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The Role of Sustainable Social Media Marketing Activities in Raising Bottom-of-the-Pyramid Customers' Engagement, Satisfaction, and Subjective Well-Being

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Received: 2 October 2024 | **Revised:** 25 September 2025 | **Accepted:** 23 October 2025

Keywords: bottom-of-the-pyramid | customer empowerment | customer engagement | social media marketing activities | subjective well-being | sustainability

ABSTRACT

Though prior studies have explored the effects of firms' social media marketing activities on customer engagement, the dynamics characterizing this association in bottom-of-the-pyramid (BoP) markets remain tenuous, exposing a critical gap. Addressing this gap, we develop and test a model assessing (a) the effects of firms' sustainable social media marketing activities (SSMMAs) on BoP customers' engagement, satisfaction, and subjective well-being, and (b) the moderating role of environmental consciousness and customer empowerment. A self-administered survey with 414 BoP customers was conducted, with the data being analyzed using partial least squares structural equation modeling (PLS-SEM). The results reveal that SSMMAs drive BoP customers' engagement and satisfaction, impacting their subjective well-being. The findings also confirm the mediating role of customer satisfaction and engagement in the association of SSMMAs and subjective well-being. Finally, the results indicate that while perceived environmental consciousness moderates the association of SSMMAs and BoP customer satisfaction, empowerment moderates the relationship between satisfaction and subjective well-being. By exploring the effects of firm-based SSMMAs on customers' engagement, satisfaction, and well-being, this research adds to the literature on social media marketing activities by focusing on *sustainable* social media communications at the BoP, raising pertinent implications.

1 | Introduction

Over the past decade, social media has transformed consumers' engagement with firms by enabling a broader array of two-way interactions (e.g., by empowering them or by generating new ideas: Hollebeek et al. 2014; Li et al. 2021), reflecting a key communication shift. Through their global reach, these platforms may deepen engagement or enhance brand perceptions (Islam et al. 2018), among others. The bidirectional nature of consumers' interactions with firms on social media allows them to act as influencers, content creators, and collaborators (Weiger et al. 2025), rendering their more active participation. Social media has thus become a vital source of marketing intelligence (Appel et al. 2020; Busalim et al. 2023), helping firms gain a competitive advantage and improve their performance (Hollebeek, Kulikovskaja, et al. 2023).

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Correspondingly, global social media advertising spend is projected to exceed US$255 billion by 2028 (Statista 2024), underscoring its growing strategic significance (Chen and Lin 2019; Dwivedi et al. 2021; Liu et al. 2021).

Prior research has shown that *social media marketing activities* (SMMAs), firm-led marketing efforts on social media (Kim and Ko 2012), may enhance consumer outcomes, including purchase intention, satisfaction, and well-being (Hollebeek and Belk 2021). However, prior SMMA research has tended to focus on more developed markets characterized by higher incomes and stronger digital infrastructure (Zollo et al. 2020), limiting insight into the dynamics characterizing SMMAs in less affluent (e.g., bottom-of-the-pyramid/BoP) markets (Heuer et al. 2020; Méndez-León et al. 2024), which thus warrant further exploration.

BoP markets comprise over four billion individuals worldwide (Hammond et al. 2007; Qureshi et al. 2021; Vishnoi et al. 2022), offering a key marketing opportunity despite their financial constraints (Ferdous et al. 2024). Though BoP consumers, like those in more developed markets, actively use social media (GSMA 2019a) to fulfil their utilitarian (e.g., by searching for brand-related information) and/or hedonic (e.g., entertainment) needs (Akareem et al. 2022; Kumar et al. 2023), little is known about how SMMAs affect these consumers' satisfaction, engagement, and well-being, exposing an important literature-based gap. Given their constraints, we expect to see differences in the purchase decision-making and behavior of BoP customers (vs. those in more developed markets) that merit further scrutiny (Hollebeek, Kumar, et al. 2022).

While most prior research has focused on sustainability issues facing consumers in more developed markets (Adomako et al. 2021; Kumar et al. 2025), BoP consumers—despite their financial limitations—are likewise increasingly factoring in sustainability issues into their decision-making (Adomako et al. 2021; Shevchenko et al. 2020). For example, these consumers are progressively drawn to eco-conscious brands and social media content (Dentchev et al. 2022; Kleinrichert et al. 2012) and may be willing to pay premiums for sustainable products like clean food and water, as typically driven (Adomako et al. 2021; Chege et al. 2019).

Social media platforms are widely used to engage these users (Hollebeek and Macky 2019), with evidence suggesting that sustainability-focused content may boost their satisfaction and engagement (Chang et al. 2023). However, notwithstanding the growth in sustainable marketing in BoP markets globally (Adomako et al. 2021; Mende et al. 2024; Varadarajan 2014), the role of *sustainable* SMMAs (SSMMAs) in influencing consumer behavior at the BoP remains underexplored (e.g., Adomako et al. 2021), as prior SSMMA research has tended to focus on more developed markets. Therefore, the acumen of the effect of sustainable social media marketing content in influencing BoP consumers' engagement, satisfaction, and well-being lags behind, exposing a pertinent gap in the literature.

Bridging this gap, this research investigates how a company's sustainable social media marketing activities (SSMMAs), firm-led social media marketing initiatives that promote consumers' awareness of sustainability issues and aim to shape their behavior in (more) responsible ways (Kim and Ko 2012; Kumar et al. 2025). Specifically, we examine the effect of SSMMAs on BoP consumers' subjective well-being, both directly and indirectly (i.e., through customer engagement and satisfaction). That is, we propose a mediating effect of customer engagement and satisfaction in the effect of SSMMAs on BoP customers' subjective well-being, given the documented role of these constructs in shaping quality-of-life in developed markets (Hollebeek and Belk 2021).

To explore these issues, we focus on two particular moderating variables, in line with the United Nations' Sustainable Development Goals (SDGs). First, we propose *environmental consciousness*, consumers' awareness of, and concern for environmental issues (Lin and Chang 2012, 127), to bolster the impact of SSMMAs, as more (vs. less) environmentally conscious consumers are more likely to engage with and respond positively to sustainable brand-related content (Colicev et al. 2018). Second, we expect *customer empowerment*, the extent of a buyer's influence and control of their purchase decision-making (Ramani and Kumar 2008), to moderate the effect of BoP customers' engagement and satisfaction, respectively, on their subjective well-being.

This research makes two main contributions to the sustainability marketing, engagement, and BoP literatures. First, building on Kim and Ko's (2012) SMMA framework, we present the first known empirical study that extends the SMMA concept to sustainable SMMAs (SSMMAs), making a significant theoretical contribution. While SMMAs have been explored in prior research (e.g., Chen and Lin 2019; Zollo et al. 2020), acumen of the role of SSMMAs remains tenuous, revealing an important knowledge gap. However, SSMMAs matter, given consumers' growing demand for responsible firm actions (Kumar et al. 2025), both in *developed* (commonly referred to as Global North) *and developing* (typically described as Global South) markets, with insight into the latter lagging behind, *in particular* (Hollebeek, Kumar, et al. 2022). Interestingly, unlike Kim and Ko's (2012) exploration of SMMAs, our findings show that SSMMAs indeed impact BoP consumers' subjective well-being, both directly and indirectly (through engagement and satisfaction), suggesting the strategic value of SSMMAs in the BoP context.

Second, responding to calls to better understand consumption at the BoP (Ferdous et al. 2024; Mende et al. 2024), we assess the moderating role of BoP customers' environmental consciousness and empowerment in the association of engagement and satisfaction, respectively, on their subjective well-being. These analyses matter, given BoP consumers' growing focus on sustainability issues (Adomako et al. 2021; Chege et al. 2019). We selected these particular variables based on our expectation that BoP customers exhibiting high (vs. low) engagement and satisfaction will experience differences in their ensuing subjective well-being, respectively. However, while BoP customers' (a) perceived environmental consciousness was found to moderate the association between SSMMAs and customer satisfaction, and (b) empowerment significantly moderated the impact of their satisfaction on their well-being, neither environmental consciousness nor empowerment moderated the engagement-related

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paths. It is thus recommend that researchers and managers primarily focus on highly satisfied (vs. highly engaged) BoP customers, who are expected to see a stronger impact of SSMMAs on their subjective well-being.

Broadly, our analyses advance understanding of the United Nations' *SDG* 1 (No Poverty), *SDG* 9 (Industry, Innovation & Infrastructure), and *SDG* 12 (Responsible Consumption and Production) (Mende et al. 2024). For example, the findings indicate that more environmentally conscious consumers see a more substantial effect of SSMMAs on their satisfaction, while more (vs. less) empowered consumers experience a more significant impact of their satisfaction on their subjective well-being. Collectively, these insights highlight the significance of the studied factors in enhancing SSMMA performance.

We next review key literature in Section 2, followed by the hypothesis development in Section 3. Section 4 outlines the methodology, followed by an overview of the results in Section 5. Section 6 concludes by discussing the findings and their key implications.

2 | Literature Review

2.1 | (Sustainable) Social Media Marketing Activities

Social media marketing activities (SMMAs) refer to firm-led social media marketing efforts, which encompass the following five dimensions: *Entertainment* (the extent to which SMMAs are perceived to be fun/interesting), *interaction* (the degree to which SMMAs generate sharing/exchange with others), *trendiness* (i.e., the extent to which SMMAs reflect the latest/are up-to-date), *customization* (i.e., the degree to which SMMAs are perceived to be personalized to users' needs), and *word-of-mouth* (i.e., the extent to which SMMAs stimulate consumers to discuss the SMMA, brand, or product with others, online or offline) (Kim and Ko 2012).

These activities allow firms to engage with consumers, including through public posts, private messaging, ratings, reviews, discussion forums, and wish-lists, among others, fostering dynamic, real-time interactions. (Kim and Ko 2012; Koay et al. 2020). The bidirectional nature of interactions on these platforms also empowers consumers to serve as content creators and influencers (Weiger et al. 2025), rendering their engagement a more participatory, socially embedded process.

Prior literature has examined how SMMAs shape consumer outcomes like engagement, satisfaction, and well-being (Chen and Lin 2019; Hollebeek and Belk 2021; Islam and Rahman 2017; Islam et al. 2018; Kumar et al. 2024; Mukherjee 2020), among others. These platforms not only facilitate firm–customer interactions (Hollebeek et al. 2014; Hollebeek and Macky 2019), but also serve as pathways to communicate socially relevant issues (e.g., sustainability). For instance, Chang et al. (2023) suggest that consumer satisfaction with firm-generated content addressing environmental issues can heighten engagement. Extending this logic, we conceptualize sustainable SMMAs (SSMMAs) as firm-led social media marketing initiatives that promote consumers' awareness of sustainability issues and shape their behavior in responsible ways (Kumar et al. 2025).

While SMMAs have been widely studied in the context of Global North markets (i.e., more developed markets), their dynamics in Global South markets (i.e., developing markets like BoP markets) remain more nebulous, warranting further exploration. Specifically, given the typically greater inequality, vulnerability, and resource scarcity in developing markets (Ferdous et al. 2024), key differences in BoP consumers' engagement and behavior (vs. in more developed markets) are expected (Hollebeek, Muniz-Martinez, et al. 2022). Therefore, in BoP markets in particular, SSMMAs can be leveraged as key digital pathways to more inclusive, equitable brand engagement, consumer empowerment, and well-being, aligning with SDGs 1, 9, and 12. To address these issues, we unpack the role of SSMMAs in raising BoP consumers' engagement, satisfaction, and well-being.

2.2 | Bottom-of-the-Pyramid Consumers

BoP consumers, low-income individuals who are primarily based in developing (emerging) markets (Ferdous et al. 2024), earn less than US$5 daily and often lack access to key resources like clean water and digital infrastructure. Despite their limited financial means, they represent a substantial yet underserved customer segment (Chakrabarti and Henneberg 2023). Specifically, these consumers, who are not only numerous but also tend to exhibit strong loyalty to (e.g., local) retailers (Mukherjee et al. 2020), are increasingly focused on consuming (more) sustainably (Chakrabarti and Duncan 2025; Korsunova et al. 2022).

However, their market participation is often marred by systemic vulnerabilities like inflated prices, limited product access, and exposure to substandard or counterfeit goods (Gupta and Srivastav 2016). These structural inefficiencies bring about a compelling opportunity for marketers to create more inclusive, more equitable consumption ecosystems. Specifically, by leveraging interactive social media platforms, they can improve these consumers' product access, transparency, and the development of brand knowledge, in turn empowering consumers (Ferdous et al. 2024; Utami et al. 2021). Recent evidence further indicates that sustainability-focused content on social media may positively influence customer engagement and satisfaction (Chang et al. 2023), which we expect to also apply to BoP consumers (Chakrabarti and Duncan 2025; Viswanathan et al. 2010). Therefore, theoretical integration of sustainability and SMMAs (culminating in the integrative concept of SSMMAs) is expected to create value for both BoP consumers and firms (Adomako et al. 2021; Zollo et al. 2020), given these consumers' desire to raise their quality of life and create social capital, aspirations that are traditionally associated with more affluent markets (Chege et al. 2019).

However, scholarly exploration of SSMMAs remains sparse to date (e.g., Adomako et al. 2021), particularly in the BoP context (see Table 1). Specifically, prior research has centered on more affluent consumers (e.g., Hudson et al. 2016; Zollo et al. 2020), exposing a key literature-based gap in the BoP context. Addressing this gap, this research investigates how SSMMAs influence BoP

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TABLE 1 | Overview—prior social media and BoP literature (*selected*).

Studies (*ordered alphabetically*)	National context	Method	Industry context	Social media marketing	Focus on BoP market	Focus on BoP customers	Environmental sustainability	Customer well-being
1. (Adomako et al. 2021)	Global South—Ghana	Quantitative	SMEs in the subsistence market		✓	✓	✓	
2. (Akareem et al. 2021)	Global South—Bangladesh	Quantitative	Healthcare		✓	✓		✓
3. (Akareem et al. 2022)	Global South—Bangladesh	Quantitative	Healthcare	✓	✓	✓		
4. (Arnould and Mohr 2005)	Global South–Niger	Qualitative	Leather-working entrepreneurs		✓			
5. (Chakrabarti and Henneberg 2023)	Global South—India	Qualitative	Informal services sector		✓			
6. (Chege et al. 2019)	Global South—Africa	Quantitative	Food purchase		✓	✓	✓	
7. (Chen and Lin 2019)	Global South—Taiwan	Quantitative	Social media marketing	✓	✓	✓		
8. (Costello and Reczek 2020)	Global North—USA	Quantitative	Ride and textbook sharing		✓			
9. (Dembek et al. 2020)	N/A	Review	N/A		✓	✓	✓	
10. (Luo et al. 2021)	Global South–China	Quantitative	Food sharing platform		✓			
11. (Mortazavi et al. 2025)	Global South–Kenya	Qualitative	SMEs in the healthcare sector		✓			
12. (Osei-Frimpong et al. 2023)	Global South—Ghana	Quantitative	Social media brand engagement		✓	✓		✓
13. (Perren and Kozinets 2018)	Global North—USA	Qualitative	Peer-to-peer lateral exchange markets		✓			
14. (Schaefers et al. 2021)	Global South—India	Quantitative	Sharing economy		✓			
15. (Tsetse et al. 2024)	Global South—Ghana	Mixed-Methods	Eco-tourism		✓	✓	✓	

(Continues)

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TABLE 1 | (Continued)

Studies (*ordered alphabetically*)	National context	Method	Industry context	Social media marketing	Focus on BoP market	Focus on BoP customers	Environmental sustainability	Customer well-being
16. (Viswanathan et al. 2010)	Global South—India	Quantitative	Miscellaneous		✓			
17. (G. Zhao et al. 2016)	Global South—China	Quantitative	Sustainable products		✓	✓	✓	
18. (Zollo et al. 2020)	Global North—USA	Quantitative	Social media marketing	✓				
Present study	*Global South—Bangladesh*	*Quantitative*	*Social media marketing*	✓	✓	✓	✓	✓

consumers' engagement, satisfaction, and well-being, as discussed further below.

2.3 | Customer Engagement

Though customer engagement has gained significant traction in the marketing literature (Sprott et al. 2025), its conceptualization remains contested. For example, while Brodie et al. (2011) view customer engagement as "a state, which occurs by virtue of interactive customer experiences with a focal agent/object (e.g., a brand)," Hollebeek et al. (2014) define the concept as a customer's "positively-valenced brand-related cognitive, emotional and behavioral activity during or related to … consumer/brand interactions," including on social media. Given our social media focus, we adopt the latter definition. On social media, brands may engage their users through content aimed to entertain, inform, or socialize with them (Bozkurt et al. 2024). However, the acumen of *BOP* consumers' engagement dynamics lags behind (Hollebeek, Muniz-Martinez, et al. 2022), particularly with SSMMAs, warranting further exploration.

Customer engagement is typically viewed as a multidimensional concept comprising cognitive, emotional, and behavioral facets (Hollebeek et al. 2014). At its core, it reflects a customer's (e.g., cognitive/emotional) resource investment in their interactions with specific objects (e.g., brands) (Hollebeek and Macky 2019). Given its interactive nature, it has particular relevance in the social media context.

2.4 | Customer Satisfaction

Customer satisfaction refers to a customer's overall evaluation of an object (e.g., a brand) based on their previous experience with it (Parasuraman et al. 1985). Relatedly, Anderson and Srinivasan (2003, 125) define online customer *satisfaction* as a customer's "contentment … concerning [their] prior … experience with a[n] … electronic commerce firm." Therefore, the more experience a customer has with a brand or firm, the better qualified they are to report on their satisfaction with it. Customer satisfaction has been shown to play a vital role in shaping customer loyalty (Busalim et al. 2023; de Oliveira Santini et al. 2020), revealing its strategic importance.

A firm's SMMAs are typically designed to boost customer engagement and satisfaction (Chen and Lin 2019; Kim and Ko 2012). However, while social media content may enhance customer satisfaction (e.g., by fostering customer-perceived closeness to/knowledge of a firm: Agnihotri et al. 2016; Wang and Kim 2017), little remains known about the development of customer satisfaction through SSMMAs in the BoP context, which is therefore explored further in this research.

2.5 | Subjective Well-Being

Subjective well-being, a customer's self-perceived or self-reported happiness, life satisfaction, and emotional state (Kuanr et al. 2022), is primarily influenced by factors

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including self-acceptance, personal growth, life purpose, environmental mastery, autonomy, and positive relations with others (Ryff 1989). Social media may positively or negatively influence well-being (Hollebeek and Belk 2021). For example, while it may, on the one hand, boost connectivity, on the other, it may instigate a feeling of social isolation (Cleveland et al. 2023; Hollebeek and Belk 2021; Osei-Frimpong et al. 2023). However, the understanding of how SSMMAs may contribute to subjective well-being—particularly for vulnerable BoP consumers—lags behind, meriting further scrutiny (Mende et al. 2024).

3 | Hypothesis Development

3.1 | Effect of SSMMAs on Customer Engagement and Satisfaction

Consumers—including at the BoP (e.g., Vishnoi et al. 2022)—increasingly seek purpose-led brand experiences, which social media may facilitate (e.g., by allowing them to follow brands/share brand-related content: Bozkurt et al. 2024; Hollebeek et al. 2014). Social media's relatively low cost and widespread accessibility position it as an inclusive tool for engaging BoP consumers, fostering digital participation in underserved markets (GSMA 2019b).

While the broader potential of SMMAs is well-established, the role of SSMMAs in shaping engagement and satisfaction among BoP consumers remains underexplored. This represents an important omission, because BoP consumers are documented to increasingly consider sustainability issues (e.g., environmental/health-related concerns) in their purchase decisions-making (e.g., by paying more for clean water, organic food, or reusable goods) (Adomako et al. 2021; Mukherjee 2020).

Therefore, SSMMAs, particularly those communicating affordability, health, or environmental responsibility, are predicted to resonate with BoP consumers (e.g., by aligning with their aspirations for improved quality-of-life/social advancement). Moreover, social content promoting resource-conscious practices (e.g., reducing plastic use, extending product lifecycles) may deepen consumer-brand alignment and stimulate engagement (Kumar et al. 2025). Moreover, social media's interactivity may be leveraged to empower BoP consumers (e.g., to co-create value), boosting their sense of inclusion, acknowledgment, engagement, and satisfaction (Parthiban et al. 2022). Specifically, given BoP consumers' rising interest in sustainability issues (Chakrabarti and Duncan 2025), exposure to SSMMAs is expected to raise their (e.g., brand) engagement and satisfaction. We hypothesize:

H1. *Sustainable social media marketing activities boost bottom-of-the-pyramid customers' (a) engagement and (b) satisfaction.*

3.2 | Effect of Customer Engagement and Satisfaction on Subjective Well-Being

Consumers' interactions with firms, particularly those centered on sustainability issues, have been recognized to benefit consumer empowerment and well-being (Kumar et al. 2025). *Subjective well-being*, an individual's evaluation of their own quality of life (Diener et al. 2015), is particularly salient for BoP consumers, who often face systemic marginalization, financial insecurity, and limited access to quality goods and services (Mukherjee et al. 2020; Ferdous et al. 2024). For these consumers, brand interactions that extend beyond transactional value and address their emotional and/or social needs can be pivotal in shaping their subjective well-being (Su et al. 2016).

Satisfaction, a customer's overall evaluation of an object (e.g., a brand/firm) based on their interactions with it (Anderson and Srinivasan 2003; Parasuraman et al. 1985), plays a core role in shaping how individuals interpret their consumption experiences. When BoP consumers perceive SSMMAs as being accessible, inclusive, and value-congruent (e.g., promoting affordable eco-friendly products), their satisfaction is likely to rise, bolstering their subjective well-being (Chang et al. 2023; Song et al. 2022). We propose:

H2a. *Bottom-of-the-pyramid customers' satisfaction with sustainable SMMAs boosts their subjective well-being.*

Customer engagement, a customer's investment of their (e.g., cognitive, emotional, and/or behavioral) resources in their brand interactions (Hollebeek et al. 2014), has also been found to contribute to subjective well-being (Hollebeek and Belk 2021). On social media, engagement manifests through activities such as liking, commenting, sharing, or co-creating content (Groeger et al. 2016). For BoP consumers, these behaviors not only facilitate discovery and expression but also generate a sense of inclusion, empowerment, and relevance—key psychological drivers of well-being (Martin and Hill 2015). While BoP consumers' exposure to aspirational content may induce feelings of inadequacy or exclusion (Macqueen et al. 2024), SSMMAs—designed with a view to accessibility, inclusivity, and empowerment—are likely to generate positive engagement outcomes for these consumers (e.g., by offering low-cost solutions, value-aligned narratives, participatory opportunities, or deals). We posit:

H2b. *Bottom-of-the-pyramid customers' satisfaction with sustainable SMMAs boosts their subjective well-being.*

3.3 | Mediating Role of Customer Engagement and Satisfaction

To understand the process through which SSMMAs influence customer well-being, we propose two key mediating variables: *customer engagement and customer satisfaction*.

First, *customer engagement*, a customer's (e.g., cognitive/emotional) resource investment in their brand interactions (Hollebeek et al. 2019) is expected to mediate the impact of SSMMAs on consumers' subjective well-being. Specifically, given these consumers' rising interest in sustainability (Shevchenko et al. 2020), SSMMAs are likely to generate their heightened (e.g., cognitive/emotional) resource investment in interacting with this content (Chege et al. 2019), aligning with their (shifting) values and thereby boosting their subjective well-being (Akareem et al. 2022; Hollebeek and Belk 2021). Therefore,

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SSMMAs may deepen consumers' relational brand connection and reinforce their sense of agency *through* their engagement with this content, benefiting their subjective well-being.

Second, *customer satisfaction*, a customer's overall evaluation of a product or service (Oliver 1980), is likewise proposed to mediate the effect of SSMMAs on subjective well-being. SSMMAs that provide relevant, accessible, and affordable content (e.g., promotions for clean cookstoves via WhatsApp groups/Facebook ads) may enhance perceived brand fairness and benevolence, increasing satisfaction (Mukherjee et al. 2020) and contributing to subjective well-being, such as by fostering contentment/gratification, which—while often lacking in BoP consumers' everyday lives—can be meaningfully supported by sustainability-focused messaging (Song et al. 2022). The mediating role of satisfaction has also been shown in related contexts, including rural banking and electronic customer relationship management (Dehghanpouri et al. 2020). We propose:

H3. *Bottom-of-the-pyramid customers' (a) engagement and (b) satisfaction mediate the effect of sustainable SMMAs on their subjective well-being.*

3.4 | Moderating Role of Environmental Consciousness and Empowerment

We also examine the proposed moderating effect of BoP customers' environmental consciousness and their perceived empowerment. First, *environmental consciousness*, "the degree to which a person is oriented toward concern for the environment" (Lin and Chang 2012, 127), reflects individuals' attentiveness to environmental issues, including the firm's adoption of an environmental stance (Lin and Niu 2018). While environmental consciousness is typically more prevalent in affluent markets, BoP consumers are likewise becoming increasingly receptive to such concerns despite their resource limitations (Ferdous et al. 2024; Kumar et al. 2025). Specifically, they are progressively engaging with sustainability-focused content, reflecting their eco-friendly or green values and their rising preference for such products (Adomako et al. 2021; Chege et al. 2019).

While this shift calls for greater scholarly attention to BoP consumers as critical stakeholders in global sustainability efforts (Mende et al. 2024), the role of environmental consciousness in shaping how these consumers engage with SSMMAs remains underexplored. Specifically, more (vs. less) environmentally conscious consumers are more likely to perceive firm-led sustainability initiatives as personally relevant and important, amplifying the effectiveness of such messaging in driving their engagement and satisfaction (Chang et al. 2023; Colicev et al. 2018). At the BoP, environmentally conscious consumers are found to respond more favorably to sustainable brand messaging, exhibiting their elevated engagement and satisfaction with this content (Kim and Ko 2012; Adomako et al. 2021). We hypothesize:

H4. *Environmental consciousness moderates the effect of sustainable SMMAs on bottom-of-the-pyramid customers' (a) engagement and (b) satisfaction, such that their higher environmental consciousness yields stronger effects.*

Moreover, *customer empowerment*, "the extent to which a firm provides its customers avenues to (1) connect with [it] and actively shape … transactions, and (2) connect and collaborate by sharing information, praise, criticism, suggestions, and ideas about its products, services, and policies" (Ramani and Kumar 2008, 28–29), has gained traction in the digital era, in which social media offer consumers unprecedented opportunities to engage with brands and shape firm practices (Moedeen et al. 2023; Yuksel et al. 2016).

In BoP markets, consumers often contend with challenges, including exploitative pricing, counterfeit goods, and limited access to quality products (Mukherjee et al. 2020). Social media offers an opportunity to redress informational asymmetries and foster more participatory marketplaces (Ferdous et al. 2024). Notwithstanding their socio-economic constraints, BoP customers have a strong capacity to engage, particularly when they are provided with feedback tools, thereby shaping the brand-related discourse (Mukherjee et al. 2020).

Prior studies suggest that empowerment may drive self-efficacy, voice, and sense of inclusion, leading empowered consumers to experience elevated emotional and psychological benefits from their brand interactions (Alves and Wagner Mainardes 2017; Shukla et al. 2023) and stimulating their engagement, satisfaction, and subjective well-being (Hollebeek and Belk 2021). Specifically, firm SSMMAs may empower BoP consumers, who tend to seek validation and responsiveness from organizations, in turn amplifying their well-being (van Niekerk et al. 2024). We hypothesize:

H5. *Bottom-of-the-pyramid customers' empowerment moderates the effect of (a) engagement and (b) satisfaction on their subjective well-being, such that more empowered customers see stronger predicted effects, respectively.*

Finally, Figure 1 depicts the proposed theoretical framework and hypotheses.

4 | Methodology

4.1 | Research Context

We explore the hypotheses in the context of the BoP market in Bangladesh for two main reasons. *First*, socio-economically, Bangladesh comprises an extensive number (61.76 million in 2021) of consumers earning under US$5 daily (Chakrabarti and Henneberg 2023; WorldBank 2022). Although the IMF (2024) estimates Bangladesh's per capita GDP at US $2,600 (or US $9,420 in purchasing power parity terms), national household survey data provide a more realistic benchmark for defining the BoP segment. According to the Bangladesh Bureau of Statistics (BBS, 2022) the average monthly household income stands at 32,422 BDT (approximately US $380), which is equivalent to an annual income of US $4,560. This amount corresponds to an average of less than US $5 per person per day for typical households, underscoring the country's BoP characteristics. *Second*, Bangladesh is seeing a rapid digital transformation, driven by government initiatives like *Digital Bangladesh* and rising mobile and internet penetration

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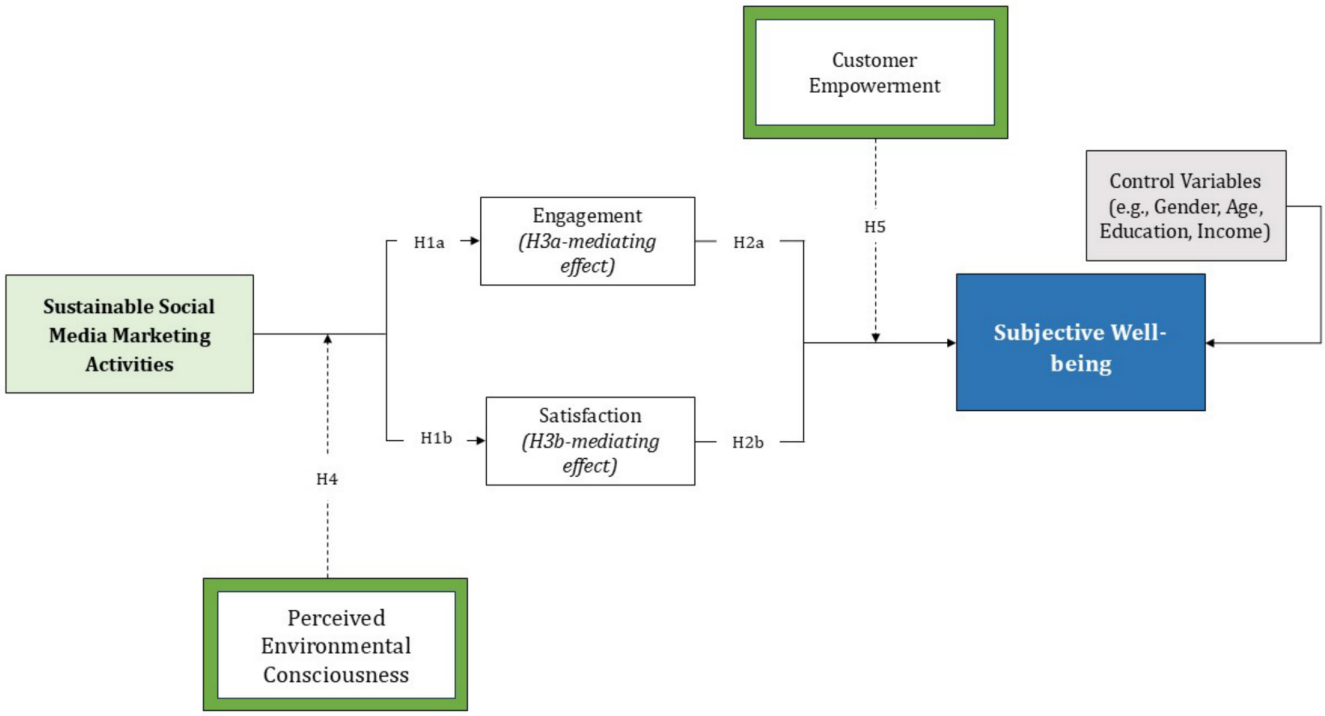

FIGURE 1 | Conceptual framework.

(Bhuiyan 2024), with over 62.82 million active digital media users in 2025 (Statista 2025). Together, these shifts render Bangladesh a relevant and timely context for exploring how SSMMAs influence BoP consumers' engagement, satisfaction, and well-being.

4.2 | Sampling and Data Collection

The respondents, domestic residents from Dhaka, Khulna, Barishal, and Rangpur, were selected using purposive sampling due to the unknown population and sampling frame (Saunders et al. 2009). This approach allowed us to target BoP individuals who use social media. Our inclusion criteria required participants to (1) belong to the BoP segment (annual household income <$4560), (2) have made a purchase through social media (e.g., Facebook/Instagram) in the past six months, and (3) be at least 18 years of age. The inclusion criteria were verified using a two-stage check (i.e., income screening at the start and demographic validation at the end of the survey). We recruited respondents through social media groups (e.g., Facebook and WhatsApp groups) focused on selling sustainable products (e.g., local mangoes, fish, organic foods) in April and May 2022. This approach yielded 443 responses from 891 Google Form invitations, which we followed up after 2 weeks.

A valid total of 414 responses was retained, surpassing the minimum sample size of 119 determined using G*Power. Prior studies in Bangladesh report comparable response rates (e.g., 47% from 600: Riva et al. 2022; 41% from 750: Rubel et al. 2021), substantiating the attained 46.5% response rate. The final sample included 245 men (59.2%) and 169 women (40.8%), with adequate demographic variation in terms of age, gender, income, and education[1] (see Table 2).

4.3 | Survey Structure and Measures

We used a structured questionnaire comprising three sections: (1) Introduction, which outlined the study purpose and requested participants' consent, (2) scale items, and (3) demographic questions. The original English questionnaire was translated and then back-translated into Bengali, the official language of Bangladesh, to ensure clarity (Brislin 1976). To verify the survey, it was first reviewed by two experienced university teachers, followed by a pilot study ($n = 35$). Based on the findings, we made minor language adjustments to enhance clarity.

We adopted established scales to measure the modeled constructs on seven-point Likert scales (1 = *strongly disagree* to 7 = *strongly agree*), unless otherwise stated (see Online Appendix B). SSMMAs, comprising entertainment, interaction, word-of-mouth, trendiness, and customization, were measured with 11 items across five dimensions (Kim and Ko 2012; J. Liu et al. 2023). One item (SMMA7) was dropped because of its low exploratory factor analysis (EFA) factor loading (0.688), resulting in a final 10-item scale.

As *SSMMAs* represent a new construct, we conducted an EFA using principal component analysis (PCA) on the full sample ($n = 415$; Malhotra and Dash 2020). The Kaiser–Meyer–Olkin (KMO) test yielded a value of 0.917, while Bartlett's test of sphericity was significant ($\chi^2 = 2942.646$, df = 45, $p < 0.001$), confirming sampling adequacy and factorability (see Online Appendix A).

We measured the proposed mediating variables using Hollebeek et al. (2014)'s 10-item *customer engagement* scale that comprises cognitive processing, affection, and activation, alongside five items

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TABLE 2 | Respondent profile.

Variable	*n*	Percentage
Gender:		
Male	242	58.45%
Female	172	41.55%
Prefer not to say	0	
Income level (yearly) in BDT:		
Less than 112,000	76	18.36%
120,000–180,000	121	29.23%
180,000–200,000	144	34.78%
200,000–380,000	73	17.63%
Age (in years):		
18–25	177	42.75%
25–40	149	35.99%
40–55	88	21.26%
Educational level:		
Secondary level	62	14.98%
Higher secondary level	100	24.15%
University level	184	44.44%
Others (e.g., vocational, Madrasha)	68	16.43%
Social media use:		
Facebook & Messenger	201	48.55%
Twitter	30	7.25%
Instagram	50	12.08%
YouTube	70	16.91%
Others	63	15.22%

Note: (1) Exchange rate: $1 = BDT 121.75 as of September 11, 2025 (Google Exchange Rate). (2) BoP definition: Daily income < $5/per person or annual household income < $4560.

from Anderson and Srinivasan (2003) and Oliver (1980) to capture *consumer satisfaction*. We measured the dependent variable, *subjective well-being*, using three items from Meng and Choi (2017) and Uysal et al. (2022). Moreover, the moderating variables were measured as follows. While environmental consciousness was gauged using three items capturing knowledge, familiarity, and inference with sustainable products (Lin and Chang 2012), customer empowerment was measured using three items adapted from Ramani and Kumar (2008). Finally, attention checks were included, with responses failing these checks being excluded from further analysis (for the full item listing, see Online Appendix B).

4.4 | Analytical Strategy

We first implemented a listwise deletion procedure in SPSS to address any missing data (Allison 2003). We also tested skewness and kurtosis to assess data normality. The results indicated that the skewness values ranged from −1.872 to +1.629, while the kurtosis values fell within the recommended limits of ±3 and ±10, respectively (Kline 2023). Consequently, the data are considered to be normally distributed. We deployed partial least squares structural equation modeling (PLS-SEM) with SmartPLS software to conduct the confirmatory factor analysis and to evaluate the modeled relationships (Hair et al. 2019; J. Liu et al. 2023).

4.5 | Common Method Bias Assessment

As we collected data for all variables from a single respondent source, we adopted procedural and statistical remedies to both control for and assess potential common method bias (CMB) in the data. *First*, prior to data collection, we assured the respondents of the confidentiality of their responses, while also providing clear instructions, randomizing the item order, and removing (e.g., construct) headings to reduce bias. *Second*, post–data collection, we conducted Harman's single-factor test (Podsakoff et al. 2003), which revealed seven factors with eigenvalues > 1.00, explaining 72.17% of the total variance. The first factor accounted for a mere 44.27% of the observed variance (< 50%), indicating that CMB is not a concern in our data (Podsakoff et al. 2003).

5 | Results

5.1 | Measurement Model Assessment

We assessed the measurement model in terms of its reliability, convergent validity, and discriminant validity, shown in Table 3. We considered Cronbach's alpha, composite reliability (CR), and rho_A to assess construct reliability. According to Hair et al. (2019), these values should exceed the value of 0.70 for the model to be deemed reliable. As shown in Table 3, all the required criteria were met, confirming the model's reliability.

We next evaluated convergent validity by measuring the average variance extracted (AVE) and analyzing any cross-loadings (Hair et al. 2019). For convergent validity to be established, the AVE should be > 0.5, and each item's factor loadings should be > 0.7. The findings (Table 4) reveal factor loadings ranging from 0.700 to 0.915, with an AVE > 0.5, meeting convergent validity requirements.

We also assessed discriminant validity by examining the Fornell–Lacker criterion and the heterotrait–monotrait correlation ratio (HTMT) (Hair et al. 2019). The Fornell–Lacker test results are presented in Table 4, where the diagonal values (representing the square roots of the AVE) should surpass the off-diagonal values (representing the correlations between variables) to establish discriminant validity. Moreover, the HTMT was 0.85 (HTMT < 0.90; Hair et al. 2022; Hair et al. 2019). The findings indicate that the criteria were fully met, establishing the discriminant validity of the measurement model.

5.2 | Structural Model Assessment

We followed Hair et al. (2019) and Henseler et al. (2015) to assess the structural model using the coefficient of determination (R^2), effect size (f^2), blindfolding-based cross-validated

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TABLE 3 | Measurement model assessment.

Constructs	Items	Loadings	α	Composite reliability		AVE
				rho_a	rho_c	
Sustainable social media marketing activities (SSMMA)	SSMMA1	0.700	0.930	0.931	0.940	0.589
	SSMMA2	0.832				
	SSMMA3	0.780				
	SSMMA4	0.849				
	SSMMA5	0.811				
	SSMMA6	0.808				
	SSMMA7	Dropped				
	SSMMA8	0.728				
	SSMMA9	0.749				
	SSMMA10	0.740				
	SSMMA11	0.730				
Environmental consciousness (EC)	EC1	0.907	0.838	0.853	0.903	0.756
	EC2	0.895				
	EC3	0.803				
Customer engagement (ENG)	ENG1	0.840	0.951	0.954	0.958	0.696
	ENG2	0.728				
	ENG3	0.843				
	ENG4	0.781				
	ENG5	0.794				
	ENG6	0.871				
	ENG7	0.813				
	ENG8	0.902				
	ENG9	0.902				
	ENG10	0.852				
Satisfaction (SAT)	SAT1	0.802	0.834	0.836	0.889	0.668
	SAT2	0.824				
	SAT3	0.846				
	SAT4	0.796				
	SAT5	0.802				
Subjective well-being (SW)	SW1	0.909	0.870	0.870	0.920	0.794
	SW2	0.889				
	SW3	0.874				
Customer empowerment (CEpw)	CEpw1	0.824	0.900	0.950	0.929	0.766
	CEpw2	0.864				
	CEpw3	0.915				
	Cepw4	0.896				

Abbreviation: α = Cronbach's alpha.

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redundancy (Q^2), and the significance level of path coefficients. We also employed bootstrapping with 5000 resamples to test the hypotheses and assess the *t*-statistics for the path coefficients (Henseler et al. 2015). Table 5 displays the findings, demonstrating that the R^2 for satisfaction was measured at 0.625, while for engagement, it stood at 0.728. These figures indicate that SSMMAs and environmental consciousness account for 62.5% of the variance in satisfaction and 72.8% of the variance in engagement. Moreover, the variation in BoP customers' subjective well-being is expounded by satisfaction and engagement to the extent of 52.8%.

Table 5 displays the strength of effect sizes (f^2) to determine the influential impact of different constructs within the single model (Henseler et al. 2015). We attained f^2 values ranging from 0.042 to 0.644, with effect sizes categorized as small (0.02), medium (0.15), and large (0.35). We also assessed the predictive capability of specific parameters in PLS-SEM using blindfolding-based cross-validated redundancy (Q^2). As per Hair et al. (2019), the Q^2 value should be > 0 to demonstrate the overall predictive relevance of the path model. The results (shown in Table 5) meet this criterion.

To evaluate lateral collinearity, we calculated the variance inflation factors (VIFs) (Hair et al. 2019). VIF values > 5 indicate significant lateral multicollinearity issues among the constructs, while values closer to 3.00 are considered optimal. In this study, the VIF values are within the cutoff value,

TABLE 4 | Discriminant validity: Fornell–Lacker criterion.

	1	2	3	4	5	6
1. Customer empowerment	*0.875*					
2. Satisfaction	0.130	*0.817*				
3. Consumer engagement	0.040	0.617	*0.834*			
4. Environmental consciousness	0.122	0.613	0.846	*0.869*		
5. Social media marketing activities	0.205	0.773	0.619	0.637	*0.768*	
6. Subjective well-being	0.182	0.672	0.614	0.597	0.663	*0.891*

TABLE 5 | Direct effects.

			BCI					
Paths	**B**	**SD**	**5%**	**95%**	***t* value**	***p***	**VIF**	f^2
H1a: SSMMAs → ENG	0.139	0.047	0.068	0.221	2.958	0.002	1.693	0.042
H1b: SSMMAs → SAT	0.639	0.04	0.57	0.701	15.877	0.000	1.693	0.644
H2a: ENG → SW	0.329	0.049	0.251	0.41	6.762	0.000	1.656	0.139
H2b: ESAT → SW	0.453	0.053	0.362	0.534	8.616	0.000	1.679	0.259

Note: (1) Coefficient of determination (R^2): ENG = 0.728; SAT = 0.625; SW = 0.528. (2) Blindfolding-based cross-validated redundancy (Q^2): ENG = 0.501; SAT = 0.408; SW = 0.409.
Abbreviations: BCI = bias-corrected confidence interval, CEpw = customer empowerment, ENG = customer engagement, SAT = satisfaction, SD = standard deviation, SSMMA = sustainable social media marketing activities, SW = subjective well-being, VIF = variance inflation factor.

TABLE 6 | Partial least squares results (mediation and moderation effects).

			BCI			
Paths	***b***	**SD**	**5.00%**	**95.00%**	***t* value**	***p***
H3a: SSMMAs → ENG → SW	0.046	0.018	0.022	0.081	2.493	0.006
H3b: SSMMAs → SAT → SW	0.290	0.041	0.222	0.357	6.993	0.000
H4a: EC × SMMAs → ENG	−0.009	0.008	−0.022	0.002	1.215	0.112
H4b: EC × SSMMAs → SAT	0.022	0.011	0.004	0.039	2.062	0.020
H5a: CPew × ENG→ SW	0.006	0.009	−0.009	0.021	0.632	0.264
H5b: CPew × SAT→ SW	0.051	0.016	0.028	0.081	3.101	0.001

Abbreviations: BCI = bias-corrected confidence interval, CEpw = customer empowerment, EC = environmental consciousness, ENG = customer engagement, SAT = customer satisfaction, SD = standard deviation, SSMMA = sustainable social media marketing activities, SW = subjective well-being, VIF = variance Inflation factor.

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indicating no collinearity issues. Finally, we examined the fit indices of the structural model, including the standardized root mean square residual (SRMR), and Normative Fit Index (NFI; Hair et al. 2019), yielding satisfactory results (SRMR = 0.061; NFI = 0.795), suggesting the model's robustness.

5.3 | Hypothesis Testing: Direct Effects

We used bootstrapping (5000 resamples) to assess the sign (β), and significance (p value), of the relationships among the variables. These calculations were performed at a one-tailed significance level (5%) and based on the 95% bias-corrected confidence interval (BCI; see Table 5). We found that sustainable social media marketing activities influence both customer engagement (β = 0.139, p = 0.002) and satisfaction (β = 0.639, p = 0.000), supporting H1a and H1b. Likewise, BoP customers' subjective well-being was influenced by both engagement (β = 0.329, p = 0.000), and satisfaction (β = 0.453, p = 0.000), yielding support for H2a and H2b.

5.4 | Hypothesis Testing: Mediating and Moderating Effects

We next investigated the proposed mediating effect of customer satisfaction by examining its indirect effects (5000 bootstrap resamples in SMART PLS). To estimate this effect, we employed (MacKinnon et al. 2002; X. Zhao et al. 2010) to compute the estimates, t-statistics, and 95% BCIs for the indirect and total effects. The mediation testing results presented in Table 6 indicate that the effect of SSMMAs on subjective well-being was influenced by (a) customer engagement (SSMMAs → ENG → SW: β = 0.046, p = 0.006) and (b) satisfaction (SSMMAs → SAT → SW: β = 0.290, p = 0.000), as the confidence intervals do not contain zero (Zhao et al. 2010), supporting H3a and H3b.

Table 6 also shows the moderation testing results (5000 bootstrap resamples in SMART PLS) (Hair et al. 2022; Riva et al. 2022). We found a significant moderation effect of perceived environmental consciousness on the association between SSMMAs and BoP customers' satisfaction (EC × SSMMAs → SAT: β = 0.022, p = 0.020, CI = 0.004, 0.039), supporting H4b. However, it did not significantly moderate the effect of SSMMAs on engagement (β = −0.009, p = 0.112, BCI −0.022 to 0.002), leading us to reject H4a. The results also revealed a significant moderating effect of customer empowerment on the association of satisfaction and subjective well-being (CEpw × SAT → SW: β = 0.051, p = 0.001, CI = 0.028, 0.081), supporting H5b. At the same time, it did not significantly moderate the effect of engagement on subjective well-being (β = 0.006, p = 0.264, BCI −0.009 to 0.021), lacking support for H5a.

6 | Discussion, Implications, and Limitations

6.1 | Discussion

We explored the effects of SSMMAs on BoP customers' engagement, satisfaction, and subjective well-being. The findings offer valuable insight into social media usage patterns and their impact on consumer behavior and well-being in BoP markets, making an important contribution to the literature.

SSMMAs were found to boost BoP customers' engagement and satisfaction, extending prior findings indicating that interactive or sustainable brand content raises consumers' emotional connection to brands (Islam et al. 2018; So et al. 2024). As traditional marketing channels may be limited in the BoP context, social media are important in broadening consumers' access to brand-related information (e.g., by informing/entertaining them: Ferdous et al. 2024). The results echo earlier findings in related contexts of online brand communities, both in developed (e.g., Brodie et al. 2013) and developing markets (e.g., Kaur et al. 2020), where customer engagement and satisfaction have emerged as key drivers of consumer behavior.

The results confirm that engagement and satisfaction boost BoP consumers' subjective well-being, extending prior literature that suggests that emotionally fulfilling, cognitively stimulating brand experiences contribute to consumers' life satisfaction (Hollebeek and Belk 2021; Song et al. 2022). In BoP markets, these effects may be more salient, as consumers tend to derive greater psychological and/or social value from being part of inclusive, sustainability-oriented brand ecosystems (Chege et al. 2019).

The results further reveal that BoP consumers' engagement and satisfaction partially mediate the effect of SSMMAs on their subjective well-being, extending the work of authors including Hollebeek and Belk (2021) and suggesting that digital marketing strategies must prioritize experiential depth to yield meaningful psychological outcomes (Gupta et al. 2023; Zarei et al. 2022). By understanding and leveraging these effects, firms can create more effective social media campaigns benefiting BoP consumers.

For the moderating variables, environmental consciousness was found to moderate the effect of SSMMAs on satisfaction. These findings suggest that more environmentally conscious consumers tend to derive more value from sustainability-themed brand messaging, consistent with research (e.g., Chang et al. 2023; Colicev et al. 2018). Overall, the results reinforce the role of consumers' psychological traits in shaping the effectiveness of sustainability messaging on social media (Knight et al. 2022).

Customer empowerment was also found to moderate the effect of satisfaction on subjective well-being, extending the work of authors including Hollebeek and Belk (2021), and Altinay et al. (2019), among others. Specifically, more (vs. less) empowered BoP customers reported higher subjective well-being, when they are satisfied, extending prior findings indicating a positive effect of consumer empowerment on self-efficacy and quality of life (e.g., Alves and Wagner Mainardes 2017; van Niekerk et al. 2024). For BoP customers, who often face systemic exclusion, having a sense of voice and recognition from firms may be particularly critical in translating their brand engagement and satisfaction into subjective well-being. Collectively, these findings highlight the dual importance of firm-driven sustainability messaging and consumers' psychological readiness in shaping meaningful brand experiences in vulnerable populations. We next outline important theoretical implications that arise from our analyses.

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6.2 | Theoretical Implications

This study offers pertinent implications for further theory development in sustainability marketing, customer engagement, and the BoP. First, building on Kim and Ko (2012), this research offers a pioneering extension of SMMAs to the related concept of SSMMAs, which are of growing importance in contemporary marketplaces in which consumers—including at the BoP—are increasingly demanding firms' responsible conduct (Kumar et al. 2025). While prior SMMA studies have tended to examine more developed (Global North) markets (e.g., Zollo et al. 2020; Liu et al. 2023), this research centers on economically constrained yet digitally connected BoP consumers, who are becoming increasingly oriented toward sustainability issues (Chakrabarti and Duncan 2025; Mende et al. 2024).

We empirically demonstrate that SSMMAs may boost BoP customers' engagement, satisfaction, and subjective well-being, highlighting a virtuous consumer behavioral cycle instigated by these sustainable brand messages. Our analyses thus augment extant literature on customer engagement, empowerment, and social inclusion in low-income markets (Akareem et al. 2021; Mukherjee et al. 2020). These findings raise important implications for further theory development. For example, how are SSMMAs best designed to optimize BoP or other customers' engagement, satisfaction, and subjective well-being? What differences might be observed across different BoP, emerging, or developing market contexts (e.g., vs. specific developed markets)?

Second, we tested the moderating effect of BoP customers' environmental consciousness and empowerment, advancing insight into the UN's SDGs 1, 9, and 12 (Mende et al. 2024) by exploring the role of SSMMAs in achieving more responsible, inclusive consumption outcomes. While the effect of firms' sustainable activities on customer engagement has received prior investigation (e.g., Kumar et al. 2025), these works have typically focused on developed markets, warranting further investigation of these dynamics in the BoP context.

The findings reveal that more environmentally conscious BoP consumers tend to respond more positively to SSMMAs, extending earlier findings (e.g., Chang et al. 2023; Dahrouj et al. 2025). Moreover, customer empowerment is shown to intensify the impact of satisfaction on subjective well-being, highlighting the importance of fostering participatory, inclusive digital experiences (Ferdous et al. 2024; van Niekerk et al. 2024). These results also raise important theoretical implications. For example, beyond the studied dependent variable (subjective well-being), in what other ways may SSMMAs raise consumers' quality of life? To what extent may customers' negative (vs. positive) engagement have a detrimental (vs. positive) impact on their well-being?

6.3 | Managerial Implications

This research offers actionable insight for managers seeking to leverage SSMMAs for enhanced customer engagement, satisfaction, and subjective well-being in the BoP context.

First, the findings suggest that SSMMAs affect BoP consumers' subjective well-being, both directly and indirectly through engagement and satisfaction, suggesting their strategic importance. Based on this finding, managers are advised to design and implement SSMMAs in their BoP markets, which are expected to boost customers' engagement, satisfaction, and well-being. Therefore, despite their (e.g., financial) constraints, BoP customers are increasingly seeking more responsible consumption options, opening up a relatively untapped marketing opportunity (e.g., for affordable sustainable offerings). To help BoP customers consume more responsibly, producers could collaborate with governmental agencies (e.g., to provide subsidies for BoP customers to access sustainable offerings: Moriuchi 2025), while also educating BoP users on how to most efficiently use or share specific sustainable offerings, minimizing spillage or waste (Dahrouj et al. 2025), among others.

Second, we examined the moderating effect of customers' environmental consciousness on the impact of SSMMAs on satisfaction and engagement of BoP customers. The results for H4 corroborate that while more environmentally conscious customers experience a more substantial effect of SSMMAs on their satisfaction (H4b), it backfires on their engagement (H4a). Based on the findings, marketers are advised to either (a) target those exhibiting high (vs. low) environmental consciousness, as these individuals experience more substantial positive psychological effects of SSMMAs, or (b) cultivate their less environmentally conscious customers toward higher consciousness levels, allowing them to leverage the attained positive effects in the future.

The findings for H5 suggested that while customer empowerment did not moderate the effect of customer engagement on the well-being (H5a), it did indeed moderate that of satisfaction on the well-being of the BoP customers (H5b). Therefore, customer satisfaction (vs. engagement) emerged as a more useful segmentation variable. In other words, considering these conditional effects, the influence of SSMMAs on customers' subjective well-being was found to be stronger for those buyers who displayed high (vs. low) brand satisfaction, but not for those who exhibited high (vs. low) engagement. Based on these findings, we recommend that managers strategically focus their SSMMAs on highly satisfied customers, given the predicted greater impact of those activities on these customers' subjective well-being and boosting their quality of life, *in particular* (Hollebeek and Belk 2021).

6.4 | Limitations and Further Research

Despite its contribution, this research also has limitations that offer additional research avenues. *First*, the data were collected from a single source (i.e., BoP consumers on social media). We recommend that future researchers not only collect data from BoP buyers but also from other stakeholders, including sellers, to explore further how SSMMAs can drive engagement and well-being (Hollebeek, Kumar, et al. 2023; Shokouhyar et al. 2023).

Second, researchers may revisit the cross-sectional, single-context data used in this research, including by drawing on longitudinal analysis to assess the evolving dynamics of BoP consumers over time, and/or by exploring the proposed associations in other contexts. The undertaking of such replication and extension work is essential, given (a) the potentially changing nature of constructs like engagement or satisfaction over time

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(So et al. 2024), and (b) the unique cultural dynamics characterizing these constructs (e.g., Hollebeek 2018).

Third, scholars may further delve into the nature of potential negative consequences of SSMMAs, including unintended effects (e.g., customer incivility, misbehavior, or anticipatory guilt), which may likewise affect consumers' engagement, satisfaction, and well-being. Finally, as digital marketing increasingly leverages AI-driven personalization and algorithmic content curation, future research could investigate how specific emerging technologies influence the responses of BoP consumers to SSMMAs, thereby enabling the development of guidance for designing responsible, inclusive, and culturally relevant BoP marketing strategies.

Author Contributions

Md. Al Amin served as the Principal Investigator (PI) of the project. He initiated the conceptualization, conducted the data collection and analysis, and prepared the first draft of the manuscript. He also remained involved in guiding the project during the subsequent revision. Prof. Dr. Masudur Rahman supervised the project, contributed to the conceptual development, guided the data collection and analysis, and provided input on the original draft. Prof. Dr. Linda Hollebeek provided further supervision after the first draft. She refined the framework, substantially rewrote and restructured the manuscript, and contributed to strengthening the storyline, literature review, data analysis, methodology, theoretical development, and managerial implications. Dr. Jamid Ul Islam revised the introduction and methodology, completed the methods section, and conducted additional analyses to enhance the contributions section. Finally, Prof. Dr. Moira K. Clark made substantial contributions during the major revision stage by reconceptualizing the article's positioning and strengthening the literature review, methodology, data analysis, and both the theoretical and managerial contributions.

Acknowledgments

The authors would like to express their sincere thanks to the anonymous reviewers and the Associate Editor for their constructive comments, insightful feedback, and valuable guidance throughout the review process, which have greatly improved this paper. In particular, the first author, Md. Al Amin, wishes to express his deepest gratitude to his wife, *Tasmina Akter Shanta*, whose unwavering support and selfless dedication in managing all family responsibilities have enabled him to devote himself fully to his work, research, and studies, making this publication possible. Finally, Md. Al Amin also acknowledges that he completed the full first draft during his time as a master's student at the University of Dhaka, while serving as an Assistant Professor of Marketing at Gopalganj Science and Technology University (renamed from Bangabandhu Sheikh Mujibur Rahman Science and Technology University), Bangladesh.

Funding

The authors received no specific funding for this work.

Conflicts of Interest

The authors declare no conflicts of interest.

Endnotes

[1] We controlled for gender, age, education, and income when estimating the model with subjective well-being as the dependent variable.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section. **Data S1:** Exploratory factor analysis results. **Data S2:** Measurement items.

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