



Unsplash

BREWING SUSTAINABILITY AND EQUALITY: STIRRING UP COFFEE SHOP SUCCESS WITH DAIRY ALTERNATIVES

OVERVIEW

In recent years, the food and beverage industry has seen a significant shift towards sustainability with an increasing emphasis on planet-friendly dining practices. One area that has gained traction within this movement is the adoption of dairy alternatives in cafes and coffee shops. This shift is primarily driven by four factors:

Wide Reach: Cafes and coffee shops hold a ubiquitous presence worldwide, serving as daily destinations for millions. The widespread nature of these businesses presents a unique opportunity to implement sustainable practices that can reach a broad consumer base.

Daily Habit: The act of obtaining a morning or midday coffee has become an entrenched part of daily routines for many individuals. Leveraging this habitual behavior

offers an avenue for influencing consumer choices toward more sustainable options.

Consumer Demand: Increased awareness among consumers about environmental issues and the impact of their choices on the planet is a significant driver. As more people express concern for the climate crisis and sustainability, consumers demand that businesses operate more sustainably.¹⁻³

Corporate Social Responsibility (CSR): Many cafes and coffee chains have embraced CSR initiatives, recognizing that a commitment to sustainability may enhance brand image and foster customer loyalty.⁴ These commitments then drive the adoption of more eco-conscious practices.

This case study aims to delve into the strategic approaches of two prominent cafes, **Philz Coffee** and **Blue Bottle Coffee**, as they spearhead the transition towards planet-friendly dining through innovative uses of dairy alternatives. Specifically, this study focuses on their respective methods of motivating consumers towards sustainable choices, notably by offering alternative milk options at no extra cost.



Philz Coffee



Philz Coffee stands out in the industry for its uncommon practice of offering dairy-alternative milk at no additional cost. This approach challenges the norm by removing financial barriers and

encourages patrons to opt for more sustainable choices without incurring extra expenses.



Unsplash



**BLUE BOTTLE
COFFEE**

Taking a different approach, Blue Bottle Coffee has made oat milk the default choice in all drinks, thereby requiring customers to actively request dairy milk.

By implementing this subtle yet effective nudge, Blue Bottle influences consumer behavior towards environmentally friendlier options.

This case study seeks to explore how these strategies align with the principles of Nudge Theory, the effectiveness of such nudges in influencing consumer decisions, and the broader implications for sustainable dining practices. Additionally, it will delve into the ecological impact and nutritional benefits of alternative milk in contrast to conventional dairy products.

NUDGE THEORY AND CONSUMER BEHAVIOR

Nudge Theory, popularized by Thaler and Sunstein in their book, "Nudge: Improving Decisions about Health, Wealth, and Happiness," introduces the concept of 'nudges' which are indirect prompts or cues designed to influence decision-making without restricting choice. It operates under the premise that our choices are heavily influenced by the way options are presented to us within our environment – a concept known as 'choice architecture.'⁵

Choice architecture encompasses various external factors that subtly guide decision-making processes. It acknowledges the existence of a 'choice architect' – a person or group responsible for designing the environment to make specific options more appealing or likely to be chosen by individuals.⁵ Nudge Theory strategies have shown effectiveness in altering consumer behavior, particularly in encouraging healthier choices. For instance, setting plant-based items as the default in a menu or placing certain products at eye level in grocery stores are practical applications of nudges that can significantly impact consumer decisions.⁶



Green Queen

COMPARING APPROACHES

- **Philz Coffee Approach:** Philz Coffee has tactfully aligned its strategy with Nudge Theory by eliminating additional charges for alternative milk options. This approach aims to remove financial barriers, thereby making sustainable choices more accessible and appealing to consumers. By implementing this strategy, Philz reduces economic disincentives, effectively nudging consumers towards alternatives to cow milk.
- **Blue Bottle Coffee Approach:** In a subtle yet impactful move, Blue Bottle Coffee has made oat milk the default choice over traditional cow milk. This strategic decision serves as a nudge towards sustainability by prompting consumers to actively request traditional dairy, thus raising awareness and encouraging consideration of more eco-friendly alternatives. Defaults are thought to work because of their convenience and implied social acceptance and influence.

Research conducted by Ensaff, Homer, and Sahota in a school-based intervention focusing on food choices among adolescents, demonstrated the efficacy of multiple nudge strategies.⁷ Through descriptive labels and strategic placement, the intervention significantly shifted food choices.



Ensaff Study

Results revealed a 2.5-fold increase in the selection of 'nudged' items during the intervention compared to baseline choices, indicating the impact of nudges on consumer decisions.⁸ Another study conducted by Campbell-Arvai, Arvai, and Kalof focused specifically on the influence of defaults on consumers' choices towards meat-free alternatives, finding that the default menus increased the probability that consumers would choose a meat-free meal.⁹ While specific studies on milk choices may be limited, related research demonstrates that defaults significantly sway individuals' preferences towards plant-based or meat-free options.^{8,9}

Blue Bottle publicly reported that within three months of the transition to oat milk by default in milk-based beverages, US Blue Bottle cafes were purchasing 15 percent more plant-based milk by volume relative to pre-pilot averages.

In total, plant-based milks contributed to 62 percent of volume with oat representing 54 percent of the demand.¹⁰

This success suggests that, contrary to potential taste concerns, consumers have embraced the shift towards oat milk, emphasizing its popularity as a sweet and creamy alternative.



Let's Do Coffee

ALTERNATIVE MILK: SUSTAINABILITY AND NUTRITION

The widespread prevalence of lactose intolerance across diverse populations has fueled a significant shift towards seeking dairy alternatives.¹¹ Lactose intolerance stems from a deficiency in the lactase enzyme, which is essential for breaking down lactose, the sugar found in dairy products.¹² According to the National Institute of Diabetes and Digestive and Kidney Diseases,¹³ this condition affects a substantial portion of the global population, varying in prevalence among ethnic groups. Consequently, individuals affected by lactose intolerance often explore dairy alternatives to effectively manage their dietary needs.

Amid this landscape, oat milk and other alternative dairy options have witnessed a surge in popularity as viable substitutes for lactose-free milk. This growing trend is propelled by several factors encompassing taste preferences, sustainability concerns, and health

considerations. Oat milk has emerged as a frontrunner owing to its creamy texture, neutral taste profile, suitability for nut allergy consumers, and versatility in diverse culinary applications.

Moreover, its inherent lack of lactose content makes it an attractive choice for individuals seeking a dairy alternative due to lactose intolerance. The appeal of oat milk extends beyond lactose intolerance management, resonating with a broader audience embracing plant-based and sustainable dietary choices.

NUTRITIONAL ASPECTS AND SUITABILITY FOR POPULAR DAIRY-USE ALTERNATIVES:

- ① **Almond Milk:** Rich in antioxidants and possessing prebiotic properties, almond milk provides health benefits, but it lacks nut allergy-friendliness.¹⁴ Its compatibility for use in cafe settings depends significantly on its ability to froth. Achieving a desirable froth with almond milk necessitates specialized barista blends containing added fat and protein, impacting its overall suitability in cafe environments.
- ① **Oat Milk:** Oat milk boasts notable levels of fiber and phytochemicals that contribute to improved digestive health and potentially lower blood glucose and cholesterol levels.¹⁵ It stands out as a suitable option for cafe beverages because of its creaminess, as well as for individuals with nut allergies.¹⁶ However, it falls short as a primary source of calcium, an essential nutrient for bone health.
- ① **Soy Milk:** Soy milk is a valuable source of essential monounsaturated and polyunsaturated fatty acids, contributing to cardiovascular health.¹⁷ Rich in isoflavones, particularly genistein, soy milk has been associated with protective effects against cancer, cardiovascular disease, and osteoporosis.¹⁸ Additionally, soy proteins and phytochemicals like phytosterols offer therapeutic benefits, including cholesterol reduction.¹⁹
- ① **Rice Milk:** Rice milk, enriched with phytosterols like β -sitosterol and γ -oryzanol, offers multifaceted health benefits, including cholesterol reduction, blood pressure control, and anti-diabetic, anti-inflammatory, and anti-oxidative effects.²⁰ The phytosterols present in rice milk contribute to its potential therapeutic properties, supporting cardiovascular health and overall well-being.



Unsplash

FROTHING CONSIDERATIONS

Frothing, an essential aspect in cafe settings, requires a delicate balance of key components – fat, protein, and steam. Protein content contributes to the formation of foam, while fat enhances mouthfeel and creaminess. Water vapor plays a crucial role in reconstructing the molecular structure of proteins and fats to create the desired froth.

- ☞ **Almond Milk:** A barista blend enriched with added fat and protein is required to facilitate foaming, making its use in cafe settings contingent upon the availability of specialized blends tailored for frothing purposes.
- ☞ **Oat Milk:** To achieve optimal froth, a barista blend with additives like oil is preferred, but can be done without a barista blend.
- ☞ **Soy Milk:** Soy milk is generally suitable for frothing due to its higher protein content, but its frothing capabilities have improved over the years with the availability of specially formulated barista-style soy milk.
- ☞ **Rice Milk:** Rice milk, compared to other alternative dairy milks, can be more challenging to froth due to its lower protein content and different composition.

In summary, each dairy alternative offers distinct nutritional benefits and suitability for cafe settings, but their frothing capabilities vary and may require specific formulations or additives to achieve desired results, emphasizing the importance of considering these factors in cafe environments.

ENVIRONMENTAL IMPACT

The integration of alternative milks aligns seamlessly with cafes' sustainability objectives through several key avenues. First, these alternative milk options boast extended shelf lives compared to traditional dairy milk, reducing food waste, and streamlining inventory management. This longevity not only minimizes resource consumption but also aligns with sustainability goals by curbing waste generation, contributing to more efficient operations.

When assessing environmental impacts – particularly Scope 3 emissions, which encompass indirect emissions throughout a company's value chain, including upstream and downstream activities – alternative milk production emerges as a favorable choice. Comparative studies often highlight significant differences between traditional milk and alternative milk production.²¹ These analyses consider factors such as land use, water consumption, greenhouse gas emissions, and energy requirements.

Alternative milks consistently stand out as sustainable alternatives to cow milk due to their notably lower environmental footprints. For instance, oat milk production generally demands less water and land

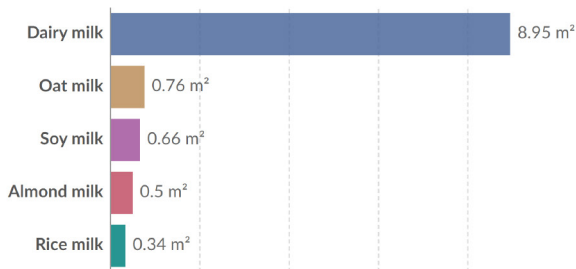
compared to dairy farming, thus alleviating some of the overall ecological burden. This reduction in environmental impact resonates with cafes' commitments to Corporate Social Responsibility (CSR) or Environmental, Social, and Governance (ESG) goals. These reports typically address environmental impacts and initiatives focused on curbing emissions across the supply chain. Although reporting data is not available for either cafe, Blue Bottle has strategically emphasized the promotion of alternative milk as a key approach in their efforts to achieve carbon neutrality by 2024. By incorporating sustainable milk alternatives, cafes actively aim to diminish the Scope 3 emissions attributed to their supply chain, including production, distribution, and waste management. This concerted effort not only reduces the cafes' environmental footprint but also indirectly influences consumer emissions linked to their dietary choices. Highlighting the adoption of alternative milk in these reports underscores a conscientious commitment to sustainable practices, showcasing a tangible step towards reducing the environmental impact associated with dairy consumption. In essence, the integration of alternative milk serves as a strategic and tangible effort by cafes to align with their sustainability goals, decrease environmental footprints, and promote eco-conscious consumer choices.

Environmental footprints of dairy and plant-based milks

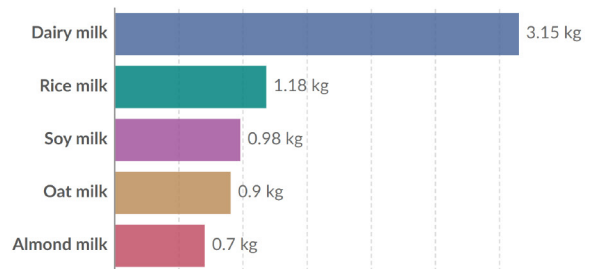
Impacts are measured per liter of milk. These are based on a meta-analysis of food system impact studies across the supply chain which includes land use change, on-farm production, processing, transport, and packaging.



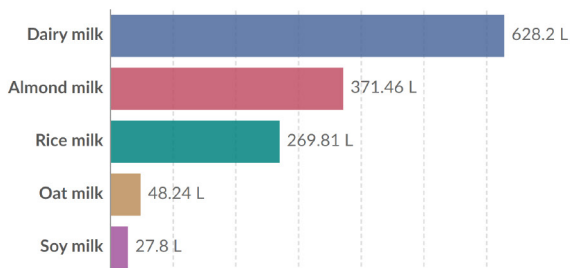
Land use



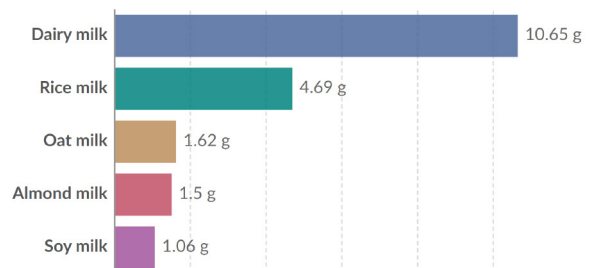
Greenhouse gas emissions



Freshwater use



Eutrophication



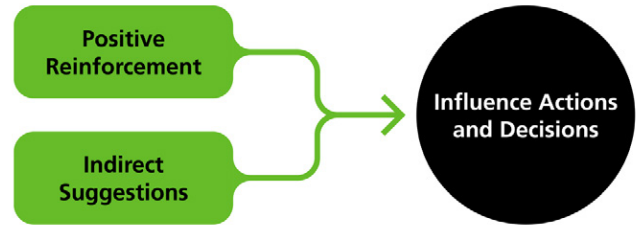
Data source: Joseph Poore and Thomas Nemecek (2018).

OurWorldInData.org/environmental-impacts-of-food | CC BY



Unsplash

For Blue Bottle Coffee, implementing oat milk as the default choice nudges consumers towards considering more sustainable options actively. By making traditional cow milk an opt-in choice, Blue Bottle aims to educate and prompt consumers to consciously choose eco-friendly alternatives.



The Nudge Theory

ANIMAL WELFARE CONSIDERATIONS

The decision to opt for non-dairy milk alternatives, such as soy, almond, rice, or oat milk, in coffee shops has shown a commendable positive impact on animal welfare. Selection for high milk yield in dairy cattle without consideration for health and welfare has led to a decrease in fertility, increases in leg and metabolic problems (i.e. mastitis), along with decreased longevity and high disease incidence.²² High-yield dairy systems are also associated with practices that often raise concerns about the treatment of animals, including issues related to confinement and restriction of natural behavior in tie-stall housing,²³ lack of pasture access,²⁴ injury, separation of calves from their mothers, lack of social contact, and poor transport conditions for calves, leading to high rates of morbidity and mortality.²⁵ By choosing plant-based milk options, consumers contribute to a reduction in the demand for traditional dairy products, thus indirectly mitigating the associated ethical challenges. A shift toward non-dairy alternatives aligns with a growing awareness of the ethical implications of animal agriculture, fostering a more compassionate and sustainable approach to beverage choices.

CONCLUSION

Philz Coffee's approach of offering alternative milk without additional charges effectively removes financial barriers, encouraging consumers to opt for sustainable choices without incurring extra costs. This strategy aligns with the principles of accessibility and affordability in promoting planet-friendly dining.

The application of nudge theory in cafes, exemplified by Blue Bottle Coffee and Philz Coffee, has the potential to influence consumer behavior towards sustainable and ethical choices, notably promoting oat milk consumption and exposing consumers to more environmentally friendly options. This highlights the power of choice architecture and behavioral psychology to cultivate sustainable habits, underscoring how minor adjustments can bring about significant changes in consumer decision-making.

The success achieved by cafes in promoting sustainability through dairy alternatives sets a significant example for eco-friendly dining practices. It emphasizes the importance of using innovative strategies and interventions to reshape consumer preferences toward environmentally conscious options within the food industry. These approaches spotlight the pivotal role of sustainable choices in the food industry. Businesses that prioritize sustainability not only contribute to reducing ecological footprints but also enhance their brand image, meeting the evolving demands of conscientious consumers. Ultimately, these strategies are steering the food industry towards a more environmentally responsible path.

REFERENCES

1. Porter Novelli. Introducing the Porter Novelli Focus: Business Action for Climate Crisis. <https://www.porternovelli.com/intelligence/2021/09/23/introducing-the-porter-novelli-focus-business-action-for-climate-crisis/>. Published September 23, 2021. Accessed January 26, 2024.
2. Kerry. Sustainability in Motion from Kerry; 2021.
3. Wigley S. Gauging consumers' responses to CSR activities: Does increased awareness make cents? *Public Relations Review*. 2008;34(3):306-308. doi:10.1016/j.pubrev.2008.03.03
4. Maignan I. Consumers' perceptions of corporate social responsibilities: A cross-cultural comparison. *J Bus Ethics*. 2001;30:57-72.
5. Thaler RH, Sunstein CR. *Nudge: Improving decisions about health, wealth and happiness*. Allen Lane; 2021.
6. Arno A, Thomas S. The efficacy of nudge theory strategies in influencing adult dietary behavior: a systematic review and meta-analysis. *BMC Public Health*. 2016;16:676. doi:10.1186/s12889-016-3272-x
7. Ensaff H, Homer M, Sahota P, et al. Food Choice Architecture: An Intervention in a Secondary School and its Impact on Students' Plant-based Food Choices. *Nutrients*. 2015;7(6):4426-4437. doi:10.3390/nu7064426. PMID: 26043039; PMCID: PMC4488793.
8. Marteau TM, Hollands GJ, Shemilt I, Jebb SA. Nudge in the right direction: the role of food choice architecture in changing populations' diets. *Proc Nutr Soc*. 2015;74(2):164-170. doi:10.1017/S0029665114001702
9. De Backer CJ, Hudders L. From meatless Mondays to meatless Sundays: motivations for meat reduction among vegetarians and semi-vegetarians who mildly or significantly reduce their meat intake. *Ethical Theory and Moral Practice*. 2014;17(3):431-450. doi:10.1177/0013916512469099
10. Blue Bottle Coffee. "Oat Milk Now the Default in US Cafes." Blue Bottle Coffee Blog. <https://blog.bluebottlecoffee.com/posts/oat-milk-by-default>. Accessed January 26, 2024.
11. Sethi S, Tyagi SK, Anurag RK. Plant-based milk alternatives: an emerging segment of functional beverages – a review. *J Food Sci Technol*. 2016;53(9):3408-3423. doi:10.1007/s13197-016-2328-3. PMID: 27777447; PMCID: PMC5069255.
12. National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). Lactose Intolerance. In *Definition & Facts*. <https://www.niddk.nih.gov/health-information/digestive-diseases/lactose-intolerance/definition-facts#:~:text=Experts%20estimate%20that%20about%2068,world's%20population%20has%20lactose%20malabsorption.&text=Lactose%20malabsorption%20is%20more%20common,the%20world%20than%20in%20others>. Accessed January 26, 2024.
13. Burton GW, Ingold KU. Vitamin E as an in vitro and in vivo antioxidant. *Ann N Y Acad Sci*. 1989;570:7-22.
14. Truswell AS. Cereal grains and coronary heart disease. *Eur J Clin Nutr*. 2002;56:1-14. doi:10.1038/sj.ejcn.1601287. Published on February 5, 2002.
15. Deswal A, Deora NS, Mishra HN. Optimization of enzymatic production process of oat milk using response surface methodology. *Food Bioprocess Technol*. 2014;7:610-618. doi:10.1007/s11947-013-1134-y. Published on July 7, 2013.
16. Liu KS. *Soybeans: Chemistry, Technology, and Utilization*. Springer Science & Business Media; 2004.
17. Omoni AO, Aluko RE. Soybean foods and their benefits: potential mechanisms of action. *Nutr Rev*. 2005;63(8):272-283.
18. Cohen LA, Zhao Z, Pittman B. Genistein, a multifunctional agent for human health: a tribute to Ray A. Lappé. *J Nutr*. 2000;130(3):662S-663S.
19. Fukui K, Terada S, Nakai Y, Osawa T. Effect of soybean protein on the content and composition of plasma lipids in gerbils fed cholesterol-free and cholesterol-enriched diets. *J Nutr Biochem*. 2002;13(3):152-160.
20. Biswas S, Sircar D, Mitra A, De B. Phenolic constituents and antioxidant properties of some varieties of Indian rice. *Nutr Food Sci*. 2011;41(2):123-135.
21. Our World in Data. Environmental Footprint of Different Types of Milk [Data file]. <https://ourworldindata.org/grapher/environmental-footprint-milks?country=Soy+milk~Almond+milk~Dairy+milk~Oat+milk~Rice+milk>. Published December 2023. Accessed January 26, 2024.
22. Oltenucu PA, Broom DM. The impact of genetic selection for increased milk yield on the welfare of dairy cows. Published online by Cambridge University Press. January 1, 2023.
23. Beaver A, Weary DM, von Keyserlingk MAG. Invited review: The welfare of dairy cattle housed in tiestalls compared to less-restrictive housing types: A systematic review. *J Dairy Sci*. Published online. doi:10.3168/jds.2020-19609.
24. Arnott G, Ferris CP, O'Connell NE. Review: welfare of dairy cows in continuously housed and pasture-based production systems. Published online by Cambridge University Press. July 1, 2016.
25. Creutzinger K, Pempek J, Habing G, Proudfoot K, Locke S, Wilson D, Renaud D. Perspectives on the Management of Surplus Dairy Calves in the United States and Canada. *Front Vet Sci*. 2021;8:661453. Published online April 13, 2021. doi:10.3389/fvets.2021.661453.