

Premium design and sustainability-by-default: a methodological framework for eco-accidentalism in creative industries

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Abstract. The transition to sustainable business practice increasingly depends on how choices are designed, not only on what people know or intend. This paper develops the concept of "eco-accidentalism" as a more design-oriented framework for positioning sustainability as the obvious default option that consumers can choose with minimal friction. The argument is anchored in the creative industries, where products, services, brand narratives, and lived experiences shape cultural norms and consumer expectations. Drawing on work in sustainable design, behavioural defaults, choice architecture, premium strategy, and critical debates on sustainability claims, the paper proposes five design levers to embed sustainable defaults across product and service touchpoints. After that, it shows how the framework works through selected applications in creative settings, followed by a critical, document-based analysis of Nespresso's "Da Chicco a Chicco" initiative. Overall, the paper offers a methodological and teaching-focused framework for design practice and education, while emphasising ethical safeguards, transparency, reversibility, and evidence-backed claims.

Keywords: Sustainable design, Premium design, Eco-accidentalism

1 Introduction

The twenty-first century is often referred to as the era of sustainability, characterised by joint government and corporate initiatives to enhance human well-being while respecting environmental boundaries [1]. Yet the transition to sustainable practice is not only a matter of information, regulation, or corporate commitment. It also depends on how everyday choices are materially, visually, and experientially designed. This issue is especially relevant for creative industries such as fashion, product, retail, hospitality, cultural production, and experiential services, because these sectors do not merely deliver functional goods. They organise desire, identity, status, convenience, and cultural meaning through designed touchpoints. For this reason, creative industries can either reproduce high-impact consumption habits or normalise more sustainable practices through the default structure of products and services.

Corporate climate commitments and consumer sustainability surveys provide an important background to this discussion, but they do not in themselves explain how sustainable behaviour is produced in practice. Awareness and declared intention often fail to become action when the sustainable option is less visible, less convenient, less desirable, or less integrated into the consumption system [2] [3] [6]. For design

research, the central problem is therefore not simply whether consumers value sustainability, but how design can make the responsible pathway the most coherent, attractive, and frictionless pathway within a broader experience.

For many companies and organisations, creating new value aligned with contemporary consumers and achieving long-term sustainable impact has become imperative [7]. However, empirical and theoretical work suggests that this goal cannot be achieved solely through existing metaphors, awareness campaigns, or isolated product improvements [8]. Addressing sustainability requires a shift from component-level optimisation to systemic transformation of consumption patterns, service infrastructures, and access to goods and services [9]. Creative industries are particularly important in this transition because they can transform sustainability from an ethical add-on into a culturally normal, aesthetically desirable, and operationally embedded feature of everyday experience.

2 Research Questions and Contributions

This paper examines the role of design in implementing sustainability as a standard choice in consumption and brand interactions, and how a premium-focused design strategy can facilitate this transition without depending exclusively on ethical persuasion. It answers three questions. First, how can behavioural defaults be translated into a design method for long-term change in business and service systems within the creative industries? Second, what distinguishes eco-accidentalism from nudge theory, sustainability marketing, sustainable luxury, and design-led innovation? Third, how can premium design, which is a way of thinking about the whole experience and service system, be used to make sustainable defaults that people still desire and are able to check?

The contribution is methodological, evaluative, and pedagogical. In terms of concepts, the paper explains "eco-accidentalism" as a way to think about sustainability-by-default in business settings, relevant to design [10] [11] [12]. Methodologically, it offers a systematic framework of design levers applicable across creative-industry touchpoints to integrate sustainable options as the default while maintaining superior experiential value [13] [14]. In terms of evaluation, it puts the levers into action by using a compact metrics-and-evidence matrix that connects adoption, autonomy, and sustainability outcomes to verifiable sources. This directly answers the need for "metrics and evaluation frameworks." In terms of teaching, it turns the framework into skills and assessment standards for design education and professional training. The aim is not to present eco-accidentalism as a proven universal solution, but to offer a structured vocabulary and method that can be tested, criticised, and refined across creative-industry contexts.

3 Design as a Changemaker for Sustainability Action

Despite the awareness and intent, navigating the complex sustainability landscape remains challenging for businesses. As we move into the decades that follow and witness the establishment of new dynamic equilibria, we confront a new challenge: how

can we adopt a future-oriented mindset that focuses on sustainable change without being too ambitious or too narrow in scope? To address the question and facilitate the transformation, design has emerged as a potent tool in such a landscape [15] [16]. Today, we see a trend toward using design to define organisational purpose and address environmental sustainability, fundamentally changing consumer behaviour and supply chain dynamics [14]. With their distinct abilities and expertise, designers play a crucial yet underappreciated role in driving this shift and accomplishing sustainability objectives.

In 1969, Buckminster Fuller's pioneering work articulated the initial concerns around resource limitations and the environmental impacts of material production. Fuller popularised the concept of "Spaceship Earth" [17], emphasising the finite resources of our planet and the imperative for humanity to assume responsibility for their stewardship to avert ecological disaster. This innovative approach and the "on-board" mentality towards environmental challenges in engineering and design were groundbreaking. The initial phase of the environmental movement evolved in the 1960s and 1970s, establishing a link between design and ecology. The notions of "design for need" and "alternative design" originated during this period and later developed into the "green design" (improving the efficiency of individual products) and "eco-design" (addressing the entire life cycle of a product) movements of the 1980s [18]. Victor Papanek was a pioneer in combining design and environmental issues. He introduced key ecological factors into the field of design in 1985. He criticised the design's focus on consumers, which ran counter to the dominant consumerist culture, and called for a more thoughtful, responsible approach to product design [19]. In his book "Design for the Real World," Papanek stressed that designers have social and environmental responsibilities. He urged them to be agents of positive change by fighting for social and environmental justice and meeting the real needs of communities. Sustainable design has changed slowly since the early 1990s, thanks to Papanek's work. It has been marked by various approaches and paths across a variety of fields of innovation.

The historical progression of sustainable design demonstrates a path from addressing and reducing environmental impacts to incorporating sustainability as a fundamental concept across several design fields, from focusing on specific product aspects to adopting a more holistic perspective that encompasses product life cycles, product-service systems, and, finally, socio-technical system advances. As we progress, the challenge lies in integrating sustainability as the standard in design, where ethical concerns and environmental commitments influence every decision-making process. Mutual practices involving diverse communities are now being requested to be adjusted and modified at local, regional, and global scales [20]. How to seamlessly integrate the fundamental values and principles of sustainability into the design, making them an inherent and automatic aspect rather than an additive element or afterthought, is becoming a vital issue to tackle. Sametinger suggests that solutions may lie in interdisciplinary knowledge, the ability to transcend boundaries, and intrinsic motivation for ethical design practices, moving towards a "post-sustainable" design perspective: "sustainability by default" [10]. This concept ensures sustainability is integrated at every stage, thereby minimising environmental impact and making responsible resource use a standard practice, or, in other words, the default.

4 Methodology

The paper combines a focused literature-based analysis with a qualitative, document-based case study. The literature section synthesises work on sustainable design, defaults and choice architecture, premium strategy, and sustainable consumption, as well as the more critical debates around sustainability claims. Practitioner sources, however, are only included as supporting context when they spell out market discourse or point to particular corporate initiatives. Meanwhile, the core conceptual line is anchored mainly in design, behavioural, and sustainability scholarship.

For transparency, the literature synthesis was organised around three streams: sustainability-oriented design histories, default effects and choice architecture, and premium strategy. Sources were selected when they offered foundational concepts, widely cited empirical findings, or explicit design-relevant mechanisms. The case evidence was assembled from publicly available documents, including organisational reports, press releases, and reputable journalistic coverage, and was interpreted through the framework dimensions to support analytic rather than statistical generalisation.

The empirical part is a single-case study examining Nespresso's "Da Chicco a Chicco" program as a strategically visible example of circularity and social impact within a premium consumer experience. The analysis is based on publicly accessible documents referenced in the bibliography, including corporate communications, partner reports, and journalistic coverage. Since these sources also include promotional or institutional material, the case is treated as more of an illustrative and critical mapping rather than independent proof of net environmental or social impact. Evidence is analysed through the proposed design levers, so that analytic transparency and traceability are easier to follow, while acknowledging the partial and situated nature of the available evidence. The study does not claim statistical generalisability. Instead, it opts for analytical generalisation by spelling out the mechanisms, the stated claims, the trade-offs, and the evidence gaps that could then be tested later through future multi-case studies and quantitative research.

5 Eco-Accidentalism: Default Setting for Embracing Sustainability "Unintentionally"

Defaults denote predetermined choices that individuals face, either established beforehand or automatically allocated to them [11]. When confronted with default options, individuals often just accept the available choices without actively seeking alternatives or conducting further inquiry [12]. The default settings may operate as "hidden persuaders" [21] and significantly influence consumer behaviour, frequently without their conscious realisation. Behavioural scientists often utilise default settings as an effective means of influencing human behaviour. In the book *Nudge*, Richard Thaler, a behavioural economist, states, "The combination of loss aversion with mindless choosing implies that if an option is designated as the 'default,' it will attract a large market share. Default options thus act as powerful nudges" [22]. Globally, there is an increasing trend of integrating environmentally friendly defaults into everyday activities, replacing less sustainable alternatives. Notably, default settings are often

implemented, automatically enrolling individuals in a specified sustainability-oriented choice across technology, economics, and healthcare.

Default settings in technology greatly influence how people feel about their privacy and how they install software. For example, computers come with preconfigured settings, and most users do not change the default settings of the programs they use. Many people do not even know that there are other ways to change such settings. Choosing default investment options in retirement plans can also have a major effect on how individuals save money. In healthcare, default options can influence organ donation rates and treatment protocols [11] [23] [24]. Hollingworth and Barker assert that defaults serve as a highly effective mechanism for alleviating the difficulties linked to decision-making inertia.

Advocating sustainability as the default and superior option for consumers in the upscale market and beyond is called "eco-accidentalism" [25]. This method "unintentionally" encourages environmentally friendly choices, making sustainable options the default and the best in a variety of markets. The idea arrives from many studies that indicate a major difference between what customers say they want to do and what they actually do [26]. More than half of consumers are willing to pay more for products that are good for the environment, but there is still a large gap between what they claim and what they actually purchase [27]. To address this gap and satisfy unmet consumer demands, strategic initiatives need to focus on overcoming issues that arise during the consumer experience. By enhancing the availability of sustainable alternatives while maintaining product quality and easing consumer transition, companies could potentially align and shape consumer preferences, thereby addressing environmental issues and meeting market demands. This explains why the strategy of "eco-accidentalism" emerges as a viable alternative [28].

Eco-accidentalism differs from generic nudging in four ways. First, it sees defaults as part of designed product-service systems and brand touchpoints, not merely as isolated behavioural interventions detached from broader service systems. Second, it ties the effects of defaults to premium desirability, so the sustainable route has to feel coherent with quality, aesthetics, convenience and even symbolic weight, so that the sustainable route remains experientially valuable and symbolically meaningful. Third, it comes with ethical guardrails, like visible defaults, reasons that can actually be grasped, realistic opt-out options, and claims that are evidence-backed [12]. Fourth, it is meant for creative industries, where cultural meaning, experience design, and material systems together shape everyday consumer practice. In this sense, eco-accidentalism is not just nudge theory plugged into sustainability. It is a design method where the sustainable pathway is made into the most desirable, legible, and operationally supported pathway.

This positioning also differentiates eco-accidentalism from sustainable luxury and design-led innovation. Sustainable luxury often asks how high-end brands can reconcile environmental responsibility with exclusivity, craftsmanship, and symbolic value. Design-led innovation more broadly describes how design capabilities can support strategic change. Eco-accidentalism is narrower and more operational: it asks how default mechanisms, premium experience, ethical transparency, and measurable sustainability outcomes can be combined at concrete touchpoints such as configuration, packaging, repair, return, refill, subscription, retail, and after-use channels.

Customers today expect personalised interactions, but not all default settings are equally useful. The consulting firm Behavioural Architects states that thoroughly understanding how consumers behave is necessary for successfully setting up personalised default settings. This facilitates the identification of patterns that help develop the design of defaults. Defaults need to be adjusted to match the situation, taking into account each customer's needs and the location and previous interactions. Segmentation is important because different groups with distinct demographics and interests need diverse solutions. Articulating the rationale for default settings cultivates trust and guarantees that customers derive genuine advantages from them. Moreover, ensuring that defaults align with long-term corporate goals and consumer welfare helps mitigate the use of short-term, deceptive tactics that erode confidence. Personalised defaults should promote ethical behaviour without unfairly leveraging cognitive biases [29].

6 Premium Design for Promoting Eco-Accidentalism

To promote eco-accidentalism, the premium design approach is understood here as a way of organising perceived quality, service coherence, aesthetic refinement, and symbolic value around a sustainable default. This is different from treating sustainability as an added ethical message or from equating premium value only with exclusivity and price. Premium design can make sustainable choices easier to accept when responsible materials, lower-impact processes, repairability, return pathways, and transparent information are integrated into the expected experience rather than presented as sacrifices. In this paper, premium design therefore functions as the desirability layer of sustainability-by-default: it helps the default feel not only responsible, but also more coherent, reliable, and culturally attractive.

The premium design approach prioritises consumer-centricity and seeks to deliver value that transcends the tangible product. It is a calculated and considered response to the desires of consumers who seek more than mere functionality, instead advocating for aspirational lifestyles and social values. Within the premium paradigm, the economic value represents only one aspect; the further importance lies in the acknowledgement that extends from material to societal value transformations, which guides consumers to (un)consciously select and enrich a multi-dimensional user experience. By incorporating sustainable default settings into high-quality, personalised design, visually attractive, desirable objects are produced, naturally becoming customers' preferred option. These intricately designed creations may highlight a commitment to environmental responsibility and a feeling of pleasure. Nowadays, consumers anticipate and actively seek out this formula, which resonates particularly well with those who value quality, ethical practices, and environmentally conscious lifestyles, fostering a market shift towards sustainability. In the following section, the author presents a case study to illustrate this concept.

To translate the concept into a reusable design method, the paper proposes a compact framework (Table 1) that links choice-architecture mechanisms to premium design levers across touchpoints. The framework is intended as an analytic tool for designers

to diagnose an existing offering and to design interventions that make sustainable defaults both attractive and scalable, while maintaining ethical safeguards.

Table 1. Eco-accidentalism design framework and evaluation criteria.

Design dimension	Default mechanism	Premium design lever	Touchpoints	Evaluation and ethical checks
Option architecture	Pre-selection, automatic enrollment, or bundled sustainable baseline	High perceived quality of the default, reduced friction, coherent visual language	Configuration, packaging, subscription, checkout	Track default adoption and opt-out rate; ensure easy opt-out and clear disclosure
Service-system infrastructure	Closed-loop logistics, return pathways, repair and refill as standard	Seamless service choreography, premium after-sales experience	Retail, after-sales, collection points, reverse logistics	Verify operational feasibility; track participation; avoid shifting burdens to users
Meaning and desirability	Norm-setting cues and value framing that make the default feel “the right choice”	Craft, heritage, aesthetics, and sensory experience aligned with sustainability	Brand narrative, in-store experience, digital content	Check for manipulative framing; substantiate claims to avoid greenwashing
Information transparency	Just-in-time disclosure embedded by default	Elegant communication design, legible labeling, trustworthy materials	Labels, QR flows, receipts, website, customer support	Test comprehension; provide evidence links; avoid vague or absolute claims
Incentives and feedback	Light incentives or feedback attached to the default pathway	Recognition, membership benefits, premium community signals	Loyalty, apps, events, membership programs	Assess fairness and inclusivity; monitor unintended regressive effects

The evaluation column combines outcome-oriented indicators with ethical checks. Because defaults can affect autonomy and trust, the framework treats transparency, reversibility and evidence-backed claims as design constraints rather than optional communications.

The same logic can be applied beyond the Nespresso case. In fashion, a brand can make lower-impact materials, repair services, resale pathways, or take-back programs the default option rather than some exceptional ethical choice. In product design, modular construction, replaceable parts, refill systems, and long-term maintenance can start acting as the premium promise, not just an afterthought. In experiential services and retail, circular packaging, low-waste installations, digital receipts, and return logistics can be designed as rather elegant and frictionless pieces of the overall service journey. These examples show why the creative-industries lens is so central: sustainable defaults have to work through material systems, service choreography, visual language, and cultural meaning all at once.

7 Evaluation Framework: From Design Levers to Metrics and Evidence Trails

The proposed levers need a validation system, which this research paper presents through its evaluation framework, which connects their design methods to specific performance metrics and usable proof systems. The framework enables research and educational purposes by providing designers and students with tools to evaluate the effectiveness of sustainability-by-default according to its ethical standards and empirical evidence.

First, adoption metrics capture whether the default is actually taken up: this includes default uptake rate (share of users selecting the sustainable default), opt-out rate (share actively switching away), and friction mapping (where users abandon or override the default across touchpoints). These indicators translate behavioural assumptions about inertia and mindless choosing into observable patterns [11] [22].

Second, autonomy and transparency metrics evaluate ethical acceptability: consumers need to see the default settings through default salience, and they should understand the rationale and consequences at the point of choice through explanation accessibility, and users must find it easy to opt out of the default system through simple steps, which show potential penalties. These criteria directly address the ethical concerns raised by "choice without awareness" and the risk of manipulative design [12] [19].

Third, sustainability outcome metrics require evidence that can be externally checked. Depending on the touchpoint, this may include documented recycling volumes, material recovery rates, compost outputs, or verified reporting on circular processes and partnerships. Because sustainability claims are vulnerable to reputational and greenwashing risks, each outcome indicator should be paired with a source type and a minimum evidence requirement, for example: corporate reporting corroborated by partner organisations, or consistent figures across multiple independent sources.

In the case study section, the analysis uses this framework to distinguish between program mechanisms (design levers), reported outputs, and interpretive claims, thereby increasing analytic transparency and supporting future comparative research.

8 A Strategic Case Study for Sustainability: "Da Chicco a Chicco" by Nespresso

Nespresso is a well-known premium coffee brand. It makes single-serve coffee capsules and the machines that go with them. It was established in 1986 and the company helped expand the market for easy home espresso by using controlled portioning, machine-capsule compatibility, a retail experience, and a more premium brand identity. This setup makes Nespresso relevant to the present paper because it combines product design, service infrastructure, brand experience, and after-use systems. But at the same time, it is also a critical case, since the capsule system relies on single-use portions and intensive packaging, meaning any sustainability initiative cannot be analytically separated from broader design trade-offs around convenience, material throughput, and circularity.

Nespresso launched the "Da Chicco a Chicco" program in 2011 to demonstrate its commitment to the environment. This program, known as "Da Chicco a Chicco" (meaning "from coffee bean to rice kernel"), demonstrates how the circular economy functions by turning scrap coffee capsules into rice and then donating it to food banks to assist individuals in need (Figure 1). This program demonstrates Nespresso's commitment to the environment, social responsibility, and community involvement [33].



Fig. 1. Left: The repurposing of abandoned Nespresso coffee capsules. Source: Corriere di Bologna. Right: The donated rice from Nespresso's "Da Chicco a Chicco" program. Source: ANSA.

The "Da Chicco a Chicco" campaign is based on the concept of the circular economy, which implies waste can be transformed into resources. The program involves gathering and recycling Nespresso capsules, which are composed of metal and coffee grounds. Nespresso has collaborated with Gaia, a public-private company focusing on managing waste in cities, to establish a number of collection sites all over Italy. Gaia has recently increased its capacity in Piedmont through the addition of six more collecting sites, bringing the total to twelve. After they are collected, the capsules are sent to a facility in Brescia where the aluminium is extracted from the coffee grounds. The metal is then delivered to foundries to be transformed into new products, and the coffee grounds are composted to be utilised as fertiliser in rice fields near Novara. Composting makes the soil more fertile, which leads to higher crop yields and less requirement for chemical fertilisers (Figure 2). Since the operation began, almost 10,000 tons of capsules have been recycled, which generated about 570 tons of aluminium and 5,000 tons of coffee grounds, which have been composted. This compost has produced around 5,500 quintals of rice, corresponding to roughly six million meals [34] [35].



Fig. 2. Left: One collection point for Nespresso capsules in Castello d'Annone. Right: A rice field in Novara. Source: LA STAMPA.

The "Da Chicco a Chicco" program reports social outputs through rice donation and food-bank partnerships. Nespresso procures rice grown with compost and supplies it to food banks in Lombardy, Lazio, Puglia, and Piedmont. This rice is subsequently distributed to people receiving support from charitable organisations. In 2022, the project expanded to Puglia through five additional collection stations and partnerships with Banco Alimentare della Puglia ONLUS and Banco Alimentare della Daunia "Francesco Vassalli". Available sources report over 900,000 rice meals since the initiative began, including a donation of 785 quintals in 2022 [36]. These figures indicate a visible social-value pathway, but they should be interpreted cautiously because the available public evidence does not provide an independent assessment of net environmental impact, comparative performance, or long-term social effectiveness.

Nespresso has allocated approximately 8.5 million euros to the "Da Chicco a Chicco" campaign and aims to increase this amount to 11 million by 2025 [34]. This investment is intended to improve recycling infrastructure and encourage the implementation of sustainable agricultural practices. The concept is feasible due to elevated recycling rates and over 200 collection stations in more than 80 municipalities across Italy. Consequently, the initiative's impact extends beyond recycling and food provision for needy people. It advocates for conservation agriculture and emphasises that successful enterprises can participate in socially responsible practices. Nespresso's commitment to sustainability is demonstrated via its compliance with the ICESP Charter (Italian Platform for the Circular Economy) and its collaboration with entities such as the National Aluminium Packaging Consortium (CiAl) and the Italian Composting Consortium (CIC) [37].

As part of the program's progress, Nespresso has introduced new concepts, such as a line of compostable paper-pulp capsules for disposing of organic waste (Figure 3). This project demonstrates a full commitment to lowering environmental impacts and promoting sustainability throughout the product's life cycle. "Nespresso for Italy" is a campaign that aims to make every cup of Nespresso coffee as environmentally friendly as possible. The launch of a biodegradable paper-based capsule by Nespresso during Milan Design Week 2024 is a major step forward for this project. These capsules are

made to work perfectly with Nespresso coffee machines, which means that the coffee will keep its quality and flavour. The packages have an inner layer that breaks down on its own, keeping the coffee fresh and making the packages completely biodegradable. The new line of organic capsules shows that Nespresso is always working to make the premium coffee industry more environmentally friendly and to promote environmentally friendly methods [38].



Fig. 3. Left: Nespresso's biodegradable paper-based capsule introduced by Nespresso. Source: CIVITA. Right: Nespresso's Paper Worlds installation at the Milan Design Week 2024. Source: MITOMORROW.

Nespresso's "Da Chicco a Chicco" can be interpreted as more than a conventional advertising campaign because it connects product after-use, recycling infrastructure, agricultural reuse, and food donation. However, it should not be treated as proof that the capsule system is environmentally unproblematic. The case shows both the potential and the ambiguity of eco-accidentalism. On one side, collection points, aluminium recovery, composting, and food-bank partnerships make a more circular post-use pathway available within a premium service ecosystem. On the other side, the initiative operates within a single-use capsule model whose convenience and material intensity remain important design trade-offs. For this reason, the case is analysed below as a critical illustration of how a sustainable default pathway can be designed, communicated, and evaluated, rather than as a simple success story.

To illustrate how the proposed framework operates in practice, the Nespresso "Da Chicco a Chicco" initiative can be interpreted through the eco-accidentalism design dimensions. Rather than serving as empirical proof, the mapping highlights how design mechanisms, service infrastructure, and symbolic value interact to embed sustainability into everyday consumption practices. Table 2 summarises the relationship between the proposed framework and observable elements of the case.

Table 2. Analytical mapping of eco-accidentalism design dimensions in the Nespresso case.

Framework dimension	Evidence from the Nespresso case	Interpretation
Option architecture	Capsule systems encourage the use of compatible capsules and structured return channels for recycling through dedicated collection points.	The design of the consumption system reduces friction in recycling participation and guides consumers toward sustainable post-use behaviour.

Service-system infrastructure	Collaboration with Gaia, CiAI, CIC and regional collection networks enables capsule recovery, aluminium separation, and composting of coffee grounds used in rice cultivation.	Circular infrastructure supports the default sustainability pathway by embedding recycling and reuse within the service system.
Meaning and desirability	Nespresso maintains a premium brand identity through design, quality coffee experience, and curated retail environments while communicating sustainability narratives.	Premium experience and brand storytelling make sustainable practices compatible with aspirational consumer lifestyles.
Information transparency	Communication around the program through corporate reports, media coverage, and design exhibitions such as Milan Design Week initiatives.	Transparency mechanisms support trust and help consumers understand the environmental and social value of the system.
Incentives and feedback	Consumers can participate in recycling through accessible collection points and community-oriented initiatives linked to food donation programs.	Participation creates social value and reinforces engagement without requiring behavioural sacrifice from users.

9 Implications of the Study

The study suggests that eco-accidentalism can help designers and organisations treat sustainability as a default structure, not just as an additional communication layer added after the main design process. What makes it useful is that it moves the spotlight away from persuasion and toward touchpoint design: what is pre-selected, what is easiest to do, what becomes tempting or desirable, what is explained, and what kind of evidence appears. This angle seems especially useful for creative industries, where design choices do more than affect product performance, they also shape meaning, aspiration, and even the social norms people end up following.

For businesses, the framework does not imply that premium sustainable design automatically produces ecological or financial benefits. Rather, it indicates where such benefits would need to be designed and verified. Sustainable defaults can support brand trust only when they are operationally feasible, aesthetically coherent, and supported by credible evidence. They can also fail if they conceal trade-offs, make opt-out difficult, or use sustainability language without measurable outcomes.

Incorporating sustainable defaults with premium design addresses the significance of ethical and transparent marketing. By articulating the environmental benefits of their products and ethical sourcing practices, companies can cultivate consumer trust and foster deeper engagement. Disseminating narratives about sustainable sourcing, production methodologies, and recycling programs can make the default choice more significant to customers, aligning the brand with consumer values. This transparency in marketing strengthens the consumer-brand relationship and elevates sustainability as an inherent and appealing product characteristic.

10 Ethical Considerations

Since defaults can affect behavior without the need for active thought, eco-accidentalism should be put into place with a clear focus on user autonomy and responsibility. In business settings, this means making sustainability-related defaults clear, giving easy-to-understand reasons for them, and giving people easy ways to opt out when it's appropriate. To lower the risk of greenwashing and make sure that the premium promise is in line with trust and legitimacy, claims about environmental or social benefits should be backed up by proof.

Companies can also increase their power by working together on projects and circular initiatives that make their products last longer. Collaborations in the circular economy, like Nespresso's "Da Chicco a Chicco" recycling project, show how recycling can turn trash into something good for people and the environment. These programs help a company build a good reputation for being environmentally friendly and help the community and society as a whole. Organizations can create a business model that combines environmental responsibility with long-term financial success by using eco-accidentalism in their operations and partnerships. This model combines brand recognition with community impact.

11 Implications for Creative Industries and Design Education

For creative industries, where brand meaning, experience design, and cultural value have a big impact on demand, eco-accidentalism is a genuine path for creative industries to go beyond awareness campaigns and create redesigned choice environments. In practice, this means that options, materials, and services that are reasonable for the environment are the default at key touchpoints, including product configuration, packaging, returns, and after-use channels. This is done while keeping the aesthetic and experience that makes people willing to pay more.

For design education and professional training, this argument can be translated into three competencies. First, there is the ability to identify, then redesign the defaults that cross product, service, communication, and those after-use touchpoints. Second, there is the ability to make sustainable pathways feel desirable via premium experience design, not by leaning on vague promises or some moral pressure. Third, there is the ability to assess autonomy, transparency, and sustainability evidence, including ease of opt-out, user comprehension, material recovery, the repair or reuse rates and the quality of the evidence supporting sustainability claims. Put together, these competencies make sustainability-by-default learnable as an actual design practice, not merely as an ethical principle.

From the point of view of the creative industries, the framework makes it clear that premium experience design can be a cultural carrier for sustainability. This is not by moralising consumption, but by making sustainable practices normal through everyday interactions. This is especially important in fields where demand is shaped by symbolic value, aesthetics, and storytelling, and where sustainability can become a part of mainstream culture.

The framework can be turned into modules for design classes. A first module teaches students how to find and change defaults in service-system touchpoints like configuration, packaging, returns, and after-use. A second module is about ethical choice architecture and uses transparency and the ability to opt out as evaluation criteria. A third module introduces the evaluation matrix, which asks students to develop indicators and clear evidence trails for claims about sustainability. These modules operationalise pedagogical innovation by connecting design practice to measurable sustainability outcomes and ethical accountability.

To make the framework actionable beyond a single case, Table 3 summarises a lightweight evaluation matrix that can be used during concept development, prototyping and rollout. The goal is not to "prove" impact in isolation, but to define measurable signals and minimum ethical safeguards for each intervention.

Table 3. Example evaluation matrix for eco-accidentalism interventions.

Indicator type	Examples of measures	Interpretation notes
Behavioral uptake	Default adoption rate; opt-out rate; repeat participation; dropout points by touchpoint	Interpret together with transparency tests, high uptake with low understanding can signal problematic friction
Environmental performance	Material recovery rate; reuse/repair/refill volume; verified footprint indicators using declared boundaries	Use consistent system boundaries; avoid absolute claims when data are partial or model-based
Trust and ethics	User comprehension score; perceived autonomy; complaint rate; evidence availability for claims	Treat reversibility and disclosure as minimum conditions; audit messaging for greenwashing risk

12 Conclusion

This paper has developed eco-accidentalism as a methodological framework for designing sustainability as a desirable default in creative industries. In response to the first research question, the paper shows that behavioural defaults can be translated into a design method when they are connected to service infrastructure, premium desirability, transparency, incentives, and evidence trails. In response to the second question, eco-accidentalism is distinguished from nudging, sustainable luxury, sustainability marketing, and design-led innovation by its combination of default mechanism, premium experience, ethical safeguards, and measurable sustainability outcomes. In response to the third question, the Nespresso case and the creative-industry examples illustrate how premium design can make sustainable pathways more coherent and attractive, while also revealing the need to examine trade-offs such as single-use systems, evidence gaps, and potential greenwashing. The main contribution is therefore not a claim that sustainable defaults are automatically beneficial, but a framework for designing, teaching, and critically evaluating them.

13 Limitations of the Study and Recommendations for Future Research

As sustainability changes from a specific goal to a basic need, businesses have a unique chance to make their main operations more environmentally friendly. This will help them meet customer needs while having less of an impact on the environment. The strategic concept of eco-accidentalism, especially through the implementation of premium design, could help businesses make long-lasting changes.

Still, this paper has some limitations that need to be acknowledged. A broader array of sectors and products would provide a more comprehensive understanding of how eco-accidentalism can be efficiently incorporated into diverse business structures. A further barrier is the scarcity of quantitative data regarding the economic impact of eco-accidentalism on business profitability and long-term brand value. It may furnish more compelling evidence of its financial advantages, allowing organisations to assess its potential more precisely. The author proposes that subsequent studies should explore the following directions:

- Expanding industry-specific case studies: analysing eco-accidentalism across various design and non-design sectors, such as technology, healthcare, and transportation, would provide a comprehensive understanding of its relevance and challenges in industries with distinct operational frameworks and consumer anticipations.
- Quantitative analysis of economic outcomes: future research should undertake long-term quantitative studies to evaluate the financial implications of adopting eco-accidentalism. This entails monitoring measures such as revenue growth, cost reductions, and client acquisition or retention in enterprises adopting eco-friendly defaults.
- Investigating consumer segmentation and response: given that eco-accidentalism may resonate differently across consumer demographics, additional research could examine how age, income, and regional cultural values affect consumer receptivity to default sustainable choices. Segmenting reactions may assist organisations in customising their eco-accidentalism tactics through a premium design approach to enhance efficacy.
- Examining obstacles to implementation: subsequent research should investigate the challenges enterprises face in adopting eco-accidentalism, including supply chain constraints, financial repercussions, and regulatory issues. Understanding these obstacles can facilitate the formulation of strategic suggestions and frameworks from a design perspective that promote broader adoption.

By focusing on these aspects, future studies could greatly enhance understanding of eco-accidentalism and provide businesses with the empirical and practical insights needed to integrate sustainability as a seamless, profitable component of their core operations. The author wishes this paper could be a valuable resource for fellow researchers exploring sustainability-focused issues across various domains.

CRedit author statement Xiaozhu Lin: Conceptualisation, Methodology, Investigation, Writing - original draft, Writing - review and editing.

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References

1. United Nations,
<https://unstats.un.org/sdgs/report/2024/The-Sustainable-Development-Goals-Report-2024.pdf>
2. Capgemini,
<https://prod.ucwe.capgemini.com/wp-content/uploads/2023/11/Final-Web-Version-Report-Investment-Trends-2024.pdf>
3. Ogilvy Consulting,
https://www.ogilvy.com/filedownload?f_path=L3NpdGVzL2cvZmlsZXMvZGhwc2p6MTA2L2ZpbGVzL3BkZmRvY3VtZW50cy9PZ2lscnltFT1VSJTIwQUNUSU9OUyUyME1BVFRFU5wZGY%3D&force_download=1&is_non_gated_pdf=1
4. Visual Capitalist,
<https://www.visualcapitalist.com/climate-targets-of-fortune-500-companies/>
5. Climate Impact Partners, <https://www.climateimpact.com/news-insights/fortune-global-500-climate-commitments/>
6. Accenture,
<https://www.prnwsonline.com/wp-content/uploads/2018/12/accenture-competitiveagility-gcpr-pov.pdf>
7. WARC,
<https://www.warc.com/newsandopinion/opinion/sustainability-opportunities-and-challenges-for-brands/en-gb/3033>
8. Adams, W.M.: The Future of Sustainability: Rethinking Environment and Development in the Twenty-first Century. Report of the IUCN Renowned Thinkers Meeting (2006)
9. Manzini, E.: Sustainable Solutions 2020-Systems, in Proceedings of the 4th International Conference towards Sustainable Product Design, Brussels, Belgium, The Centre for Sustainable Design (1999)
10. Sametinger, F.: Sustainable Design by Default: Towards an Action Repertoire for Transformation. Universität der Künste Berlin (2019). DOI: 10.25624/kuenste-1216
11. Johnson, E.J., Goldstein, D.G.: Do Defaults Save Lives? Science, 302, pp. 1338--1339 (2003). DOI: 10.1126/science.1091721
12. Smith, N.C., Goldstein, D.G., Johnson, E.J.: Choice without Awareness: Ethical and Policy Implications of Defaults, Journal of Public Policy & Marketing, 32, pp. 159--172 (2013). DOI: 10.1509/jppm.10.114
13. Kapferer, J.N., Bastien, V.: The Luxury Strategy: Break the Rules of Marketing to Build Luxury Brands. Kogan Page (2012)
14. Manzini, E.: Design Culture and Dialogic Design, Design Issues, 32, pp. 52--59 (2016). DOI: 10.1162/DESI_a_00364
15. Walker, S.: Explorations in Theory and Practice. Earthscan Ltd. (2006)

16. Bhamra, T., Lofthouse, V.: *Design for Sustainability: A Practical Approach*. Routledge (2007)
17. Fuller, R.B.: *Operating Manual for Spaceship Earth*. Southern Illinois University Press (1969)
18. Madge, P.: Design, Ecology, Technology: A Historiographical Review, *Journal of Design History*, 6, pp. 149--166 (1993). DOI: 10.1093/jdh/6.3.149
19. Papanek, V.J.: *Design for the Real World*. Academy Chicago (1985)
20. Wahl, D.C., Baxter, S.: The Designer's Role in Facilitating Sustainable Solutions, *Design Issues*, 24, pp. 72--83 (2008). DOI: 10.1162/desi.2008.24.2.72
21. Packard, V.O.: *The Hidden Persuaders*. Penguin Books (1957)
22. Thaler, R.H., Sunstein, C.: *Nudge: Improving Decisions about Health, Wealth, and Happiness*. Penguin Books (2009)
23. Madrian, B.C., Shea, D.F.: The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior, *Quarterly Journal of Economics*, 116, pp. 1149--1187 (2001). DOI: 10.1162/003355301753265543
24. Abadie, A., Gay, S.: The Impact of Presumed Consent Legislation on Cadaveric Organ Donation: A Cross-Country Study, *Journal of Health Economics*, 25, pp. 599--620 (2006). DOI: 10.1016/j.jhealeco.2006.01.003
25. Holmes, R.: *AD NET ZERO Global Summit: Driving Behaviour Change for a More Sustainable Future*. Circle (2021)
26. IBM Institute for Business Value, <https://cdn.nrf.com/sites/default/files/2022-01/Consumers%20want%20it%20all.pdf>
27. IBM Institute for Business Value, <https://www.ibm.com/thought-leadership/institute-business-value/report/sustainability-consumer-research>
28. WARC, https://www.warc.com/content/paywall/article/bestprac/what-we-know-about-sustainability-marketing/en-GB/138957?utm_source=daily-email-intro-link&utm_medium=email&utm_campaign=daily-email-emea-prospects-20231130
29. WARC, <https://www.warc.com/newsandopinion/opinion/not-all-nudges-are-equal-a-strategy-for-nudging/6479>
30. Homer, K.: *Little Book of Gucci: The Story of the Iconic Fashion House* (Little Books of Fashion, 7). Welbeck Publishing (2020)
31. Nestlé, <https://www.nestle.com/media/pressreleases/allpressreleases/full-year-results-2023>
32. Interbrand, <https://interbrand.com/best-global-brands/>
33. Corriere della Sera, https://corrieredibologna.corriere.it/notizie/economia/24_maggio_30/le-capsule-del-caffe-recuperate-diventano-riso-per-chi-ha-bisogno-il-progetto-da-chicco-a-chicco-di-nespresso-e-banco-alimentare-b7b8dd8a-b0cb-4afa-bbbc-392e3afeexlk.shtml
34. La Stampa, https://www.lastampa.it/asti/2024/05/14/news/asti_capsule_gaia_nespresso_riso-14300291/
35. ANSA.it, https://www.ansa.it/ansacom/notizie/ansa2030/nespresso-2/2023/12/14/da-chicco-a-chiccoin-4-anni-donati-900mila-piatti-di-riso_e97b2852-c3fd-47af-8ca5-b5440b2a6fff.html
36. Banco Alimentare, <https://www.bancoalimentare.it/news/da-chicco-chicco-nespresso-al-fianco-di-banco-alimentare-puglia>
37. Rinnovabili, <https://www.rinnovabili.it/agrifood/da-chicco-a-chicco-economia-circolare-impatto-sociale/>
38. UNINDUSTRIA, <https://www.un-industria.it/notizia/122557/design-week-casani-nespresso-italiana-lanciamo/>