

Review

Tackling Fuzziness in CSR Communication Research on Social Media: Pathways to More Rigor and Replicability

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Abstract: Research analyzing the antecedents and effects of CSR communication on social media based on real-world data has surged in recent years but suffers from a severe lack of construct clarity. Based on an extensive literature review and the analysis of intercoder congruency on a content classification task on Instagram, we argue that CSR communication is a fuzzy concept and that diverging theoretical conceptions of CSR and CSR relatedness, as well as different operationalizations, have led to highly inconsistent and difficult-to-replicate results. To improve rigor and replicability in future CSR communication research using social media analytics, we develop guidelines for identifying CSR communication on social media that address common pitfalls in existing research designs.

Keywords: corporate social responsibility (CSR); CSR communication; social media; fuzzy concept; sustainable development



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1. Introduction

As public awareness of global problems such as climate change, environmental pollution, poverty, inequalities, discrimination, and violence is increasing, the baseline of what is considered appropriate corporate conduct is shifting towards higher standards [1–7]. Through this shift in societal expectations, companies are experiencing increased levels of legitimacy pressure which ensues when there are actual or perceived divergences between firm behavior and the generally accepted social norms, values, and beliefs [4]. As a lack of perceived legitimacy can lead to economic, legal, and social sanctions [8–10], many companies respond to this pressure through corporate social responsibility (CSR) communication in which they convey that they behave responsibly, sustainably, and as good corporate citizens [6,10–12].

In recent years, social media has emerged as a relevant arena of CSR communication. Social media allows companies to broadcast CSR messages to a large audience and to engage in an interactive dialogue about CSR issues with stakeholders [13,14]. While other CSR communication channels such as annual reports and financial statements are increasingly being regulated [15,16], social media has been referred to as the “wild west” of CSR communication [17]. The absence of regulatory rules and the trend towards higher media-richness social media platforms have led to a blossoming of many new and different forms of CSR communication in this channel which blur with other forms of social media advertising [14,18]. However, whether and under what conditions these different forms of CSR communication lead to more legitimacy or fulfill their proposed performative function of being an “important resource for social change” [19,20], is not yet sufficiently well understood. This is particularly problematic as some research suggests that CSR communication can have adverse effects when it is (perceived as) insincere and labeled as “greenwashing” by critical stakeholders [21,22].

A major impediment to academic progress towards a better understanding of social media CSR communication and its effects is its inconsistent conceptualization and operationalization (as our literature review presented below shall demonstrate). As well-defined

concepts and rigorous and replicable methodologies are the foundation for the development of sound theories in any field [23], this conceptual fuzziness may lead to ambiguous and elusive research results and flawed theory building. To mitigate these issues, the objectives of this article are (1) to demonstrate that social media CSR communication is indeed a fuzzy concept, (2) to identify the sources of fuzziness in existing research, (3) to illustrate the problem of fuzziness using empirical data, and (4) to develop a set of guidelines which shall help future researchers in this field to make their research more rigorous and their results more replicable. The primary theoretical contribution of this research will be the elucidation of the concept of social media CSR communication which is a fundamental building block of leading theoretical models in this field (see e.g., [7,14,24]) but suffers from conceptual fuzziness. In addition, we shall make several methodological contributions [25] by collecting, comparing, and appraising existing methods of operationalizing and identifying CSR communication on social media and developing guidelines for more rigorous and replicable research informed by best practices. To achieve these contributions, we address the following research question: *What constitutes social media CSR communication and how can it be operationalized with methodological rigor?*

To answer this research question, we combine multiple methods. At the core of our study is an extensive literature review which includes a meta-analysis of the share of social media content that was identified as CSR related, as well as a review of the conceptualizations and operationalizations of social media CSR communication in the existing literature. It reveals substantial differences in the share of content classified as CSR-related across different papers which points to conceptual fuzziness rather than de facto differences in the analyzed samples. The sources of this fuzziness are further illustrated by describing our method of identifying CSR communication in a large sample of Instagram posts and the most difficult coding decisions involved. Finally, we use a design science research (DSR) approach to develop guidelines for future research.

This paper is structured as follows: the next chapter synthesizes the status quo of social media CSR communication research and its conceptual and methodological challenges by reviewing existing literature. Subsequently, we illustrate these challenges using the case of CSR communication on Instagram before we discuss the results and present our research guidelines. The paper is concluded with an outlook on future research.

2. Status Quo of CSR Communication Research on Social Media: A Literature Review

In recent years, several seminal articles have significantly advanced our understanding of the antecedents and effects of social media CSR communication. For example, Camilleri [7] explored individuals' attitudes towards online CSR communication through an elaboration likelihood model and found that timeliness, relevance, and accuracy of information as well as source expertise are highly significant antecedents that affect peoples' attitudes toward CSR communications. Chu et al. [24] proposed that attitudes toward CSR in social media, peer communication, and opinion leadership serve as antecedents of CSR-related electronic word-of-mouth (eWOM) behaviors and explored the role of cultural differences as a moderating factor. Most importantly, Fernandez et al. [14] developed a comprehensive model of CSR communication effectiveness in social media which suggests that the behavioral and attitudinal outcomes evoked by CSR messages are moderated by various psychological consumer response processes and may be influenced by message endorsement or opposition of previous viewers.

A research stream within this domain that has been particularly influential in recent years is CSR communication research based on social media analytics which uses real-world social media data to generate insights about characteristics of CSR communication and their effects on the quantity and valence of user reactions [26,27]. While this methodological approach provides a novel lens on social media CSR communication with high external validity, it has also produced some equivocal results. For example, there are conflicting findings regarding the effects of CSR communication on the quantity of engagement

([28–30] vs. [21,31]), the valence of comments ([30] vs. [32]), and corporate reputation ([33] vs. [34]) which lack a sound theoretical explanation.

We propose that one factor which may lead to these equivocal findings is the conceptual fuzziness of CSR communication on social media. According to Markusen [35] (p. 870), a fuzzy concept bears the following characteristics:

“A fuzzy concept is one which posits an entity, phenomenon or process which possesses two or more alternative meanings and thus cannot be reliably identified by different readers or scholars. In literature framed by fuzzy concepts, researchers may believe they are addressing the same phenomena but may actually be targeting quite different ones. A simple question which evokes fuzziness of concept where it inheres is the following: ‘How do I know it when I see it?’ [. . .] An empirical test to determine whether a concept is fuzzy or not would investigate the use of it by a sample of researchers to determine whether each comprehends and employs the concept in a similar fashion.”

Thus, to determine whether CSR communication on social media is indeed a fuzzy concept and to identify, if applicable, the sources of its fuzziness, we conducted a review of the domain-specific literature. The following presentation of this review is divided into five parts: the first explains the methodology of our review, the second presents the results of the meta-analysis of the share of CSR-related social media content, the third synthesizes theoretical conceptions of social media CSR communication in the literature, and the fourth describes different approaches of operationalizing it. The fifth part presents an interim conclusion that serves as a foundation for the empirical section of this paper.

2.1. Review Methodology

For our literature review, we queried four academic search engines (Web of Science, Scopus, Ebsco, and Google Scholar) for journal articles containing any of the keywords “corporate social responsibility” or “CSR” in combination with the term “social media”. Each search engine was queried multiple times with different sorting options (by date, by relevance, and by citations) and a limit of 200 articles. This yielded 715 unique papers. From these results, we excluded those that were not focused on social media and CSR communication. We deliberately did not limit the scope of our literature review to a particular definition of CSR communication to capture the full range of communication phenomena that have been subsumed under this label. Then, we extracted all empirical studies using social media analytics as their main methodology. This process yielded a sample of 64 research articles, all of which faced the problem of identifying social media CSR communication during their research process.

From these articles, we extracted the share of social media content that was classified as CSR related, the analyzed social network, the industry or index of the sample, the classification approach (inductive or deductive), the chosen CSR framework (if applicable), the coding technique (manual or automated) and the sample size. For the meta-analysis, we focused only on studies that used posts as their main unit of analysis and explicitly stated the share of CSR-related posts. This was the case for 28 articles. To synthesize the disclosed numbers for the share of CSR-related posts in these papers, we calculated the average of these numbers for the whole sample as well as for several subsamples (e.g., by analyzed social network, by industry, or by the deployed CSR framework). To account for different sample sizes, we also calculated weighted averages for each subsample by assigning the share of CSR-related posts a weight proportional to the sample size. The results of this meta-analysis are presented in the following section.

2.2. Meta-Analysis of CSR-related Posts in the Existing Literature

Table 1 displays the result of the meta-analysis of the percentage share of CSR-related posts, ordered from lowest to highest. Where multiple social networks were analyzed, we display the results separately for each network.

Table 1. Share of CSR-related content in the existing literature.

Article	Platform	Industry/Index	I/D	Framework	Coding	Sample Size	% CSR Related
ElAlfy et al. [36]	Twitter	S&P 500	D	SDGs	Automatic (supervised)	1,171,074	2.1%
Amin et al. [37]	Twitter	FTSE 350	I		Automatic (unsupervised)	167,908	2.9%
Okazaki et al. [38]	Twitter	Various	I		Automatic (unsupervised)	2440	3.1%
Wen and Song [39]	YouTube	Fortune 500	D		N.a.	15,877	3.8%
Kucukusta et al. [40]	Facebook	Tourism and Hospitality	D		Manual	4498	3.9%
Kim & Stepchenkova [41]	Facebook	Restaurants	D	TBL	Manual (quantitative)	8722	4.5%
Ozdora-Aksak and Atakan-Duman [42]	Twitter	Banking	D		Manual (qualitative)	1884	5.7%
Manetti and Bellucci [43]	Twitter	Various	D	Carroll [44]	Automatic (dictionary)	35,280	7.1%
Losa-Jonczyk [45]	Twitter	IT/ICT	D	SDGs	Manual	1040	8.3%
Araujo and Kollat [21]	Twitter	Food	D		Automatic (supervised)	281,291	8.3%
Maniora and Pott [46]	Facebook	YouGov	D	GRI	Manual	19,429	8.8%
Schröder [47]	Twitter	Banking	D	GRI	Manual (quantitative)	8707	9.2%
Losa-Jonczyk [45]	Facebook	IT/ICT	D	SDGs	Manual	373	9.4%
Kwon and Lee [18]	Instagram	Apparel	D	TBL	Manual (quantitative)	4340	10.0%
Tao and Wilson [48]	Twitter	Fortune 1000	D	Kim et al. [49]	Manual (quantitative)	4244	10.5%
Tao and Wilson [48]	Facebook	Fortune 1000	D	Kim et al. [49]	Manual (quantitative)	1632	12.3%
Manetti and Bellucci [43]	YouTube	Various	D	Carroll [44]	Automatic (dictionary)	497	13.3%
Yang and Basile [50]	Facebook	Various	D	Kim et al. [49]	Manual	19,508	15.3%
Chae [51]	Facebook, Twitter	Consumer goods	I		Manual (inductive)	2416	16.0%
Manetti and Bellucci [43]	Facebook	Various	D	Carroll [44]	Automatic (dictionary)	3431	17.0%
Cho et al. [29] *	Facebook	Fortune “most admired”	D	Kim et al. [49]	Manual	3766	18.6%
Zeler and Capriotti [52]	Facebook	Various	D		N.a.	29,078	19.6%
Wang et al. [53]	Twitter	Shipping	D	SDGs	Manual (qual)	6212	20.0%
Schröder [47]	Facebook	Banking	D	GRI	Manual (quantitative)	8246	21.5%
Etter [13] *	Twitter	Best corporate citizens	D	CR Magazine	Manual (qualitative)	41,864	25.8%
Kozłowski and Kuchciak [33]	Facebook	Banking	D		Automatic (dictionary)	27,548	30.4%
Abitbol et al. [30]	Facebook	Oil & Gas	D		Manual	953	30.6%
Ju et al. [54]	Facebook	Cannabis	D	Lindorff et al. [55]	Manual	676	30.9%
She and Michelon [32]	Facebook	S&P100	D	GRI	Automatic (dictionary)	21,166	33.0%
Gómez-Carrasco et al. [56]	Twitter	Banking	D		Automatic (dictionary)	888,325	47.2%
Saxton et al. [57] *	Twitter	Fortune 500	D	ISO 26000	Manual	1125	66.0%
Conte et al. [58]	Facebook	Healthcare	D	TBL	Automatic (dictionary)	6145	71.2%
Pizzi et al. [59] *	Twitter	Oil & Gas	D	Carroll [44]	Manual (quantitative)	1240	90.6%
Average						84,574	20.5%

* Sample is based on CSR ratings or uses CSR-dedicated accounts.

The data expose that, on average, 20.5% of posts were classified as CSR related. Weighted by the respective sample sizes, this average decreases slightly to 18.9%. The percentage share of posts classified as CSR related across the different studies ranges from 2.1% [36] to 90.6% [59]. This is a substantial range that requires explanation. The first thing to note is that some of the studies explicitly base their company sample on CSR ratings (i.e., choosing firms with a particularly good CSR reputation) or they use data from CSR-dedicated social media accounts. It is not surprising that these cases may display a significantly higher share of CSR communication than a set of randomly sampled companies. These cases are marked with an asterisk and light gray highlighting in the table. Excluding these studies, the average becomes 16.4% (weighted average 18.7%), where, among the two most frequently analyzed social networks, Facebook has a slightly higher share of CSR posts (21.6%/weighted 22.2%) than Twitter (11.3%/weighted 18.6%). Even after excluding the studies using CSR-related samples, the highest CSR share is still 71.2% [58], i.e., significantly higher than the lower bound of the spectrum.

There are various possible explanations for the substantial differences in the measured shares of CSR-related posts. One possible explanation is, that the different values reflect de facto differences in the data, i.e., the CSR-related posting behavior for the samples selected by various authors, which cover different social networks, different industries, and different countries, is indeed very different. While there certainly is some variance across all these dimensions, we consider it unlikely that this explains the full variance in the measured CSR shares. The differences in CSR posting behavior between social networks, for example, can be observed through studies that analyze multiple channels with the same conceptual approach and methodology. In these studies, however, the differences between Facebook and Twitter are on average only 6.3 percentage points, where Facebook always has a slightly higher CSR share [43,45,47,48].

It is also plausible that certain industries may feature a higher share of CSR communication than others. However, looking at the data, we find that industries or sample indexes are not very good indicators for the reported CSR share. In fact, the reported CSR shares can vary substantially even within the same industry. For example, four studies specifically focus on CSR posts in the banking industry and they report CSR communication shares between 5.7% [42] and 47.2% [56]. Similarly, there is a substantial difference between the 33.0% CSR share measured by She and Michelon [32] and the 2.1% CSR share reported by ElAlfy et al. [36], even though the sample of the former study (S&P 100) is a subset of the sample of the latter (S&P 500).

Although this evidence does not provide conclusive proof, it certainly indicates that the strong variance in reported CSR shares across different studies can at least not fully be explained by de facto differences in the data but is to a large extent based on the fuzziness of the concept which entails different theoretical conceptions of CSR and CSR relatedness (reflected in different CSR definitions and frameworks) and different practical operationalizations. In the following, we will further elaborate on these sources of fuzziness within our literature sample and explain how they may lead to inconsistent results.

2.3. Theoretical Conceptions of CSR Communication on Social Media

The first central characteristic of a fuzzy concept is that it lacks conceptual clarity [35]. To evaluate the conceptual clarity of the concept of CSR communication on social media, we analyzed how different authors have answered the question: *what constitutes CSR communication on social media?* As a result, we found different conceptualizations of semantic components of both the terms: CSR and communication.

2.3.1. CSR

In the literature, there are numerous, sometimes conflicting definitions of CSR. This is because CSR is a multifaceted and “essentially contested” concept [60] (p. 405). Various authors have described CSR in and of itself as a fuzzy concept [61,62]. In addition, the meaning of the term has evolved substantially over time [60]. The European Commission [63], for example, defines it as “the process whereby enterprises integrate social, environmental, ethical and human rights concerns into their core strategy, operations, and integrated performance, in close collaboration with their stakeholders” (p. 2). Another frequently cited definition is the one by Kotler and Lee [64] according to which CSR is “a commitment to improve community well-being through discretionary business practices and contributions of corporate resources” (p. 4). A detailed discussion of different CSR definitions and related constructs as well as their historical evolution is provided by Munro [65] and shall not be replicated here.

The issue with such concise CSR definitions is that they leave substantial room for subjective interpretation when it comes to evaluating whether a particular communication item is CSR related or not. Therefore, many authors draw upon CSR frameworks that specify a set of dimensions that are considered CSR related and additionally provide precise definitions and examples of these dimensions. In our literature sample, six such

frameworks are most prevalent. Three of them stem from the academic literature and three have been developed by large international organizations.

The CSR frameworks from academia include the Triple Bottom Line (TBL), originally developed by Elkington [66], the CSR pyramid from Carroll [44], and the framework from Kim and Rader [67], which is sometimes quoted from Kim et al. [49]. Whereas the TBL has three dimensions which are sometimes stated as people, planet, and profit e.g., [68] and sometimes as environmental, social, and economic dimensions e.g., [69], the other frameworks have four and six dimensions respectively as displayed in Table 2.

Table 2. Common CSR frameworks.

Framework	CSR Spheres	#
Triple Bottom Line [66]	Environmental; social; economic	3
CSR pyramid [44]	Philanthropic; ethical; legal; economic	4
Kim et al. [49,67]	Environmental stewardship; philanthropic contribution; educational commitment; community/employee involvement; public health commitment; cultural/sports sponsorship	6
ISO 26000	Governance; human rights; labor practices; environment; fair operating practices; consumer issues; community development	6
Sustainable Development Goals (SDGs)	No poverty; zero hunger; good health and well-being; quality education; gender equality; clean water and sanitation; affordable and clean energy; decent work and economic growth; industry, innovation, and infrastructure; reduced inequality; sustainable cities and communities; responsible consumption and production; climate action; life below water; life on land; peace, justice, and strong institutions; partnerships for the goals	17
Global Reporting Initiative (GRI) Standard	Economic performance; market presence; indirect economic impacts; procurement practices; anti-corruption; [. . .]; materials; energy; water and effluents; biodiversity; emissions; [. . .]; employment; labor/management relations; occupational health and safety; training and education; diversity and equal opportunity; [. . .]	32

Among the frameworks developed by international organizations, the ISO 26000 norm, the sustainable development goals (SDGs), and the Global Reporting Initiative (GRI) are some of the most prominent ones. While the first two were developed to improve sustainability reporting standards, the last one is part of a broader agenda of the United Nations to improve the living standard on our planet in the long term [70]. In contrast to the frameworks from academia, these frameworks were not designed to provide an academic description of the CSR sphere, and some do not even use the term CSR in their documentation (instead they refer to related concepts such as sustainability, sustainable development, etc.). Nevertheless, they are widely used to identify CSR-related content and have thus become relevant theoretical foundations in this field.

While these frameworks partially overlap and feature some similar dimensions, each of them sets a different focus and level of granularity. Thus, they reflect different conceptions of CSR. For example, the framework by Kim et al. [49] features cultural and sports sponsorship as a CSR dimension, whereas the SDGs do not have a corresponding dimension. While these conceptions may all be valid within their specific research context, they are one source of fuzziness in the identification of CSR communication in social media. For example, papers using the TBL in our literature sample report a two times higher share of CSR communication (28.6%/weighted 27.1%) than papers using the framework by Kim et al. [49] (14.2%/weighted 14.9%). However, a closer look at the literature reveals that even between articles referring to the same framework there are substantial gaps. This can be illustrated, for example, by the discrepancies between the studies of ElAlfy et al. [36] and Wang et al. [53] (2.1% versus 20.0% CSR share) who both use the SDGs as their reference framework, or by the discrepancies between the papers of Kucukusta et al. [40] and She

and Michelin [32] (3.9% versus 33.0% CSR share) who both refer to the GRI. In this paper, we do not attempt to decide which framework is “best” or “right”. Instead, we aim to understand and demonstrate how these different conceptions of CSR can be used to identify CSR communication in a more rigorous and replicable way.

2.3.2. CSR Communication and CSR Relatedness

The differing theoretical conceptions of CSR are not the only source of fuzziness in the theoretical conception of CSR communication. The term “CSR communication”, in this context, is usually used as a short form of “CSR-related communication”. Thus, to fully grasp the concept, we need to define CSR relatedness. To our understanding, CSR relatedness is a question of degree and not of kind, i.e., there are different levels of CSR relatedness. It is relatively easy to conceive that a post that explicitly references a CSR commitment of a company (e.g., a donation or a reduction of carbon emissions) may be perceived as more CSR related than a post that only lightly touches a CSR issue (e.g., when presenting a food product that is, among other things, also vegan and thus environmentally friendly). However, it is relatively difficult to come up with a scale or a set of discrete levels of CSR relatedness, as the possibilities for CSR communication are extremely versatile.

In the literature, CSR relatedness is thus typically operationalized as a dichotomous variable, i.e., a post is either CSR related or it is not. This dichotomous transformation is useful to compare and contrast characteristics or effects of CSR communication (e.g., its capacity for creating social media engagement or electronic word-of-mouth) against other types of communication. However, it requires the selection of a cutoff point, i.e., a clear definition of the lowest level of CSR relatedness that is still considered CSR related. This is a complex task as cutoff points in scientific research are often arbitrary [71] and, as mentioned above, levels of CSR relatedness are quite abstract and hard to define. Typically, there will be edge cases, which some authors would consider to be CSR related, while others would not. Unfortunately, in our literature sample, very few authors describe their cutoff points. Instead, they may be implied in the codebook, in the applied dictionary, or in the training data used to perform the data classification. For the reader, they are very hard to comprehend, let alone reconstruct. Based on the large discrepancies in the shares of CSR communication detected in different papers, we can only speculate that the cutoff points selected by different authors vary widely. Thus, to increase the consistency and reproducibility of results in this research area, more transparency regarding cutoff points is needed.

Another challenge in conceptualizing CSR communication is that existing literature entails both functionalistic and constitutive interpretations of CSR communication and does not always differentiate between the two. Functionalistic CSR communication “is about using promotional techniques that are directed at informing about companies’ CSR and actively supporting CSR-based brand identity and reputation” in an instrumental sense [72] (p. 178). In this paradigm, CSR communication has a unidirectional information transmission role “following the classical and linear approach to communication as ‘conduit’” [72] (p. 178).

In contrast, the constitutive CSR communication paradigm holds that CSR communication constitutes CSR action and has a performative role [72]. The mere act of communicating with stakeholders about their legitimate environmental or social concerns and taking their interests into account is a core part of CSR [73]. According to this paradigm, which is rooted in constructivism and Habermasian critical theory of communication, “organizations interact with stakeholders with the aim of negotiating and discussing CSR projects and activities as a process of achieving mutual understanding” [72] (p. 179). Studies based on a constitutive understanding of CSR communication typically analyze dialogues between companies and brands that manifest in reciprocal comments, replies, or mentions, rather than just unidirectional posts. The constitutive paradigm elevates the role of social media as a marketing channel to a core tool for improved CSR performance. Constitutive CSR communication also encompasses various forms of brand activism, where brands take a

stand on controversial socio-political issues [74]. As brand activism tends to have more negative than positive effects on attitudes towards the brands [74], whether to include it in the definition of CSR communication is an important research design decision for any research project analyzing the outcomes of such communication. Thus, the decision should be made transparent.

2.4. Operationalizations of CSR Communication on Social Media

The second central characteristic of a fuzzy concept is that it is difficult to operationalize [35]. The operationalization problem may be summarized in the question: *Given our theoretical conception of what constitutes CSR communication on social media, how can we identify it as accurately as possible under given time and resource restrictions?* Answering this question involves several difficult research design decisions. In particular, researchers need to choose a suitable unit of analysis, stipulate a system of dealing with multimodal content, decide between an inductive and a deductive classification approach, and select a manual or automated coding method. Most importantly, they need to find a way of conveying where they draw the line between CSR-related and non-CSR-related content.

2.4.1. Units of Analysis and Multimodality

The first step in operationalizing CSR communication on social media is to choose a suitable unit of analysis. The available content types may vary between different social media platforms, but generally speaking, most social media platforms (the most prominent ones at any rate) have at least three content types: account descriptions, posts, and comments. Depending on the objective of the researcher, any of these content types may be of interest. Most research has been conducted on posts (which we consider equivalents of Tweets in the case of Twitter). However, individual posts tend to reflect a functionalistic CSR communication paradigm as they are a form of “broadcasting”, i.e., one-way communication. Researchers interested in stakeholder dialogue as a form of constitutive CSR communication (as discussed above), may need to consider the interplay of posts and comments (or replies in the case of Twitter), which raises two issues: first, we need to specify whether CSR communication can be identified based on properties of the post that initiated the conversation, based on properties of the comments that followed, or only in consideration of both aspects. Second, we need to decide whether only conversations initiated by the company should be considered CSR communication, or whether the concept also covers dialogue initiated by users. Depending on these decisions, we may either have a singular unit of analysis, or a sequence of posts, comments, and answers, where the latter introduces additional complexity to the analysis.

Another problem when operationalizing CSR communication in social media is multimodal content. This refers to content that includes several media types such as a combination of images and texts. In our literature sample, most authors classify social media content purely based on texts. This may be sufficient for social media platforms that are heavily text-based such as Twitter. However, in recent years, there has been a clear trend towards more visually oriented social media channels. Platforms such as Instagram, YouTube, and TikTok have all experienced substantial growth in user numbers. While the use of TikTok for corporate communications is still in its infancy, Instagram and YouTube are important communication channels for many companies that seek to establish a direct relationship with their stakeholders. Among other things, these channels have been used for CSR communication [18,39,75,76]. While the visuals in these channels are typically accompanied by a descriptive caption, it is questionable whether a purely text-based classification of content is sufficiently accurate. Therefore, authors need to make a conscious decision about which content components to draw upon for their classification and how to resolve potential discrepancies between them.

In our sample, we find classifications based on texts, hashtags, images, and videos. Hashtags are a special case of text-based classification. As they are designed specifically to indicate the topic of a post, hashtags have a higher potential to discriminate between

CSR-related and non-CSR-related posts than regular texts. However, as not all social media users use hashtags in every post, this limits the detection of CSR-related posts to those that are explicitly tagged as such. We thus see hashtags as a useful addition to a general, text-based classification.

The classification of audio–visual content regarding its CSR relatedness is a complex task. This is because there are many different ways of expressing CSR-related topics in images or videos. For example, images may include in-image text with a short statement, but also depictions of socially or environmentally responsible activities or symbolism related to a specific CSR issue. While the classification of images through machine learning algorithms has made substantial progress in recent years and the use of computer-aided coding may be useful, we propose that the more subtle depictions of CSR-related issues in images or videos still require human interpretation. Accordingly, we did not find any papers that attempted to classify images or videos fully automatically.

Given that modern social media channels are multimodal, and the identification of CSR communication can thus be based on multiple content components, it is important to document which components were considered. Many papers in our sample merely state that they classified posts but do not specify which components were considered or how they resolved discrepancies between different components. For example, the image of a post may not be CSR related on its own (e.g., a depiction of a product), but the text may hint at a CSR issue (e.g., how environmentally friendly the product is), or vice versa. For such cases, authors need to elucidate whether a post should be classified as CSR related when any of its components are CSR related, when all of its components are CSR related, or when the combination of all components considered as a whole is CSR related. Without this information, the method will be hard to replicate. The decision also has a large impact on the share of content that will be classified as CSR communication.

2.4.2. Inductive Versus Deductive Methods

Fundamentally, researchers can use two different approaches to classify social media content: inductive or deductive classification. In our sample, only three papers use an inductive or data-driven CSR post identification approach (as displayed in Table 1). This approach does not require an elaborate theoretical framework of what constitutes CSR to begin with, but inductively builds clusters within the sample of social media posts. It then assigns a label to the most CSR-related cluster post hoc, so that a sound conceptual understanding of what constitutes CSR communication is still required. In contrast, 25 papers in our sample use a deductive approach to identify CSR-related posts. Deductive approaches start with a theoretical framework of what constitutes CSR and then use a practical heuristic or algorithm to identify posts that match the dimensions of this framework. This may involve techniques such as content analysis or text mining.

Both inductive and deductive classification approaches have advantages and disadvantages. While inductive classification is a relatively lean and resource-efficient process as it does not require an extensive codebook or text-mining dictionary, the emerging clusters will diverge for different data sets and different clustering algorithms and are thus difficult to compare. In addition, the number and size of different clusters, which is typically a subjective decision by the researchers, will influence the discriminatory power of the clusters and the previously discussed cutoff point of CSR relatedness. Finally, for automated coding, in particular, it is not clear a priori that a CSR cluster will emerge (even if the data contains CSR-related posts), because other commonalities in the data may be prioritized by the algorithm. In contrast, deductive classification provides a more consistent and comparable classification but depends heavily on the quality of the codebook, the dictionary, or the training data.

In our meta-analysis, we find a substantial difference between inductive and deductive classification approaches. Whereas inductive studies identify 7.3% of posts as CSR related on average (weighted average 3.1%), deductive studies classify 21.8% of posts as CSR related (weighted average 19.9%). This indicates that the choice of classification approach

may significantly affect the resulting classification. However, as only three papers use an inductive approach, this discrepancy may be accidental.

2.4.3. Manual Versus Automated Methods

Finally, we can differentiate between manual and automated coding approaches. In our sample, 17 of the papers rely primarily on manual coding whereas 9 primarily apply automated coding (and two do not describe their coding technique in detail). The manual coding techniques can be divided into grounded theory for inductive studies, and qualitative as well as quantitative content analysis for deductive studies. Grounded theory involves an open coding procedure where a group of independent coders tags ideas or concepts in a set of posts. These tags are then aggregated into higher-level concepts and then into categories. As a result, one or multiple CSR-related categories may emerge [51]. In contrast, qualitative and quantitative content analysis typically relies on a codebook that serves as instruction for the human coders. Most authors refer to the methodological guidelines by Neuendorf [77] or Krippendorff [78] as a methodological reference. While quantitative content analysis focuses on quantifying text characteristics such as the frequency of terms and uses a set of statistical methods, qualitative content analysis is concerned with interpreting texts and extracting their deeper meaning [79]. The former is particularly useful for relatively large data sets while the latter may be better suited to discover CSR messages that are more subtle or require interpretation.

In contrast, automated coding techniques rely on algorithms to identify CSR communication within large amounts of data. They can be used both in inductive and deductive classification approaches. Inductive automated coding approaches typically use topic modeling, i.e., an unsupervised machine learning algorithm, to build clusters within the data. In our literature sample, Amin et al. [37] use Latent Dirichlet Allocation (LDA) to cluster their data, whereas Okazaki et al. [38] use a k-means algorithm. In both cases, the result is a set of clusters, each containing similar content. Subsequently, the researchers manually assign labels to each cluster. In deductive papers, the prevalent automated classification approach is to use a dictionary of CSR-related terms and match the text of the post against this dictionary. This type of rule-based CSR post-classification is applied by five papers in our sample. Only ElAlfy et al. [36] and Araujo and Kollat [21] use a supervised machine learning algorithm to identify CSR-related posts. In the former study, training data are labeled automatically based on a set of CSR-related hashtags (i.e., the authors identify CSR-related hashtags and then use tweets containing these hashtags as training data to build a more comprehensive classifier). The latter paper relies upon a multinomial Naïve Bayes algorithm which is trained with a set of 5885 manually classified social media posts and reaches a reported F-score of 0.73 and an accuracy of 90%.

Both manual and automated coding have advantages and disadvantages. While manual coding with two or more coders commonly has high accuracy, it may suffer from low consistency due to subjective decisions and coder fatigue. It is also a relatively time-intensive process with high costs per coded unit. Studies that use manual coding are thus typically limited to a relatively small sample. In contrast, automated coding has the potential to be very time efficient and consistent, but the accuracy depends on the selected classification algorithm or heuristic. For dictionary-based automated coding, the quality of the classification depends to a large extent on the quality and breadth of the CSR dictionary. The broader the set of CSR-related keywords and the more general the keywords, the more content will be identified as CSR related. The previously mentioned cutoff point is thus significantly influenced by the number and type of words featured in the dictionary. The difficulty with this approach is to identify keywords that only appear in CSR-related content but not in other content. In practice, this implies making a trade-off between type I (false positive: content is classified as CSR related but it is actually not) and type II (false negative: content is classified as non-CSR related but it actually is) errors. Finally, while automated coding with supervised machine learning algorithms seems to have the capacity to reach a relatively high accuracy, it also requires a large amount of training data, and as

machine learning classifiers are typically a black box to the average user, it is difficult to trace the reasons for particular classifications, implying a low degree of transparency.

In terms of the outcomes from these different coding approaches, our data show that manual (20.9%/weighted 17.5%) and automated (21.4%/weighted 19.0%) coding approaches are relatively well aligned on average. Thus, the coding technique does not seem to systematically bias the results of CSR post-identification in a significant way. However, in many cases in our sample, the coding technique is not described accurately enough to make it replicable.

2.5. Interim Conclusion

So far, we have demonstrated that CSR communication on social media lacks conceptual clarity and is difficult to operationalize and can therefore indeed be considered a fuzzy concept. Our meta-analysis revealed strong indications (though no definite proof) that the cutoff points selected by different authors to mold this complex phenomenon into a dichotomous variable vary widely. In addition, we have shown that many different methods exist to identify CSR communication in social media content and that each of them has different advantages and potential biases. Figure 1 summarizes the different conceptions and operationalization approaches in a morphological box.

Parameter		Values						
Theoretical conception	CSR framework	TBL	CSR pyramid	Kim et al. (2014)	ISO 26000	SDGs	GRI	other
	CSR comm. paradigm	functionalistic			constitutive			
Practical operationalization	Unit of analysis	account description		post		comment / reply		other
	Modality	text	hashtag	image		video		audio
	Merging mechanism	n/a		any		all		threshold
	Classification approach	inductive			deductive			
	Coding approach	manual			automated (dictionary-based)		automated (ML-based)	

Figure 1. Morphological Box of CSR Communication Research Approaches.

The morphological box outlines in broad strokes the different options available to researchers in this field when conceptualizing and operationalizing CSR communication. All these options are appropriate and viable in some contexts and as of now, there does not seem to be “the one right way to do it”. Yet, there are some common pitfalls in these approaches and many of them involve weighing decisions on a case-by-case basis. To illustrate these operational details, the next chapter will describe our method of identifying CSR communication in a large sample of Instagram posts and the most difficult coding decisions involved.

3. Identifying CSR Communication on Instagram

To illustrate the problem of fuzziness in identifying CSR communication on social media, we classified a large sample of Instagram posts by established brands and recorded difficult coding decisions and intercoder disagreements, i.e., posts which were classified as CSR communication by only one of the two coders. We selected Instagram as our focal social network because it has become one of the largest and most actively used social media platforms worldwide in recent years. Many brands have discovered it as a channel for marketing and brand building and, as recent evidence suggests, also for CSR communication [18,75].

As our brand sample, we used brands included in the Brandwatch brand index (which is based on extensive consumer research and includes 633 of the most renowned brands

from 13 sectors) that possess an Instagram account in English language with more than 1000 followers. From each of the 394 brands matching these conditions, we selected the 100 most recent posts, resulting in a post sample of 39,400 posts.

To identify potential discrepancies in intuitive interpretations of a CSR framework and resulting inconsistencies in coding decisions, we classified a subset of this sample comprising 5000 randomly selected posts without a detailed codebook and without previous coder training. Instead, we only specified the SDGs as our CSR framework. Both coders were experienced in CSR research and thoroughly familiar with the SDGs. We manually classified our subsample only based on the post's visual, i.e., the included image or, for videos, a series of automatically generated screenshots from the video. Coders could classify each post as "CSR related", "not CSR related" or "maybe CSR related".

A frequency distribution of the codings is displayed in Table 3. While only 48 posts (<1%) were classified fully discrepantly (i.e., "CSR related" by one coder and "not CSR related" by the other), the table shows that there is a high degree of uncertainty involved. The coders classified 7.0% and 7.3% of the posts, respectively, as "maybe CSR related", indicating that the provided CSR framework does not provide sufficient guidance to make a firm decision. Overall, 10.4% of posts received at least one "maybe" label. To better understand what types of posts could not be unanimously classified, we analyzed all 568 posts with differing or "maybe" codings in our sample (highlighted in gray in Table 3) and clustered them into groups, which represent different archetypes of Instagram posts. These archetypes are displayed in Table 4 along with a selection of examples. The table also shows a summary of the controversy around these post archetypes which evolved in a subsequent focus group discussion between the coders and an additional researcher.

Table 3. Frequency distribution of CSR codings by coder.

		Coder 1			Total
		CSR related	Maybe CSR related	Not CSR related	
Coder 2	CSR related	240 (4.8%)	68 (1.4%)	17 (0.3%)	325 (6.5%)
	Maybe CSR related	92 (1.8%)	193 (3.9%)	78 (1.6%)	363 (7.3%)
	Not CSR related	31 (0.6%)	89 (1.8%)	4192 (83.8%)	4312 (86.2%)
	Total	363 (7.3%)	350 (7.0%)	4287 (85.7%)	5000 (100%)

Table 4. Equivocal post archetypes and controversies.

Post Archetype	Examples	Controversy
Environmentally/climate-friendly product features	Electric/hydrogen vehicles; charging stations for electric vehicles; vegetarian/vegan products; non-plastic packaging	Electric vehicles and vegan products are generally perceived to be more climate-friendly than their alternatives and thus relate to SDG 13. However, they may also be advertised for other product features (e.g., driving experience/taste) and environmental friendliness may only be a side aspect.
Celebration of unofficial holidays	Earth day; black history month; Latin history month; Juneteenth; pride month; doctors' day; teachers' day; women's day; mothers' day; fathers' day; valentine's day; kindness day	Celebration of an unofficial holiday through a post signals care for a topic and helps to promote it. Earth day, e.g., relates to SDGs 13, 14, and 15, and women's day relates to SDG 5. However, it is not clear where to draw the line. Do mother's and father's day also relate to SDG 5? Kindness day does not relate to a specific SDG but may still be perceived as a CSR-related message.
"Thank you" messages	"Thank you" messages to frontline workers (during COVID-19)/doctors/teachers/employees/ volunteers	Thank you messages express gratitude and are a signal of appreciation and support. A thank you message to all doctors, e.g., relates to SDG 3 and a message to all teachers relates to SDG 4. However, it does not convey an action or commitment by the communicating company.

Table 4. Cont.

Post Archetype	Examples	Controversy
Story about employees representing a minority or a corporate initiative	Story about employee from racial minority/employee with a disease or disability	Demonstrates with an example the commitment of the company to disadvantaged groups. May relate to SDGs 4, 5, or 10. However, the CSR aspect is often communicated “between the lines” and requires interpretation.
Story about a public figure representing a cause	Story about George Floyd/Martin Luther King/Frida Kahlo	By posting about the public figure, the brand associates itself with the cause. However, it does not necessarily convey an action or commitment by the communicating company. Also, it will only be interpreted as a CSR message by users who know what the person stands for.
Post related to minor health issues	Messages about dental care/self-care/skincare; healthy recipes	Posts that address the company’s commitment to severe health issues such as cancer, diabetes, or depression clearly relate to SDG 3. However, it is not clear whether this can also be said for minor health issues such as dental care or skin care. Where should we draw the line? What about loosely health-related posts, e.g., about healthy recipes?
Educational content/advice/“life hacks”	Financial literacy posts; physical exercise tips; “fun facts”	Educational posts can be interpreted to contain constitutive CSR communication, i.e., enhance knowledge through the post itself, thus relating to SDG 4. However, it is not clear where to draw the line between educational content and entertainment.
Calls to action/encouragement for responsible behavior	Use less water/shower shorter; eat plant-based meals; help your neighbors; “be the change”	Encouragements for more responsible behavior may be interpreted as constitutive CSR communication. However, it does not convey an action or commitment by the communicating company.
Statements against discrimination/expressions of “wokeness”	“Black lives matter”; “we stand with pride”	Constitutes corporate activism and may thus be interpreted as constitutive CSR communication. However, it does not convey an action or commitment by the communicating company. Some topics may be seen as critical by some stakeholders and thus not be perceived as CSR communication.
Depictions of nature/symbols/ecological technology	Rainbow flag as pride symbol; depiction of solar panels/wind turbines; depiction of forest	Some symbols and imagery are generally associated with social or environmental topics, e.g., wind turbines or solar panels with clean energy (SDG 7). However, it is not clear where to draw the line. Does a depiction of a forest constitute CSR communication?
Celebration of an award	“Best place to work award”, “freedom award”, “true inspiration award”	The award attests that the company has acted responsibly in a certain field, e.g., the “best place to work award” indicates a commitment to SDG 8. However, it is not clear where to draw the line between CSR-related and non-CSR-related awards.
Support of controversial issues	Support/remembrance of military veterans or fallen soldiers	Peace, justice, and strong institutions is an SDG (SDG 16). However, support or remembrance for veterans or fallen soldiers represents an appreciation of the military that some people fundamentally reject.
Product innovations/infrastructure investments	Promotion of new consumer products/technical devices	Industry, innovation, and infrastructure is an SDG (SDG 9). However, intuitively, product innovations (especially of consumer products or gadgets) were not perceived as CSR communication by the coders.
Messages intuitively perceived as CSR related but not related to a specific SDG	Generic calls for change; donations to shelters for stray dogs; cultural/sports sponsorship	There are topics not explicitly contained in the SDGs, that are intuitively still perceived as CSR related, for example, donations to shelters for stray dogs or sponsorships of cultural events such as theater performances.

As displayed in Table 4, there is a broad range of difficult-to-classify post archetypes. For example, coders were undecided about posts displaying products with environmentally friendly features such as electric vehicles or vegan products (which are generally perceived to be better for the climate than their alternatives). Such products are frequently discussed in the public discourse as solutions contributing to the mitigation of climate change. However, it is not clear whether posts about such products always constitute CSR communication.

The focus group discussion revealed that coders had a higher tendency to classify such posts as CSR related when the environmental impact was clearly advertised than when the products were depicted without further explanation of their impact. However, it was difficult to establish clear differentiating criteria (e.g., does the product have to be labeled as vegan? Does the label “vegan” and a small tree symbol already constitute environmental communication? Is the depiction of a charging station for electric vehicles more CSR related than the depiction of the car because it is more easily recognizable?).

Another example of posts with diverging codings revolves around the celebration of unofficial holidays such as Earth day, pride month, or Juneteenth (a holiday commemorating the emancipation of enslaved African Americans). Many of these posts have a clear connection to a sustainable development goal. For instance, Earth day relates to the SDGs 13 (climate action), 14 (life below water), and 15 (life on land) whereas Juneteenth relates to SDG 10 (reduced inequalities). Even though these posts do not demonstrate a specific CSR action by the company, they were perceived as constitutive CSR communication by the coders because they signal the company’s attention to the topic and help to raise awareness for it through the company’s social media reach. However, it was not clear where to draw the line between CSR-related and non-CSR-related holidays. For example, there was a large consensus that women’s day relates to SDG 5 (gender equality). However, can the same be said for mother’s day, and if so, also for father’s day?

These examples illustrate the conceptual fuzziness of CSR communication at the edge between CSR-related and non-CSR-related social media posts. They also demonstrate that CSR communication is not a homogenous phenomenon but comes in many forms and manifestations. This versatility of shape makes it so difficult to codify and engenders discrepant coding decisions. Of course, these discrepancies could be mitigated by devising a precise codebook that specifies clear rules for a large set of edge cases, and by conducting coder training beforehand. However, this only helps to resolve inconsistencies *within* a research project and not *between* research projects of different research teams as long as there is no established standard. The alternative approach of using a CSR dictionary that can easily be published and shared just circumvents the problem: while it helps to codify the operationalization of CSR communication, it does not provide clarity on the conceptual aspects of the problem discussed above. It is also ill-suited to yield an accurate classification of posts on visually oriented social media platforms.

Overall, it seems that there is no easy solution to resolve the conceptual fuzziness around CSR communication. However, through our theoretical and empirical research, we have discovered some good practices that help to mitigate this problem. We have codified these practices in a set of guidelines for more rigor and replicability in social media CSR communication research. These guidelines are presented in the following chapter.

4. Discussion and Development of Guidelines for Future Research

“Fuzziness, in contrast to sterile arithmorphism, might also open up the conceptual terrain for discussion and deliberation. In this sense, the current conceptual polyphony, however irritating, is also a loud and clear signal of the reflexivity, creativity, and variety in our field”.

This argument by Grabher and Hassink [80](p. 700) in response to the above-cited essay by Markusen [35] might also be made for the field of social media CSR communication. According to this position, a certain degree of conceptual fuzziness may be conducive to the advancement of a research field. Building on this idea, we propose that there should be a balance between the openness of a concept that spurs creativity, and conceptual clarity that allows for rigor and replicability. For our research domain, this implies that it is neither practicable nor desirable to confine the concept of CSR communication to one uniform definition that must be followed once and for all. Instead, we need a set of methodological standard practices that enforce a high degree of rigor in exploring and documenting different notions of CSR communication, ensure the replicability of results, and enable authors to provide a clear answer to the focal question posed by Markusen [35]: “How do I know it (i.e., CSR communication) when I see it?”. With the guidelines presented

in Table 5, we hope to contribute towards the evolution of such standard practices. These guidelines were iteratively developed in a design science research (DSR) process according to Peffers et al. [81], drawing upon the literature review, and several rounds of focus group discussions among the coders involved in the classification of Instagram posts.

Table 5. Guidelines for more rigor and replicability.

Guideline		Explanation
Conceptual clarity	(1) Use an established CSR framework	Part of the fuzziness in the concept of CSR communication results from the fuzziness in the concept of CSR. A simple definition of CSR is typically not sufficient to provide a comprehensive conceptual foundation. While CSR frameworks also have their limitations (as discussed above), they provide a more detailed notion of the underlying conception of CSR. A selection of suitable CSR frameworks is displayed in Table 2.
	(2) State whether you are addressing functionalistic or constitutive CSR communication (or both)	A fundamental distinction can be made between functionalistic and constitutive CSR communication, where the former is directed at informing about companies' CSR and the latter considers communication with stakeholders as CSR in itself. As these are fundamentally different CSR communication paradigms, researchers should clearly indicate which one they adhere to.
Replicable operationalization	(3) Clearly specify your unit of analysis	As discussed in our literature review, CSR communication on social media may occur in different content types such as posts, account descriptions, comments, or so-called stories. To make the research replicable, authors need to clearly state their unit of analysis. Though this may seem straightforward, many papers in our sample did not specify their unit of analysis and left the reader guessing.
	(4) Disclose which content elements you classified and how	Most modern social media platforms feature multimodal content, i.e., they may contain a combination of images, videos, and text within the same unit of analysis. These content elements may require different classification approaches. To make the classification replicable, authors should specify which content elements were classified and which classification method (e.g., inductive vs. deductive, manual vs. automated coding) was used for each.
	(5) Describe how you merged the classifications of different content elements (if applicable)	If multiple components were used for the classification of multimodal content, they can either be analyzed separately or be merged into one variable. In the latter case, it is important to explain how conflicting classifications for individual content components were resolved when merging the classifications.
	(6) Disclose your dictionary, codebook, or labeled data	The most important artifact that would allow subsequent researchers to replicate earlier research, is the codebook, the dictionary, or the machine learning data and classifier used for the classification of social media content. As of now, there is a high reluctance among researchers to share such artifacts or data due to a variety of factors including the fear of losing a competitive advantage in the race for future publications [82,83]. Acquiring and labeling data or developing a dictionary that identifies CSR-related content with high accuracy are difficult and time-intensive processes [71]. We propose that the sharing of dictionaries, codebooks, and labeled data would reduce duplications of work, lead to better quality research, and ensure higher consistency in the operationalization of CSR communication. However, for this to happen, adverse incentives have to be overcome.
	(7) Describe edge cases and how you classified them	One of the most challenging tasks in operationalizing CSR communication is choosing and clearly documenting the cutoff point between CSR-related and non-CSR-related content. During the classification of social media, content coders are often presented with specific cases that are ambiguous and thus difficult to classify. A good way to ensure transparency and to illustrate the selected cutoff point is to list (some or all) of these edge cases in the appendix of a publication along with the respective coding decision.

As displayed above, we have divided our guidelines into guidelines for improved conceptual clarity and guidelines for a more replicable operationalization of social media CSR communication. For conceptual clarity, we propose (1) using an established CSR framework as conceptual foundation and (2) clearly stating which CSR communication paradigm (functionalistic, constitutive, or both) is underlying the research. For a more replicable operationalization, we recommend (3) clearly specifying the unit of analysis, (4) describing which content elements (e.g., text, image, video) were classified, how they were classified (e.g., inductive vs. deductive, manual vs. automated coding), and (5) how diverging codings for different content components were merged (if applicable), (6)

disclosing the deployed dictionary, codebook, or machine learning data or classifier, and (7) illustrating the cutoff point between CSR-related and non-CSR-related content using exemplary edge cases in the appendix. More detailed descriptions of these guidelines are provided in Table 5.

The most controversial guideline may be the one relating to the disclosure of dictionaries, codebooks, or machine learning data and classifiers. Thus, some further elaboration on this guideline is warranted. The suggestion stems from the observation that different dictionaries, codebooks, or machine learning classifiers will always lead to different classification results. While this observation is not specific to the domain of CSR communication, it is more problematic in fuzzy contexts than in well-defined contexts as the concept which is to be operationalized is more vague. Thus, to make the operationalization of CSR communication more consistent, a standardization of these artifacts would be very useful. Some CSR-related text-mining dictionaries are already available. For example, the European Commission [84] has published a dictionary for the identification of SDG-related keywords, and She and Michelin [32] disclose their full text-mining dictionary in the appendix of their paper. However, most dictionaries used in our literature sample are developed ad hoc and without a detailed description of the methodology e.g., [37,40]. In addition, text-mining dictionaries are usually context dependent and a dictionary suited for the analysis of CSR communication in legal texts may be ill-suited for its analysis in social media [71]. Thus, there is a trade-off between using a generic CSR communication dictionary and a proprietary dictionary calibrated on own data and the corresponding language style. If researchers decide to develop their own dictionary instead of deploying an existing dictionary, they should make sure to adhere to established standards of dictionary development, e.g., by following the guidelines of Deng et al. [71].

While the sharing of dictionaries is already uncommon, things get more complicated when supervised machine learning classifiers are used instead of a dictionary approach. To make such a classification replicable, researchers could share a pre-trained classifier or their labeled training data. However, the sharing of raw data is still very rare in the social sciences for various reasons, including legal restrictions (e.g., copyright issues), lack of incentives for publishing data or machine learning models (as compared to publishing research results), and fear of losing a competitive advantage in the competition for publications [82,83,85]. Yet, it would be an important milestone on the journey of making the operationalization of social media CSR communication more consistent. This argument ties in with a more general debate around open science and open data which needs to be fostered and continued [86–89].

5. Conclusions

In the past, CSR communication was confined to corporate reports and websites. In times of social media and heightened awareness for social and environmental problems, however, CSR communication pervades all channels and blurs with other brand communications. It has thus become more difficult to identify it in a rigorous and replicable way.

Through this paper, we hope to provide actionable advice to future researchers identifying and analyzing CSR communication on social media. The primary theoretical contribution of this research is the elucidation of the concept of social media CSR communication which is a fundamental building block of leading theoretical models in this field (see e.g., [14]) but suffers from conceptual fuzziness. According to Whetten's [23] ontology of theoretical contributions, well-defined concepts are the fundamental building block of any theory, and thus conceptual fuzziness is a major impediment to expedient theory development. By demonstrating that CSR communication in existing research is indeed a fuzzy concept, discussing its incremental rather than dichotomous nature, and describing the prevalence of the phenomenon through our meta-analysis, we solidify the foundation upon which the research domain builds. In addition, we make several methodological contributions, which "are important because they enable scholars to answer new questions

[...] and to revisit existing questions in more rigorous ways” [25]. Drawing on the ontology of methodological contributions by Bergh et al. [25], these contributions are (1) the collection, (2) the comparison, and (3) the appraisal of existing methods of operationalizing and identifying CSR communication on social media through a literature review and a discussion of their advantages and potential flaws, as well as (4) the development of guidelines for more rigorous and replicable research which are informed by best practices. Furthermore, the taxonomy of CSR communication research approaches based on social media analytics and the research guidelines constitute scientific artifacts that can be used as a methodological toolset by future researchers.

However, our research also has limitations. First, our literature review was limited to studies using a social media analytics approach to the analysis of CSR communication. We did not review theoretical papers or papers based on survey or experimental research. These research streams may provide different perspectives on the research domain. Second, our exemplary empirical analysis of social media data was confined to a sample of Instagram posts and to the analysis of visuals therein. It did not consider other social media platforms and other content modalities. It therefore also did not exemplify the problem of merging differing classifications of different content elements which was identified in the literature review. Third, the classification of Instagram data was only conducted by two coders.

The field of social media CSR communication still presents us with a wide range of riddles and open questions [14]. We hope that the guidelines developed in this paper help to guide future research towards more rigorous and replicable research methods and to mitigate the fuzziness that pervades the domain. Specifically, we suggest that future studies should work towards codifying different operationalizations of CSR communication through the development of CSR dictionaries, codebooks, or classifiers for social media data. In addition, we propose that the field still lacks a comprehensive taxonomy of social media CSR communication that not only helps to tell CSR content apart from non-CSR content but also allows for a more fine-grained differentiation within CSR-related social media content that goes beyond a unidimensional classification by topics. By following our guidelines and advancing research in the suggested directions, we are confident that future research will bring more structure into the exploration of the “wild west of CSR communication”.

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