

# Framed for Impact: Using framed social media CSR to enhance voluntary carbon offset purchase intentions

## Abstract:

This study investigates the impact of corporate social responsibility (CSR) communications through social media (CSR-S) on voluntary carbon offset (VCO) purchase intentions within the airline industry. As global carbon emissions rise over time along with the number of air travelers, the aviation industry faces pressure to adopt sustainable business models. More importantly, communicating these sustainable initiatives becomes vital to influence individual behaviors towards a sustainable path. The aviation industry has introduced voluntary carbon offset (VCO) programs to encourage consumer participation in supporting sustainable air travel. Voluntary Carbon Offset purchase intentions and the actual purchase historically have low adoption rates, partly due to ineffective communication strategies. The paper aims to show how framing strategies in CSR communications through social media can influence consumers' attitudes and their intention to purchase VCOs. Previous research examined CSR on consumer behavior, but the role of framed CSR through social media in shaping VCO purchase intentions remains underexplored. Specifically, the impact of framing is still being discussed and so far, inconclusive. In addition, the study examines the moderating role of message credibility in enhancing the impact of framed CSR-S on consumer attitudes. Widespread consumer skepticism and cynicism against corporate social responsibility claims require a credible message to enhance the effectiveness of the CSR communications on social media. Message credibility is likely to strengthen gain-framed CSR-S on consumer attitudes and amplify the impact of loss-framed messages on VCO purchase intentions. Online experimental study will be used to test the hypotheses and Amazon Mechanical Turk (MTurk) will be utilized to collect data. Participants will be assigned to different framing conditions and ANOVA will be used for the impact of gain/loss framing analysis. Further, Structural Equation Modeling (SEM) will be used to analyze the data and test the hypothesized relationships. The expected results will contribute to how airlines can use framing in CSR communications through social media for promoting sustainable behaviors among stakeholders.

**Keywords:** Corporate Social Responsibility (CSR), Voluntary Carbon Offset (VCO), Social Media, Sustainability Communication, Pro-Environmental Behavior

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## Introduction

The increasing significance of voluntary carbon offsets and corporate social responsibility (CSR) initiatives has prompted companies to actively utilize social media platforms to highlight their commitment to environmental sustainability and social impact. However, airline management mostly focuses on the social side of CSR. This means airlines consider improvements and sustainability aspects related to board members and employees while the environmental aspect receives less attention (Abdi et al., 2022). Consequently, airlines are more willing to share their goals related to environmental sustainability and less willing to share their initiatives (Cowper Smith & de Grosbois, 2011).

Despite the challenges, addressing environmental issues is an important part of the airline CSR. One of the most important environmental issues in the aviation industry is carbon emissions. Carbon emissions are an integral part of the airline industry as aircraft emissions contribute to the greenhouse effect and climate change (Somerville, 2004), accounting for 2% of the global carbon emissions in 2022 (International Energy Agency, n.d.). If the current trends remain, by 2050 this number has the potential to triple (Environmental and Energy Study Institute, n.d.). Moreover, air travel has other contributions to environmental damage and global warming through various environmental impacts (Cowper Smith & de Grosbois, 2011).

As the demand for air travel is rising, leading to more carbon emissions, it is imperative to implement measures that mitigate these negative effects. Nenkov (2024) emphasizes that a comprehensive shift toward sustainability necessitates the involvement of governments, corporations, and individuals. Change for sustainable air travel requires combating environmental challenges through integrating micro-level consumer behavior shifts, meso-level business model transformations, and macro-level policy changes (Nenkov, 2024).

In this regard, one of the pillars of sustainable development is shifts in consumer behavior. In air travel voluntary carbon offset programs are designed to involve consumers in mitigating some of the damages of aircraft emissions on the planet by collecting funds, which are then invested in global projects, such as reforestation initiatives. Communicating voluntary carbon offset (VCO) programs can increase consumer participation, thereby reducing the damage to the environment caused by aircraft emissions. While the literature provides various reasons for the low purchase rates of VCO programs, this study will focus on communication issues, specifically on social media. The previous research has provided evidence for a lack of awareness and knowledge of voluntary carbon offset initiatives by travelers (Dodds et al., 2008; Dodds et al., 2012).

CSR communications through social media (CSR-S) can increase consciousness and recognition of voluntary carbon offset programs. However, airlines face challenges when they communicate about VCO programs. While there are many challenges, Becken and Mo (2017), for example, analyzed 139 airlines and found that offsetting communications were inconsistent and insufficient. Furthermore, Framing research has not yet reached any conclusion and the impact of message framing is still widely researched due to mixed findings (Homar & Cvelbar, 2021; Stadlthanner et al., 2022).

Research concerning the impact of CSR framing on voluntary carbon offset (VCO) purchase intentions remains limited. Previous studies focused on the influence of framing on VCO purchase intentions but not on the impact of corporate social responsibility through social media (CSR-S) on the purchase intention of VCOs. Thus, the aim of the current research is to understand the impact of how framing strategies on CSR-S influence VCO purchase intentions.

# Literature Review

## Corporate Social Responsibility

Combining three different perspectives from three different periods and acknowledging the shortcomings of any viewpoints, (Husted & Allen, 2000; European Commission, 2011; Licandro et al., 2023), we define corporate social responsibility (CSR) as a comprehensive management philosophy in which companies strategically allocate resources to achieve long-term social objectives, create competitive advantages, and take responsibility for their impact on society.

With social media enabling two-way communication, interactivity in CSR messaging have become crucial (Barth et al., 2017). Effectively communicating CSR initiatives can serve as a powerful strategy for promoting the brand through demonstrating the environmental responsibility for their actions. An effective CSR communication does not only inform stakeholders, but also influence their perception. The perception and alignment of CSR with the stakeholders' beliefs and priorities further enhance the success of the initiatives (Xu et al., 2023). Moreover, companies that communicate their CSR through social media have better endorsement and overall engagement with their audience (Araujo & Kollat 2018).

To increase the effectiveness of CSR communications on social media several strategies have been introduced. Message framing is one such approach to improve the effectiveness of the CSR communications. Framing specifically involves selection of some aspects of reality and making them more salient (Entman, 1993). Presentation of one or two messages in different but equivalent wording is called framing. The message is more easily perceived when it is framed rather than presented as plain text (Baxter & Gram-Hanssen, 2016). The effectiveness of message framing has been widely researched and well-documented in various fields (Bertolotti & Catellani, 2014; Wen & Lee, 2020; Ye et al., 2021; Rossolini et al., 2021; Corfora et al., 2022; Cordero-Gutiérrez et al., 2024).

One of the main framing strategies undertaken is gain/loss framing. Gain/loss framing is equally important and valuable for the impact of the message (Homar & Cvelbar, 2021). Gain/loss framing has its roots in prospect theory (Kahneman & Tversky, 1979). For gain framing the message is presented with the potential positive outcomes for a decision. On the other hand, in loss framing the message is presented with potential negative consequences of not taking that action. For example, "Imagine what we will lose/gain if we don't make a green choice today."

While both framing has an impact on attitudes, gain framing improves positive attitudes (Loroz, 2007) and is often more effective than loss framing in generating them (Homar & Cvelbar, 2021). Moreover, gain-framing seems to generate positive outcomes for the company, such as word-of-mouth (Oh & Ki, 2019). It further generates online brand engagement through evoked happiness and credibility (Cordero-Gutiérrez et al., 2024).

Nabi et al. (2018) note that when it came to supporting attitudes, the impact of loss framing was less potent than that of gain-framed messaging. Further, gain-framed green advertising significantly enhances attitudes toward green products and advertising (Kim & Kim, 2014), and Kim & Kim (2014) further argue that people are more accustomed to seeing arguments framed positively rather than negatively, making positive framing more persuasive in influencing attitudes. In a different context, for advertisements and brands, gain-framed messaging produced more positive reactions (Segev et al., 2015). Likewise, Chen and DeSalvo (2021) demonstrated in the context of food waste reduction, gain-framed messages often yielding more favorable responses. Therefore we hypothesize:

**Commented [1]:** Xu, R., Liu, J., & Yang, D. (2023). The Formation of Reputation in CSR Disclosure: The Role of Signal Transmission and Sensemaking Processes of Stakeholders. *Sustainability*, 15(12), 9418. <https://doi.org/10.3390/su15129418>

**Commented [2]:** Entman, R.M. (1993), Framing: Toward Clarification of a Fractured Paradigm. *Journal of Communication*, 43: 51-58. <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>

**H1a:** Gain-framed CSR messages communicated through social media will lead to more positive attitudes toward the company compared to loss-framed CSR messages.

**H1b:** Gain-framed CSR messages communicated through social media will foster more positive attitudes toward the company's voluntary carbon offset programs compared to loss-framed CSR messages.

**H2a:** Loss-framed CSR messages communicated through social media will have an impact on positive attitudes towards the company's voluntary carbon offset programs.

**H2b:** Loss-framed CSR messages communicated through social media will have an impact on positive attitudes towards the company.

Furthermore, loss framing generates more willingness to act environmentally (Blandzic et al., 2017) and it elicits stronger reactions (Bosone & Martines, 2017). Further, Kahneman & Tversky (1979) suggests that individuals experience losses more intensely than equivalent gains in the prospect theory, which is often referred to as loss aversion. Loss aversion has been also supported by negativity bias (Meyerowitz and Chaiken, 1987), which suggests that negative information has a greater psychological impact on judgment and decision-making than equivalent positive information. In context involving behavior change, Poortinga and Whitaker (2018) documented that loss framing promotes more effective behavior. Additionally, the research by Homar and Cvelbar (2023) has demonstrated that using loss framing for voluntary carbon offsetting influences purchase intentions by increasing their effectiveness. Therefore, we hypothesize:

**H3:** Loss-framed CSR messaging from airlines on social media will lead to increased purchase intentions of voluntary carbon offsets for flights.

## Message Credibility

Message credibility is defined simply as how much a person believes the information in a message is true (Appelman & Sundar, 2016). Different authors tried to provide different metrics to identify a credible message. For example, Gaziano and McGrath (1986) suggested credibility has *fair, unbiased, trustworthy, complete, factual, and accurate* sub-dimensions. Further, Tseng & Fogg, (1999) define credibility as believability. They suggest credible information is believable information. Moreover, heuristics play an important role in credibility (Hilligoss & Rieh, 2008). For example, Metzger et al., (2010) found two general credibility heuristics: social confirmation and expectancies within context. Social confirmation concerns the idea that if a group of people believe that a message is credible, it should be credible. On the other hand, expectancies within context provide that any unusual unexpected behavior from a certain message will raise suspicion about its credibility.

Message credibility plays a critical role in shaping consumer attitudes and behavior with social media enabling direct communication (Khan et al., 2024). Moreover, a credible message enhances positive attitudes and increases message effectiveness (Kim & Kim, 2014). Conversely, greenwashing can harm a company's reputation impacting the perceived ethical standing of the organization (de Jong et al., 2020; De Jong et al., 2018). Therefore, credible CSR messaging is essential for maintaining consumer trust and driving engagement:

**H4:** The impact of Framed CSR-S on Attitudes will be moderated by message credibility.

**Commented [3]:** Meyerowitz, B. E., & Chaiken, S. (1987). The effect of message framing on breast self-examination attitudes, intentions, and behavior. *Journal of Personality and Social Psychology*, 52(3), 500–510. <https://doi.org/10.1037/0022-3514.52.3.500>

**Commented [4]:** Appelman, A., & Sundar, S. S. (2016). Measuring Message Credibility: Construction and Validation of an Exclusive Scale. *Journalism & Mass Communication Quarterly*, 93(1), 59-79. <https://doi.org/10.1177/1077699015606057>

**Commented [5]:** Gaziano, C., & McGrath, K. (1986). Measuring the Concept of Credibility. *Journalism Quarterly*, 63(3), 451-462. <https://doi.org/10.1177/107769908606300301>

**Commented [6]:** Tseng, S. and Fogg, B. J. (1999). Credibility and computing technology. *Communications of the ACM*, 42(5), 39-44. <https://doi.org/10.1145/301353.301402>

**Commented [7]:** Hilligoss, B., & Rieh, S. Y. (2008). Developing a unifying framework of credibility assessment: Construct, heuristics, and interaction in context. *Information Processing & Management*, 44(4), 1467-1484. <https://doi.org/10.1016/j.ipm.2007.10.001>

**Commented [8]:** Miriam J. Metzger, Andrew J. Flanagin, Ryan B. Medders, Social and Heuristic Approaches to Credibility Evaluation Online, *Journal of Communication*, Volume 60, Issue 3, September 2010, Pages 413–439. <https://doi.org/10.1111/j.1460-2466.2010.01488.x>

## Attitudes

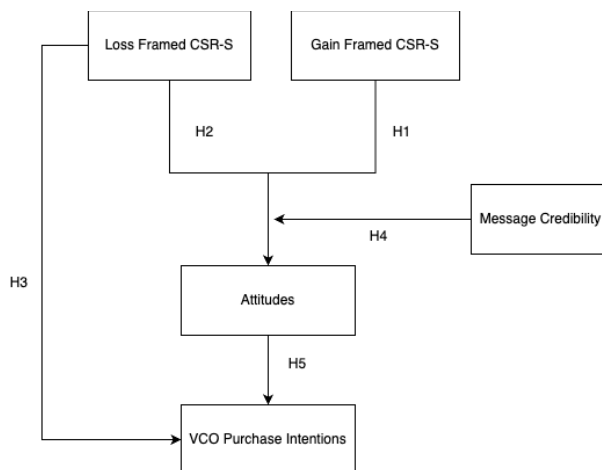
Attitudes are defined as a person's tendency to evaluate something as favorable or unfavorable, shaping their thoughts, feelings, and actions (Eagly & Chaiken, 2007). Attitudes have shown to be effective in enhancing behaviors such as the intention to share information (Garcia de los Salmonos, 2021). It further proved its effectiveness in encouraging the adoption of reusable containers (Ernst et al., 2017). Besides, it was linked to the purchasing of products linked to CSR (Wang & Anderson, 2011). Moreover, consumers' attitude is documented to be effective in environmental behaviors of food waste prevention (Wong et al., 2018) and one of the most influential purchase intentions for private label products (Jaafar et al., 2012). Pro-environmental behaviors are mentioned to be influenced by attitudes (Dopelt et al., 2021). More importantly, positive attitudes, such as hope, can lead to engagement and behaviors in environmental action (Mauss et al., 2005; Ojala, 2011).

Specifically in the context of aviation carbon offsets, positive environmental attitudes are strong predictors of the intention to purchase (Choi et al., 2016). This is inline with the correspondence principle that suggests specific attitudes will lead to specific behavior (Ajzen & Fishbein, 1977). Bodur & Sarigollu (2005) have supported the correspondence principle with attitudes toward specific behaviors predicting environmental behavior better than general attitudes towards the environment. Moreover, Siegel et al., (2014) suggests that attitudes towards organ donation yields more organ donor registration when the registration is the aim. Thus, we assume that attitudes towards voluntary carbon offset (VCO) programs generated from gain framing will lead to VCO purchase intentions:

**H5a:** Positive attitudes resulting from gain-framed CSR-S towards the company's VCO program will lead to VCO purchase intentions

**H5b:** Positive attitudes resulting from gain-framed CSR-S towards company will lead to VCO purchase intentions

**Figure 1:** Proposed research model



**Commented [9]:** Dopelt, K., Loren, O., Gapich, G., & Davidovitch, N. (2021). Moving from indifference to responsibility: reframing environmental behavior among college students in israel. *Frontiers in Climate*, 3. <https://doi.org/10.3389/fclim.2021.776930>

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**Commented [11]:** Mauss, I. B., Levenson, R. W., McCarter, L., Wilhelm, F. H., & Gross, J. J. (2005). The Tie That Binds? Coherence Among Emotion Experience, Behavior, and Physiology. *Emotion*, 5(2), 175–190. <https://doi.org/10.1037/1528-3542.5.2.175>

**Commented [12]:** Ojala, M. (2011). Hope and climate change: the importance of hope for environmental engagement among young people. *Environmental Education Research*, 18(5), 625–642. <https://doi.org/10.1080/13504622.2011.637157>

**Commented [13]:** Bodur, M. and Sarigöllü, E. (2005). Environmental sensitivity in a developing country. *Environment and Behavior*, 37(4), 487-510. <https://doi.org/10.1177/0013916504269666>

**Commented [14]:** Siegel, J. T., Navarro, M. A., Tan, C. N., & Hyde, M. K. (2014). Attitude-behavior consistency, the principle of compatibility, and organ donation: a classic innovation.. *Health Psychology*, 33(9), 1084-1091. <https://doi.org/10.1037/hea0000062>

# Methodology

This study will use an online experimental design with Qualtrics through randomized participant assignment to different experimental conditions. The influence of corporate social responsibility through social media (CSR-S) on attitudes and subsequently voluntary carbon offset purchase intentions will be measured. Data will be collected through Amazon Mechanical Turk (MTurk). For data quality, attention-check questions will be included. For measuring the variables, the scales are adapted to the specific context from various studies.

Figure 2: Measurement Items

Source	Category	Adaption
Hollebeck, Glynn, & Brodie, 2014	Attitudes	I am proud to use Salamantica Airlines.
Hollebeck, Glynn, & Brodie, 2014	Attitudes	Using Salamantica Airlines makes me happy.
Carlson et al., 1989	Attitudes	I am amazed with Salamantica Airlines's voluntary carbon offset initiatives.
Latif et al., 2018	Attitudes	Salamantica Airlines shows responsible behavior toward its customers and environment.
Brown and Dacin, 1997	Attitudes	Salamantica Airlines's voluntary carbon offset program is more beneficial to society's welfare than other airlines' voluntary carbon offset programs.
Brown and Dacin, 1997	Attitudes	Salamantica Airlines's voluntary carbon offset program contributes to society.
Harris & Goode, 2010	Attitudes	Salamantica Airlines is interested in more than just selling me goods.
Harris & Goode, 2010	Attitudes	Salamantica Airlines is genuinely committed to my satisfaction.
Harris & Goode, 2010	Message Credibility	I think some of the claims by Salamantica Airlines about its Voluntary Carbon Offset program are exaggerated.
Harris & Goode, 2010	Message Credibility	Overall, I feel that I can trust Salamantica Airlines.
Appalmen and Sundar, 2016	Message Credibility	This message seems accurate.
Appalmen and Sundar, 2016	Message Credibility	This message seems authentic.
Appalmen and Sundar, 2016	Message Credibility	This message is believable.
Flanagan & Metzger, 2000	Message Credibility	This message is trustworthy.
Flanagan & Metzger, 2000	Message Credibility	This message is complete and convincing.
Flanagan & Metzger, 2000	Message Credibility	This message is not biased.
Lu and Wang, 2018	Purchase Intentions	I am willing to purchase Voluntary Carbon Offsets from Salamantica Airlines in my next flight.
Kim and Kim, 2013	Purchase Intentions	I will choose Salamantica Airlines for their Voluntary Carbon Offset program.
Lu and Wang, 2018	Purchase Intentions	I am willing to buy Salamantica Airlines offsets when traveling by air.
Lu and Wang, 2018	Purchase Intentions	I am willing to support Salamantica Airlines carbon policy.
Lu and Wang, 2018	Purchase Intentions	I will try to reduce my baggage weight to support Salamantica Airlines carbon reduction initiatives.
Harris & Goode, 2010	Purchase Intentions	I consider Salamantica Airlines as my first choice.
Harris & Goode, 2010	Purchase Intentions	I expect to continue using Salamantica Airlines in the future.
Goldsmith, Flynn, & Goldsmith, 2003	Purchase Intentions	In general, the price of the voluntary carbon offset is important to me.
Goldsmith, Flynn, & Goldsmith, 2003	Purchase Intentions	I am less willing to buy voluntary carbon offset if the price is high.

Table 1: Categorization of Adapted Items with Original Sources

Moreover, data analysis will focus on descriptive statistics for outlining demographic characteristics. Cronbach's alpha will be used to test the reliability of the measurement scales. Furthermore, Confirmatory factor analysis (CFA) will test the validity. The PROCESS macro in SPSS will be performed for measuring moderation effect of Message Credibility between Framed CSR-S and Attitudes. For other relationships between Framed CSR-S, VCO purchase intentions, Attitudes, path Analysis using Structural Equation Modeling (SEM) will be performed. Testing the group differences (e.g., gain-framed vs. loss-framed messages) ANOVA (Analysis for Variance) will be employed.

We followed Stadlthanner et al. (2022) and Cordero-Gutiérrez et al. (2024) for the message design. For example, credible gain framing included “Did you know that the airline industry significantly impacts global CO<sub>2</sub> emissions each year? [...] Imagine what we will gain if we make a green choice today...”.

We created a fake company called Salamantica Airlines to mitigate confounding effects (Geuens & Pelsmacker, 2017) and prior perception towards the company (Wang & Huang, 2018) as our main aim is not to study a particular brand. Further, the message credibility is manipulated with numerical data and referencing authoritative organizations (e.g. Environmental Protection Agency) (Mena et al., 2020).

## Expected Results

This study extends the framing literature by incorporating it in corporate social responsibility communications. Specifically how gain and loss framing can be used to enhance consumer intentions towards offsetting their carbon footprint. This research also contributes to the literature on message credibility as it examines the impact of message credibility on CSR communications for stimulating intentions.

The expected results include a positive influence of gain-framing on positive consumer attitudes towards both the airline and the message. On the other hand, loss-framed corporate social responsibility through social media (CSR-S) is expected to directly influence voluntary carbon offset (VCO) purchase intentions and it will elicit stronger reactions and more willingness to act. Loss framed CSR-S will generate more VCO purchase intentions compared to gain framing. Further, message credibility will moderate the relationship between framed CSR-S and attitudes. Specifically, higher message credibility will strengthen the positive impact of gain-framed CSR-S on attitudes, making the message more persuasive and trustworthy.

## Practical Implications

This research emphasizes the importance of engaging consumers in voluntary carbon offset programs through framed social media CSR communications. With 5.22 billion people using social media (Statista, 2024), airlines have the opportunity to reach a wide audience of travelers, which can increase the potential reach of the message.

More importantly, airline marketers can use the findings of this research to improve their communication strategies for voluntary carbon offset programs. As consumer awareness around these programs are low, targeting travelers to enhance knowledge on carbon offsetting is vital. As this study aims to show, communicating the corporate social responsibility initiatives through social media will yield higher purchase intentions towards voluntary carbon offsetting.

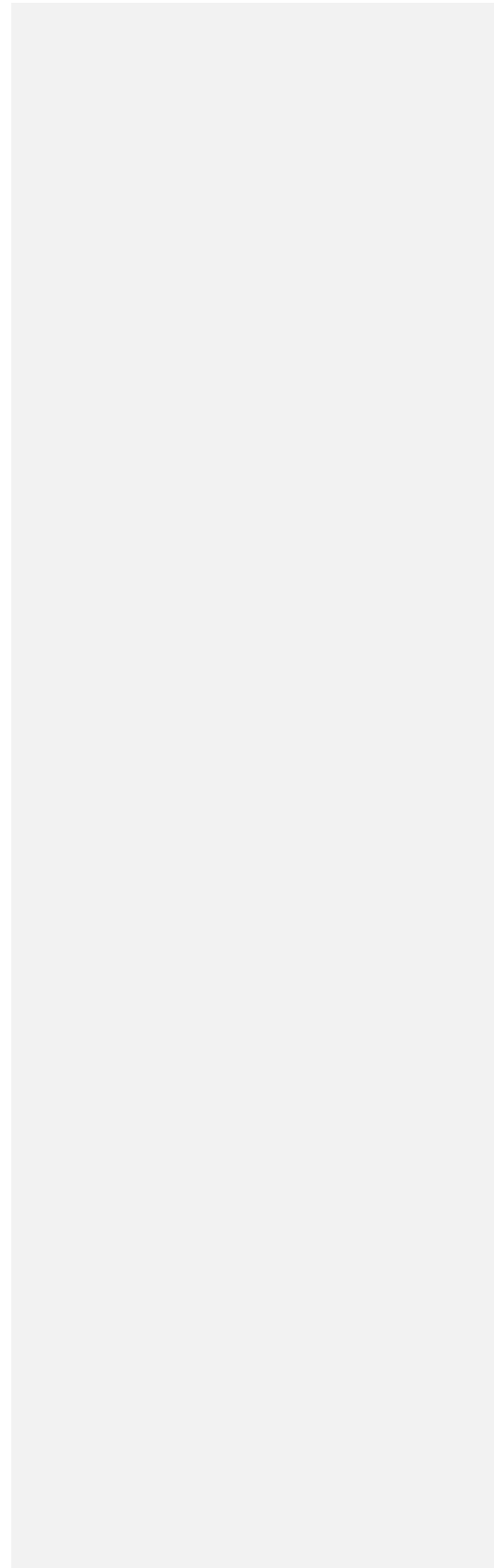
Furthermore, this study seeks to build on the findings of Gössling et al. (2009), who stated that awareness and information on voluntary carbon offset products can increase the intention to purchase offsets. Specifically, with the use of framing and credible communication when disseminating corporate social responsibility initiatives on social media, airline marketers can increase consumer engagement and attitudes towards the company and voluntary carbon offset programs.

**Commented [15]:** Statista. (2024). Digital population worldwide. Statista.  
<https://www.statista.com/statistics/617136/digital-population-worldwide/#:~:text=As%20of%20October%202024%2C%20there,population%2C%20were%20social%20media%20users.>






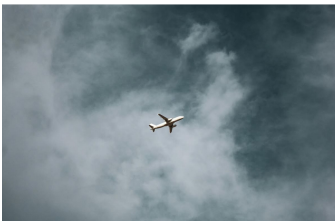

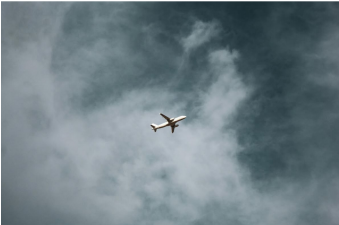
**Commented [16]:** Gössling, S., Haglund, L., Kallgren, H., Revahl, M., & Hultman, J. (2009). Swedish air travellers and voluntary carbon offsets: towards the co-creation of environmental value? *Current Issues in Tourism*, 12(1), 1–19. <https://doi.org/10.1080/13683500802220687>

## Appendix

**Figure 3:** Framing Material





<div><div><div><div><div><div></div><div>Salamantica Airlines</div><div>56m · 🌐</div></div><div>...</div></div><div><p>Did you know that the airline industry significantly impacts global CO<sub>2</sub> emissions each year?</p><p>Imagine what we will lose if we don't make a green choice today. If no one starts purchasing voluntary carbon offsets now, we could increase CO<sub>2</sub> emissions by 500 million metric tons by 2030, worsening our environment for everyone. Without Salamantica Airlines' Environmental Protection Agency (EPA) certified VCO program, emissions from each flight keep adding up every day! In addition, we currently lose 1 million hectares of forests and waste 2 billion gallons of water annually. Please, start using voluntary carbon offsets now to protect our planet!</p></div><div></div><div><div><div>👍 Like</div><div>💬 Comment</div><div>📧 Send</div><div>➦ Share</div></div></div></div></div><div>(a) Credible loss framing</div></div>	<div><div><div><div><div><div></div><div>Salamantica Airlines</div><div>54m · 🌐</div></div><div>...</div></div><div><p>Did you know that the airline industry significantly impacts global CO<sub>2</sub> emissions each year?</p><p>Imagine what we will gain if we make a green choice today. If everyone starts purchasing voluntary carbon offsets now, we can reduce emissions by 500 million metric tons by 2030, benefiting us all. With Salamantica Airlines' Environmental Protection Agency (EPA) certified VCO program, we significantly lower the carbon footprint of every flight! In addition, we can preserve 1 million hectares of forests and conserve 2 billion gallons of water annually. Please, start using voluntary carbon offsets now so we all can enjoy a healthier planet!</p></div><div></div><div><div><div>👍 Like</div><div>💬 Comment</div><div>📧 Send</div><div>➦ Share</div></div></div></div></div><div>(b) Credible gain framing</div></div>
<div><div><div><div><div><div></div><div>Salamantica Airlines</div><div>57m · 🌐</div></div><div>...</div></div><div><p>Did you know that the airline industry significantly impacts global CO<sub>2</sub> emissions each year?</p><p>Imagine what we will lose if we don't make a green choice today. If no one starts purchasing voluntary carbon offsets now, we drastically worsen our environmental conditions, affecting us all. Without Salamantica Airlines' VCO program, tons of CO<sub>2</sub> emissions continue unchecked every day! In addition, we currently lose countless forests and waste billions of gallons of water annually. Please, start using voluntary carbon offsets now to prevent harm to the environment!</p></div><div></div><div><div><div>👍 Like</div><div>💬 Comment</div><div>📧 Send</div><div>➦ Share</div></div></div></div></div><div>(c) Non-credible loss framing</div></div>	<div><div><div><div><div><div></div><div>Salamantica Airlines</div><div>55m · 🌐</div></div><div>...</div></div><div><p>Did you know that the airline industry significantly impacts global CO<sub>2</sub> emissions each year?</p><p>Imagine what we will gain if we make a green choice today. If everyone starts purchasing voluntary carbon offsets now, we can achieve incredible environmental benefits that benefit us all. With Salamantica Airlines' VCO program, we drastically improve our planet's health every day! In addition, we can save countless forests and billions of gallons of water annually. Please, start using voluntary carbon offsets now to help our planet!</p></div><div></div><div><div><div>👍 Like</div><div>💬 Comment</div><div>📧 Send</div><div>➦ Share</div></div></div></div></div><div>(d) Non-credible gain framing</div></div>

## References

- Abdi, Y., Li, X., & Càmara-Turull, X. (2022). Exploring the impact of sustainability (ESG) disclosure on firm value and financial performance (FP) in the airline industry: The moderating role of size and age. *Environment, Development and Sustainability*, 24, 5052–5079. <https://doi.org/10.1007/s10668-021-01649-w>
- Acampora, A., Preziosi, M., Lucchetti, M. C., & Merli, R. (2022). The role of hotel environmental communication and guests' environmental concern in determining guests' behavioral intentions. *Sustainability*, 14(18), 11638. <https://doi.org/10.3390/su141811638>

- Ahmad, U., Huraira, A., Khan, A. A., & Sardar, S. (2022). Role of social media reviews in capturing brand trust & brand loyalty: A case of burger joints in Karachi. *Sustainable Business and Society in Emerging Economies*, 4(2), 403–414. <https://doi.org/10.26710/sbsee.v4i2.2320>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Araujo, T., & Kollat, J. (2018). Communicating effectively about CSR on Twitter: The power of engaging strategies and storytelling elements. *Internet Research*, 28(2), 419–431. <https://doi.org/10.1108/IntR-04-2017-0172>
- Appelman, A., & Sundar, S. S. (2016). Measuring message credibility: Construction and validation of an exclusive scale. *Journalism & Mass Communication Quarterly*, 93(1), 59–79. <https://doi.org/10.1177/1077699015606057>
- Barth, H., Ulvenblad, P.-O., & Ulvenblad, P. (2017). Towards a conceptual framework of sustainable business model innovation in the agri-food sector: A systematic literature review. *Sustainability*, 9(9), 1620. <https://doi.org/10.3390/su9091620>
- Baxter, J., & Gram-Hanssen, I. (2016). Environmental message framing: Enhancing consumer recycling of mobile phones. *Resources, Conservation and Recycling*, 109, 96–101. <https://doi.org/10.1016/j.resconrec.2016.02.012>
- Bertolotti, M., & Catellani, P. (2014). Effects of message framing in policy communication on climate change. *European Journal of Social Psychology*, 44, 474–486. <https://doi.org/10.1002/ejsp.2033>
- Bodur, M., & Sarigöllü, E. (2005). Environmental sensitivity in a developing country. *Environment and Behavior*, 37(4), 487–510. <https://doi.org/10.1177/0013916504269666>
- Bosone, L., & Martinez, F. (2017). When, how and why is loss-framing more effective than gain- and non-gain-framing in the promotion of detection behaviors? *International Review of Social Psychology*, 30(1), 184. <https://doi.org/10.5334/irsp.15>
- Choi, A., Ritchie, B., & Fielding, K. (2016). A mediation model of air travelers' voluntary climate action. *Journal of Travel Research*, 55, 709–723. <https://doi.org/10.1177/0047287515581377>
- Cordero-Gutiérrez, R., Aljarah, A., López, M., & Lahuerta-Otero, E. (2024). Make me happy, make it credible: The effect of CSR message framing on online brand engagement. *Management Decision*, 62(2), 532–548. <https://doi.org/10.1108/MD-01-2023-0049>
- Cowper-Smith, A., & de Grosbois, D. (2010). The adoption of corporate social responsibility practices in the airline industry. *Journal of Sustainable Tourism*, 19(1), 59–77. <https://doi.org/10.1080/09669582.2010.498918>

- De Jong, M. D. T., Harkink, K. M., & Barth, S. (2018). Making green stuff? Effects of corporate greenwashing on consumers. *Journal of Business and Technical Communication*, 32(1), 77–112. <https://doi.org/10.1177/1050651917729863>
- De Jong, M. D. T., Huluba, G., & Beldad, A. D. (2020). Different shades of greenwashing: Consumers' reactions to environmental lies, half-lies, and organizations taking credit for following legal obligations. *Journal of Business and Technical Communication*, 34(1), 38–76. <https://doi.org/10.1177/1050651919874105>
- Dodds, R., Kelman, I., Thiesen, N., McDougall, A., Garcia, J., & Bessada, T. (2012). Industry perspectives on carbon-offset programs in Canada and the United States. *Sustainability: Science, Practice and Policy*, 8(2), 31–41. <https://doi.org/10.1080/15487733.2012.11908094>
- Dodds, R., Leung, M., & Smith, W. (2008). Assessing awareness of carbon offsetting by travellers and travel agents. *Anatolia*, 19(1), 135–148. <https://doi.org/10.1080/13032917.2008.9687058>
- Dopelt, K., Loren, O., Gapich, G., & Davidovitch, N. (2021). Moving from indifference to responsibility: Reframing environmental behavior among college students in Israel. *Frontiers in Climate*, 3. <https://doi.org/10.3389/fclim.2021.776930>
- Eagly, A. H., & Chaiken, S. (2007). The advantages of an inclusive definition of attitude. *Social Cognition*, 25(5), 582–602. <https://doi.org/10.1521/soco.2007.25.5.582>
- Environmental and Energy Study Institute. (n.d.). Fact sheet: The growth in greenhouse gas emissions from commercial aviation. *Environmental and Energy Study Institute*. Retrieved from <https://www.eesi.org/papers/view/fact-sheet-the-growth-in-greenhouse-gas-emissions-from-commercial-aviation>
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43, 51–58. <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>
- European Commission. (2011, October 25). Corporate social responsibility: A new definition, a new agenda for action. *European Commission*. [https://ec.europa.eu/commission/presscorner/detail/en/MEMO\\_11\\_730](https://ec.europa.eu/commission/presscorner/detail/en/MEMO_11_730)
- Flanagin, A. J., & Metzger, M. J. (2000). Perceptions of internet information credibility. *Journalism & Mass Communication Quarterly*, 77(3), 515–540. <https://doi.org/10.1177/107769900007700304>
- Geuens, M., & De Pelsmacker, P. (2017). Planning and conducting experimental advertising research and questionnaire design. *Journal of Advertising*, 46(1), 83–100. <https://doi.org/10.1080/00913367.2016.1225233>
- Gössling, S., Haglund, L., Kallgren, H., Revahl, M., & Hultman, J. (2009). Swedish air travellers and voluntary carbon offsets: Towards the co-creation of environmental value? *Current Issues in Tourism*, 12(1), 1–19. <https://doi.org/10.1080/13683500802220687>

- Hilligoss, B., & Rieh, S. Y. (2008). Developing a unifying framework of credibility assessment: Construct, heuristics, and interaction in context. *Information Processing & Management*, 44(4), 1467–1484. <https://doi.org/10.1016/j.ipm.2007.10.001>
- Homar, A., & Cvelbar, L. (2021). The effects of framing on environmental decisions: A systematic literature review. *Ecological Economics*, 183, 106950. <https://doi.org/10.1016/j.ecolecon.2021.106950>
- Husted, B. W., & Allen, D. B. (2000). Is it ethical to use ethics as strategy? *Journal of Business Ethics*, 27, 21–31. <https://doi.org/10.1023/A:1006422704548>
- Jaafar, S. N., Lalp, P. E., & Naba, M. M. (2012). Consumers' perceptions, attitudes and purchase intention towards private label food products in Malaysia. *Asian Journal of Business and Management Sciences*, 2(8), 73–90.
- Juster, F. T. (1966). Consumer buying intentions and purchase probability: An experiment in survey design. *Journal of the American Statistical Association*, 61(315), 658–696. <https://doi.org/10.1080/01621459.1966.10480897>
- Kapoor, P. S., Jayasimha, K. R., Sadh, A., & Gunta, S. (2020). eWOM via social networking site: Source versus message credibility. *International Journal of Internet Marketing and Advertising*, 14(1), 19–47. <https://doi.org/10.1504/IJIMA.2020.106043>
- Kim, S.-B., & Kim, D.-Y. (2014). The effects of message framing and source credibility on green messages in hotels. *Cornell Hospitality Quarterly*, 55(1), 64–75. <https://doi.org/10.1177/1938965513503400>
- Licandro, O., Vázquez-Burguete, J. L., Ortigueira, L., & Correa, P. (2023). Definition of corporate social responsibility as a management philosophy oriented towards the management of externalities: Proposal and argumentation. *Sustainability*, 15(13), 10722. <https://doi.org/10.3390/su151310722>
- Liang, T. -C., Situmorang, R. O. P., Liao, M. -C., & Chang, S. -C. (2020). The relationship of perceived consumer effectiveness, subjective knowledge, and purchase intention on carbon label products—A case study of carbon-labeled packaged tea products in Taiwan. *Sustainability*, 12(19), 7892. <https://doi.org/10.3390/su12197892>
- Lin-Hi, N., & Müller, K. (2013). The CSR bottom line: Preventing corporate social irresponsibility. *Journal of Business Research*, 66(10), 1928–1936. <https://doi.org/10.1016/j.jbusres.2013.02.015>
- Mauss, I. B., Levenson, R. W., McCarter, L., Wilhelm, F. H., & Gross, J. J. (2005). The tie that binds? Coherence among emotion experience, behavior, and physiology. *Emotion*, 5(2), 175–190. <https://doi.org/10.1037/1528-3542.5.2.175>
- Mena, P., Barbe, D., & Chan-Olmsted, S. (2020). Misinformation on Instagram: The impact of trusted endorsements on message credibility. *Social Media + Society*, 6(2). <https://doi.org/10.1177/2056305120935102>

- Meyerowitz, B. E., & Chaiken, S. (1987). The effect of message framing on breast self-examination attitudes, intentions, and behavior. *Journal of Personality and Social Psychology*, 52(3), 500–510. <https://doi.org/10.1037/0022-3514.52.3.500>
- Metzger, M. J., Flanagin, A. J., & Medders, R. B. (2010). Social and heuristic approaches to credibility evaluation online. *Journal of Communication*, 60(3), 413–439. <https://doi.org/10.1111/j.1460-2466.2010.01488.x>
- Morelli, J. (2011). Environmental sustainability: A definition for environmental professionals. *Journal of Environmental Sustainability*, 1(1), Article 2. <https://doi.org/10.14448/jes.01.0002>
- Nabi, R. L., Gustafson, A., & Jensen, R. (2018). Framing climate change: Exploring the role of emotion in generating advocacy behavior. *Science Communication*, 40(4), 442–468. <https://doi.org/10.1177/1075547018776019>
- Nenkov, G. Y. (2024). Shifting focus in the fight against core environmental challenges. *Journal of the Academy of Marketing Science*. <https://doi.org/10.1007/s11747-023-01001-w>
- Oh, J., & Ki, E. (2019). Factors affecting social presence and word-of-mouth in corporate social responsibility communication: Tone of voice, message framing, and online medium type. *Public Relations Review*. <https://doi.org/10.1016/j.pubrev.2019.02.005>
- Ojala, M. (2011). Hope and climate change: The importance of hope for environmental engagement among young people. *Environmental Education Research*, 18(5), 625–642. <https://doi.org/10.1080/13504622.2011.637157>
- Primaskara, E. A., Hurriyati, R., Hendrayati, H., & Koeswandi, T. A. L. (2021). The influence of social media marketing on brand trust of Indonesian frozen food products during COVID-19 pandemic. In *Proceedings of the 5th Global Conference on Business, Management and Entrepreneurship (GCBME 2020)* (pp. 321–324). Atlantis Press. <https://doi.org/10.2991/aebmr.k.210831.062>
- Ropret Homar, A., & Knežević Cvelbar, L. (2024). Combatting climate change through message framing? A real behavior experiment on voluntary carbon offsetting. *Journal of Travel Research*, 63(4), 883–903. <https://doi.org/10.1177/00472875231179400>
- Rossolini, M., Pedrazzoli, A., & Ronconi, A. (2021). Greening crowdfunding campaigns: An investigation of message framing and effective communication strategies for funding success. *International Journal of Bank Marketing*, 39(7), 1395–1419. <https://doi.org/10.1108/IJBM-01-2021-0039>
- Siegel, J. T., Navarro, M. A., Tan, C. N., & Hyde, M. K. (2014). Attitude–behavior consistency, the principle of compatibility, and organ donation: A classic innovation. *Health Psychology*, 33(9), 1084–1091. <https://doi.org/10.1037/hea0000062>
- Somerville, H. (2004). Travel, tourism and the environmental challenges. *Tourism and Hospitality Research*, 5, 65–71. <https://doi.org/10.1057/palgrave.thr.6040006>

- Stadlthanner, K. A., Andreu, L., Ribeiro, M. A., Font, X., & Mattila, A. S. (2022). The effects of message framing in CSR advertising on consumers' emotions, attitudes, and behavioral intentions. *Journal of Hospitality Marketing & Management*, 31(7), 777–796. <https://doi.org/10.1080/19368623.2022.2065399>
- Statista. (2024). Digital population worldwide. Statista. <https://www.statista.com/statistics/617136/digital-population-worldwide/#:~:text=As%20of%20October%202024%2C%20there,population%2C%20were%20social%20media%20users>
- Tanford, S., Kim, M., & Kim, E. J. (2020). Priming social media and framing cause-related marketing to promote sustainable hotel choice. *Journal of Sustainable Tourism*, 28(11), 1762–1781. <https://doi.org/10.1080/09669582.2020.1760287>
- Tseng, S., & Fogg, B. J. (1999). Credibility and computing technology. *Communications of the ACM*, 42(5), 39–44. <https://doi.org/10.1145/301353.301402>
- Walker, M., & Heere, B. (2010). Consumer attitudes toward Responsible Entities in Sport (CARES): Scale development and model testing. *Sport Management Review*, 14(2), 153–166. <https://doi.org/10.1016/j.smr.2010.08.001>
- Wang, R., & Huang, Y. (2018). Communicating corporate social responsibility (CSR) on social media: How do message source and types of CSR messages influence stakeholders' perceptions? *Corporate Communications: An International Journal*, 23(3), 326–341. <https://doi.org/10.1108/CCIJ-07-2017-0067>
- Wen, H., & Lee, Y. M. (2020). Effects of message framing on food allergy communication: A cross-sectional study of restaurant customers with food allergies. *International Journal of Hospitality Management*, 89, 102401. <https://doi.org/10.1016/j.ijhm.2019.102401>
- Wiese, M., Martínez-Climent, C., & Botella-Carrubi, D. (2020). A framework for Facebook advertising effectiveness: A behavioral perspective. *Journal of Business Research*, 109, 76–87. <https://doi.org/10.1016/j.jbusres.2019.11.041>
- Wong, S. L., Hsu, C. C., & Chen, H. S. (2018). To buy or not to buy? Consumer attitudes and purchase intentions for suboptimal food. *International Journal of Environmental Research and Public Health*, 15(7), 1431. <https://doi.org/10.3390/ijerph15071431>
- Ye, W., Li, Q., & Yu, S. (2021). Persuasive effects of message framing and narrative format on promoting COVID-19 vaccination: A study on Chinese college students. *International Journal of Environmental Research and Public Health*, 18(18), 9485. <https://doi.org/10.3390/ijerph18189485>
- Xu, R., Liu, J., & Yang, D. (2023). The formation of reputation in CSR disclosure: The role of signal transmission and sensemaking processes of stakeholders. *Sustainability*, 15(12), 9418. <https://doi.org/10.3390/su15129418>