that some water, CO₂ and energy use figures, are at best available at the plant level in the supply chain, but not reliably possible to allocate to products. As a result we finetuned the environmental side criteria to be appropriate for the unit of analysis is a product. The tests also helped refining social sustainability criteria formulation at different levels.

In addition, the product testing was useful in gathering companies' ideas and preferences for alternative routes for the next steps and final forms of implementation of the instrument, which will be discussed in the next section. Table 1 summarizes the above discussed sources of data, number and type of informants and the main implications the data yielded.

3.3. Next steps toward implementation of the Shades of Green -instrument

Similarly to already existing instruments like the Global Reporting Initiative framework for sustainability reporting, or ISO14000 series of environmental management guidelines, the Shades of Green instrument calls for a number of further steps and further testing to become operational. These kind of processes most often involve multiple stakeholders and on average take a few years (Global Reporting Initiative, 2020). In terms of Shades of Green for fashion -instrument we see two main alternative pathways for implementation: 1) Multi-stakeholder pathway, and 2) Commercial pathway.

Multi-stakeholder pathway to implementation of SoG. In this pathway, operationalization of SoG instrument would include the following steps: (a) further developing and defining the criteria for different SoG levels in an international multi-stakeholder coalition involving representatives of relevant NGOs, academia and the business sector; and (b) testing them with consumers and companies. These steps would be followed by (c) pilots, coupled with decisions and further adjustments of the criteria for the different levels of “green”, (d) defining information verification needs and means, and (e) deciding about the instrument host. In the multi-stakeholder option, the instrument host would be an independent (international) NGO or a network of specialized NGOs.

Commercial pathway to implementation of SoG is more industry-driven option. In this option, the instrument host would be a respective trade association or, alternatively, it could be foreseen that a company, like the °Cicero Shades of Green (Cicero, 2020) for the rating of green bonds, would be established for running the SoG instrument management.

Other options for the development process are certainly possible, but as the focus of this paper is to introduce the logic of the instrument, its practical application in the textile fashion context, and first test results, we will not elaborate implementation options further here.

4. Discussion

The Shades of Green logic and instrument described in this paper evolved as a response to the search for actionable clarity in the fragmented field of sustainability communication. The SoG logic is grounded in a number of academic corporate sustainability frameworks. Its operationalization is a new consumer-facing instrument aimed at making sustainability communication actionable for consumers. The advantages of this new instrument are that it communicates in a reliable yet simple way the key sustainability aspects of a product to consumers, thus reducing the information overload consumers experience in the jungle labels and companies' free-form claims about sustainability. This paper makes a number of theoretical, methodological and practical contributions, which we discuss next.

4.1. Theoretical and methodological contributions

The first theoretical contribution of our paper is a new logic for evaluating the sustainability of products in a way that comprehensively captures the main sustainability aspects of a product domain, but at the same time is easy for consumers to use. Another contribution of our work is that it identifies the lack of actionable information as one of the causes for the attitude-behaviour gap recognized in the sustainable consumption literature. This contribution is coupled with a suggestion for a way of communicating actionable sustainability information from business towards consumers.

Our contribution to the consumer behaviour literature is to suggest that, for purposes of sustainability communication to consumers, the sustainability of products could be seen as a continuum on which products are positioned at different levels of sustainability. Developed on the basis of this thinking, our Shades of Green instrument supports the consumer's decision-making and reasoning about sustainability. It lends support to the previous observation of Bangsa and Schlegelmilch (2019), whose systematic literature review on products' sustainability attributes calls for further research on different sustainability spheres and decision-making approaches. Structuring firm communication about product sustainability to consumers with the help of the levels logic complements the existing sustainable consumption literature (Prieto-Sandoval et al., 2016).

Methodologically, the Shades of Green instrument improves clarity in the fragmented field of sustainability communication. Consumer decision-making about sustainable offerings is often driven either by cognitive evaluation, which is currently based on third-party verified sustainability labels, or by emotional responses, often met by the company's own marketing communication and sustainability advertising. The SoG instrument provides actionable clarity by offering a middle-ground option in between these extremes, making the best of both sides: the factual basis from the side of labels and flexibility from the side of free-form communication. Another methodological advance is the new way of putting together qualitatively different types of environmental and social sustainability data for products.

4.2. Managerial implications of the instrument

Our work also makes practical contributions. The SoG instrument aims to bring value especially to micro and small-sized companies by offering compact guidance on (textile) products' environmental and social sustainability features. Unlike third-party verified sustainability labels that are unattainable for many SMEs, the SoG is designed to be an easy-to-use instrument that facilitates sustainability communication towards consumers. It also supports

the company's own internal sustainability work by helping to identify sustainability issues that the firm should address. Thus it is a device with which the company can move further in its sustainability work. Highlighting the different levels of sustainability practices – from minimum through advanced integration to innovation – helps managers to internalize the processual nature of sustainability development and understand that it requires continuous work.

We examined the Shades of Green in the textile and fashion industry, which like all industries has its domain-specific environmental and social features. The SoG logic is applicable within most industries, but the actual contents of the instrument (the criteria for sustainability dimensions and levels) need to be tailored to industry specificities.

4.3. Value for consumers

The SoG instrument aims to structure environmental and social sustainability information in a simple yet comprehensive and actionable form for consumers. Its three levels (from minimum integration to innovation) and two dimensions (environmental and social sustainability) will offer consumers a clear matrix that can support their decision-making. Further, the instrument may educate consumers about the multifaceted nature of sustainability and thus reduce their confusion in the face of a host of disparate sustainability claims and labels. The instrument highlights the various shades of sustainability, its process-like nature, and points out various issues – from design to material decisions and production-related impacts – that contribute to environmental sustainability. In terms of social sustainability, the instrument encourages consumers to rethink how far the supply chain is opened up, and how much 'made-in' information is revealed. When consumers turn to companies to demand more information, companies will follow suit.

4.4. Future research and development

Our paper comes with limitations which give rise to further research and development. First, whether implemented through the multi-stakeholder or the commercial pathway, there are a number of issues to consider. For one, the choice of issues to be included in the instrument and the cut-off points between the levels of sustainability can never be entirely unambiguous. Both can and should be grounded in research about the sustainability impacts of an industry, but as in any sustainability instrument, the inclusion of issues and choice of cut-off points will always involve value judgements. While this instrument brings forth the logic of different levels of the instrument, future research and development should take into account industry specificities when developing the content of the criteria.

Second, as the purpose of the instrument is to simplify consumer decision-making, we have suggested assigning only one sustainability valuation (e.g. light green) for one product, instead of giving separate environmental and social sustainability values for a single product, even if its environmental and social profiles do not coincide. The challenge is that environmental and social sustainability dimensions are qualitatively different, and a product may for instance rank environmentally high but come with a low social sustainability score. Above we suggest that a product's sustainability level is either determined by the lower scoring dimension or that dimensional scores are shared separately, but the question still

warrants a mention here.

Third, the instrument has been commented by expert stakeholders, piloted, refined with consumers and company representatives and lightly tested with products during the iterative development process of the instrument. All these have given us indicative information about the need and interest towards a comprehensive and trustworthy information about the level of product's sustainability. The extensive consumer testing is needed in order to see whether the instrument will bring the clarity sought. In addition, it is important for companies to evaluate the instrument and test further its specific criteria in various product categories so that we can learn about its usability and any issues that need to be addressed.

Fourth, while the logic of the SoG instrument logic is generic across all product groups, its practical applications should always be industry specific (cosmetics, food, etc.). Therefore the criteria for textile fashion suggested in this paper are not applicable to all product domains. Finally, as with any early phase instrument, implementation of the SoG instrument requires a number of steps for it to become operational: deciding about information verification needs and means, about the host of the instrument, and the eventual system putting it in practice. After the instrument is launched, its managerial implications and impact on company behaviour need to be researched and followed up on a long-term basis.

5. Conclusions

In order for consumers to make sustainable purchasing decisions, they need to have access to sustainable alternatives and actionable information about those alternatives. This conceptual paper examined the shortcomings of current sustainability communication to consumers and based on the results of the analysis proposed a means for offering simple but comprehensive information about products' sustainability features. The Shades of Green logic and our illustration of the instrument paves the way for development of an uncomplicated tool not only for consumer communication, but also showing to companies how go forward in providing transparent, structured information about their products' sustainability features.

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CRedit authorship contribution statement

Linda Lisa Maria Turunen: Conceptualization, Methodology, Investigation, Formal analysis, Writing – original draft, Writing – review & editing, Visualization. **Minna Halme:** Conceptualization, Methodology, Investigation, Formal analysis, Writing – original draft, Writing – review & editing, Visualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix 1

Interviews

Interviews	Main implications & findings
4 Company interviews , sizes ranging from SME's to large enterprises	<p>Perceived value of the instrument:</p> <ul style="list-style-type: none"> • Overarching and trustworthy framework to communicate for consumers about sustainability is highly valued • Helps to provide clarity on in communicating the multi-faceted sustainability aspects at product level to consumers <p>Instrument's value for intra-company learning: Charts the path for what to develop/where to focus on in following steps of the company's sustainability development.</p>
4 Interviews with an NGO involved in Rank-a-Brand	<p>Practical implications:</p> <ul style="list-style-type: none"> • Specifying the value of SoG-instrument in relation to existing sustainability instruments and rankings • Refining the terminology of the criteria of the instrument • Ideas for the possible owner of the instruments
<p>4 Expert interviews</p> <ul style="list-style-type: none"> • Representative of Cicero Shades of Green (a start-up that runs instrument for ranking sustainability of green bonds); • Specialist of eco-labels from environmental authority; • Professor specialized in sustainability ranking; • 2 sustainable market strategists from a Think-Tank 	<p>Cicero: Information about the "shades" logic and about how to implement through a commercial operator connected to a research institute.</p> <p>Env. authority: Benefits & challenges of current labeling schemes and product levels.</p> <p>Professor: Benchmarks from the current other ranking systems.</p> <p>Think-tank: The consumer data shows raising interest toward sustainability data among consumers, but consumers struggle with finding trustworthy information. Information about robust metrics on how to define the steps/logic that makes it possible to move from step to another.</p>

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