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The Impact of Strategic, Supply Chain, and Innovation Management on Consumer Preferences for Sustainable Cosmetics Products: A Permutation Test of Herbalife International of America, Inc.

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ABSTRACT

This study explores how cosmetics producers can effectively market the sustainable innovations to consumers, using Herbalife International of America, Inc. as a case example. Herbalife is recognized for producing premium cosmetics, dermo - cosmetics, and nutritional supplements. The research aims to identify key strategies and best practices that contribute to successful sustainability - driven branding and sales in the cosmetics industry. To investigate this, a survey was conducted involving 111 participants. The study focused on three independent variables that influence consumer preference for sustainable innovations in cosmetics. Herbalife's practices were used as a benchmark. The collected survey data was analyzed using a permutation test, a non - parametric statistical method that does not assume a specific data distribution. Findings were then interpreted and discussed in relation to broader industry strategies. The analysis revealed that R&D activities are the most influential factor in shaping consumer preferences for sustainable cosmetics. Companies that invest in developing original formulas and source novel raw materials can gain a strong competitive edge. Additionally, while supply chain efficiency remains a critical driver, strategic management also plays a significant role in influencing customer choices - though slightly less so than supply chain factors. As a fast - evolving and innovation - driven sector, the cosmetics industry continues to attract entrepreneurs and investors. This study highlights the importance for companies to embrace sustainability, healthy formulations, uniqueness, and innovation. These elements are essential in building a strong brand identity and gaining lasting customer loyalty.

INTRODUCTION

The cosmetics industry continues to attract a growing number of entrepreneurs and investors, driven by the rising global emphasis on beauty and personal care. Today, beauty has become a central concern for people of all demographics, contributing to the steady and significant increase in demand for cosmetic products. Despite ongoing global economic challenges and macroeconomic uncertainties, the industry has demonstrated exceptional resilience. In fact, instead of contracting during times of crisis, the demand for cosmetics has consistently grown. A clear indicator of this trend is the global revenue generated by the beauty industry, which reached approximately \$450 billion in 2022 (Li, 2024). This figure reflects the robust demand for a wide range of products, including skincare, perfumes, makeup, and hair care - each contributing significantly to the sector's continued growth (Rähse, 2020).

In response to this evolving landscape, cosmetic brands are simultaneously improving their strategies to thrive in an increasingly innovative, fast - paced, and competitive market. As a dynamic and forward - looking industry, cosmetics is expected to undergo significant transformation over the next decade (Rasuli, 2024). This transformation is likely to center on diversifying product offerings, expanding into new marketing and distribution channels, and achieving a deeper alignment

with consumer values.

One of the most notable shifts is in consumer perception - especially among younger generations - regarding beauty and its broader implications. These shifting perceptions are also redefining what sustainability means within the context of cosmetics. Influencers, bloggers, celebrities, and industry experts all play a critical role in shaping modern beauty ideals. As these voices evolve and gain influence, their impact on personal care trends and sustainable practices will become increasingly significant. This cultural and market shift suggests that brands must not only innovate in product development but also align with emerging values around ethical production, environmental responsibility, and authentic brand communication.

LITERATURE REVIEW

The cosmetics industry has emerged as an increasingly attractive sector, drawing interest from a wide range of players - from high - net - worth investors to global celebrities. This enthusiasm is well - founded, especially given the sector's strong rebound following the COVID - 19 pandemic (Simon *et al.*, 2021). With an estimated annual growth rate of 10%, the industry continues to lure investors seeking high returns. Projections suggest that by 2030, global revenue from the cosmetics industry could reach approximately \$650 billion, largely fueled by the

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entry of new companies (Kalinin *et al.*, 2024). Remarkably, this revenue forecast surpasses those of traditional consumer sectors such as apparel, food, and beverages.

In the face of shifting economic conditions, companies are focused on safeguarding their profitability. So that most of cosmetics producers elevate even the most basic cosmetic products by enhancing their design, packaging, or perceived value - sometimes through luxury embellishments like gold plating (Park & Hong, 2024). This strategy appeals to consumers' desire for exclusivity and indulgence, fueling demand for premium offerings. As the number of premium - oriented consumers grows, spending in this segment is expected to rise significantly. Consequently, the global cosmetics market may exceed its already ambitious growth projections between 2024 and 2030 (Kalinin *et al.*, 2024).

Looking ahead, the cosmetics industry is poised for continued transformation, bringing with it both promising opportunities and notable risks. A rapidly evolving competitive landscape awaits both existing players and new entrants. Traditionally, Profit Before Tax (PBT) has been a standard measure of organizational performance, and many companies in the sector boast pre - tax profit margins as high as 40% (Hebous *et al.*, 2019). These consistently high margins continue to make the industry attractive to aspiring entrepreneurs and investors.

However, to succeed in this increasingly saturated market, leading brands must go beyond conventional strategies. They will need to embrace innovative, sustainable, and premium value propositions - tailored uniquely to the evolving preferences of individual consumers. In the coming years, differentiation through unique value offerings will be the cornerstone of competitive advantage in the cosmetics sector. Companies that can effectively respond to changing consumer expectations, while maintaining authenticity and sustainability, will set the standard for long - term success (Agu *et al.*, 2024).

Sustainability Trends and Shifting Consumer Behavior in the Cosmetics Industry

Environmental awareness has significantly increased across all industries in recent years. As this awareness grows, nearly every company is developing strategies to use natural resources more ethically and efficiently, while offering products and services that minimize environmental harm. Consumers across sectors have also shifted their purchasing behaviors, adopting responsible consuming preferences that conserve energy, protect the environment, promote social benefits (Trudel, 2019).

Sustainability not only enhances a company's corporate image among customers but also provides a competitive advantage over rivals. When combined with innovative approaches, sustainability drives the emergence of sustainable innovations that enable companies to maintain long - term success (Varadarajan, 2017). Sustainable innovations have become essential business strategies that contribute to economic development.

The challenges faced by society, the environment, and

the economy highlight the growing need for sustainable innovations. These innovations leverage advanced technologies and incorporate social, digital, and creative practices to enhance business longevity (Aithal, 2023). In the cosmetics industry, the development of ethically sourced formulations that do not harm humans or nature and that reduce the carbon footprint of production is critical for the future. Sustainable innovations in this sector also aim to address issues such as the negative impacts of chemicals, pollution of the environmental, waste, and the depletion of natural resources.

This discussion will focus on best practices within the cosmetics industry, examining key success factors, strategies and managerial skills related to cosmetics producers and products that embody sustainable innovation.

Over the past decade, sustainability has evolved from a niche concern to a defining force in the global cosmetics industry. Modern consumers - particularly Millennials and Gen Z - are no longer satisfied with products that only promise beauty or performance. They increasingly demand transparency, ethical sourcing, eco - friendly packaging, cruelty - free practices, and clean, non - toxic ingredients. These shifts are not merely trends, but deeper lifestyle values that are reshaping how consumers engage with brands.

The concept of clean cosmetics has gained widespread traction, emphasizing ingredient safety, environmental responsibility, and minimalistic formulations (Amrina *et al.*, 2021). Alongside this, sustainable packaging and carbon - neutral supply chains are no longer optional features but expectations in many consumer markets (Tetteh *et al.*, 2025). Brands that neglect these factors risk losing credibility and market share, especially among environmentally conscious consumers who actively research and evaluate product claims before purchase (Brach *et al.*, 2018).

The influence of social media and digital platforms also plays a critical role in this shift. Consumers today are more informed, vocal, and connected than ever before. Influencers, content creators, and online reviews can rapidly shape public opinion and either propel a brand to success or expose inconsistencies in its sustainability claims (Wal, 2023). This increased scrutiny means that companies must align their branding with authentic, provable sustainable practices to earn and retain customer trust.

In this context, sustainability is not only a moral obligation but a strategic necessity for growth and relevance in the industry (Sheehy & Farneti, 2021). Successful cosmetics companies are those that integrate sustainability into every stage of their value chain - from product development to marketing, from sourcing to after - sales service. This integration also opens up new opportunities for innovation and differentiation in a crowded market (Panitsettakorn *et al.*, 2023).

Sustainable Company Image in the Cosmetics Industry

An image of a company extends beyond products and services to include organizational values, dilemma, culture and strategies. Developing a strong sustainable

image is vital for companies like Herbalife that focus on sustainable innovation. Herbalife has successfully cultivated this image through various means:

- Building brand loyalty through socially responsible projects that reinforce a positive company reputation.
- Enhancing product trust by leveraging digital applications that facilitate purchase simulations and informed decision - making.
- Strengthening customer relationships via a distinctive marketing language, boosting brand reliability and sales.
- Engaging customers through feedback mechanisms, fostering a sense of being valued and enhancing loyalty.
- Offering customer training programs that highlight the company's care and commitment to its clientele.

Together, these strategies create an authentic sustainable image that aligns with Herbalife's company identity and supports long - term business success (Gunawan *et al.*, 2024).

Herbalife as a Case Study: Strategic Approach to Sustainable Innovation

Herbalife International of America, Inc. serves as a compelling example of how a global company can successfully incorporate sustainability and innovation into its core business strategy. Known primarily for its nutritional supplements, Herbalife has expanded its portfolio into the cosmetics and dermo - cosmetics space by leveraging its health - first brand identity and scientific R&D capabilities.

Herbalife's strategic approach to sustainable innovation is multi - layered (Thompson, 2018):

R&D - Driven Product Innovation

Herbalife invests significantly in research and development to formulate products using clean, plant - based, and dermatologically tested ingredients. The company emphasizes uniqueness in its formulations, often introducing ingredients not previously used in cosmetics. This approach not only meets clean beauty standards but also differentiates Herbalife in a saturated market.

Ethical and Transparent Sourcing

The brand follows rigorous sourcing practices, working with suppliers that adhere to sustainable farming and ethical labor standards. This adds traceability and transparency to its supply chain, key concerns for modern consumers.

Eco-Friendly Packaging and Operations

Herbalife continues to explore biodegradable and recyclable packaging alternatives, while also reducing its carbon footprint through energy - efficient manufacturing and distribution practices.

Strategic Communication and Consumer Education

The company actively engages with its consumers through digital channels, educating them on product benefits, ingredient origins, and Herbalife's sustainability

efforts. This fosters brand loyalty and builds trust among its customer base.

Through these strategies, Herbalife has not only adapted to changing market expectations but has also positioned itself as a leader in responsible innovation within the cosmetics sector. Its model demonstrates how aligning sustainability with innovation can drive long - term growth, brand differentiation, and consumer loyalty (Ortalda Cena, 2022).

The Identity of Company

Company identity represents how an organization defines and presents itself to its external stakeholders, including customers, suppliers, and intermediaries. It encompasses the company's mission, core values, competencies, organizational culture, organizational structure, and the range of products and services offered. Essentially, company identity reflects a firm's fundamental values and the unique attributes that distinguish it from competitors. Herbalife International of America, Inc. exemplifies a strong company identity as a leading manufacturer in the food supplement sector - particularly vitamins and minerals - as well as cosmetics and dermocosmetics (Ortalda Cena, 2022). The company's identity is rooted in its commitment to sustainability, emphasizing both customer health and environmental stewardship. Herbalife explicitly communicates this identity through its mission, vision, and core values, positioning itself as a cosmetics company dedicated to developing products that are gentle on both humans and nature. This reflects a long - term strategic focus on creating sustainable innovations that prioritize societal health over short - term financial gain, demonstrating a genuine commitment to ethical practices (Symbol *et al.*, 2017).

Moreover, Herbalife carefully controls every aspect of its production and management processes, including research and development (R&D), supply chain logistics, marketing, and distribution. Innovative and sustainable approaches underpin these operations, reinforcing the company's identity. A key differentiator for Herbalife is its corporate social responsibility (CSR) framework (Kelvin, 2024): the company mandates environmental and social sensitivity as core criteria when selecting suppliers, thereby promoting sustainability across its value chain. This comprehensive approach makes Herbalife a pioneer in sustainability within the cosmetics industry.

Strategic Management of the Company

While many customers may not be aware of the complex management and organizational skills behind their purchased products, these elements are critical drivers of success. Effective strategic management fosters a strong organizational culture and ensures high customer satisfaction, which in turn builds brand loyalty - a fundamental factor for sustaining competitive advantage. Herbalife International of America, Inc. exemplifies this principle by fostering active employee participation at all levels, aligning projects and strategies with the company's

core values. The leadership within Herbalife demonstrates strong commitment and charismatic influence, which facilitates the rapid acceptance and implementation of high - level strategies throughout the organization. This leadership style fosters employee loyalty and a sense of belonging, both essential for the effective execution of management strategies centered on sustainability.

Managers at Herbalife direct production and management processes with sustainability as a central objective. The company's adherence to its core values enables it to build a sustainable corporate identity and develop innovative cosmetics products that align with environmental and social priorities. Furthermore, the leaders' impactful communication and the top level management's sensitivity to social and environmental issues motivate employees to initiate social responsibility projects beyond corporate expectations (House *et al.*, 2025).

Such leadership fosters a participatory organizational culture grounded in consensus, ensuring that sustainability remains the guiding principle of all work performed. This culture of inclusion and commitment is critical in embedding sustainability into everyday business operations and decision - making.

Leading companies in the cosmetics sector recognize that environmental and social sensitivity must be at the heart of their organizational structures and culture. Like Herbalife, Amway Corp. a leading American natural and organic cosmetics manufacturer - demonstrates how strong internal management, leadership, and employee engagement underpin sustainable innovation. Founded in 1995, Amway operates on principles emphasizing safety, organic agriculture, carbon footprint reduction, and fair customer relationships (Amway Global).

Both companies illustrate how sustainability, innovation, and social responsibility can be central to successful strategic management in the cosmetics industry.

Company Image and Reputation

Company image includes all the visual and sensory elements a company presents to customers, such as logos, packaging, office design, and advertising. Herbalife maintains a strong and consistent company image by employing advanced CAD - CAM technology, which supports the precise and professional creation of its brand visuals (Gisco & Ancarani, 2014). Moreover, Herbalife has developed distinct operational models tailored to the various cosmetics products to manage corporate identity and communication effectively. This proactive approach helps the company stay aligned with industry trends and enhances its market reputation.

It is important to distinguish between company identity and company image: while identity is how the brand aims to be perceived and the values it projects externally, image is the actual perception held by the market - essentially, the reflection of company identity. Building a strong company identity and image provides a competitive advantage, especially in highly competitive sectors like cosmetics, where differentiation is crucial.

Strategic Cooperation

Strategic cooperation refers to a formal business arrangement in which more than 2 partners collaborate to reach mutually beneficial goals without undergoing a full merger or acquisition. Unlike mergers, strategic cooperation typically requires less capital investment and allows each partner to maintain its independence in operations. Such collaborations often take the form of project - based partnerships, where partners pool specific resources, knowledge, or expertise for a defined purpose, and the partnership generally dissolves upon project completion. While each entity continues to operate autonomously, they support one another's mutual facilities within the framework of the agreement.

Strategic cooperation can extend beyond operational support to include marketing alliances that amplify the reach and sales potential of products. Moreover, it frequently encompasses research partnerships aimed at leveraging advanced technologies and conducting joint R&D to foster innovation. In essence, strategic cooperation combines partners' unique skills, resources, and knowledge to execute management processes collectively toward shared goals (Mayasha & Pinem, 2025).

This approach is increasingly recognized as a core business strategy to boost performance, enhance market share, and respond swiftly to environmental complexity and uncertainty. By bringing together diverse expertise, strategic collaborations help companies adapt rapidly to shifting market dynamics - an especially critical capability in the fast - evolving cosmetics industry.

For Herbalife International of America, Inc., strategic cooperation yields several key advantages (Minor & Patnaik, 2023):

Supporting New Entrepreneurs

Herbalife enables emerging cosmetics entrepreneurs to enter the market efficiently by offering support without requiring substantial upfront investment or time loss. By providing consultancy and forming strategic partnerships, Herbalife helps newcomers navigate environmental, social, economic, and financial barriers in both national and international markets.

Consultancy and Resource Sharing

Partner companies benefit from Herbalife's expertise across multiple domains, including R&D, selling, advertising, distributing, digital media managing, and logistics. This comprehensive support accelerates the reputation - building process and market influence of fledgling businesses.

Cross - Disciplinary Expertise

Herbalife assembles expert teams tailored to the entrepreneurs' needs, offering knowledge and technology to guide product development and market strategy.

The process of innovation and product development is often resource - intensive and fraught with challenges. Strategic cooperation with Herbalife reduces these

burdens by mitigating the risks associated with R&D expenses and market entry uncertainties. By distributing risks and pooling resources, such collaborations become an attractive model not only for cosmetics but across industries.

Sustainable Strategic Cooperation in Cosmetics Industry

Sustainable innovations in cosmetics encompass new products, digital technologies, and strategies designed to protect ecosystems and minimize negative impacts on social and natural environments. These innovations also promote long - term human health by reducing harmful chemical ingredients. Recent years have seen a surge in natural and organic cosmetics, not only from established corporations but also emerging enterprises, driven primarily by growing consumer awareness and evolving purchasing behaviors favoring sustainable alternatives.

Developing sustainable strategic cooperation is crucial for advancing these goals in the cosmetics industry. However, because sustainability is a relatively nascent concern, many countries lack standardized regulations and certification processes. This absence complicates the communication of clear and trustworthy product information, which is essential for consumer confidence (Spironelli, 2019). Many companies worldwide, especially in developing regions, struggle with launching sustainable innovations without universally accepted standards.

In response, Herbalife International of America, Inc. produces its sustainable products in countries that have established regulatory frameworks for sustainable innovation. This strategic choice not only enhances customer trust but also strengthens the brand's reputation by clearly differentiating its products from competitors (Symbol *et al.*, 2017).

Europe leads the way in establishing and enforcing sustainability standards within the cosmetics sector. European regulatory bodies have developed certification systems that align organic and sustainable cosmetics with consumer expectations and ecological considerations. Such frameworks provide a model for global adoption, helping to harmonize standards and foster market transparency.

To accelerate sustainable innovation on a global scale, governments must collaborate to develop macro - level policies and standards, ensuring companies can confidently integrate sustainability into their business models. Strategic cooperation between companies and governments will be vital to enforcing these standards, encouraging sustainable product development, and ultimately safeguarding the Earth.

Supply Processes of Raw Materials

The procurement of raw materials marks the inception of the life the product and plays a pivotal role in determining a product's sustainability credentials. Today's consumers increasingly scrutinize not only the ingredients in the products they use but also the origins and supply methods of these raw materials. Herbalife International of America, Inc. places sustainability at the forefront, embedding responsible practices from the

earliest stages of sourcing. The company is committed to selecting raw materials that are safe, non - toxic, and environmentally responsible, ensuring that long - term use of its innovative cosmetics does not adversely affect consumer health (Vaz, 2021).

Aware of the documented health risks linked to synthetic chemicals and additives, Herbalife consciously excludes these substances, despite the higher costs associated with organic and natural ingredients. This commitment reflects the company's foundational principle of "do no harm" to its customers' well - being.

However, incorporating natural ingredients demands careful attention to various factors, such as the precise quantities used, storage conditions, and supply chain integrity, to preserve quality and efficacy throughout the production process.

A critical emerging focus in sustainable sourcing is ethical sourcing, which emphasizes responsible stewardship of limited natural resources. Ethical sourcing encourages producers to maximize efficiency and minimize environmental impact (Mboga, 2017). that integrate ethical sourcing not only uphold environmental stewardship but also reinforce their corporate identity and strengthen their brand image among conscientious consumers.

For instance, Alix Avien Paris has begun developing green formulations by replacing traditional raw materials with alternatives that have a significantly lower carbon footprint. Their sustainable strategy prioritizes environmental protection and public health, reflecting a growing trend within the cosmetics industry.

Strategic Cooperation with Suppliers

Strategic partnerships with qualified suppliers are essential for ensuring a reliable and sustainable supply of raw materials in the cosmetics industry. A supplier's commitment to sustainability and ethical purchasing principles is as important as that of the manufacturer (Mazharul Islam & Alharthi, 2020). Selecting suppliers who adhere to ethical sourcing not only supports individual company goals but also contributes to the broader sustainability ecosystem. Encouraging the proliferation of sustainable suppliers strengthens the entire supply chain's resilience and environmental responsibility.

Herbalife International of America, Inc. actively promotes sustainability by prioritizing partnerships with suppliers committed to ethical resource use. For example, through strategic collaboration with a supplier of 100% natural cold - pressed oils, Herbalife was able to develop a new, affordable sustainable cosmetic ingredient that meets the growing demand for natural products. This cooperation allowed Herbalife to innovate while keeping costs competitive, ultimately benefiting consumers and the environment alike.

Moreover, Herbalife has established a dedicated department within its production facility to oversee the production of this organic oil, exemplifying vertical integration in sustainable raw material sourcing.

Whether a company chooses to procure raw materials from external suppliers or produce them in-house, decisions should balance cost, logistics, and time efficiency. Regardless of procurement strategy, embracing organic and sustainable methods is crucial for cultivating a strong, environmentally responsible corporate image. Employing continuous improvement frameworks such as the Kaizen Approach can guide manufacturers in optimizing these decisions and processes (Meidutė - Kavaliauskienė *et al.*, 2023).

Innovation Management Development Stage

The product development process significantly shapes a company's identity. While the final product is what consumers ultimately purchase, the developmental stages - including logo design, packaging, and ingredient selection - are equally influential in shaping consumer perception and purchasing behavior.

Consumer behavior is increasingly influenced by awareness of product life cycles, particularly in light of unpredictable global events such as pandemics that heighten health consciousness. Brands with a long-standing reputation for managing product life cycles sustainably tend to enjoy greater consumer trust and preference (Ha *et al.*, 2021).

For Herbalife International of America, Inc., transparency in sharing product composition and efficacy has fostered rapid customer loyalty. The company integrates sustainability goals deeply into its brand identity by openly communicating its entire product life cycle - from raw material sourcing through production - thereby reinforcing consumer trust and environmental responsibility (Ferrell *et al.*, 2020).

Production Stage

Within the product life cycle, the production phase has the most significant environmental and health impacts. Sustainable production in cosmetics involves maximizing energy efficiency, minimizing waste, and producing ingredients that are safe for both humans and the environment.

Essential oils are a common ingredient in cosmetics, and their extraction methods greatly influence sustainability. Steam distillation, the traditional approach, requires substantial energy due to external heating. In contrast, cold press is a more energy-efficient method that better preserves the oils' bioactive compounds, resulting in higher-quality ingredients and a reduced environmental footprint (Sannino *et al.*, 2025).

Herbalife International of America has adopted such sustainable production techniques, focusing on waste reduction, pollution prevention, and elimination of toxic substances. The company's production facilities incorporate green building designs, including water storage systems and energy-efficient equipment powered partly by solar energy. These investments reduce the carbon footprint and exemplify Herbalife's commitment to environmentally conscious manufacturing.

The company's sustainable production facilities aim to (House *et al.*, 2025):

- Align operations with core values and reinforce the company's sustainable image among consumers.
- Balance short-term costs against long-term savings achieved through efficiency and waste reduction.

Conceptual Framework

Sustainability practices are often perceived as costly by many companies, leading to hesitation or avoidance in formulating sustainability strategies. However, cosmetics companies that engage in sustainable innovation can significantly reduce these costs by developing strategic cooperation. Through such collaborations, companies have the opportunity to form green partnerships with external stakeholders focused on environmental protection or to jointly develop green marketing strategies with other firms that prioritize sustainability.

To foster this, governments should design and regulate incentives to encourage sustainable facilities more financially attractive and feasible. Such policies encourage businesses to adopt environmentally responsible practices rather than neglecting ecological concerns due to cost pressures.

In the context of green marketing strategies, sustainability emerges as the primary objective in strategic collaborations, with corporate social responsibility (CSR) initiatives often serving as a complementary goal. Strategic partnerships - whether with environmental organizations or other sustainability-minded companies - are aimed at producing eco-friendly solutions, developing products that minimize pollution, and ensuring no harm to human health. Establishing clear, goal-oriented green marketing strategies is a vital step toward preserving the ecosystem. Unlike other forms of strategic collaboration, sustainable strategic cooperation designed specifically for green objectives offers several unique advantages:

- The trusted corporate identities of cooperating partners enhance consumer confidence in green products and services.
- Public criticism and skepticism toward products and practices are significantly reduced.
- The green image of products and services is strengthened, increasing market appeal.
- Partners share technical knowledge and skills, filling gaps in sustainability expertise and fostering mutual learning.
- Collaboration enables partners to access new sustainable markets more effectively.
- Partners benefit from customer feedback on newly developed products, accelerating their ability to respond to consumer demands and preferences.

Sustainable strategic cooperation not only helps companies build a reputable social image but also cultivates user trust and deepens the expertise necessary to innovate and operate sustainably. Through green collaboration, companies can more convincingly demonstrate the achievement of their sustainability

goals and swiftly connect with consumer segments that prioritize environmentally responsible products.

Furthermore, cooperation with professional environmental organizations - such as NGOs like TEMA - enhances the company's credibility and professionalism in the eyes of consumers. Such partnerships enable companies to organize educational initiatives that raise customer awareness about product ingredients, sustainability objectives, and CSR activities. Support from experienced environmental stakeholders lends valuable social legitimacy to cosmetics companies, leveraging the positive public perception generated by sustainability - driven initiatives.

To explore how cosmetics companies can effectively market sustainable innovations to consumers, this study employed a quantitative research approach, centered around a consumer - focused survey. The goal was to identify key factors influencing the demand of sustainable innovations within the cosmetics sector, using Herbalife International of America, Inc. as a benchmark for strategic best practices.

Research Question

This study aims to answer the question: "Are cosmetics manufacturers seeking sustainable and innovative products in order to fulfill customers' demand?" This question is explored through an analysis of the strategies employed by Herbalife International of America - a leading producer of food supplements (such as vitamins, minerals), cosmetics, and dermo - cosmetic products - supported by survey data collected for this research.

This study investigates the practices currently employed by successful cosmetics companies, as well as those that should be adopted, to promote sustainability within the industry. Drawing upon an extensive review of existing literature, three independent variables are identified as critical determinants of the successful implementation of sustainable innovative products in the cosmetics industry: the efficiency of innovation management, supply chain management, and strategic management. These variables will be empirically examined through the analysis of data collected via survey methodology.

To date, there has been a lack of comprehensive research investigating the specific impact of the identified independent variables on the dependent variable - namely, the consumer selection of cosmetic products featuring sustainable innovation. This study seeks to address this gap in the literature by offering both empirical evidence and practical insights, with a particular emphasis on sustainability, a concept of growing importance across all industries.

Control Variables

The study incorporates two demographic control variables: age and gender of survey respondents.

- Gender is classified into two categories: male and female.
- Age is segmented into three cohorts: 18–30, 31–45, and 46–60 years.

Additionally, supplementary demographic data - such as

income level and frequency of cosmetic product usage - were collected to enable more nuanced segmentation and interpretation of the results.

Dependent Variable

The dependent variable in this study is "Cosmetics Product Selection as Sustainable Innovation." The research focuses on identifying which factors most strongly influence consumers' choices regarding sustainable cosmetic products.

Independent Variables

Data on consumer perceptions of sustainable cosmetic products were collected through a structured questionnaire comprising closed - ended and Likert - scale items. The survey focused on three key independent variables:

Efficiency of Strategic Management

Assessed through participants' perceptions of the company's sustainability goals, leadership (visionary and socially responsible), partnerships with environmental organizations, and internal collaboration and communication. Responses were measured on a three - point scale: Always (3), Sometimes (2), Never (1).

Efficiency of Supply Chain Management

Evaluated based on environmentally responsible sourcing, ethical procurement, supplier sustainability, and toxin - free product content. The same three - point response scale was applied.

Efficiency of Innovation Management (R&D Activities)

Captured the perceived influence of research and development on product quality, sustainability, formulation safety, use of recyclable packaging, and product certification. This variable was also measured using the same three - point scale.

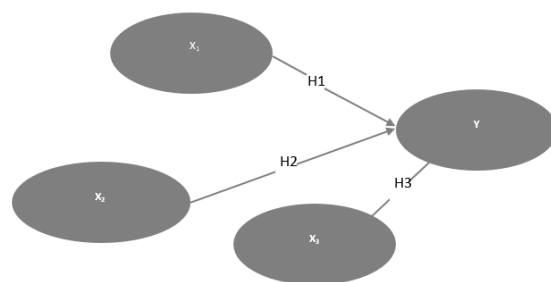


Figure 1: Theoretical Framework

According to the theoretical framework outlined above, the following hypotheses are proposed:

H1: If a cosmetics firm employs strong strategic planning, customers are more likely to favor its sustainably innovative products.

H2: If a cosmetics firm executes efficient supply chain operations, its sustainably innovative offerings gain greater customer preference.

H3: If a cosmetics firm effectively manages its

innovation processes, its sustainably developed products tend to be more appealing to consumers. These hypotheses (Hypothesis 1, Hypothesis 2, and Hypothesis 3) suggest that as the efficiency of the independent variables increases, customer demand for sustainably innovative products also rises. It is anticipated that improvements and enhancements in the sub - factors of these independent variables will positively influence customer preferences. In summary, a positively significant relationship is expected between all three independent variables and the dependent variable.

MATERIALS AND METHODS

The study investigates the influence of three independent variables on the dependent variable by a structured survey was administered to individuals who regularly purchase cosmetics. The survey captured respondents’ perceptions of sustainability in cosmetics and the key drivers behind successful sustainable innovation in the industry. The questionnaire included demographic items (gender,

age, and education) followed by questions regarding prior experience with cosmetic products. Only participants with such experience were allowed to proceed to the sections measuring the independent variables. Given the ordinal nature of the response scale (three options), a permutation test - a non - parametric statistical method not reliant on distributional assumptions - was employed to assess the significance of the findings. This was appropriate due to the limited scale of response options.

$$\text{Average} = \frac{\sum(\text{Ranking Coefficient} \times \text{Number of Respondents})}{\text{Total Number of Respondents}}$$

To determine the relative weight of each factor and its sub - components on product selection, average scores were calculated using the following formula.

RESULTS AND DISCUSSION

A total of 233 individuals participated in the survey, of which 111 completed all questions and qualified for

Table 1: Demographic Profile

Sample Size (Number of Participants)	111
Gender	
Male	22.4%
Female	77.6%
Age	
18 - 30	79%
31 - 45	18%
46 - 60	3%

analysis by reporting prior experience with cosmetics products. The sample was predominantly female, with women constituting 77.6% of respondents and men 22.4%. The majority of participants (79%) were aged between 18 and 30 years. A total of 233 people participated in the survey; however, only 111 completed all questions, having prior experience

with cosmetics products. The sample predominantly consisted of women (77.6%), with men making up 22.4%. Most participants (79%) were aged between 18 and 30.

Analysis of Factors Affecting Customer Preferences for Sustainable Cosmetics

To better understand how different factors influence

Table 2: Ranking of Efficiency of Strategic Management Sub - Factors

Sub - Factors	Always (3)	Sometimes (2)	Never (1)	Average (111)
Sustainability / Innovation Strategies	44	34	23	2.21
Visionary, Socially Responsible Management	40	39	32	2.05
Strategic Cooperation with Environmental Organizations	32	38	39	1.91
Employees' Team Spirit and Effective Customer Communication	31	40	33	1.88

Table 3: Ranking of Efficiency of Supply Chain Management Sub - Factors

Sub - Factors	Always (3)	Sometimes (2)	Never (1)	Average (111)
Environmentally Focused Raw Materials	43	32	33	2.04
Health Focused Raw Materials	50	37	20	2.20
Beauty Focused Raw Materials	37	41	39	1.78
Ethical Sourcing	24	41	42	1.79

Table 4: Ranking of Efficiency of Innovation Management Sub - Factors

Sub - Factors	Always (3)	Sometimes (2)	Never (1)	Average (111)
Quality, Sustainability, Innovation	48	43	17	2.32
Safe, Unique, Healthy (Non - toxic) Formulation	65	35	6	2.59
Certified Products	37	53	12	2.24
Recyclable Packaging	34	42	32	1.99

customers’ purchasing attitudes toward cosmetics with sustainable innovations, the impact of the three independent variables was analyzed separately. The

following tables present average rankings of sub - factors for each variable based on survey responses:

Table 5: Main Factors Ranking

Independent Variable	Always (3)	Sometimes (2)	Never (1)	Average (333)
Strategic Management	144	145	131	2.67
Supply Chain Management	155	143	130	2.74
R&D Activities (Innovation Management)	182	185	63	3.03
Recyclable Packaging	34	42	32	1.99

Consolidated Ranking of Main Factors Influencing Purchase Decisions

The results indicate that customers show a growing preference for sustainable cosmetics products.

Top Three Sub - Factors Influencing Customer Choice

The safe, unique, and healthy formulation of cosmetics products is the most influential factor affecting customer choices. This is followed by the use of health - oriented

Table 6: Top 3 Sub - Factors Ranking

Sub - Factor	Always (3)	Sometimes (2)	Never (1)	Average (333)
Safe, Unique, Healthy Content	67	38	9	2.54
Health - Oriented Raw Materials	52	34	22	2.33
Quality, Sustainable, Innovative Product	45	43	17	2.44

raw materials, and then by the product’s quality, sustainability, and innovation features. Notably, two of these top factors relate to R&D activities, while the other pertains to supply chain management.

Discussion

Sustainable cosmetics manufacturers can leverage sustainable and innovative values to build a strong brand identity and brand loyalty, provided. These manufacturers’ products are healthy, not toxic, durable, innovative, sustainable and high qualified.

Among the least influential sub - factors are the supply of beauty - oriented raw materials, ethical sourcing, and preference for recyclable packaging. The lower impact of these factors may be linked to the higher prices of sustainable cosmetics products caused by increased production costs. Price sensitivity remains a critical barrier affecting customers’ final purchasing decisions. Consequently, even customers who prioritize sustainability may be unable to afford these products if prices exceed their purchasing power.

Customers place significant value on certifications as a reliable indicator of truly sustainable products. While safe formulation and ingredient information are important to customers, many lack sufficient knowledge to interpret

technical details. Cosmetics companies can bridge this gap by actively collecting customer feedback post - purchase, providing clear information, and organizing free customer education sessions via social and digital platforms. Incorporating seminars and events into core business strategies can enhance customer awareness, loyalty, and competitive advantage.

Besides, the analysis of the survey data revealed several compelling insights into how consumers evaluate and respond to sustainable innovations in the cosmetics industry. The findings confirm that sustainable product preferences are driven by a combination of innovation, ethical practices, and strategic alignment with consumer values.

R&D as the Primary Driver of Consumer Preference

Among the three examined variables, R&D activities emerged as the most influential factor affecting consumer preference for sustainable cosmetics. Respondents showed a strong inclination toward products that feature:

- Unique, science - backed formulations,
- The use of clean, safe, and plant - based ingredients,
- Clinical efficacy supported by dermatological testing.

This aligns closely with Herbalife’s innovation strategy, where the company invests heavily in developing novel

cosmetic products through scientific research and leveraging underused natural ingredients. Consumers are increasingly drawn to products that not only promise visible results but also uphold safety and environmental responsibility. The data suggests that companies capable of consistently delivering such innovative solutions can establish a strong competitive edge.

The Role of Strategic Management

The survey also revealed that strategic management plays a significant role, albeit to a slightly lesser extent than R&D. Consumers recognize and value companies that clearly communicate their sustainability goals, practice transparency, and take consistent steps toward ethical governance. Brand trust is a critical component here. Herbalife's global strategy - focused on long - term health, sustainability, and consumer education - demonstrates how clear messaging, corporate accountability, and a unified sustainability vision can increase brand loyalty. Consumers, especially younger demographics, are more likely to support companies whose values align with their own, even if the price point is higher.

Supply Chain Efficiency and Ethical Sourcing

Supply chain efficiency, particularly in terms of ethical sourcing, environmentally friendly packaging, and low - emission logistics, was also found to influence purchasing behavior. However, its impact ranked slightly below that of R&D and strategic management. Consumers appreciate sustainable packaging and transparency in sourcing practices, but these features are often considered added benefits rather than primary purchase drivers. Still, these aspects significantly contribute to a brand's overall image and are especially important when combined with strong R&D and strategic practices. Herbalife's supply chain management practices, such as traceability of raw materials and commitment to eco - conscious packaging, reflect these preferences. While not always the decisive factor, they enhance brand credibility and support the perception of Herbalife as a holistic, sustainable brand.

Implications for the Industry

The findings reinforce the idea that sustainable innovation must go beyond superficial marketing claims. To truly resonate with today's consumers, cosmetics companies must integrate sustainability at every level - especially product development. Merely adopting eco - friendly packaging or ethical sourcing, without investing in unique and high - performing formulations, is unlikely to sustain long - term consumer interest. Furthermore, value differentiation - especially through a combination of clean innovation, responsible management, and strategic storytelling - is essential for standing out in an increasingly saturated market. Herbalife's success illustrates how aligning product development with a strong corporate sustainability framework can lead to lasting competitive advantages.

CONCLUSION

This study emphasizes the growing importance of sustainability in business strategies, especially in the cosmetics industry, where aligning innovation with environmental goals can drive long - term success. Companies that integrate sustainable innovation into their development, advertising, and leadership processes can enhance efficiency, build a stronger brand image, and foster customer trust and loyalty. Though initially expensive, such innovation lowers costs and boosts sales over time.

The study highlights three key factors influencing customer confidence in sustainable cosmetics: R&D - driven innovation, strategic management, and supply chain efficiency. R&D, particularly in clean and plant - based formulations, has the greatest impact, as consumers increasingly prefer products that are effective, safe, and environmentally responsible. Strategic management supports this by ensuring transparency and consistency in sustainability goals, while efficient supply chains enhance credibility.

Herbalife International of America serves as a case study, illustrating how embedding sustainable practices - such as eco - friendly sourcing, scientific research, and ethical branding - into a company's identity can lead to competitive advantage. Collaborations with universities further support innovation through access to green technologies. Overall, sustainable innovation, when holistically implemented, is not only viable but also profitable, positioning companies like Herbalife as leaders in the evolving cosmetics market.

Limitations

This study focused solely on the cosmetics industry and involved a limited sample size. Future research could expand participant numbers and survey scope to enhance generalizability. Given the increasing importance of sustainable innovations across sectors, further studies exploring sustainable innovative products and R&D facilities in different industries, as well as incentive mechanisms supporting such other sustainable innovations, will make valuable insights to academic literature as well.

Recommendations

Based on these findings, the following recommendations are proposed for cosmetics companies aiming to leverage sustainable innovation effectively:

Prioritizing Research and Development

Companies should allocate resources toward developing high - performance, clean, and innovative product formulations and use unique and sustainably sourced ingredients that provide a differentiating factor in the marketplace. Besides they should partner with dermatologists, labs, or research institutions to validate product claims and build consumer trust.

Developing a Clear Sustainability Strategy

Companies should define measurable sustainability goals and integrate them into the company's vision and operations, ensure transparency by regularly publishing reports, certifications, or impact data to validate claims and educate consumers through content marketing, social media, and packaging that clearly communicates sustainability efforts.

Strengthening Ethical and Efficient Supply Chains

Companies should invest in ethical sourcing and fair - trade partnerships with suppliers, optimize packaging using recyclable or biodegradable materials and explore circular economy models and minimize carbon footprint across production and distribution through green logistics.

Leveraging Influencers and Thought Leaders Strategically

Companies should collaborate with credible influencers, dermatologists, and sustainability advocates to amplify brand messaging and engage with online communities to promote transparency and gain real - time consumer feedback.

Focusing on Premiumization with Purpose

Companies should elevate product experiences through elegant design, personalization, and storytelling - but ensure these premium attributes align with sustainability values and avoid over - promotion or greenwashing; authenticity is essential to win the loyalty of informed consumers.

As the cosmetics industry becomes increasingly saturated and competitive, sustainable innovation will no longer be a value - add but a necessity. Brands that invest early in clean R&D, ethical operations, and meaningful communication will not only survive but thrive in the decade ahead.

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