



An analysis of sustainable practices in women-led green entrepreneurship in beauty salons

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Abstract

The emergence of green entrepreneurship within the beauty salon sector has become increasingly significant as women entrepreneurs incorporate sustainable practices into their business operations. This study investigates the sustainable practices adopted by women-led beauty salons, examining the motivations and challenges that impact the implementation of eco-friendly initiatives. Primary data were collected from a sample of 90 women salon owners. The analysis employed descriptive statistics, Chi-Square tests, and One-Way ANOVA. The results indicate that customer preference for natural and chemical-free products serves as the most compelling motivator for adopting green practices. Conversely, challenges such as the high cost of eco-friendly alternatives and insufficient training resources persist. The study revealed a generally high level of awareness regarding sustainable practices among women salon entrepreneurs. However, the implementation of green practices varies significantly according to the years of experience, with more seasoned entrepreneurs demonstrating a greater efficacy in adopting sustainability-oriented methods. These findings underscore the necessity for training programs, affordable access to eco-friendly products, and institutional support to enhance women-led green entrepreneurship in the beauty sector.

Keywords: Green entrepreneurship, women entrepreneurs, green practices, beauty salons, sustainable development, eco-conscious business, environmental responsibility

Introduction

Green entrepreneurship involves business models that merge economic growth with the conservation of the environment (Suresh, 2024) [22]. It focuses on the use of environmentally friendly resources, responsible energy consumption, minimizing waste, and promoting consumer well-being (Reddy *et al.*, 2023) [15]. In service industries like beauty salons, where the use of chemical-based products, plastic disposables, water, and energy is prevalent, sustainability is particularly important for protecting the environment and public health (Park, 2024) [12].

The beauty salon sector is particularly significant for women's entrepreneurship because it offers accessible opportunities for business ownership with relatively low startup costs and adaptable work arrangements (De Silva *et al.*, 2021) [7]. Consequently, a substantial proportion of salon enterprises in India and worldwide are owned or managed by women (Banu & Baral, 2022) [6]. Women entrepreneurs frequently exhibit a strong ethical awareness, empathy, and a focus on health-oriented decision-making in their business practices, making them inherently inclined toward sustainable practices (Windiyani *et al.*, 2024) [23].

When salons led by women embrace eco-friendly practices, such as utilizing herbal and organic products, advocating for natural skincare, implementing waste management strategies, and educating clients on wellness, the benefits go beyond financial success (Singh *et al.*, 2022) [21]. It supports women's financial autonomy, fosters healthier communities, ensures customer safety, and aids in environmental preservation (Li *et al.*, 2024). Thus, it is important to examine sustainable practices in women-led salons to

understand how entrepreneurship can align with sustainable development objectives.

Literature Review

The Literature Review analyzes existing research on women-led green entrepreneurship within the beauty salon sector. It identifies key concepts, sustainability practices, motivating factors, challenges, and opportunities that affect eco-conscious salon management. Additionally, it highlights research gaps that support the necessity for the current study.

1. Concept Of Green Entrepreneurship

Green entrepreneurship refers to the pursuit of business ventures that not only generate economic value but also prioritize environmental preservation. According to Piwowar-Sulej *et al.* (2021) [13], green entrepreneurs are motivated by factors beyond profit, including a commitment to environmental stewardship and ethical accountability. These individuals actively develop innovations aimed at minimizing pollution, reducing waste, and decreasing carbon emissions.

2. Women Entrepreneurs and Sustainable Business Values

Women entrepreneurs frequently exhibit a strong awareness of social and environmental factors in their business decisions (Alshibani, 2024) [2]. Research shows that women are more likely to embrace business models that focus on community engagement, health awareness, and core values (Al Omoush, 2024) [1]. This is consistent with the principles of sustainability, positioning women-led businesses as crucial contributors to the green transformation within small business sectors.

3. Environmental Concerns In Beauty Salons

Beauty salons have been identified as contributors to environmental degradation through several key factors:

- The disposal of chemical waste resulting from dyes, creams, and various cosmetic treatments (Samanta, 2021) ^[19].
- Excessive water consumption associated with services such as hair washing and spa treatments (Lim & Kwon, 2023) ^[9].
- The utilization of energy-intensive equipment, including hair dryers and heaters (Baden & Prasad, 2016) ^[4].
- The generation of plastic waste from disposable applicators, gloves, and packaging materials (Martins & Marto, 2023) ^[10].

These issues underscore the imperative for beauty salons to adopt environmentally responsible practices to mitigate their ecological impact.

4. Sustainable Practices In Green Beauty Salons

Women-led green salons typically implement the following environmentally conscious practices:

- Utilization of herbal, organic, and Ayurvedic cosmetic products (Rekha & Gokila, 2015) ^[16]
- Adoption of energy-efficient LED lighting and low-power appliances (Aziz, 2024) ^[3]
- Installation of water-saving spray nozzles and controlled-flow faucets (Yang & Hamid, 2024) ^[23]
- Implementation of waste reduction strategies, including segregation and recycling (Withisuphakorn, 2019) ^[24]
- Provision of customer education regarding natural and chemical-free beauty care (Shim, 2024) ^[20]

These practices enhance client safety, promote environmental sustainability, and foster long-term trust in the brand.

5. Challenges In Practicing Green Entrepreneurship

Key challenges in the beauty industry include:

- The elevated costs associated with certified eco-friendly beauty products (Salaheldeen *et al.*, 2024) ^[18]
- The limited availability of product vendors, particularly in non-urban areas (Badjeena *et al.*, 2024) ^[5]
- A deficiency in technical knowledge regarding herbal beauty treatment methods (Rezai *et al.*, 2016) ^[17]
- Inadequate government incentives or salon-specific subsidies (Mendon *et al.*, 2019) ^[11]
- Competitive pressures arising from low-cost conventional salons (Rajkamal *et al.*, 2022) ^[14]

6. Opportunities For Women-Led Green Enterprises

The increasing awareness of wellness culture, coupled with a heightened sensitivity towards skin and hair health, along with the promotion of natural beauty through social media, has generated substantial opportunities for eco-friendly salons (Shim *et al.*, 2024) ^[20]. Female entrepreneurs who adeptly position their salons as environmentally sustainable often cultivate robust, loyal customer bases and establish distinct brand identities.

7. Research Gap

Existing research extensively addresses the topics of sustainability and entrepreneurship; however, there is a

notable deficiency in studies that specifically explore women-led green entrepreneurship within the beauty salon sector. This is particularly true concerning the comparative analysis of awareness and implementation based on experience. This study aims to bridge this gap by offering data-driven insights into the motivations, challenges, and sustainable practices employed by women entrepreneurs in the salon industry.

Research Objectives

1. To analyze the motivating factors influencing women beauty salon owners to adopt sustainable practices.
2. To examine the challenges faced in implementing green entrepreneurship in beauty salons.
3. To assess whether the implementation of sustainable practices differs based on experience.

Research Methodology

1. Research Design

The study employs a Descriptive Research Design, which is appropriate for comprehensively understanding the current levels of awareness, motivating factors, challenges, and operational practices among women-led beauty salons.

2. Data Collection Method

Primary data was collected using a structured questionnaire based on a 5-point Likert Scale (1 = Strongly Disagree to 5 = Strongly Agree), measuring

- Motivating Factors
- Awareness Levels
- Challenges
- Adoption of Sustainable Practices

3. Mode of Distribution of Questionnaire

The questionnaire was distributed through:

- Online Google Forms shared via WhatsApp and social media
- Offline printed forms personally handed to salon professionals

4. Sampling Technique

The Purposive Sampling Technique was used to specifically target female entrepreneurs running beauty salons.

5. Sample Size and Respondents

The study collected valid responses from 90 women beauty salon owners across:

- Urban
- Semi-urban
- Rural regions

6. Data Analysis Tools

The following statistical tools were applied:

- Descriptive Statistics to identify mean trends
- Chi-Square Test to determine the association between experience and cost awareness level
- One-Way ANOVA to examine differences in green practice implementation across experience

Data Analysis and Interpretation

Data were collected from 90 women beauty salon owners and analyzed using SPSS software. The analysis focused on identifying motivating factors, challenges, and opportunities that influence the adoption of green entrepreneurial practices. Descriptive statistics, frequency distribution, Chi-Square tests, and One-Way ANOVA were used to interpret the results.

1. Frequency Distribution Of Responses To Green Entrepreneurship Variables

To better understand how respondents perceive challenges, motivating factors and opportunities in adopting green

entrepreneurship, frequency distributions were calculated for selected Likert scale items. These tables show how many respondents chose each level of agreement, providing insight into opinions before statistical testing.

Table 1: Frequency - Challenges – Lack of green training/knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	7.8	7.8	7.8
	Disagree	9	10.0	10.0	17.8
	Neutral	15	16.7	16.7	34.5
	Agree	28	31.1	31.1	65.6
	Strongly Agree	31	34.4	34.4	100.0
Total		90	100.0	100.0	

Interpretation

Around 65.5% of the respondents agreed that lack of training in green beauty techniques is a major challenge.

This shows that formal training and certification programs are essential to support women-led sustainable salons.

Table 2: Frequency - Motivating Factors –Customer demand encourages eco-products

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	3.3	3.3	3.3
	Disagree	5	5.6	5.6	8.9
	Neutral	13	14.4	14.4	23.3
	Agree	31	34.4	34.4	57.7
	Strongly Agree	38	42.3	42.3	100.0
Total		90	100.0	100.0	

Interpretation

About 76.7% of respondents agreed that increasing customer awareness and preference for natural beauty

services drives green adoption. This highlights demand-based motivation among salon owners.

Table 3: Frequency - Opportunities – Supplier collaboration is an opportunity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	4.4	4.4	4.4
	Disagree	3	3.3	3.3	7.7
	Neutral	10	11.1	11.1	18.8
	Agree	28	31.1	31.1	49.9
	Strongly Agree	45	50.0	50.0	100.0
Total		90	100.0	100.0	

Interpretation

More than 80% of respondents perceived supplier partnerships as a significant growth opportunity, indicating strong potential for industry collaboration in promoting green alternatives.

2. Descriptive Statistics On Motivating Factors, Challenges, Opportunities And Implementation

Descriptive analysis summarizes the central tendency and variability of perceptions related to green entrepreneurship.

Table 4: Descriptive Statistics of Key Variable Items

	N	Minimum	Maximum	Mean	Std. Deviation
Motivating Factors –Customer demand encourages eco-products	90	1	5	4.32	0.88
Motivating Factors –Health hazard awareness influences practice	90	1	5	4.18	0.91
Challenges – High cost of green products is a challenge	90	1	5	4.08	1.01
Challenges – Limited eco-friendly alternatives	90	1	5	3.97	1.03
Challenges – Lack of green training/knowledge	90	1	5	3.84	1.13
Opportunities – Growth potential in green services	90	1	5	4.26	0.93
Opportunities – Supplier collaboration is an opportunity	90	1	5	4.12	0.99
Awareness –Use of organic/natural products	90	1	5	4.06	0.82
Implementation –Educate clients about green practices	90	1	5	4.09	0.79
Valid N (listwise)	90				

Interpretation

- Customer demand and health awareness are the strongest motivators driving green salon practices.
- High cost of eco-friendly products remains the most serious challenge, followed by limited product availability and insufficient training.
- Respondents show high confidence in the growth potential of green services and acknowledge strong supplier partnership opportunities.
- Implementation levels are positive, particularly in product usage and client education, indicating readiness to scale sustainable practices.

3. Chi-Square Test: Challenges vs. Years of Experience

Hypotheses

- **H₀ (Null Hypothesis):** There is no significant relationship between years of experience and perception of cost as a challenge.
- **H₁ (Alternative Hypothesis):** There is a significant relationship between years of experience and perception of cost as a challenge.

Table 5: Chi-Square Tests Challenge - (Cost) vs. Years of Experience

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.731	4	0.151
Likelihood Ratio	6.812	4	0.147
Linear-by-Linear Association	1.420	1	0.233
N of Valid Cases	90		

Interpretation

Since $p = 0.151 > 0.05$, there is no significant relationship between experience level and cost challenge perception. High cost affects both new and experienced salons equally.

Interpretation

Since $p > 0.05$, the assumption of equal variances is satisfied, allowing ANOVA.

Levene’s Test For Equality Of Variances In Implementation Scores

Table 6: Levene’s Test for Homogeneity of Variances

Levene Statistic	df1	df2	Sig.(p)
1.023	4	85	0.399

4. One-Way Anova: Implementation Of Green Practices By Years Of Experience

Hypotheses

- **H₀ (Null Hypothesis):** There is no significant difference in implementation across experience levels.
- **H₁ (Alternative Hypothesis):** Implementation levels differ significantly across experience levels.

Table 7: One-Way ANOVA – Implementation by Experience

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6.742	4	1.685	4.27	0.016
Within Groups	33.800	85	0.398		
Total	40.542	89			

Interpretation

Since $p = 0.016 < 0.05$, there is a significant difference in the implementation of sustainable practices across years of experience.

More experienced women entrepreneurs adopt green practices more effectively due to deeper industry exposure and customer trust.

with greater experience tend to implement eco-friendly methods more efficiently.

- There is significant potential for growth in green salon services, bolstered by favourable views on opportunities among participants.

Findings

Based on the responses obtained from a sample of 90 women salon professionals, the following key findings have been established:

- Women entrepreneurs demonstrate an elevated level of awareness regarding sustainable salon practices and their associated health benefits, as evidenced by high mean scores in variables related to awareness.
- Customer preference for natural and chemical-free services is the strongest motivating factor influencing green practice adoption, supported by the highest mean and agreement percentage.
- The high cost of eco-friendly products and lack of formal training remain the most significant challenges in adopting the green salon practices.
- The adoption of sustainable practices differs greatly depending on the level of experience, as salon owners

Suggestions

Based on the findings of the study, the following suggestions are proposed to strengthen the adoption of sustainable practices in women-led beauty salons:

1. **Subsidy Support for Green Products:** The significant expense associated with herbal, organic, and eco-friendly beauty products was recognized as a primary obstacle. Government agencies, women entrepreneurship programs, and local business support organizations might implement price subsidies, discount procurement initiatives, or GST relief to enhance the affordability of sustainable products.e.
2. **Skill-Based Training and Certification:** Given that a significant number of participants reported insufficient formal education in green beauty methods, it is essential to establish focused skill enhancement initiatives, practical workshops, and professional certification programs to boost the ability to implement

these techniques. This approach will aid in converting current awareness into regular practice.e.

3. **Strengthening Eco-Friendly Supplier Networks:** Given the significant consensus on the potential for supplier collaboration as a means for growth, it is important to establish regional clusters of suppliers specializing in herbal, ayurvedic, and natural products. This approach will help lower procurement expenses and guarantee dependable access to sustainable product options.
4. **Experience-Based Peer Learning and Mentoring:** Evidence suggests that the effectiveness of implementation increases with experience. As a result, seasoned salon owners might be motivated to serve as mentors, helping new and emerging female entrepreneurs in adopting practical sustainability practices.
5. **Women Entrepreneur Support Cells:** Business development centers and organizations supporting women entrepreneurship may establish advisory units to offer guidance on sustainable product sourcing, business management, legal compliance, and green salon certification standards.
6. **Optional Promotional Strategies:** While the study did not explicitly evaluate this, salons might think about leveraging social media channels, hosting customer education events, and participating in community engagement initiatives to promote the benefits of eco-friendly practices and foster a brand identity that prioritizes environmental awareness.

Conclusion

The research concludes that beauty salons led by women exhibit a significant awareness of sustainable practices and recognize the health advantages of using eco-friendly products and services. A strong motivating factor for customers is their preference for natural and chemical-free beauty care. Nevertheless, the expensive nature of green products and restricted access to formal training pose significant challenges to implementation. Additionally, the results indicate that the adoption of sustainable practices greatly differs based on the years of experience, with more seasoned salon owners effectively utilizing green methods. As a result, it is vital to provide subsidized access to eco-products, develop structured training programs, and improve supplier networks. Reinforcing these support systems can empower female entrepreneurs, encourage environmentally responsible salon services, and aid in achieving broader sustainable development goals.

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