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Consumer Perception about Eco-Friendly Paints in Jaipur

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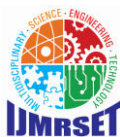
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ABSTRACT: : Paints make the house and furniture look attractive, new and even keep safe from different insects. Regular paints in the house keep away the boredom and give freshness to the surrounding. But with giving good vibes it can even become a serious problem for the people living in the house. The effects of paints on the environment and health may last forever if we did not make choices wisely. The wise choice can be made by gaining knowledge of the product they are buying. Eco-friendly organic paints are made of natural minerals and are water-based. They have the ability to control pollution, killing bacteria and fungi. The toxic paints that contain chemicals, oils, lead are harmful to children and critical to the environment. The pigments in the paints can be natural or man-made. The natural pigments can also be dangerous than man-made. This paper has provided ways to make the environment clean and pollution free. The purpose of the study is to make consumers aware of the toxic and harmful paints which have an effect on human health. And ways that need to be adopted to prevent wastage to excess paints. Keywords Chemicals, Consumers, eco-friendly paints, environment

I.INTRODUCTION

Eco-friendly paint, or natural paint, is paint that has been specially designed to have lower levels of volatile organic chemicals (VOCs, for short). You know that generic paint smell you get when you open a new can or walk into a freshly painted room? It's the VOCs you're smelling. According to the Environmental Protection Agency, VOCs "may have short- and longer-term adverse health effects," and "while people are using products containing organic chemicals, they can expose themselves and others to very high pollutant levels, and elevated concentrations can persist in the air long after the activity is completed." VOCs are the main reason painting instructions advise that you only work in well-ventilated areas. Consumer perception is important to businesses since it can influence consumer behaviour, which ultimately affects the profitability of a business. Many businesses spend large amounts of resources to influence consumer perceptions. The perceptions consumers have of a business and its products or service have a dramatic effect on buying behaviour. That's why businesses spend so much money marketing themselves, honing their customer service and doing whatever else they can to favourably influence the perceptions of target consumers. With careful planning and execution, a business can influence those perceptions and foster profitable consumer behaviours. (www. Research gate. net and www. About civil.org/paints) Paint is any liquid, liquefiable, or mastic composition that, after application to a substrate in a thin layer, converts to a solid film. It is most commonly used to protect, color, or provide texture to objects. Paint can be made or purchased in many colors and in many different types, such as watercolor, synthetic, etc. Paint is typically stored, sold, and applied as a liquid, but dries into a solid. Eco-friendly Paints: Eco friendly paint often referred to as zero VOC (Volatile Organic Compounds) paint or low VOC paint. Volatile organic compounds (VOCs) are organic chemicals that have a high vapor pressure at ordinary room temperature. Their high vapor pressure results from a low boiling point, which causes large numbers of molecules to evaporate or sublime from the liquid or solid form of the compound and enter the surrounding air. For example, formaldehyde, which evaporates from paint, has a boiling point of only $-19\text{ }^{\circ}\text{C}$ ($-2\text{ }^{\circ}\text{F}$).

According to sustainablebuild.co.uk, many of the 'non-toxic' paints from conventional companies "still contain VOC solvents, chemical pigments and fungicides". Equally confusingly, the move towards low VOC, water-based gloss paints is also controversial, as it means manufacturers have to add even more ingredients, using a more intensive production process, than before. Even among the producers of 'Eco or 'natural' paint there's no cut and dried definition of what that description



means. Some use synthetic, petrochemical-based ingredients, just in lower amounts; others are made with natural solvents, which still contain VOCs (though rather than emitting noxious gases they tend to smell of the citrus fruits from which they're often derived). Some contain animal products. And some contain titanium dioxide as a whitener, which is a big contributor to environmental problems. Traditional paint products are made with volatile organic compounds (VOCs) that release toxins into the air as the paint dries, potentially causing health problems and damage to the environment. Some people also experience headaches and dizziness when using traditional paint.

Technical comparison between conventional paints&Ecofriendly paints :-

Parameters	Conventional Paints	Low/Zero VOC Paints
VOC content before tinting (gram per liter)	250-800	50 for Low VOC5 for Zero VOC
Color ranges	All colors	Lighter colors
texture	Flat or glossy	Flat only
base	Oil or latex	Latex (Oil in rare cases)
odor	suffocating	Less or none
Cost per gallon	INR 720-3000	INR 1800-7200
Performance over 20 years	4-5 coats needed	1 coat is enough

Reason of failure of conventional paint :- Apart from the nausea, dizziness and headaches which can arise if you don't open enough windows while you're merrily creating a feature wall or jazzing up an old cupboard, the long-term effects aren't great either. The constituents of conventional paints may include formaldehyde, heavy metals and nasty's known as(volatile organic compounds), or VOCs for short. Those VOCs are given out while painting and for up to five years after your brushes have dried. The World Health Organisation says that professional decorators are 40% more likely to contract lung cancer, so it's no great leap to wonder whether paint in the home is detrimental to those living there. This is the petrochemical industry, so not only does production involve the use of nonsustainable resources, it's said that producing one litre of paint can result in up to 30 litres of toxic waste into the environment.

As per The United States Environmental Protection Agency(EPA), the Eco-friendly paints can be classified into the following three type Zero-VOC paints: The level of VOCs, in this paints is so low that they can be termed as „zero-VOC paints“. As per the EPA* standard, the total VOC content should be less than 5 gram per liter of paint. Low-VOC paints: As specified by the EPA, these paints can have VOC concentrations ranging from 5 to 200 gram per liter of paint. Natural paints: In this paints are made of natural compounds such as tree resin, water, plant oil, essential oil and natural dyes. They do not contain any VOCs. Water-based paints do not have an odor, while oil-based paints have a smell. Since India does not have guidelines on such non-toxic paints, we have considered the standards formulated by the Green Seal Standard for Paints & Coatings and the US Environment Protection Agency (EPA).

ILLITERATURE REVIEW

Pillai and Junare (2016) from their research concluded that there is a broad awareness about the danger posed by traditional products towards environment. At the same time, people are aware about availability of Eco-Friendly products, but the real challenge is posed by inadequate information about Eco-Friendly products which will aid consumers to differentiate between the traditional and Eco-Friendly products. But, by and large, there was positive perception among the respondents about Eco-Friendly products.

Ramya and Ranganathan (2016) confirmed from a study that, those persons who have a strong sensitivity towards the physical environment are more likely to purchase products which are environment friendly in nature. In the same study,



they found out that almost half of the respondents are aware about the Eco-friendly products and from amongst the users, a large majority of consumers seemed to be very satisfied with the product performance.

Hundal and Kumar (2015) found in a study that there is absence of proper standards to certify a product as environment friendly. Moreover, there is a general lack of awareness about the environmental friendly products. In the same study they also learnt that people prefer recyclable container while making buying decisions. Such consumers check for the recycle label on the packaging while buying. It also came to light that consumers are ready to pay a slightly higher price for the environmental friendly products considering the long term benefit they offer.

Issac (2015) in a study conducted on consumers perception about Eco-Friendly products, found out that the desire to buy green products is more among socially responsible individuals and these individuals are also willing to pay a higher price for green products.

Haghiri (2011) concluded by a study that consumers with higher level of education show higher willingness to pay higher prices for environmental friendly products. Consumers seemed to be favouring their health status against environment when it comes to making decisions to purchase environmental friendly products

III. OBJECTIVEE

- To identify the factors affecting customers selection of Eco-friendly paints.
- To find out the perception of the customers about Eco-friendly paints.
- To understand the challenges faced by the customers in adoption of Eco-friendly paints

IV. RESEARCH METHODOLOGY

The total population of the PCMC (Pimpri Chinchwad Municipal Corporation) city is about 17 lakhs (according to 2011 census). Out of this, approximately 5 lakhs are outsiders, most of whom stay in rented houses (according to Times of India survey, October 7, 2012) Considering the average family size to be 4, the no. of households is approximately 3 lakhs which is the universe for this study. Out of this, some 110 households were targeted for the research. On sanity check after data collection, 101 questionnaires were found to be in order and were considered for the subsequent data analysis.

Data Interpretation Testing

(Hypothesis no.1)

Null Hypothesis : There is no association between the awareness about Eco-friendly paints and usage of the same.

PAIRED SAMPLE TEST					
		Paired Differences			
		Mean	Std. Deviation	Std. Error Mean.	95% Confidence Interval of the Difference
					Lower
Pair 1	Are you aware - Have you ever used?	.4688	.5070	.0896	.2860



In the above table, p value is less than 0.05, thus we are inclined to reject the null hypothesis and therefore it appears, there does exist strong relationship between awareness about Ecofriendly paint and usage of the same.

Gender wise Awareness about Eco-friendly paints:-

GENDER	NOT AWARE	AWARE	GRAND TOTAL
FEMALE	6	6	12
MALE	62	27	89
GRAND TOTAL	68	33	101

Interpretation

From the above analysis, it is very clear that about 68% of the respondents are not aware about the Eco-friendly paint. Proportionately, the awareness is better among male respondents than female respondents.

Awareness of Eco-friendly paints vs. their usage pattern :-

AWARENESS	USAGE STATUS		GRAND TOTAL
	NOT USED	USED	
NOT AWARE			68
AWARE	18	15	33
GRAND TOTAL	18	15	100

Interpretation

From the above analysis, it is apparent that almost 50% of those who know about Eco-friendly paint have used it at least once.

Source of Information (Gender wise):-

SOURCE	GENDER		GRAND TOTAL
	FEMALE	MALE	
Electronic media	2	7	9
Friends , relatives and colleagues	2	2	4
Internet	1	6	7
Paint dealers	1	8	9
Painter	0	2	2
Print media	0	2	2
Grand total	6	26	33

Interpretation:-From the above graph, it can be inferred that Male respondents have gathered information from electronic media and paint dealers. On the contrary, female respondents got to know about Eco-friendly paint from electronic media & friends and relatives.



Likelihood of Usage Vs Interest to know more:-

RESPPONSE	NO. OF RESPONDENTS
Costlier than normal paints	4
House is not due for repainting	3
Information not easily available	9
Not easily available in the market	2
Grand total	18

Interpretation

On analyzing the data as above, it is apparent that lack of information is the biggest obstacle to usage/adoption of Eco-friendly paint. 50% of non users cite lack of information and 22% respondents attribute non usage to perceived high price of the Eco-friendly paint.

Benefits of Eco-friendly Paints:-

BENEFITS	AWARE
Easy to apply	4
Easy to clean	1
Environment friendly	4
Harmless to health	4
Odorless	2
Grand total	15

Interpretation

More than 50% of the respondents (users) highlighted the harmless attribute (environment or health) of the paint. Another 30% of users confirmed the ease of application as the primary benefit of Eco-friendly paints

V. FINDINGS

- A large majority of respondents do not know the concept of Eco-friendly paints and from all those who know about it, almost half of them have used the paint at least once.
- Paint dealers, electronic media and internet form as the major source of information about Eco-friendly paints.
- Most of the respondents who have used the product seem to be very happy with the experience and are willing to recommend to others.
- Almost two thirds of the respondents who do not know about Eco-friendly paints are open to the idea of using the same and therefore, are keen to know more about it.
- Those respondents who have some idea about the product show keenness to know more about the same before using the product.



VI. CONCLUSION

While doing the study on consumer perception about Eco-friendly paints in the Pune city, we came to know about various things associated with it. The awareness of Eco-friendly paints is very low not among the potential customers. Some people perceive the Eco-friendly paints to be expensive than normal paints while others complain about lack of sufficient information about it. Some customers, who have conservative mindset, think that no paint can be made without synthetic chemicals that are harmful to health and environment. By and large, users seem to be happy with the product experience and are willing to recommend to others. Broadly, customers seem to be driven by both product motive and altruistic motive while buying. Paint companies need to position the Eco-friendly paint accordingly and create massive awareness in the market so as to clear the misconception and create the right perception.

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