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A Study on The Impact of Sustainable Interior Design on Modern Living Spaces

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INTRODUCTION

Sustainable interior design has emerged as a vital approach in shaping modern living spaces that are not only aesthetically pleasing but also environmentally responsible. As the effects of climate change become more pressing, designers are increasingly incorporating eco-friendly materials, energy-efficient technologies, and wellness-focused layouts into residential and commercial interiors. This study investigates how sustainable design impacts modern lifestyles, focusing on health, cost efficiency, material use, and occupant comfort.

OBJECTIVES OF THE STUDY

- To assess the impact of sustainable interior design on modern residential and commercial spaces.
- To evaluate consumer awareness and preferences regarding sustainable design.
- To identify barriers to adopting sustainable interior practices.
- To examine the perceived health and environmental benefits of eco-friendly materials and energy-efficient solutions.
- To explore future trends and consumer motivations for choosing sustainable designs.

SCOPE OF THE STUDY

- Focused on residential and commercial interior settings in urban and semi-urban contexts.
- Explores consumer behaviours, designer insights, and material trends related to sustainable interiors.
- Emphasizes aspects like eco-material use, energy efficiency, cost-saving potential, and health benefits.
- Limited by regional differences, time constraints, and scope of participant responses.

NEED FOR THE STUDY

With rising urbanization and environmental concerns, sustainable interior design offers solutions that reduce ecological footprints while enhancing comfort. There is a clear need to understand consumer behaviour and industry readiness to transition toward sustainable practices. This study bridges the gap between design innovation and responsible living, offering insights for professionals, educators, and policy makers.

REVIEW OF LITERATURE

Coohom.com (2025)

Emphasized bamboo's eco-friendliness and rapid renewability, making it ideal for flooring and panelling in green interiors.

SundayGuardianLive.com (2025)

Discussed the aesthetic and environmental benefits of reclaimed wood, encouraging waste reduction through material reuse.

FineLookInterior.com (2025)

Highlighted the use of recycled metals to reduce energy consumption and create durable, modern design elements.

SKVIndia.com (2025)

Advocated for LED lighting as a critical energy-saving component in sustainable interiors due to low power use and long life.

ArchitecturalDigest.com (2025)

Stressed the importance of natural ventilation to enhance indoor air quality and reduce reliance on HVAC systems.

RESEARCH DESIGN

This study employed a descriptive and analytical research design using both quantitative and qualitative methods. Surveys were conducted among 109 respondents including homeowners, students, and professionals. The approach allowed for evaluating sustainability awareness, user experiences, and the real-world application of green design.

SOURCES OF DATA

Primary Data: Surveys and interviews with 109 participants across different professions.

Secondary Data: Industry reports, journal articles, sustainability frameworks (e.g., LEED, WELL), and government publications.

CHI-SQUARE TEST

Objective: To examine the relationship between Gender and Willingness to Pay More for sustainable interior design.

Gender	Definitely	Probably	Neutral	Probably Not	Definitely Not	Total
Male	8	18	5	3	1	35
Female	8	20	5	3	0	36

Chi-square value ≈ 1.10

df = 4

Critical value = 9.49

Result: 1.10 < 9.49 → Fail to reject H_0.

Interpretation: There is no significant association between gender and willingness to pay more.

Inference: Both male and female participants are equally likely to invest in sustainable design.

REGRESSION ANALYSIS

Objective: To test whether Age predicts Willingness to Pay More.

Regression Equation:

Y = 4.8 – 0.04X

Term	Coefficient	Std. Error	t-value	p-value
Intercept	4.8	0.3	16.0	<0.001
Age	-0.04	0.02	-2.0	0.049

Interpretation: As age increases, willingness to pay slightly decreases.

Inference: Younger respondents are more inclined to support sustainable design financially.

FINDINGS

- 77.98% of respondents are aged 18–30.
- Gender is evenly split: 51.38% male, 48.62% female.
- 51.38% are students; 41.28% self-employed.
- Top decision factors: Cost (34.86%), Aesthetics (29.36%), Sustainability (20.18%).
- Awareness levels are moderate: 34.86% somewhat familiar, 22.94% very familiar.
- Main adoption challenges: Limited availability (33.03%), high cost (28.44%).
- 34.86% occasionally use eco-materials; 20.18% always use them.
- Bamboo (44.04%) is the most preferred eco-material.
- 71.56% believe sustainable design reduces environmental impact.
- 61.47% use energy-efficient lighting/appliances.

- LED (43.12%) and CFL (41.28%) are most preferred.
- 61.47% perceive health benefits from sustainable interiors.
- 67.89% believe eco-materials are durable.
- 69.72% are willing to pay more for green design.
- Non-toxic materials (33.03%) and air quality (28.44%) are top health priorities.
- 69.72% believe sustainable design will become the norm.
- 61.47% support government sustainability policies.
- 76.14% are likely to recommend sustainable design.
- Encouragement methods: Subsidies (28.44%), more options (24.77%).
- Motivations: Long-term savings (33.03%), environmental concern (28.44%).
- Sources of info: Designers (33.03%), social media (28.44%).
- 76.14% plan to use sustainable solutions in future renovations.
- 88.07% consider sustainability in furniture selection.
- Main concerns: Cost (34.86%), durability (28.44%), style (24.77%).

SUGGESTIONS

- Launch awareness campaigns targeting students and young professionals.
- Reduce cost barriers through subsidies or public-private partnerships.
- Train designers to communicate the health and financial benefits of eco-design.
- Expand material options to improve aesthetic flexibility.
- Incentivize innovation in local sustainable materials to boost availability.

CONCLUSION

This study confirms that sustainable interior design significantly impacts user behaviour, environmental awareness, and health outcomes. While affordability and familiarity remain challenges, the growing willingness to adopt eco-conscious design—especially among youth—signals a shift toward greener living environments. Policy support, design innovation, and education will be critical in mainstreaming sustainability in interior spaces.

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