

Communicating Sustainability

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Abstract

This paper examines contemporary mediated communication on sustainability, encompassing strategic messaging and news. Using case study analysis, it explores how information about sustainability is being communicated by a range of actors—from environmental non-profits to Fortune 500 companies—and how those messages and stories flow through mainstream and social media. Situated in a political climate where tweets that cast doubt compete with science, how do citizens and consumers navigate this information, and what is its potential impact? The concept of sustainability guiding this work draws from the UN document, Our Common Future, which defines it as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs.” Adopted by myriad organizations, the concept of sustainability extends beyond development to include a range of practices—from natural resource stewardship to supporting human health and economic vitality.

Keywords: sustainability communication, framing, influencers, corporate social responsibility, plant-based, climate change

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Introduction

When *Time* magazine named climate activist Greta Thunberg its 2019 Person of the Year, mediated communication surrounding the announcement spread swiftly, far beyond sustainability circles. News organizations worldwide—from the Associated Press to *Zeit*—covered the story, along with Thunberg’s appearance at the COP25 summit in Madrid, where she castigated world leaders for their inaction to address climate change (Jordans, 2019; Zeit, 2019). On social media, Donald Trump wasted no time tweeting criticism of the 16-year-old, calling the *Time* award “ridiculous,” and saying, “Greta must work on her Anger Management problem,” should “chill” and see a movie with a friend (Trump, 2019).

With her acerbic wit, Thunberg mocked Trump by updating her Twitter profile, “@GretaThunberg A teenager working on her anger management problem. Currently chilling and watching a good old fashioned movie with a friend” (Thunberg, 2019). The sparring jumped from Twitter to mainstream news and entertainment media, and even attracted Michelle Obama’s support for Thunberg: “@GretaThunberg, don’t let anyone dim your light” (Obama, 2019).

This example illustrates contemporary mediated message flow. Tweets and headlines, videos and photos—flowing from mainstream to social media, and then back again. The stories can start with one person’s activism—like Thunberg’s—but can also begin on a corporate website with strategic messaging setting the agenda. Situated in a political climate where tweets that cast doubt compete with science, how do citizens and consumers navigate this information, and what is its potential impact?

This paper explores these questions through a two-phase study, beginning with an examination of corporate sustainability messaging. The concept of framing and the role of influencers guide the research, exploring how messages and stories about sustainability flow through mainstream and social media. The future of food emerges as a significant area of concern, and the second phase of the study addresses mediated messaging in this realm.

Background

The concept of sustainability guiding this work draws from the UN document, *Our Common Future*, which defines it as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987). Adopted by myriad organizations, this definition extends beyond development to include a range of practices—from natural resource stewardship to supporting human health and economic vitality. Among those institutions are global companies.

Often termed as corporate social responsibility (CSR), Reilly and Larya (2018) note that CSR is closely related to sustainability and that the concepts are frequently used interchangeably. Ott, Wang, and Bortree (2016) analyzed 300 corporate, nonprofit, and

university websites for sustainability content and found more than half of the corporations included a sustainability landing page on their sites. Communicating a commitment to sustainability can enhance a company's image (Parguel, Benoit-Moreau, and Larceneux, F. (2011) and reputation (Herzig and Schaltegger, 2011). It can also fuel sales and drive growth, as Kronthal-Sacco and Whelan found in their review of consumer purchasing from 2013 to 2018. "Products marketed as sustainable are driving not only product but also total category/market growth" (2019, p. 4). The presence of sustainability messaging on corporate websites and in mainstream and social media merits further examination and is addressed in this study.

Framing

From network news coverage of old-growth forests (Liebler and Bendix, 1996) to polar bears as icons for climate change (Born, 2019), framing has guided decades of research concerning communication and the environment. Defined for the present study, framing concerns "...variations in how a given piece of information is being presented..." (Scheufele and Iyengar 2014, 1). As Entman expressed, "Frames call attention to some aspects of reality while obscuring other elements, which might lead audiences to have different reactions" (1993, 55).

Reports of environmental and climate disasters are often framed through the lens of sensationalism and despair. In late fall of 2019, Sydney, Australia braced for "unprecedented and catastrophic fire danger," as flooding in Venice brought the city "to its knees" (Rabe, Clun, and Chrysanthos, 2019; Povoledo, 2019). In the same week, an "Arctic blast" shattered hundreds of temperature records across the United States (Holcombe and Yan, 2019).

Inflammatory language and photos illustrating the devastation can convey a sense of hopelessness against out-of-control forces. In recent years, public perception of the importance of climate change has intensified. Nine in ten Americans now "think the earth is experiencing climate change in some way" (DePinto, Backus, and Salvanto, 2019). Growing numbers consider climate change to be a crisis, and they increasingly want the government to take action—from 59 percent in 2015 to 76 percent in 2019 (Washington Post-Kaiser, 2019).

According to Pan and Kosicki (1993), "Choices of words and their organization into news stories are not trivial matters. They hold great power in setting the context for debate, defining issues under consideration, summoning a variety of mental representations, and providing the basic tools to discuss the issues at hand" (70). Framing can relate to our perceptions of issues, such as the severity of the problem and whom to blame. It can also help identify solutions, and motivate action. Feldman and Hart (2018) found that news stories that included information about actions to address climate change "...increased hope, while decreasing fear, relative to a story that only discussed climate impacts" (p. 598). Readers reported feeling less negative after reading news containing an effective solution to a social problem (McIntyre, 2019).

Yet, conflict frames are prevalent in news stories. And journalists appear to play a role in that framing. Bartholomé, Lecheler, and de Vreese found that “Journalists do not merely disseminate conflict frames put forward by political actors, but actively shape when and how conflict appears in the news” (2015, p. 451). Parks identified a focus on negativity in more than a century of journalism textbooks, reconstructing their emphasis and rationalization of bad news and conflict (2019).

Gain and loss frames are also evident in mediated communication. A meta-analysis of more than 30 years of literature on these frames found gain frames related to positive emotions and loss frames, negative emotions (Nabi, Walter, Oshidary, Endacott, Love-Nichols, Lew, and Aune, 2019).

Fear and hope have also been studied with regard to climate change and advocacy behavior. Evoking fear, followed by hope, “had the strongest positive influence on advocacy behavior” (Nabi, Gustafson, & Jensen, 2018, p. 460).

Messaging surrounding sustainability can create doubt, whether unintentionally, or purposefully. In January 2018, when much of the United States suffered record low temperatures and winter storms, Donald Trump tweeted, “Amazing how big this system is. Wouldn’t be bad to have a little of that good old fashioned Global Warming right now!” (2018). In *Merchants of Doubt*, historians Naomi Oreskes and Erik Conway detail efforts to discredit science and create doubt—from the tobacco industry and smoking to fossil fuel and climate change (McKie, 2010).

Influencers

The influence of celebrities on public perceptions and behavior has long been a staple of promotional messaging (Mowen and Brown, 1981). From athletes to film stars, the attractive and admired have endorsed products in ads and addressed social issues of choice. This continues today with online media, magnified through social networks and augmented by additional influencers outside the mainstream media spotlight. Business publication, *Inc.*, published a prediction that a major impact on consumer and employee expectations for businesses would follow *Time* magazine naming Greta Thunburg person of the year (Kline, 2019).

A growing body of research examines social media influencers and corporate messaging, from developing models for maximizing influence (More and Lingam, 2019), to celebrity endorsement of veganism (Phua, Jin, and Kim, 2019). For this study, influencers include celebrities in sports and entertainment, as well as activists, such as Greta Thunburg, with a presence on social media.

Methods

The first phase of the current study examined sustainability content on company websites for the top 100 corporations of the 2019 Fortune 500 (Fortune, 2019). How, and where, did they position sustainability on their websites? Was it showcased or easily navigated

from a tab or link on the landing page? Was it found under “values” or “responsibility,” or only evident if searched for? This approach builds on Ott, Wang, and Bortree (2016), who analyzed 300 corporate, nonprofit, and university websites for sustainability content.

Companies that showcased sustainability on their websites were then further analyzed using a qualitative approach. What was being promoted, and how was it presented, both on the corporate website and on social media? How were news media covering the companies and their promoted sustainability initiatives, as well as other potentially negative news about the companies? Finally, this phase identified further cases for analysis. A focus on food and sustainability emerged—in particular, alternative protein.

Informed by Phase 1 and the focus on food and sustainability that emerged, Phase 2 brought in additional companies for analysis—Beyond Meat and Impossible Foods. It examined message content and flow for these businesses vis-à-vis framing and influencers. Specific frames included gain, fear, conflict, and doubt. Corporate messaging, news coverage, and social media were assessed during 2019. The tool, twXplorer (2013), was used to make a random selection of tweets using search terms that reflected various frames—“plant-based meat” and “fake meat.” Google News was used to find additional news articles containing the search terms.

Findings and discussion

The Phase 1 analysis of the top 100 corporations in the 2019 Fortune 500 found that 93 percent included sustainability content on their websites, as noted in Figure 1, below. More than half made that content easily accessible, either through a readily visible tab or a link on the main page. About ten percent showcased sustainability as the first thing a visitor encounters when opening the site, along with full-screen photos and engaging text. Of those, a third are food-related companies. The others, by the nature of their business, are inherently related to a potentially negative impact on the environment including contributing to climate change. They include fossil fuels, auto manufacturing, online retail shipping, chemicals, and a bank that funds these industries.

Phase 1 findings	
Sustainability content	Percent of sites
Showcased on main page	09
Tab, link on main page	14
Under other tab directly Corporate responsibility, Our values	31
Under other tab indirectly	20
Not evident, searchable	19
Not found	07

Figure 1

One might surmise that the companies placing sustainability messaging in a prominent or an easy-to-access location on their site have achieved goals or have specific programs in place to combat climate change. Another possibility is offering an antidote to negative news about the company.

ExxonMobil's corporate site opened to a full-screen visual of a tree, blue sky and green grass—front and center—with text reading, “Pushing forward on advanced Carbon Capture research.” Clicking on a bright red box linked to a press release announcing the partnership with FuelCell Energy, Inc., and noting “ExxonMobil exploring opportunities to deploy technology within its operations” (2019).

In addition to its news release, the company was running ads on NPR at that time, promoting the technology. Journalist Alexander Kaufman (2019) raised a red flag about the ads, and wrote, “As someone who, uh, consumes a lot of journalism, the uptick in ad buys is glaring. Can't help but think it's a response to mounting litigation and climate protests.” Economic anthropologist Jason Hickel called the ads “denialism” in his tweet, adding, “The solution to climate breakdown is to delete fossil fuel companies like Exxon” (2019).

Around the same time, Exxon was in court in New York, fighting a climate change lawsuit. Massachusetts had also just filed suit against the company for deceiving the public through its media messaging (Malo, 2019). *Axios* reported this as “Oil industry to Trump: Carbon capture needs way more subsidies” (Harder, 2019).

DuPont also showcased its sustainability efforts prominently, albeit with ambiguous language touting innovative contributions: “Through our science, our people and our communities, DuPont pledges to constantly improve and innovate more sustainable ways of contributing” (2019). The background photo of a cityscape included a river in the scene, which may have been ill-fated, considering that at the time the company was under fire for water contamination. Note, however, that a new photo soon replaced the city scene, instead featuring happy children at play in a living room setting (DuPont, 2020).

At the time of this analysis, the film, *Dark Waters*, was playing in U.S. theaters. The movie centers on a chemical contamination lawsuit against DuPont (Rosa, 2019). The chemical, perfluorooctanoic acid (PFOA) had been used in DuPont's coatings for decades, including the non-stick cookware coating Teflon (American Cancer Society, 2016). According to the Centers for Disease Control (CDC), PFOA has been found in bodies of water and persists in the environment. The CDC reports that human exposure is widespread, and that the chemical “can remain in the body for long periods of time” (2017).

Amidst the lawsuits and attention from the film, the company announced its merger with International Flavors and Fragrances, IFF, a \$26 billion deal that “bets on meatless future” (Meyer, Rocco, and Beesley, 2019). CNBC reported that the merger would benefit meat alternatives. “DuPont produces the plant-based proteins used in meatless alternatives, while IFF creates the flavors and colors” (Lucas, 2019).

Food and sustainability appear prominently on another Fortune 100 website, Pepsico (2019). Known for soft drinks and chips, this snack food giant showcases a verdant field on its landing page. A man wearing jeans and a polo shirt (perhaps a potato farmer) is standing front and center holding up a bag of Lays classic chips. Text highlights the company's 2018 Sustainability Report, with easy navigation to the details. A second picture pane shows beverage packaging, with their 2025 goal of reducing virgin plastic and single-use bottles by 35 percent.

The most popular video on Pepsico's YouTube page is a joint effort with the nonprofit CARE, called "Closing the Crop Gap" (Pepsico, 2019a). Lauded by PRNEWS with a Platinum PR Award, for bringing "global attention to the issue of gender inequality in farming while also increasing awareness of the brand's involvement with sustainable agriculture and commitment to empowering women" (PRNEWS, 2019).

Two other food companies in Fortune's top 100 showcase sustainability on their websites, both with alternative protein. From a plant-based burger photo on Archer Daniels Midland's (2019) page, to the term "sustainable protein" on poultry producer Tyson's (2019) site, companies are highlighting the role of plants in meeting sustainability goals. This emphasis on alternative protein in sustainability for both food and non-food companies merits further exploration, and leads to Phase 2 of this research.

Additional background for Phase 2: Animal agriculture, resource use, and climate change

During the 2019 U.N. Climate Summit in Madrid, a group of scientists published a call to action in *The Lancet Planetary Health* to reduce livestock production worldwide. "If the livestock sector were to continue with business as usual, this sector alone would account for 49% of the emissions budget for 1.5°C by 2030..." (Harwatt, Ripple, Chaudhary, Betts, and Hayek, 2019). The previous year, the World Resources Institute linked food production to climate change in its report, "Creating a Sustainable Food Future," recommending reducing meat consumption among its proposed solutions (Searchinger, Waite, Hanson, and Ranganathan, 2018).

Nearly a year later, as Donald Trump moved the United States closer to withdrawing from the Paris Agreement, The World Resources Institute and its experts continued to be cited in major news media. In its story, "Are my hamburgers hurting the planet?" *The Washington Post* referenced the WRI report, writing, "Beef requires about twice as much land per gram of protein as chicken and pork, and 20 times as much land as the equivalent amount of protein from beans (Kaplan, 2019).

Informed by the emphasis of alternative protein in both food, and non-food corporations in Phase 1, the Phase 2 analysis focused on the major plant-based meat companies Beyond Meat and Impossible Foods. In 2019, Beyond Meat went public, and its stock soared. Its products are now in more than 58,000 grocery stores, restaurants, and other locations (Beyond Meat, 2019). The company displays its mission prominently on its website with visual icons for each value. "By shifting from animal to plant-based meat,

we can address four growing global issues: human health, climate change, constraints on natural resources, and animal welfare” (Beyond Meat, 2019). It also cites a University of Michigan study that measured the environmental impact of a quarter-pound beef burger to the Beyond Burger. It reports “99% less water,” “93% less land,” “90% fewer GHGE” (Greenhouse Gas Emissions), and “46% less energy” (Beyond Meat, 2019).

The mission stated on Impossible Foods’ website is to “...make the global food system truly sustainable by eliminating the need to make food from animals. Why? Animal agriculture uses a tremendous amount of the world's natural resources” (Impossible Foods, 2019).

Both mission statements employ a gain frame, weaving a sustainable food future into company values. The alternative meat products are presented as the solution—conserving resources, heading off climate change, and addressing human health and animal welfare. The gain frame flows through mainstream and social media, with stories and posts conveying those values as well as another gain—investment and profit.

Framing gain was evident in financial news as well as mainstream and social media in spring 2019, with Beyond Meat’s public stock offering. The win for investors and businesses was conveyed in headlines, such as *CNN*’s “Beyond Meat soars 163% in market debut” (Wiener-Bronner, 2019), and, “Investors Find More Reasons To Back Plant-Based Meat Brands,” in *Forbes* (Forgrieve, 2019).

The media framed another gain in their messaging surrounding these alternative meat companies—addressing climate change. A story in *The New Yorker* referenced the WRI report, “Creating a Sustainable Food Future,” quoting its author, who said, “Giving up all beef would be the most effective thing we could do for the planet.” But even a three-fourths reduction, he calculated, would reduce greenhouse gases globally by about 20 percent” (Friend, 2019).

Conserving resources is yet another gain frame communicated in mediated messages about alternative meat. A story on NPR’s website notes that, “Beef production uses about 20 times the land and emits 20 times the emissions compared to producing beans, per gram of protein” (Aubrey, 2019).

Resonating with the values set forth on Beyond Meat’s website, animal welfare is framed as a gain in stories and social media posts about meat alternatives like Beyond and Impossible burgers. The *Veg News* story “Popularity of Impossible Foods and Beyond Meat is saving 250,000 animals annually” includes a photo of a wide-eyed calf looking into the camera (Starostinetskaya, 2019).

The language associated with stories about these products appears related to story frame. For example, consider the terms “plant-based” versus “fake meat.” A story reported by *The Christian Science Monitor* used “plant-based” in its headline and conveyed a tone that tended to normalize meat substitutes: “Beyond vegans: Plant-based ‘meat’ goes mainstream from KFC to Dunkin’” (Belsie, 2019).

To further explore this concept, the research tool, twXplorer (2013), was used to capture a random snapshot of 500 tweets using the search term “plant-based meat,” on December 27, 2019. The animal welfare story noted above appeared among the results, as well as a piece about reducing emissions to benefit the planet with plant-based meals (One Green Planet, 2019).

Conversely, the term “fake meat” produced stories and tweets conveying fear rather than gain. For example, the headline, “Doctor: Burger King’s Impossible Burger has 18-million times more estrogen than regular Whopper,” claiming it “may cause men to grow breasts” (Pappert, 2019). Researching the source revealed, however, that the doctor cited was actually a veterinarian writing for *Tri-State Livestock News* (Stangle, 2019). Also note that the headline was subsequently changed, but that the claims remained in the article and the hyperlink verbiage (Pappert, 2020).

Searching for “fake meat” on Google News returned alarmist ads created by a PR group supported by the meat industry—the Center for Consumer Freedom. Its fear frame plays on chemicals in processed food and likens the product to dog food (2019).

The search term “fake meat” also returned stories driven by conflict—pitting the beef industry against alternatives—as can be seen in this *Wall Street Journal* piece, “America’s Cattle Ranchers are Fighting Back Against Fake Meat” (Bunge and Haddon, 2019). A federal judge recently blocked an Arkansas law that would have restricted the word “meat” in plant-based packaging (ACLU, 2019). However, the fight continues, as a U.S. senator introduced a bill called the Real Meat Act, to restrict labeling of plant-based meat (Fischer, 2019).

A *Politico* story reports that only two U.S. studies on agriculture and climate change have been conducted since Trump took office—both positive to the beef industry (Bottemiller Evich, 2019). The National Cattlemen's Beef Association funded one of them, further research reveals (NCBA, 2019).

The conflict frame is also evident in a *Today Show* story, “There’s a growing backlash against the rise of fake meat—here’s why” (Jackson, 2019). The story raises concerns about health and nutrition of Beyond and Impossible burgers. The “backlash” approach is also seen in this *Vox* story that addresses the processed nature of alternative meat (Piper, 2019). But, instead of using a critical tone, the piece presents evidence to debunk the critics’ arguments against the plant-based products.

However, conflict frames can introduce doubt—as we see in this story from *The New York Times*: “Fake Meat vs. Real Meat. Millennials are gobbling down plant-based burgers, prompting meat producers to question the health benefits of “ultra-processed imitations” (O’Connor, 2019). The conflict presented in the story includes describing, and linking to, the ads from the Center for Consumer Freedom discussed above, with the term “ultra processed imitations.” Impossible Foods is quoted in the story, calling the campaign “fear mongering.” While the piece includes responses to the attacks, its construction places the criticism first, which introduces a doubt-thread that flows

throughout the text. The beef industry's claims and other criticism are addressed via nutritional comparisons with raw beef patties, a Harvard doctor's perspective, and lawmakers' attempts to restrict labeling plant-based products as "meat." Transitions in the writing also reflect doubt: "But are plant-based meats really better for you than meat?" and "Patients of his told him they were confused about the health benefits of plant-based beef substitutes..." (O'Connor, 2019).

Influencers and plant-based meat

Amidst the fear, conflict, and doubt, a number of influencers have entered the space with support for a plant-based lifestyle. Beyond Meat's Twitter and YouTube channels feature rapper Snoop Dogg serving up Beyond Sausage sandwiches at Dunkin' Donuts (Beyond Meat, 2019a). Beyond Meat's website highlights the documentary, "The Game Changers," noting, "Elite athletes are a testament to the power of a plant-based lifestyle. The Game Changers is a revolutionary new film about meat, protein, and strength" (Beyond Meat, 2019).

HipHop artists WuTang eat Impossible sliders in the most-watched video posted on Impossible's YouTube channel (Impossible YouTube, 2019). Other celebrities supporting plant-based living include Beyoncé and Jay-Z. They wrote, in the introduction to the book, *Greenprint*, "We want to challenge you, as we challenge ourselves, to move toward plant-based foods. We all have a responsibility to stand up for our health and the health of the planet" (2019, p. 9).

Ellen DeGeneres urged people to eat less meat in a video with nearly 5-million views on her Instagram. "It's a great idea for the planet, it's a great idea for your health, it's a great idea for the animals' health—so eat less meat" (2019).

Conclusions

This two-phase study found that 93 percent of the top 100 companies of the 2019 Fortune 500 included sustainability content on their websites. Of the nine that showcased sustainability on their front pages, at least two were concurrently involved in legal action or negative news about their companies and the environment, with public and media perception calling into question their messaging.

A focus on food and alternative protein emerged among companies that promoted sustainability prominently on their websites. This emphasis led to additional analysis in Phase 2, examining two major plant-based meat companies, Beyond Meat and Impossible Foods. This qualitative look identified the gain frame in messaging on company websites, mainstream news, and social media. Use of the term "fake meat" appeared related to conflict, fear, and doubt. That included messaging disguised as consumer freedom that readily flows through social and news platforms. Conversely, the term "plant-based meat" aligned with solutions and optimism. Influencers were found to be fueling the plant-based message, which has made its way from corporations to consumers.

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