

CONSUMERS PERCEPTION ABOUT ECO-FRIENDLY PAINTS IN PUNE

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Abstract

Against the back drop of depleting resources due to rapid population growth coupled with indiscriminate utilization of resources, the call for sustainable approach is louder than ever before. Marketing organizations, world bodies, Governmental and non governmental bodies have been spearheading the call for environment friendly products and sustainable approach. Various Marketers have come out with products which are not only environment friendly but also gentle towards human health.

Some paint manufacturing companies have also come up with Eco-friendly paints the adoption or success of which has not been studied much. This paper makes an attempt to study the perception of consumers about the Environmental friendly paints/Eco-friendly paints or Low VOC paints, and the factors impacting adoption of such products and their outlook.

Keywords: *Environment, Eco-friendly.*

I. INTRODUCTION

The success of a business depends upon its ability to attract and retain customers that are willing to purchase goods and services at prices that are profitable to the company. Consumer perception describes how customers and potential customers view a company and its products and services(www.researchgate.net).

Consumer perception is important to businesses since it can influence consumer

behavior, which ultimately affects the profitability of a business. Many businesses spend large

amounts of resources to influence consumer perceptions.(www.researchgate.net)

The perceptions consumers have of a business and its products or service have a dramatic effect on buying behavior. That's why businesses spend so much money marketing themselves, honing their customer service and doing whatever else they can to favorably influence the perceptions of target consumers.

With careful planning and execution, a business can influence those perceptions and foster profitable consumer behaviors. (www. Research gate. net and www. About civil.org/paints)

Paint

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. ([https:// en. wikipedia. org/ wiki/ Paint](https://en.wikipedia.org/wiki/Paint) and [www. About civil. org](http://www.Aboutcivil.org))

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°C (-2°F). ([http:// en. wikipedia. org/ wiki/ Volatile_organic_ compound](http://en.wikipedia.org/wiki/Volatile_organic_compound) and [www. Champion paintsindia.com](http://www.Championpaintsindia.com))

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 (www.theguardian.com).

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. (www.houzz.com)

Technical comparison between conventional paints&Eco-friendly paints:(www.greencleanguide.com)

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 720-3,000	INR 1,800-4,200
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 non-sustainable resources, it's said that producing one litre of paint can result in up to 30 litres of toxic waste into the environment. ([www. The guardian.com](http://www.theguardian.com) and www.greencleanguide.com)

As per The United States Environmental Protection Agency(EPA), the Eco-friendly paints can be classified into the following three types(www.greencleanguide.com)

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. (www.greencleanguide.com)

*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).

Review of Literature

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.

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.

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.

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.

While there is quite a few studies already conducted with regard to Eco-friendly products, one did not come across any study conducted on consumers perception about Eco-friendly paints in this region. It was therefore decided, to undertake an exploratory study to find out the perception of consumers in Pune when it comes to Eco-friendly paints.

II. OBJECTIVES

1. To find out the perception of the customers about Eco-friendly paints.
2. To identify the factors affecting customers selection of Eco-friendly paints.

3. To understand the challenges faced by the customers in adoption of Eco-friendly paints.

Hypothesis 1

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

Hypothesis 2

Null Hypothesis : There is no association between usage experience of Eco-friendly paints and willingness to recommend to others

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 (Baner, Wakad, Pimpri and Chinchwad) 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.

Sampling method and Data Collection

We followed non-probability judgement sampling for the purpose of choosing the respondents since we had to choose a particular

type of respondent. A structured and close ended questionnaire was followed to collect data from the households. The collected data were thus, analysed in Excel and tests conducted in SPSS and then results interpreted thereof.

Data Collection

Primary Data: Questionnaires were personally administered by the researchers to the respondents who are living in their own houses in the above mentioned areas.

Secondary Data: Literature review (research papers, journals and websites as mentioned in bibliography)

Period of study

January '17 to May'17

Limitation of the study

- Our sample size was too small. And we targeted only one city for our survey. So our research can't be generalized for whole of India.
- Eco-friendly pain is a technical nomenclature. Due to this, error in understanding and response can't be ruled out during data collection.

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 Samples 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

Paired Samples Test							
		Paired Differences			t	df	Sig. (2-tailed)
		95% Confidence Interval of the Difference					
		Upper					
Pair 1	Are you aware - Have you ever used?	.6515			5.230	31	.000

Testing (Hypothesis no.2)

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 Eco-friendly paint and usage of the same.

Null Hypothesis : There is no association between usage experience of Eco-friendly paints and willingness to recommend to others

Paired Samples Test					
		Paired Differences			
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference
		Lower			
Pair 1	Have you ever used? - Will you recommend to others?	-.8750	.3416	.0854	-1.0570

Paired Samples Test						
		Paired Differences		t	df	Sig. (2-tailed)
		95% Confidence Interval of the Difference				
		Upper				
Pair 1	Have you ever used? - Will you recommend to others?	-.6930		-10.247	15	.000

Once again, from the above table it is clear that the p value is less than 0.05 and this leads to rejection of the null hypothesis which means there is a relationship between the usage of the paint and willingness to recommend the same to others.

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	Usages 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/Contractor	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.

Usage Experience Vs. Respondents Willingness to Recommend

Experience/ recommendation	Not willing to	Willing to	Grand Total
Excellent	0	2	2
Good	0	9	9

Satisfactory	0	3	3
Not Satisfactory	1	0	1
Grand Total	1	14	15

Interpretation

On scrutiny of the above data, it emerges that 73% of the respondents who have used the Eco-friendly paint, rate the usage experience as good or excellent. Going forward, almost everyone (94%) who used the Eco-friendly paint, is willing to recommend others to use the same.

Likelihood of Usage Vs Interest to know more

Likely Future usage	Not interested to know	Interested to know	Grand total
Definitely	3	12	15
Maybe	4	34	38
Not Sure	5	10	15
Grand total	12	56	68

Interpretation

From the bucket of respondents, who are unaware about Eco-friendly paints, more than 65% respondents are open to usage of this paint and therefore they want to know more about the concept of Eco-friendly paint.

Perception of Non Users

Response	No of Respondents
Costlier than Normal Paints	4
House is not due for re-painting	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

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.

III. 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.
- Almost 50% of the users cite Altruistic reason as the primary motive for buying while the other half of users seem to be driven by product motive while buying.
- There seems to be massive scope for creating awareness among potential customers and very good prospects for this product

IV. 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.. Even though the product has two broad set of appeals among the users, overall the idea of Eco-friendly paint has not diffused in the market, the singular reason being lack of awareness among traders and the customers.

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