

Environmental Concern: A facilitator for practicing Sustainable Interior Design

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Abstract: *The story of man's interaction with natural environment dates back to the dawn of man's emergence as the dominant species on our planet Earth, which very well implies that our existence, survival and growth are dependent on the quality of environment. Nowadays we are facing unprecedented challenges of globalization and industrialization namely, climate change, diminishing resources and biodiversity, increasing waste, contamination of water, energy and deterioration of resources. The environmental issues are reaching crisis point and are rightly, a major topical issue. All of these issues have been compounded by population growth, magnifying human impact on the planet, and all will have disastrous consequences if they continue to be unchecked. The construction industry is a major contributor to environmental damage, where Interior designers can be well placed to mitigate the issues through championing Sustainable Interior Design. The sustainable interior design concepts and techniques such as use of materials which are recycled, renewable can be reused in residential and commercial establishments can help address various environmental issues which plays a marginal but critical role towards averting major ecological crisis. To begin with environment friendly approach of the designers is of utmost importance. The major purpose of the present study was to know whether environmental factor was considered to be a facilitator for practicing sustainable interior design by selected Interior designers. The study was conducted among sixty practicing Interior designers from the Ahmedabad city, who were chosen on the basis of purposive and snowball sampling technique. The findings of the study revealed that environmental concern was found to be a crucial facilitator among majority of the respondents which affected their sustainable interior design practices to a high extent. This in turn promotes the use of renewable products, renewable energy and recycled material which helps in preserving earth's resources for future generation. The findings would help the community to become more environmentally sensitive which would sparkle the context and need for sustainable interior design, leading towards better health and well-being of the global ecosystem.*

Keywords: *Sustainability, Interior design, Facilitator, Environmental concern.*

1. INTRODUCTION:

Environment is God's gift to humanity. It is well known that earth's surface and the environmental surrounding, is important to human health. This environment is being irreversibly degraded day by day due to prevalence of human activities aimed towards economic development and improving man's standard of living. The inevitable outcome of this development and human evolution is the environmental pollution. The preservation of the delicately balanced ecological system is in interest of whole mankind. Public interest in ecology implies concerns for air and water quality and for increasing demand on limited natural resources in the context of increasing population. According to World Commission on Environment and Development, (1987);

Sustainable development means "Meeting the needs of the present generation without compromising the ability of future generations to meet their own need".

The terms sustainable and sustainability have both grown increasingly popular in our culture, and are often used in reference to the natural environment which focuses on responsible management of natural resource (McLean, 2009).

Environmental sustainability is becoming a major concern within the interior design field due to the extensive resources needed for interior use (Ruff & Olson, 2009). Sustainable interior design practices are actions that lessen environmental impact due to site selection, water use, energy use, and material selection (Rider, 2005). With these considerations, Interior designers are able to provide a physiologically and psychologically healthy indoor environment (Kang & Guerin, 2009). Overall, environmentally sustainable interior design minimizes negative effects and maximizes positive effects on environmental systems over the life cycle of a building (Kang & Guerin, 2009), by

blending solutions of the past with new technology of today (Loftness,2007). Pilatowicz (1995) defined sustainable interiors as interiors designed in such a manner that they sensibly address the impact of all their functions, parts and elements on the global environment. Pilatowicz (1995) also defined environmentally conscious interior design as professional practice that attempts to create indoor spaces that are environmentally sustainable and healthy for the occupants.

The concept of Sustainable Interior Design is closely linked to environment construction and building design efficiency. The interior of residential and commercial areas use some elements which harm the environment in direct or indirect manner. There are paints which contain volatile components (VOC's) and their emissions are harmful, use of non-biodegradable products for furnishings, use of light fixtures which consumes more electric energy, use of materials which are made from non-renewable resources and many more elements which degrades the environment and also effects the health of the residents with reduction in the life-cycle of the building.

Cargo (2013) interprets that, Sustainable Interior Design Practices are currently making their way into the professional field of interior designing, as there has been a growing concern which focuses on improving the health and well-being of building occupants while reducing the negative impact that the building places on the natural environment.

Sustainable Interior Design Practices should be such which preserves natural environment as well as health and well-being of the occupants. Berman (2008), stated that the practices needed for adopting Sustainable Interior Design are; minimum use of non-renewable energy, produce minimum of pollution and wastes, minimum cost of renewable energy, which would lead in enhancing the health, safety and welfare of the people who live in the surrounding environment, which in turn also preserves the environment.

Sustainable built environments are vital to the overall environmental sustainability effort (Brick & Frostell, 2007). Officially, the profession of Interior design is one that promotes sustainability. Many institutions like American Society of Interior Designers (ASID) and IIDA (International Interior Designer Association) promotes the practices through linking it to education opportunities in sustainable design. (International Interior Design Association, 2010B).

Many interior designers hold a general positive ideology for designing sustainable interiors as they perceive environment friendly approach in their designs. However there are fewer interior designers actively practicing sustainable interior design than are professing a positive perception of sustainable interior design (Kang & Guerin, 2009A). Interior design students are also, on average, willing to report having positive attitudes toward the environment. Yet fewer interior design students are willing to claim that it is their personal responsibility to take steps toward protecting the environment (Ruff & Olson, 2009). It is precisely this disconnect between the self-reported positive perceptions of sustainability and actual sustainable interior design in practice that is of concern in this research. Why do some interior designers choose to practice sustainable design while others do not? Is it a difference in values or in education? What factors influence or motivate designers to pursue sustainable design? Does sustainable design begin primarily with a sense of environmental responsibility or rather because of client's "environmentalism"? Or are designers motivated by concerns such as their projects long-term costs and building performance? There may be those interior design professionals who choose to design sustainable environments because they feel morally obligated to do so, while some designers may believe that, because of the popularity of sustainable products branding themselves as green designers is a good business strategy. Others may simply be designing green out of social desirability bias, especially those who work in firms where the leadership advocates environmental sustainability. There may also be designers who practice sustainable interior design in order to satisfy client's environmental concerns. Like designers, clients are motivated to build sustainably either by ethics, economics, or a combination of both. Interior designers and clients influence each other decisions throughout the design process to varying degrees.

Therefore, the objective of the study was to study various facilitators responsible for adopting Sustainable Interior Design Practices by the respondents from the Ahmedabad city.

2. OBJECTIVES OF THE STUDY:

- To study the demographic characteristics of practicing Interior designers from Ahmedabad city.
- To assess various facilitators responsible for adopting Sustainable Interior Design Practices.

3. METHODOLOGY:

The research design for the present investigation was descriptive in nature conducted on 60 practicing Interior designers selected purposively from Ahmedabad city of Gujarat state. The tool to collect data was questionnaire which contained a summated rating scale to find out various facilitators responsible for Sustainable Interior Design Practices among the selected Interior designers. The responses on the scale of facilitators were subjected to scores. The response structure used to find out various facilitators responsible for Sustainable Interior Design Practices was in terms of "To High Extent", "To Moderate Extent" and "To Low Extent". The scores from 3 through 1 were ascribed to the

responses. The possible maximum and minimum scores was divided in three categories having equal intervals. The high scores on the scale indicated high extent of influence of the facilitator for practicing Sustainable Interior Design among the selected Interior designers. The scale was subjected to establishment of content validity and reliability. The tool prepared was validated from a panel of 11 experts from different departments, faculty and the Universities. The reliability coefficient derived for the scale was 0.83.

4. MAJOR FINDINGS:

1) Personal variables of the respondents

a) Background information of the Interior designers from Ahmedabad city

This section deals with personal information regarding selected Interior designers of Ahmedabad city. It contains information regarding their age, gender and Educational qualification.

- (i) **Age and gender of the respondents:** The findings revealed that nearly one-half (48.3%) of the respondents were in the age group of 31 – 41 years. Very few of the respondents i.e. 16.7 per cent were from the age group of 21 – 30 years. The minimum age of the respondent was found to be 23 years while the maximum age was 53 years. The mean age of the respondents was found to be 38.27 years. The findings further also highlighted majority i.e. 71.7 per cent of the respondents were male and remaining i.e. 28.3 per cent of the respondents were female. (Fig.: 1)
- (ii) **Educational qualification:** The data pertaining to the educational qualification of respondents, revealed that slightly more than one-third (35%) of respondents were holding Bachelor’s degree in Interior design, whereas very few (15%) of the respondents had done their Master’s degree in Interior design. Moreover, less than one-fourth (20%) of respondents had done their diploma in Interior design and remaining of them had their qualification in the field of architecture and civil engineering (B.Arch., B.E. Civil).

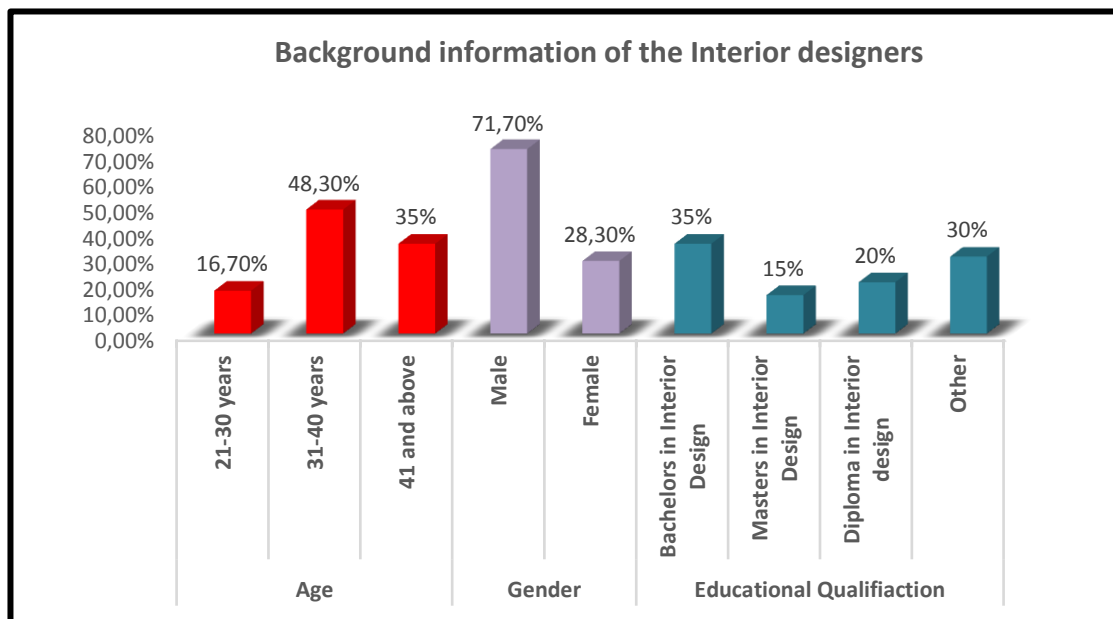


Figure 1: Distribution of respondents according their background information

2) Situational variables of the respondents

It contains information regarding their work experiences, kinds of projects undertaken by them and sources of information through which they were informed about the Sustainable Interior Design.

- (a) **Duration of time working as an Interior designer:** The findings revealed that around one-third of the respondents (33%) had been working since 16 years and more in field of Interior design, little less than one-fourth (23.3%) of respondents had been working since 11 – 15 years, slightly more than one-fourth (26.67%) of respondents had been working since 06-10 years while very few of them i.e. 16.67 per cent had work experience of less than 5 years.

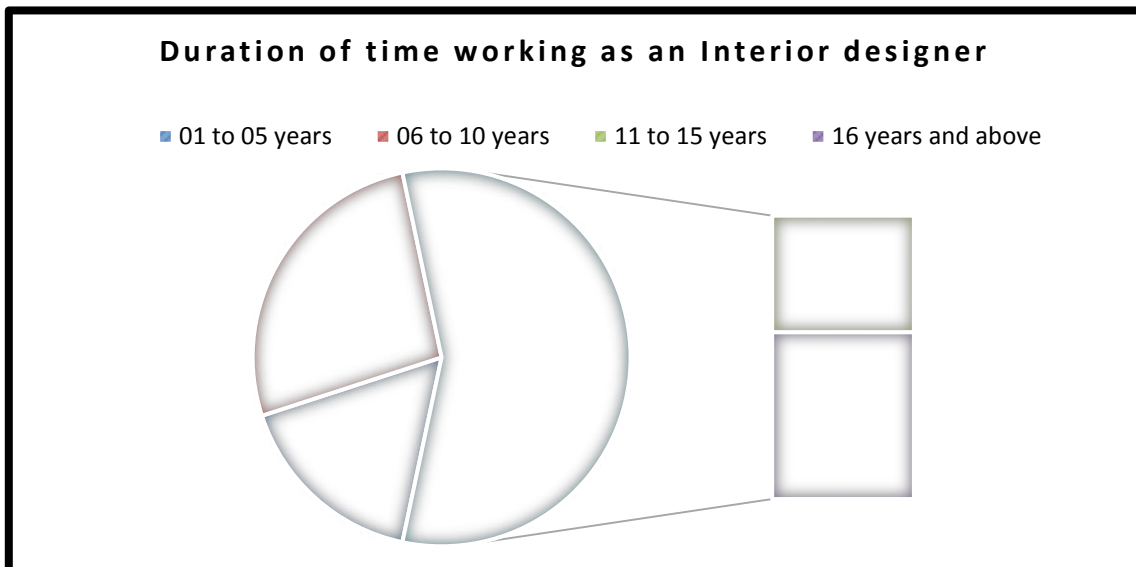


Figure 2: Distribution of respondents according their duration of time working as an Interior designer

(b) **Number and kinds of Interior design projects undertaken by the respondents:** The findings analysed that more than one-half (55%) of the respondents had taken up commercial projects ranging from 01 – 25 in number. One-fourth of the respondents (25%) had taken up more than 50 commercial projects. Moreover it was also revealed that less than one-fourth (20%) had taken up commercial projects ranging from 26 - 50 in number.

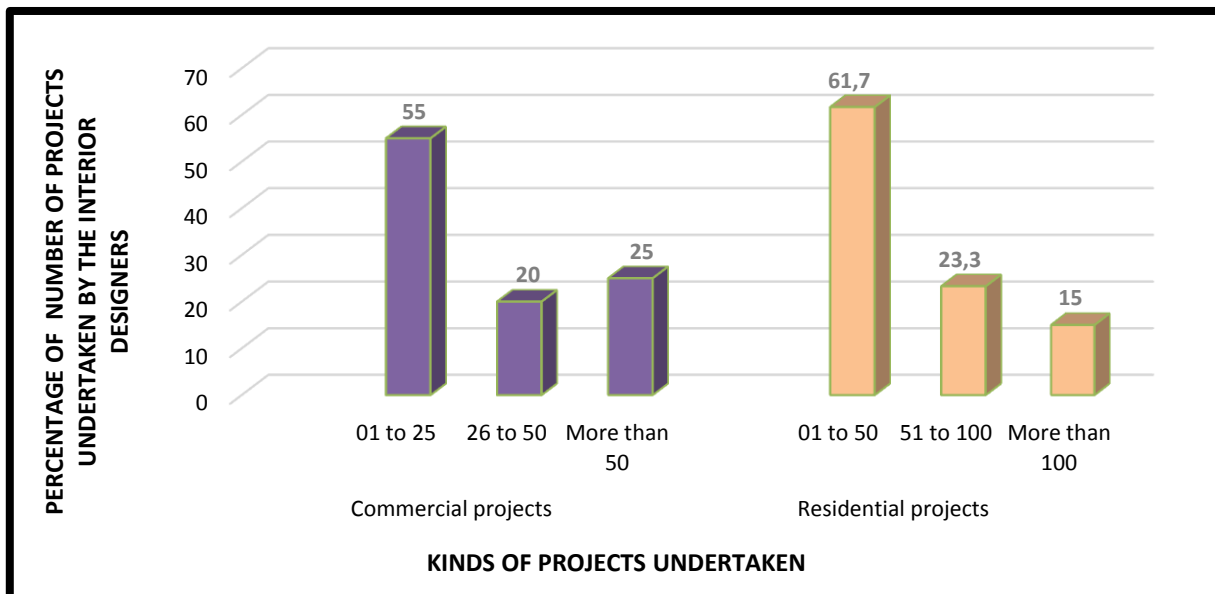


Figure 3: Distribution of respondents according to number and kinds of Interior design projects undertaken

3) Findings related to various facilitators responsible for Sustainable Interior Design Practices

The findings depicted various facilitators that influenced the Interior designers to adopt Sustainable Interior Design in their practice. These facilitators were categorized into four sub aspects viz. ‘Environmental aspect’, ‘Economic aspect’, ‘Personal goal and satisfaction’ and ‘Client concerns’. The responses were sought and scores were interpreted in terms of ‘To high extent’, ‘To moderate extent’, and ‘To low extent’, which were ascribed the scores of 3 through 1.

The computed weighted mean for each facilitator which influenced in adopting Sustainable Interior Design Practices revealed that ‘Environmental aspect’ was the most influential motivator for adopting Sustainable Interior Design Practices by Interior designers of Ahmedabad city. (Fig.: 4).

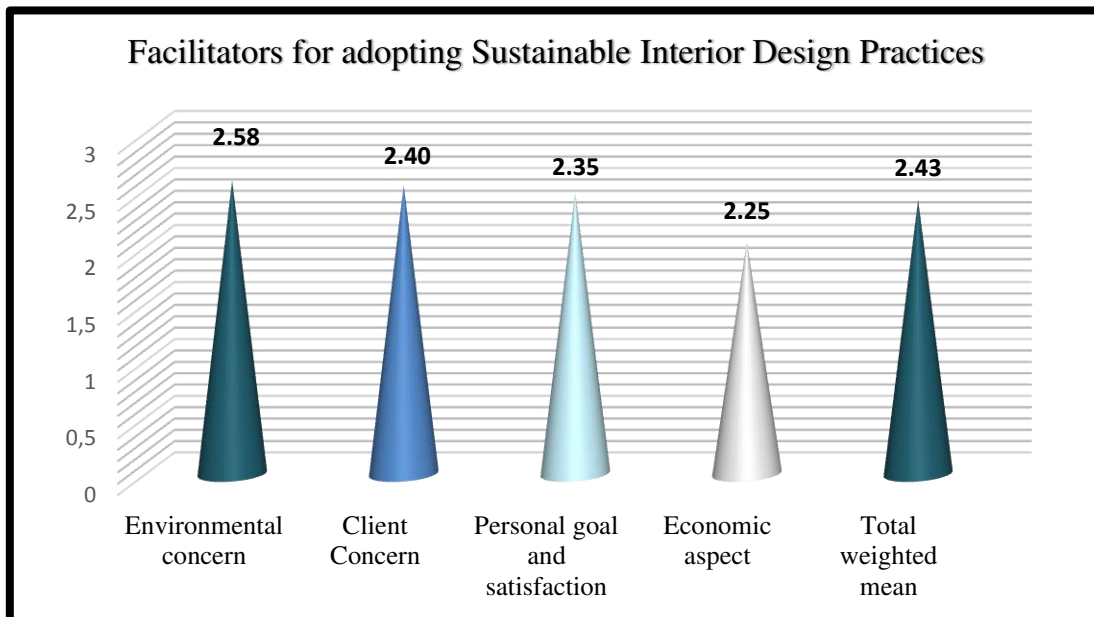


Figure 4: Weighted mean scores for the extent of influence of various facilitators responsible for Sustainable Interior Design Practices

4) Environmental concern as a facilitator for practicing Sustainable Interior Design

The findings highlighted in Table 1, depicted the data regarding the environmental aspect as one of the facilitator. It indicated that the majority (80%) of the Interior designers were influenced to a high extent which focused on the Sustainable Interior Design Practices which led in preserving earth’s resources for future generation. It was also observed that the use of recycled materials motivated more than three-fourth (76.7%) of the respondents to a high extent for practicing Sustainable Interior Design. Energy efficiency was also found to be a major contributor for practicing Sustainable Interior Design to a high extent by majority of the respondents (75%). Moreover, the data also reflected that one-half (50%) of the respondents were moderately influenced as sustainable interiors improved the indoor environment quality by using low VOC paints, sealants and adhesives. More or less a similar per cent (48.3%) of the respondents were moderately influenced by knowing that sustainable interiors helps in reduction of ozone depletion through installation of CFC free equipments. Additionally, the findings further also indicated that more than one-third (41.7%) of the respondents were moderately influenced, as sustainable interiors promoted the use of renewable products.

Table 1: Frequency and percentage distribution of respondents according to the extent of influence with regards to environmental aspect as a facilitator for adopting Sustainable Interior Design Practice

Sr. No.	Environmental aspect	Respondents (n=60)						Weighted Mean (1 - 3)
		To High Extent		To Moderate Extent		To Low Extent		
		f	%	f	%	f	%	
1.	Sustainable interiors promote use of renewable products.	32	53.3	25	41.7	03	05.0	2.48
2.	Sustainable interiors lead to energy efficient indoor spaces.	45	75.0	13	21.7	02	03.3	2.72
3.	Sustainable interior design practices encourage the use of appliances which run on the renewable energy source (solar energy).	33	55.0	20	33.3	07	11.7	2.43
4.	Sustainable interiors lead to water efficient indoor spaces.	34	56.7	22	36.7	04	06.7	2.50
5.	It improves the indoor environment quality by using low VOC paints, sealants and adhesives.	28	46.7	30	50.0	02	03.3	2.43

6.	It helps in reduction of ozone depletion by installation of CFC free equipments.	23	38.3	29	48.3	08	13.3	2.25
7.	It leads to conservation of natural resources like wood by use of forest certified wood.	39	65.0	16	26.7	05	08.3	2.57
8.	Sustainable interior design encourages the use of recycled materials.	46	76.7	12	20.0	02	03.3	2.73
9.	Sustainable interior design practices helps in preserving earth's resources for future generation.	48	80.0	11	18.3	01	01.7	2.78
Total weighted mean								2.58

In addition to environmental concerns, there are several economic reasons for practicing sustainable interior design. These reasons include aspects like lower life-cycle costs or fossil fuel consumption, improved occupant health, as well as competitive advantage in branding and in attracting environmentally conscious consumers and end-users. To date, the economic advantages of sustainable building design, primarily those pertaining to energy efficiency and life-cycle costing, have received the vast majority of scholarly attention. At this time, relatively little research has been done regarding ethical, consumer-driven, or health-related motivations for sustainable building or interior design. This is likely due to the fact that most of the research on sustainable design is quantitative in nature. While issues such as life-cycle analysis and energy efficiency can be readily studied using quantitative methods, more esoteric concepts such as perceptions, motivations, and influences are not as easily quantified.

5. CONCLUSION:

Interior environments are the places that meet the human needs. They are the most intimate environment to its users. The willingness to create sustainable environments should be first met in the interiors. By playing close attention to the materials, finishes and sealants that are selected for a space an Interior designer can greatly impact the lives of the occupants. Materials and products that often contain high volatile organic compounds (VOC) are paints, coatings; adhesives, carpeting and composition flooring, and these should be carefully selected and used. Sustainable interior design has become a powerful communication tool of the corporate world, which is demonstrating a revolution in the construction industry. It is imperative that the designers begin implementing the sustainable solutions, so as to be prepared for the increasing environmental policy and legislation that is sure to be followed tomorrow, as more natural resources are depleted.

Perhaps, it's the time to readdress one's values of the product appearance and material culture in order to tackle the environmental degradation that can result from the steps of design process. The main challenge for all types of interior designers is to find ways of bringing together the local and the global, to create designs that suit modern, technologically and economically developed societies. This may involve 're-designing' their own designs, a completely new way of working. Interior design decisions can no longer be made based on aesthetics, budget and functionality. Designers now have a responsibility to create indoor environments that reflect environmental awareness, environmental protection and sustainability of building itself. Interior designers must now question the effects of their work not only on the natural environment, but also in view of human health; along with the considerations of the effects of their work on humanity.

Based on the findings of the present study, it can be concluded that environmental concern as a facilitator influenced majority of the Interior designers to adopt and practice sustainable interior design. Moreover, it specified the positive approach of the design industry towards the sustainability along with environmental conservation by using the locally available materials which can be reused, recycled and those which emitted low harmful emissions.

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