Antecedents and consequences of integrating sustainability into marketing communication: The role of sustainability officers

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Abstract:

Across two studies involving Chief Sustainability Officers from 267 Scandinavian companies, we examine and test key antecedents and consequences of *integrating sustainability into marketing communication strategies*. We suggest that such integration is pivotal to modern firms and find that the level of integration has significant impact on the trustworthiness of sustainability communication and firm reputation. Secondly, we examine the role of Chief Sustainability Officers (CSOs) and show that the *self-efficacy of CSO* is a strong determinant of the level of integration of sustainability in marketing communications. Moreover, we find that this effect of self-efficacy is negatively moderated by *firm size* and *market orientation*. Finally, we tested several antecedents of CSO self-efficacy and show that the mastery expectations of CSOs are significantly related to: *CSO sense of purpose*, *past success of CSO*, *support from superiors*, and *budget decision power*.

Keywords: *Chief sustainability officer, Self-efficacy, Sustainability integration in marketing communication*

Track: *Social Responsibility & Ethics*

1. Theoretical Background and Hypotheses

All the firms' stakeholders, including the customers, expect firms to contribute to the global effort of making the economy more sustainable, and marketing plays a vital role in this effort (White et. al. 2025). In response, *sustainable marketing* has become a dominant area in marketing research, defined as "the process of creating, communicating, and delivering value to customers in such a way that both natural and human capital are preserved or enhanced throughout" (Martin and Schouten 2014). In this research, we focus on sustainability communication. Across two studies, we identify and test relevant antecedents and consequences of *integrating sustainability into marketing communications*. Special attention is devoted to the role of sustainability officers, see Figure 1.

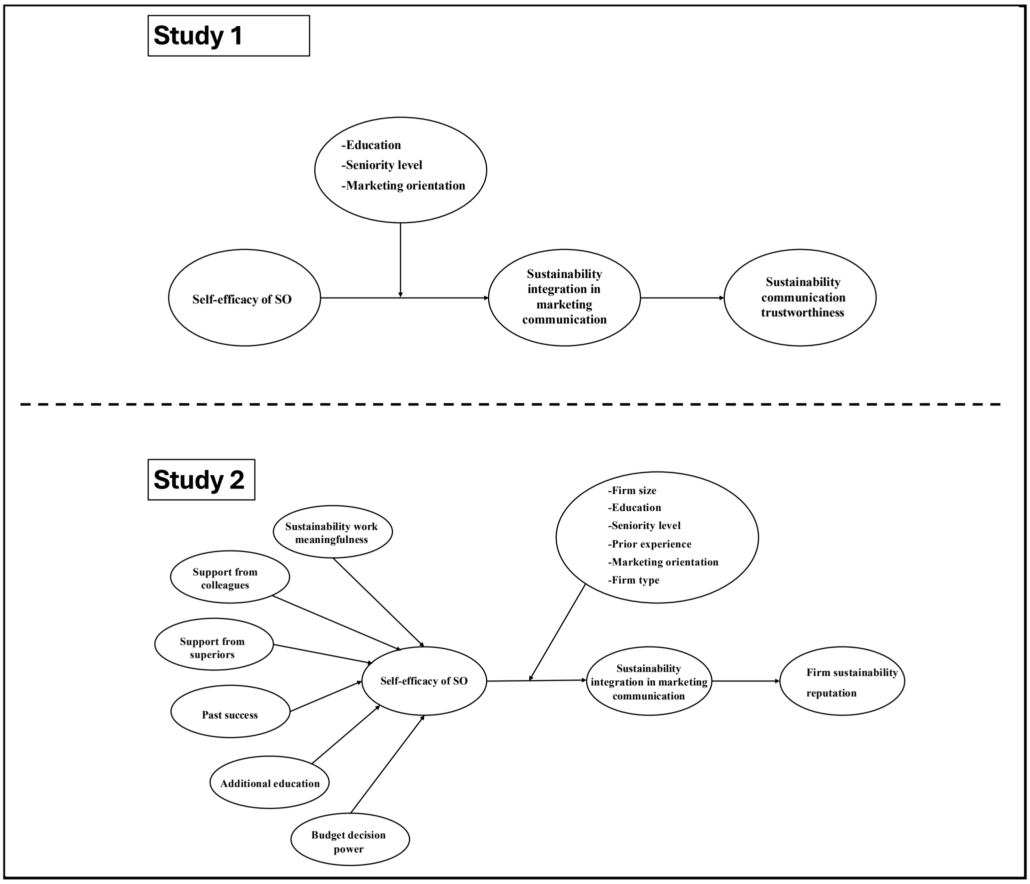

Figure 1: Research framework (Study 1 & 2)

1.1 Positive effects of integrating sustainability into marketing communications

Firms need to communicate their sustainability efforts to meet stakeholder expectations and develop a strong reputation. The upside potential of effective sustainability communication (SC) is considerable (Song et al. 2018), but there is also a risk of low credibility and accusations of "greenwashing" (Delmas & Burbano, 2011). SC has an ethical component and often triggers a lot of attention and scrutiny among stakeholders. Due to the risk of negative reactions, some firms choose to stay silent about their sustainability efforts. This phenomenon, which is termed "greenhushing" in the literature (Fisher et al., 2023; Byrne, 2023; Visram, 2023), may lead to under-communication of sustainability and a sub-optimal reputation. The risk of greenwashing accusations is higher when sustainability is communicated as a separate issue, an "add-on" to the core business. SC is perceived as more serious and sincere when integrated into the core business (Peloza et al., 2012; Becker-Olsen et al., 2006). Thus, SC that does not focus on separate sustainability issues, but showcases how sustainability is integrated into the core business, is likely more credible and more effective. For instance, an energy company that highlights how it has redesigned its core operations to rely on renewable energy sources (such as integrating solar and wind power into its production processes) will be perceived as more authentic and committed than one that communicates financial support to environmental causes. The level of integration of sustainability into market communication (SIMC) will vary across firms. We expect this variable to have significant effects on trustworthiness and firm reputation:

H1: The level of sustainability integration in marketing communications (SIMC) has a positive effect on **(a)** the trustworthiness of sustainability communication, and **(b)** the sustainability reputation of the firm.

1.2 The role of chief sustainability officers (CSO)

Research on sustainability communication is bourgeoning. However, so far, few studies have addressed the antecedents of such communication. In this research we take a closer look at the role and influence of *chief sustainability officers* - CSOs (Eccles and Taylor 2023; Kanashiro & Rivera 2019). The CSO is an executive manager who has the primary responsibility of overseeing the sustainability strategy of the firm. The CSO should work closely with the other top executives and proactively manage corporate communication to optimize the sustainability dimension of the corporate reputation (Eccles and Taylor 2023). To our knowledge, the influence of CSOs on sustainable communication has not been addressed empirically in previous research. We expect that CSOs may play a pivotal role in securing sustainability is well integrated into market communications. Specifically, we suggest that the *self-efficacy of CSOs* has significant impact on the level of such integration. Self-efficacy in this context refers to the CSOs belief in his or her capacity to execute behaviors necessary to deliver on the sustainability strategy (see Bandura, 1977, 1986). Self-efficacy reflects confidence in the ability to exert control over one's own motivation, behavior, and firm environment, and is a key driver of motivation and effort (Bandura, 1977, 1986).

Previous research highlight that high Self-efficacy facilitates the effective execution of sustainability strategies, enabling individuals to overcome resistance, coordinate stakeholders, and maintain momentum in complex change processes (e.g., Egri & Herman, 2000; Robertson & Barling, 2013) Within sustainability leadership, research demonstrates that leaders with strong Self-efficacy are better equipped to navigate uncertainty and institutional pressures, making them more persistent and resilient in driving sustainability transformations (Waldman & Siegel, 2008). Therefore, we hypothesize that:

H2: Self-efficacy of chief sustainability officers (CSO) has a positive effect on the level of sustainability integration in marketing communications (SIMC).

1.3 Moderators of the effect of CSO self-efficacy

Several individual- and firm characteristics may moderate the effects of CSO self-efficacy on the level of integration of sustainability in market communication (H2). The seniority and educational levels of the CSO may influence the status of the CSO within the firm and the willingness of colleagues to listen and adapt to the sustainability concerns of the CSO. Educational level is also positively related to social capital (see Huang, Van den Brink, and Groot 2009). Highly educated CSOs more easily form social relationships with other educated and potentially powerful people within the firm. Similarly, prior work experience may shape a CSO's ability to operationalize their Self-efficacy. While domain-specific experience can enhance task performance (Ericsson et al., 1993), it may also foster entrenched thinking or overconfidence, as excessive reliance on past experience can lead to rigidity and reduced openness to novel solutions (Dane, 2010). Similarly, larger firms, with their greater financial and human resources, are often better positioned to implement sustainability initiatives (Udayasankar, 2008; Darnall, Henriques, & Sadorsky, 2010). However, larger firms may also encounter challenges that complicate sustainability integration. For example, their complex organizational structures and hierarchical decision-making processes can create barriers to change, reducing the CSO's ability to influence sustainability outcomes.

In the attempt of CSOs to integrate sustainability in marketing communication, the CSOs will have to cooperate with the marketing people. We expect some tension between the two, and that this tension will be more pronounced in firms with strong market orientation. The CSO and the marketing people may have different goals and different time horizons (see Petänen 2025). Marketing is indeed concerned with firm reputation and brand image, but also with short-term sales. Moreover, marketing strategies are typically closely linked to current or past customer perceptions and preferences, and this research insight may not reflect the future significance of sustainability. CSOs have a forward-looking attitude and search for new opportunities for improved sustainability. We expect this tension to increase in firms with a strong market orientation because such firms have cultures that prioritize market intelligence and customer satisfaction (Kohli and Jaworski 1990). The stronger the market orientation, the more firms focus on main established drivers of consumer choice, which may leave little room for integration of sustainability in marketing communications.

H3: The effect of self-efficacy on the level of integration of sustainability in market communication (H2), is **(a)** negatively moderated by market orientation, **(b)** positively moderated by CSO seniority level, and **(c)** positively moderated by CSO educational level **(d)** negatively moderated by firm size **(e)** negatively moderated by prior work experience

1.4 Antecedents of CSO Self-efficacy

We suggest six different antecedents of CSO self-efficacy. Three of them are based on Bandura's (1986) framework of determinants of self-efficacy. The most important determinant in this theory is past performance accomplishments (see Byars-Winston et al. 2017). Hence, we expect that the *level of past success as CSO* is a significant antecedent of CSO self-efficacy. Another important determinant of self-efficacy in Bandura's theory is social persuasion: the comments, skepticism or encouragement of other people. In our context, we expect that the *perceived support of colleagues and supe*riors will influence CSO self-efficacy.

In addition, we suggest three other antecedents. Previous research shows that employees' *sense of higher purpose* at work has a positive effect on the meaning of work, on work motivation and well-being (e.g., Bronk 2020). We expect that this sense of higher purpose will increase the self-efficacy of CSOs. We also suggest that the extent to which CSOs have *specialized education in sustainability* will increase mastery-expectations because such education is directly relevant to the work tasks of CSOs. Finally, we predict that *budget decision power* is a relevant antecedent of CSO self-efficacy. Sustainability improvements have financial implications and influence over budget decisions put CSOs in the position of allocating resources to important sustainability improvement activities.

H4: The following six variables are significant positive antecedents of CSO self-efficacy: **(a)** CSOs sense of higher purpose, **(b)** support from colleagues, **(c)** support from superiors, **(d)** past success as CSO, **(e)** specialized sustainability education, and **(f)** budget decision power.

3. Sample, Measures, and Research Design

Data for both studies were obtained from active chief sustainability officers (CSOs) working within Scandinavian firms, ensuring direct insights from those responsible for corporate sustainability strategy. Study 1 included 144 CSOs, each representing a different organization. The sample consisted of 44.4% men and 55.6% women, with most participants between 36 and 45 years old (45.1%). The majority held a master's degree (73.6%), and about one-third (34.7%) reported additional formal education in sustainability. Participants represented firms of varying sizes, ranging from fewer than 10 employees to more than 1,000 employees, and most (70.1%) reported having budgetary decision-making authority. Two-thirds (66.0%) had prior experience as sustainability officers, and nearly half occupied senior or executive management roles.

Study 2 served as a follow-up to Study 1 and comprised 123 CSOs, again each from a different Scandinavian company. The gender distribution was nearly even (52.0% male, 48.0% female), and participants were primarily between 26 and 55 years old. Similar to Study 1, most respondents held a master's degree (69.9%), and about one-third (29.3%) possessed additional sustainability-related education. Firms of all sizes were represented, with the largest share (43.9%) working in organizations with more than 1,000 employees. A majority (64.2%) reported budgetary decision-making authority, and slightly more than half (53.7%) had previous experience as sustainability officers. Respondents predominantly held middle management, senior staff, or executive positions, reflecting a sample with substantial professional responsibility and involvement in sustainability-related decision-making.

To assess the measurement model, we conducted confirmatory factor analyses (CFAs) using maximum likelihood estimation with robust standard errors (MLR) for both studies (Rosseel, 2012). Study 1 ($n = 123$) demonstrated good model fit, $\chi^2(13) = 21.98$, $p = .06$, RMSEA = .069, CFI = .98, TLI = .97, and SRMR = .05. Study 2 ($n = 144$) also showed satisfactory fit, $\chi^2(202) = 354.14$, $p < .001$, RMSEA = .078, CFI = .94, TLI = .92, and SRMR = .06 (Kenny, 2020; Hu & Bentler, 1999). Across both studies, reliability was strong, with all factor loadings exceeding .60 and Cronbach's alphas above .70 (Hair et al., 2019). Convergent validity was supported, as all constructs had AVE values above .50, and discriminant validity was established using the Fornell–Larcker criterion, with the square root of each construct's AVE exceeding its correlations with other constructs (Fornell & Larcker, 1981). Together, these results confirm that the measures exhibited acceptable psychometric properties in both samples.

For hypotheses testing in Study 1, a series of ordinary least squares (OLS) linear regression models were estimated to examine the mediating and moderated relationships. First, a mediator model was estimated, regressing Sustainability Integration in Marketing Communication (SIMC) on the independent variable (CSO Self-Efficacy), the moderators (Marketing

Orientation, seniority level, and educational level), and their interaction terms to test for moderation effects. Second, an outcome model was estimated to assess whether SIMC predicts Sustainability Communication Trustworthiness, corresponding to the mediator-to-outcome path in a mediation framework (Baron & Kenny, 1986; MacKinnon et al., 2007).

In Study 2, latent variable path analysis was conducted within a structural equation modeling (SEM) framework using the lavaan package in R (Rosseel, 2012) with maximum likelihood estimation and robust standard errors (MLR). The structural model specified directional paths consistent with the theoretical framework, modeling Sustainability Work Meaningfulness, Support from Colleagues, Support from Superiors, Past Success, Budget Decision Authority, Seniority, and Specialized sustainability education as predictors of Self-Efficacy. Self-Efficacy, along with interaction terms for organizational-level (Marketing Orientation, firm size, and firm type) and individual-level (seniority, education, and prior experience) moderators, was modeled as a predictor of SIMC. Finally, SIMC was modeled as a predictor of the Sustainability Reputation of the firm.

4. Results and Discussion

4.1 Study 1

Study 1 finds SIMC to have a significant positive impact on the sustainability communication trustworthiness of the firm (Effect = 0.20, $p < 0.05$, **H1(a)**). Thereby underscoring the importance of integrating sustainability into marketing not only as a strategic initiative but also as a means of bolstering stakeholder trust. When sustainability is authentically embedded into marketing practices, it enhances the credibility of the firm's sustainability communications, fostering trust among consumers, investors, and other stakeholders. Furthermore, the results demonstrate a significant positive relationship between the Self-efficacy of SOs and sustainability integration in marketing communication (Effect = 2.02, $p < 0.05$, **H2**). This underscores the importance of empowering sustainability officers with confidence and belief in their ability to implement and advocate for sustainability initiatives. The study also identifies marketing orientation (MO) as a significant negative moderator of the relationship between SO Self-efficacy and SIMC (Effect = -0.41, $p < 0.05$, **H3(a)**). Thus, organizations with a strong traditional marketing orientation—focused primarily on customer satisfaction and competitive positioning—may inadvertently hinder the ability of SOs to fully leverage their Self-efficacy in promoting sustainability. The tension between short-term profit-driven marketing goals and long-term sustainability objectives is a critical challenge for organizations aiming to balance profitability with environmental and social responsibility.

Interestingly, the seniority level **H3(b)** and education level **H3(c)** of SOs do not exhibit significant moderating effects on the relationship between SO Self-efficacy and SIMC. This suggests that formal education or hierarchical position within the organization may not be as critical in shaping the ability of SOs to influence sustainability outcomes. Instead, other factors—such as organizational culture, leadership support, and structural autonomy—may play a more significant role. To address this limitation, we do a follow-up study on a different set of sustainability officers working in different companies. Here we add more organizational level factors in this study as both predictors and moderators of Self-efficacy of the sustainability officer.

4.2 Study 2

In Study 2 new find significant positive impact of sustainability in marketing strategy on the sustainability reputation of the firm (Effect = 0.77, $p < 0.05$, **H1(b)**). This finding underscores the strategic value of embedding sustainability into marketing efforts, as it directly enhances the firm's public image and stakeholder perceptions. The replication of study 1 results strengthens the robustness of the findings. Consistent with earlier results, CSO's Self-efficacy has a significant positive impact on the sustainability integration in marketing communication (Effect = 0.58, $p < 0.05$, **H2**). This reinforces the argument that confident and empowered SOs are more likely to embed sustainability principles into marketing communication strategies effectively. Additionally, the negative moderating effect of marketing orientation (MO) on the relationship between SO Self-efficacy and SIMC is replicated, albeit with a weaker effect (Effect = -0.13, $p < 0.1$, **H3(a)**). The reduction in moderation strength is likely due to the inclusion of new moderators in the model, which redistributed the explanatory power. This finding again highlights the potential tension between traditional marketing priorities and sustainability goals.

The inclusion of new moderating variables provides fresh insights into the contextual factors affecting the relationship between SO Self-efficacy and sustainability outcomes. Among these, firm size (Effect = -0.16, $p < 0.05$, **H3(d)** and prior sustainability-related work experience of the SO (Effect = -0.62, $p < 0.05$, **H3(e)** show significant negative moderating effects. The negative impact of firm size suggests that larger organizations may pose structural or bureaucratic challenges that dampen the efficacy of SOs. Similarly, the negative effect of prior sustainability experience raises intriguing questions about potential overconfidence or resistance to new approaches among experienced SOs. Moreover, consistent with study 1, seniority level **H3(b)** and education level **H3(c)** of SOs continue to show no significant moderating effects, reinforcing the notion that these factors may not be critical determinants in this context.

This study identifies four significant predictors of SO Self-efficacy, highlighting the complex interplay of personal, organizational, and contextual factors. Among these, support from superiors emerges as the strongest predictor (Effect = 0.82, $p < 0.05$, **H4(c)**, underscoring the critical role of leadership in empowering sustainability officers. This finding aligns with prior literature emphasizing the importance of top-down support in driving sustainability initiatives. The sustainability work meaningfulness (Effect = 0.18, $p < 0.05$, **H4(a)**) also plays a significant role, suggesting that personal alignment with sustainability values enhances confidence in executing sustainability-related tasks. Similarly, past success in making companies sustainable (Effect = 0.08, $p < 0.05$, **H4(d)**) contributes to Self-efficacy, indicating that prior achievements reinforce belief in one's ability to succeed in future sustainability efforts. Interestingly, the budget decision power of SOs shows a marginally significant impact on Self-efficacy (Effect = 0.22, $p < 0.1$, **H5(f)**). This finding suggests that while financial autonomy plays a role, its influence may be contingent on other factors. On the other hand, specialized sustainability education **H5(e)** and support from colleagues **H5(b)** do not emerge as significant predictors. This aligns with the view that practical experience and organizational structures may outweigh formal education and lateral support in shaping Self-efficacy.

5. Conclusion and Recommendation

Firms must focus on deeply integrating sustainability into their marketing communication strategies, as this integration is crucial for enhancing the trustworthiness of sustainability communication and strengthening firm reputation. Genuine sustainability communication, supported by credible marketing practices, is essential for fostering long-term trust and mitigating risks of greenwashing. This study underscores the importance of re-assessing marketing priorities to embrace a more sustainability-focused approach. By moving away from traditional marketing mindsets, firms can foster an environment where Sustainability Officers (SOs) effectively channel their Self-efficacy into actionable sustainability strategies. These findings are consistent with existing literature that highlights the critical role of top-down support in advancing sustainability initiatives.

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