

**A STUDY ON CONSUMERS KNOWLEDGE, PRACTICES AND PERCEPTION
TOWARDS ECO-FRIENDLY PRODUCTS AND PACKAGING**

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Abstract

Looking back a few years in Mangalore, India, the growth rate of the usage of eco-friendly products has been steadily increasing despite the availability of products which are not environment friendly. This development is mostly due to increase in knowledge among the public regarding the benefits obtained by using eco-friendly products and increased awareness regarding the products having venomous effects. Previous research has primarily relied on obtaining public opinions regarding the use of eco-friendly products but, did not specify the reasons for their liking or disliking towards eco-friendly products. These reasons should be taken into consideration as they play a vital role in spreading awareness regarding eco-friendly products and understanding consumer behaviour. In this study, we have used the data obtained from the residents living in Mangalore to identify the correlation between factors i.e., gender, age, income, qualification and consumers preference towards eco-friendly products and packaging. Our findings reveal that, sustainable growth in eco-friendly products is possible with increased knowledge and awareness about environmental protection. This study provides insight on how customers see environmentally friendly items and their packaging and thereby, suggests certain practices which can be undertaken by the residents of Mangalore to facilitate environmental growth. This paper is in a novel approach to understand the issues, challenges and prospects of eco-friendly products in the city of Mangalore.

Keywords: Sustainable, environmental protection, eco-friendly.

INTRODUCTION

The term 'Eco-Friendly products and packaging' refers to the products and their packaging intended to harm the environment in a minimal or non-existent way. Environmental responsibility has emerged as a pressing issue, and public knowledge of the issue is rising gradually. Consumers are starting to avoid plastic products, which are considered to be a significant source of pollution. This shift in consumers preference can be due to various reasons such as, increased awareness and knowledge regarding the benefits of eco-friendly products, no use of toxic chemicals, reduced carbon footprint, global warming etc.

In this context, the term 'sustainable' refers to 'maintaining long-lasting use of eco-friendly products and ensuring the future growth of eco-friendly products and packaging'. In the present era, the concern towards the environment is continuously rising and businesses are looking for alternatives to reduce their impact on the planet. The most effective way to reduce their impact on the planet is by incorporating sustainable and eco-friendly products into their operations.

The beginning of eco-friendly products and their packaging in Mangalore can be traced in the year 2008. Dakshina Kannada is home to an abundance of areca leaves, which have traditionally been used as a barrier against the ferocious downpours that hit the area annually. Crude bags intended to hold fish from the market are another application for them. Most of the trade used to take place with the help of these bags till they were replaced by plastics. Later, these areca bags were used to make eco-friendly cutlery for use in parties and public gatherings.

Paper-seed, a Mangalore-based company has come with the idea to produce plastic-free national flags, badges, cups made up of coconut shells and decorative items made up of recycled paper for Christmas. These products are said to be more durable, less fragile, water resistant and completely degradable. The company considers tourists as its potential customers and wants to increase employment opportunities in the city of Mangalore.

In 2023, The Mangaluru City Corporation inaugurated the Reduce, Reuse and Recycle (RRR) centres in different parts of the city. This initiative has been taken as a part of Swachh Bharat Mission 2.0 scheme. Under this initiative, the residents of Mangalore are expected to deposit the

plastic items, clothes, footwear etc. The collected items will be recycled, refurbished and the citizens would receive eco-friendly products and packaging in exchange for their goods.

REVIEW OF LITERATURE

The authors, Nagamani and Navaneetha (2017) stated that, most of the customers knew which products were environmentally friendly and were willing to pay an additional price only for them. The authors revealed that, the customers did not have the knowledge regarding the new eco-friendly products available in the market. The authors also stated that the customers were not ready to move from their existing products to new products. This study was done by taking the retailers opinions and the customers perspective was ignored. The present study takes the customers views, opinions and perception towards eco-friendly products and packaging into account as it plays a vital role to ensure a sustainable growth

Another study conducted by Dr. Sabita Mahapatra (2013) revealed that factors such as personal benefit, price, convenience of use, performance, availability, concern for environment and health concern and product category has significant influence in determining the total premium an individual is willing to pay for green products. This study was done in the central part of India with the help of a five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). The study could not find a relationship between various factors such as age, gender, qualification etc and consumer behaviour.

A study conducted by Dr. Samini Mathew, Manas Patidar, Rishika Bansal and Md. Emtiaz Islam (2013) revealed that environmental concerns are the main reasons to drive buying behaviour of consumers towards eco-friendly products and packages. The study took a sample size of 102 respondents collected from both male and female respondents. The study opined that the marketers involved in environment- friendly products and packages should fix a competitive pricing in comparison with ordinary products and packages, so that consumers buying behaviour should mostly move towards green products and packages.

The research conducted by P N Vijayasreel, Dr. Mahesh Pavan Sathavalli and C. Prakash included three aspects i.e., purchasing behaviour, green product awareness and consumer

attitudes on the consumption and usage pattern of green goods since the pandemic. These three variables explain the relationship between consumers' purchases of eco-friendly products and packages and their level of environmental concern.

Bhagwan Singh and Sachin Kumar (2015) revealed that most of the respondents from North India are familiar with the concept of Green Marketing. The respondents' income, occupation, marital status plays a strong relationship with awareness about Green Marketing, irrespective of their age, education, area and state. The study emphasized that marketers should plan out the strategies as per the respondents' characteristics to achieve better results.

Thus, there is no shortage of research on green products and their packaging. However, the work specially focused on green products did not relate to customers knowledge, perception and practices towards eco-friendly products. In this context, the term 'eco-friendly products' refers to 'all types of products which do not cause damage to the environment such as electric vehicles, solar energy devices, bamboo utensils, LED bulbs etc'. With this in mind, our study takes into account the consumers behaviour towards all the eco-friendly products and packaging.

RESEARCH GAP

The review of literature shows that past research on consumers behaviour towards eco-friendly products were done by taking only green products into consideration. Other environmentally friendly products such as electric vehicles, solar energy devices were ignored. The present study covers the term 'eco-friendly products and package' in a broader term. The study focuses in analysing an association between variables like age, income, gender, qualification and level of awareness of eco-friendly products and packaging.

OBJECTIVES OF THE STUDY:

- To study the awareness level of the residents living in Mangalore towards Eco-Friendly products and packaging.
- To understand and identify the factors that influences the consumers buying behaviour on eco-friendly products and packaging.

- To identify the challenges and issues this restricts the growth of eco-friendly products and packaging.
- To study consumers perception towards eco-friendly products and packaging..

HYPOTHESES

H1 : There is an association between income group and Preference towards branded eco- friendly products and package.

H2: There is an association between age groups and improvements in eco-friendly products and packaging preferred by residents in Mangalore

H3: There is an association between qualification and the practices adopted by residents in Mangalore.

H4: There is an association between income of the living in Mangalore and their willingness to pay extra for an eco-friendly package

METHODOLOGY

A population is a complete census of all items or people in a research's area of study (Mugenda and Mugenda, 1999). The target population of this study comprises of all IPOs carried out at the BSE SME from 2012-2022. There are 231 companies currently listed at the BSE and the list is provided as appendix I. The 231 firms are the target population. A sample is a subset of the population. The sample size for this study was composed of 10 companies which were listed at the BSE from 2012-2022. The sample size of 10 was selected as it representative of the population to enable the researcher meet the objective of the study. This includes: Diksha Greens Limited, Sun Retail Limited, AKI INDIA LIMITED, BCPL Railway Infrastructure Limited, S. M. Gold Limited, A-1 Acid Ltd., Shree Krishna Infrastructure Limited Milestone Furniture Ltd, Deep Polymers Limited and Kenvi Jewels Limited. The collection of data for this study was from secondary source. The nature of data collected was purely quantitative in nature. The data was from the annual financial statements of the companies sampled. This was collected from the Bombay Stock Exchange database, Capital Market Authority, newspapers or the respective

company premises inclusive of their websites. This study used descriptive survey. A descriptive survey is present-oriented research that seeks to accurately describe the situation as it is. Descriptive research is defined as a process of data collection to test the hypothesis or answer questions concerning the current status of the study (Mugenda and Mugenda, 2003). This method was selected because it enabled the researcher to be able to attempt to describe the relationship that exists between IPOs and operating performance of companies listed at the BSE.

DATA ANALYSIS

The analysis chapter starts with the understanding of the respondent’s demographic profile. The table 4.1 shows the detailed demographic profile of the study respondents.

Table 4.1: Demographic Profile

| Demographical Variables | Frequency | Percentage |
|-------------------------|-----------|------------|
| Age | | |
| 0-20 | 139 | 32.7 |
| 21-30 | 219 | 51.5 |
| 31-40 | 38 | 9.0 |
| 41-50 | 18 | 4.2 |
| 50 and above | 11 | 2.6 |
| Gender | | |
| Male | 249 | 58.6 |
| Female | 176 | 41.4 |

It is found that out of 425 respondents, majority of the respondents were males (58.6% ~ 59%) and the remaining 41.4% ~ 41% were females. It is observed that, the highest respondents belonged to the age group 21-30,since it is the most active age group of the current generation.

Table 4.2: Age group and the sources of knowledge regarding eco- friendly products and packaging

| Sources | Age group | | | | | Total |
|--------------------------------|-----------|-------|-------|-------|----------|-------|
| | 0-20 | 21-30 | 31-40 | 41-50 | Above 50 | |
| Advertisement | 65 | 57 | 9 | 1 | 2 | 134 |
| Past experience or use | 13 | 27 | 11 | 8 | 5 | 64 |
| Peer groups/relatives/ friends | 30 | 76 | 6 | 4 | 3 | 119 |
| Shopkeepers suggestions | 4 | 8 | 7 | 4 | 0 | 23 |
| Word of mouth | 27 | 51 | 5 | 1 | 1 | 185 |

| | | | | | | |
|-------|-----|-----|----|----|----|-----|
| Total | 139 | 219 | 38 | 18 | 11 | 425 |
|-------|-----|-----|----|----|----|-----|

The study found out that people from the age groups 0-20 and 21-30 are highly aware regarding the use of eco-friendly products and packaging. The main sources of information relating to eco-friendly products are obtained from advertisements and peer groups/relatives/friends.

Table 4.3: Age group and disposal method of packaging materials

| Particulars | 0-20 | 21-30 | 31-40 | 41-50 | Above 50 | Total |
|---------------------------|------|-------|-------|-------|----------|-------|
| Recycling items after use | 69 | 142 | 18 | 7 | 5 | 241 |
| Preferring to dump them | 70 | 77 | 20 | 11 | 6 | 184 |
| Total | 139 | 219 | 38 | 18 | 11 | 425 |

The study found out that most of the people belonging to the age group 21-30 have adopted the practice of recycling the packaging material due to increased awareness with regard to the environment.

Table 4.4: Association between Income group and Preference towards branded eco-friendly products and package

| Preference of people living in Mangalore | | <10K | 10K-20K | 20K-30K | 30K-40K | >40K | Total |
|--|-------|---------------------|---------|-----------------------------------|---------|------|-------|
| | Yes | 37 | 5 | 5 | 4 | 11 | 62 |
| | No | 56 | 42 | 15 | 7 | 13 | 133 |
| | Maybe | 131 | 17 | 30 | 22 | 30 | 230 |
| | Total | 224 | 64 | 50 | 33 | 54 | 425 |
| Value | | df | | Asymptotic Significance (2-sided) | | | |
| Pearson Chi- Square | | 22.853 ^a | 8 | 0.004 | | | |
| Likelihood Ratio | | 22.896 | 8 | 0.003 | | | |
| N of Valid Cases | | 425 | | | | | |

1 cells (6.7%) have expected count less than 5. The minimum expected count is 4.81.

Since the p value (2-sided) is less than 0.05 significance level, we accept H1 and conclude that there is an association between income groups and preference of people for specific brands.

Table 4.5: Association between Age groups and Preferred Improvements in eco-friendly products and packaging

| Preferred Improvements | | 0-20 | 21-30 | 31-40 | 41-50 | >50 | Total |
|------------------------|----------------|------|-------|-------|-------|-----|-------|
| | Better quality | | 36 | 74 | 12 | 5 | 5 |

| | | | | | | | |
|---------------------|--------------|---------------------|-----|-----------------------------------|----|----|-----|
| | and features | | | | | | |
| | Durability | 18 | 30 | 11 | 4 | 1 | 64 |
| | Lower prices | 62 | 82 | 6 | 6 | 1 | 157 |
| | More Variety | 23 | 33 | 9 | 3 | 4 | 72 |
| | Total | 139 | 219 | 38 | 18 | 11 | 425 |
| Value | | df | | Asymptotic Significance (2-sided) | | | |
| Pearson Chi- Square | | 22.074 ^a | 12 | .037 | | | |
| Likelihood Ratio | | 22.431 | 12 | .033 | | | |
| N of Valid Cases | | 425 | | | | | |

Since the p value (likelihood ratio) is less than 0.05 significance level, we accept H1 and conclude that there is an association between age groups and improvements preferred by residents in Mangalore. Since 30% > 20%, we have considered likelihood ratio (2-sided) as our p value.

Table 4.6: Association between Qualification and the Practices adopted

| | | SSLC | PUC | Bachelors | Masters | Working Professional | Total |
|-------------------------------|-------|---------------------|-----|-----------------------------------|---------|----------------------|-------|
| Best Practices adopted | RD-PG | 37 | 5 | 5 | 4 | 11 | 62 |
| | PAEEI | 56 | 42 | 15 | 7 | 13 | 133 |
| | SREA | | | | | | |
| | RUP | 131 | 17 | 30 | 22 | 30 | 230 |
| | Total | 224 | 64 | 50 | 33 | 54 | 425 |
| Value | | df | | Asymptotic Significance (2-sided) | | | |
| Pearson Chi- Square | | 56.196 ^a | 12 | <.001 | | | |
| Likelihood Ratio | | 51.774 | 12 | <.001 | | | |
| N of Valid Cases | | 425 | | | | | |

RD-PG: Reducing the dumping of plastics and glass

PAEEI: Promoting awareness and education about environmental issues

SREA: Supporting renewable energy adoption and reducing carbon footprint

RUP: Purchasing reusable products such as straws and jute bags

Since the p value (likelihood ratio) is less than 0.05 at 5% significance level, we accept the alternative hypothesis (H1) and conclude that there is an association between qualification of the

residents and the practices adopted by residents to ensure sustainable environmental growth. Since, $25\% > 20\%$, we consider the likelihood ratio (2- sided) to be our p value.

Table 4.7: Association between Income groups and willingness to pay an additional price for eco-friendly package

| Willingness to pay | | <10K | 10K-20K | 20K-30K | 30K-40K | >40K | Total |
|---------------------|-------|---------------------|---------|-----------------------------------|---------|------|-------|
| | Yes | 132 | 58 | 38 | 29 | 45 | 302 |
| | No | 71 | 27 | 12 | 4 | 9 | 123 |
| | Total | 203 | 85 | 50 | 33 | 54 | 425 |
| Value | | df | | Asymptotic Significance (2-sided) | | | |
| Pearson Chi- Square | | 13.013 ^a | 4 | .011 | | | |
| Likelihood Ratio | | 14.170 | 4 | .007 | | | |
| N of Valid Cases | | 425 | | | | | |

Since the p value is less than 0.05, we accept the alternative hypothesis (H4) and conclude that there is an association between income of an individual and his willingness to pay an additional price for an eco-friendly package.

CONCLUSION

From the above analysis, it can be concluded that factors such as age, gender, qualification, income play a direct role in influencing the buying behaviour of the residents of Mangalore. Despite the fact that the majority of respondents are aware of eco-friendly products and packaging, they do not favour purchasing it because of its higher cost in comparison to other products. The survey also demonstrates the widespread concern and strong willingness among individuals to take action to protect the environment. It can be witnessed by the practices adopted by them such dumping of plastics, spreading awareness about environmental issues. The main factor which hinders the sustainability of eco-friendly products and packaging in Mangalore is the income level of individuals. People with low income do not have a choice and thus, purchase eco-unfriendly products with plastics as a package. Products such as Solar water heaters, electric

vehicles come with a hefty price tag. The Government and Marketers should take necessary steps to make eco-friendly products with a package available to people at lower prices. Necessary measures should be taken to include environmental awareness programmes in the academic curriculum of students studying in SSLC and PUC. Even, working professionals should be provided with an opportunity to participate in awareness campaigns. Most of the students prefer to dump the packaging materials of an eco-friendly product. Thus, the study indicates that there is a need to increase the awareness level of students as the packaging materials can be recycled to ensure sustainable growth of eco-friendly products and packaging.

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