

DIGITAL MARKETING STRATEGIES SUPPORTING COMMUNITY ACTION IN PLASTIC BAG REDUCTION

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ABSTRACT

Plastic waste, especially single-use plastic bags, is still a big problem for the environment in Indonesia. Banjarmasin was the first city to ban single-use plastics in modern retail, but it has been hard to get people to change their behavior permanently. This research examines the efficacy of incorporating digital marketing strategies within a community empowerment framework to promote sustainable consumer behavior. Using a Participatory Action Research (PAR) approach, this study involved 40 diverse stakeholders—comprising consumers, retail managers, local micro-influencers, and policymakers—in the co-creation and execution of a digital campaign framed by cultural and religious contexts. The intervention also included digital nudges at retail points of sale and online checkout pages. The results showed a big change in behavior: after the intervention, the number of people who always used reusable bags went up from 52% to 76%, and sales of reusable bags at partner stores went up by 45%. Localized influencer marketing and digital nudges successfully stimulated pro-environmental behavior; however, challenges such as perceived costs, entrenched reliance on plastics, and the digital divide among older populations remained. This study contributes to the literature on environmental behavior by illustrating that regulatory frameworks, when enhanced by socio-culturally adapted digital marketing and participatory community initiatives, successfully connect policy implementation with enduring behavioral transformation.

Keywords: Digital Marketing, Environmental Behavior, Influencer Marketing, Plastic Bag Reduction, Sustainability

A. INTRODUCTION

In Indonesia, one of the most important challenges is plastic waste, especially single-use plastic bags, which permeate the rivers and oceans. Indonesia produces about 66 million tons of waste annually, 15% of which is plastic and 10% of that is properly recycled (Vriend et al., 2021). Banjarmasin, which has over 700,000 inhabitants, was the first municipality to control the banning of single-use plastic bags in modern retail stores. This policy was able to considerably reduce the distribution of plastic bags, however challenges remain. Surveys show that 78% of urban consumers understand the regulation, nevertheless, only 52% regularly bring reusable bags (Angriani et al., 2021, p. 1). This is due to the persistence of old habits, the convenience of plastic, and the limited reach of official campaigns (Nishijima & Nakatani, 2023, p. 742). This is especially true for older segments of the population and low-income households, for whom tote bags are seen as an unnecessary expense (UÇMAN & Yazıcı, 2023, p. 8). Community partners identified four main issues: low consistency in behavioral change, limited engagement with government campaigns, a digital divide in rural and older communities, and negative perceptions of the economic value of alternatives (Hardy & Bartolotta, 2021, p. 6).

In line with these objectives, the current undertaking sought to enhance the uptake of reusable bags focused on digital marketing strategies with religious and cultural framing for the digital campaigns, collaborating with local micro-influencers to weave genuine stories, and incorporating digital nudges within e-commerce checkout and minimarket point-of-sale systems encouraging the purchase of affordable tote bags, which could be affordable, to facilitate on-the-go shopping (Adesoye, 2024; Tran et al., 2024). The program sought to enhance the uptake of sustainable shopping practices which would facilitate active participation on digital platforms with external expected outcomes being an increase in tote bag adoption, enhanced tote bag collaborations and, engagement with the local academic community which would be reflected in scholarship and policy

briefs(Ashwini & Aithal, 2023, p. 159). Prior work suggests that merely enacting regulations is insufficient to bring about sustainable behavioral changes(Thomas et al., 2019, p. 2). The international community has documented the use of digital marketing, coupled with trusted influencers and nudges, as a potent catalyst for changing environmentally favorable behaviors filling the gaps within regulatory frameworks(Rosário & Dias, 2025). The current article describes a community service activity translating research scholarship into practice in the fields of digital marketing and policy to enable community empowerment to create expandable models of sustainable behavior change in Banjarmasin.

B. IMPLEMENTATION AND METHODS

Design of the Research and Participants

This study utilized a Participatory Action Research (PAR) methodology to examine the efficacy of digital marketing interventions in decreasing single-use plastic bags. The study took place in Banjarmasin City, South Kalimantan, from January to June 2025. A total of 40 participants were intentionally chosen to reflect a diverse cross-section of the community, comprising consumers from urban households and traditional markets, minimarket managers, local micro-influencers, youth associations, civil society organizations, and representatives from the local Environmental Agency (ages 18 to 55). This PAR approach made sure that the community was the main agent of change instead of just being the subject of the study. This helped the community take ownership of the environmental interventions, which made them more likely to last.

PAR Process and Action

research execution was organized into three iterative phases. The first phase was all about figuring out what the problems were. This was done through participatory workshops to find out what

the specific local barriers to using reusable bags were, like how people thought they were too expensive or not convenient. In the second phase, the intervention was made together. Researchers worked with local micro-influencers and community members to create digital marketing campaigns that were based on environmental stewardship, pride in local culture, and religious values. It was a strategic choice to use micro-influencers to get more people involved and make sustainability efforts more credible. At the same time, researchers worked with retail partners, especially minimarket managers, to create and use digital nudges at physical checkouts and e-commerce sites to promote sustainable behavior. The third phase involved putting the campaigns into action on Instagram, TikTok, and Facebook, as well as keeping an eye on how people in the community and in stores responded to make sure that digital community engagement was effective.

Collecting and Analyzing Data

This study employed a mixed-methods assessment, incorporating descriptive and qualitative instruments, to evaluate the effectiveness of the interventions. Baseline and follow-up surveys were used to collect quantitative data on changes in consumer awareness and plans to cut down on plastic use. Also, we kept track of objective changes in behavior by looking at sales data for reusable bags at minimarkets during the research period. Social media metrics were also used to measure how many people participated in the campaign and how far it reached. In-depth interviews and focus group discussions were used to gather qualitative data on stories of behavioral change, cultural acceptance, and the socio-cultural effects of the religious and cultural campaign framing. Involving participants at every stage, from figuring out the problem to coming up with a solution, made sure that everyone understood how the intervention affected sustainable practices.

C. RESULTS AND DISCUSSION

Behavioral and Digital Engagement Outcomes

The PAR intervention resulted in substantial behavioral changes within the target population. Before the intervention, initial surveys showed that only 52% of consumers regularly brought reusable bags. The rest (65%) used single-use plastics mostly because they thought they were cheaper and easier to use. After six months of implementing the digitally-driven PAR initiatives, 76% of consumers who were surveyed said they always used reusable bags, and only 38% said they relied on single-use plastics.

The digital part of the intervention worked very well to get people in the community involved. The culturally and religiously framed campaigns reached about 120,000 people on Instagram, TikTok, and Facebook in three months. They got 9,300 likes, 2,100 comments, and 1,750 shares. The participatory nature of the research cultivated a profound sense of community ownership, as demonstrated by the spontaneous emergence and widespread adoption of localized digital hashtags like #TasRamahanLingkungan and #BawaTasSendiri.

Effects on the economy and institutions

The change in how people shop had a direct effect on the economy that could be measured. During the campaign, partner minimarkets saw a 45% rise in the number of reusable bags they sold, going from an average of 150 bags per month to 218 bags per month. Local micro-businesses that make cloth tote bags saw a 30% rise in sales on average because of this increased demand.

The PAR process made it easier for institutions to work together in strong ways. The Environmental Agency, local leaders, and store managers set up new rules to encourage people to shop in a way that is good for the environment all the time. Minimarket managers agreed to keep the

digital nudges at the points of sale so that people would keep buying reusable bags, which would make the intervention's effects last longer.

Table 1: Economic Impact of the Campaign on Reusable Bag Sales

Indicator	Before Campaign	During/After Campaign	Change
Reusable bag sales at partner minimarkets	150 bags/month	218 bags/month	+45%
Local micro-business cloth tote bag sales	Baseline	Increased	+30%

Discussion: The Effectiveness of Nudges and Socio-Cultural Framing

The results show that using localized digital marketing strategies in a PAR framework greatly improves pro-environmental behavior. People in the community were very involved because they trusted local micro-influencers and got help from local agencies. Importantly, the religious and cultural framing of the environmental message struck a chord with the community's core values, making them more determined to make a change.

Also, using digital nudges at the point of sale turned out to be a very effective way to get people to buy. While awareness campaigns created the desire, the nudges were the last straw, turning environmental awareness into immediate action at the checkout.

Even though these were good things, some problems were found. People still rely on plastic too much, and this is made worse by the fact that some people still see reusable bags as an extra cost instead of a way to save money in the long run. There was also a clear digital divide; older people (digital immigrants) were less interested in the social media campaigns, which means that future digital strategies need to be combined with traditional offline community activities (like religious gatherings and community radio) to be truly inclusive.

Theoretical Contributions

This research offers a unique theoretical advancement to the body of literature concerning sustainable consumer behavior and digital marketing. Previous studies frequently separate regulatory policy from marketing interventions; however, this research illustrates that policy frameworks (e.g., plastic bans) are inadequate without community-driven activation (Harada et al., 2021, p. 100181; Reppmann et al., 2022, 2024; Rosário & Dias, 2025; Zaman, 2024). This research presents a model that integrates Participatory Action Research with digital nudges and culturally tailored micro-influencer marketing, effectively addressing the significant gap between the implementation of environmental policy and the maintenance of behavioral habituation in a developing urban setting (Firmansyah & Sadono, 2025; Khan et al., 2025, p. 1; Li, 2025; Oludoye & Supakata, 2024, p. 15; Zawieska et al., 2022).

Development Opportunities

Future programming in the digital space could include efforts focused on the older segments of the population by merging online and offline approaches to community radio and religious gatherings. Loyalty rewards for reusable bags at minimarkets and cross promotional rewards programs could increase bag use and overall program participation. Integrating local micro-enterprise economic goals to scale tote bag production in alignment with local community service will provide strategic focus on more sustainable community environmental services.

D. CONCLUSION

This study shows that rules about plastic waste, like bans on single-use plastics, need to be put into action by the community in order to bring about lasting change in behavior. This research utilizes Participatory Action Research (PAR) in Banjarmasin to demonstrate that the incorporation of

localized digital marketing—particularly socio-culturally oriented micro-influencer campaigns and digital nudges at retail points of sale—successfully reconciles the disparity between policy objectives and consumer behavior.

The intervention resulted in a substantial behavioral change, elevating the regular utilization of reusable bags within the target demographic from 52% to 76%, concurrently achieving a 45% increase in reusable bag sales, which economically benefited local micro-enterprises. While obstacles like ingrained habits, perceived expenses, and a notable digital divide among older populations remain, the results underscore the importance of integrating digital strategies with conventional offline community interactions to promote greater inclusivity. This research contributes to the literature on sustainable consumer behavior by presenting a replicable, evidence-based model that utilizes community engagement, cultural relevance, and focused digital marketing to cultivate lasting pro-environmental behaviors in urban contexts.

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