

Project Dissertation Report
on
**“A study on Responsible Disposal of FMCG
Products Packaging by Indian Consumers using
Theory of Planned Behavior”**

Submitted By
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CERTIFICATE

This is to certify that the Project Dissertation Report titled, ‘**A study on Responsible Disposal of FMCG Products Packaging by Indian Consumers using Theory of Planned Behavior**’ which is a part of the Major Research Project for final year submission, submitted by Ms. Diksha Kapoor, Roll Number 2K22/DMBA/39, in the fourth semester of MBA from Delhi School of Management, Delhi Technological University during the months of January to May 2024, is her original work and has not been submitted elsewhere for any recognition/award/credits/degree whatsoever.

This Major Research Project is submitted to the Delhi School of Management, Delhi Technological University as a partial fulfillment of the requirement for award of the Degree of Master of Business Administration for the academic year 2022- 24 to Ms. Diksha Kapoor.

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DECLARATION

I, Diksha Kapoor, 2K22/DMBA/39, final year student of Master of Business Administration of Delhi School of Management, Delhi Technological University, hereby declare that the work done as part of my Project Dissertation Report titled '**A study on Responsible Disposal of FMCG Products Packaging by Indian Consumers using Theory of Planned Behavior**' under the guidance of my Mentor Mr. Mohit Beniwal, is my original work. The same report has not been submitted earlier to any Institute/University for awarding the degree of MBA or any other professional course.

Diksha Kapoor
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I would like to express my sincere gratitude to all those who have contributed to the completion of my MBA project dissertation report. Without their guidance, support and valuable suggestions during the research, the outcomes and results would not have been accomplished.

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Last but not the least I would like to thank my friends and family who have been supportive throughout. I am immensely grateful for the value addition this project has been to my academic knowledge and have tried my level best to put in the best efforts possible for this project.

Diksha Kapoor
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EXECUTIVE SUMMARY

The ever-growing consumption of Fast-Moving Consumer Goods (FMCG) products generates significant packaging waste in India. With increasing consumer awareness, regulatory scrutiny, and corporate social responsibility expectations, addressing responsible disposal practices has become essential not only for businesses but also for individuals. This study aims to understand Indian consumer behavior regarding responsible disposal of FMCG packaging, using the Theory of Planned Behavior (TPB) framework. This study addresses the research gap highlighted in the literature which is limited literature in Indian context and the theoretical framework references.

The study utilized primary survey and cross-sectional data. A survey was conducted among 90 respondents aimed to understand the current level of awareness, identify key barriers, explore factors influencing attitudes, investigate intentions, and propose recommendations for promoting responsible disposal behavior. Before performing Data Analysis, Data Cleaning was performed to ensure accurate and reliable results. In order to check the reliability and validity of the model SMART PLS 4 software has been used which confirmed the reliability, convergent and discriminant validity for the model. Through Bootstrapping, P value was found which helped in Hypothesis Testing.

The study highlights a gap between positive attitudes towards responsible disposal and actual intentions. This suggests that factors beyond attitudes are hindering responsible disposal practices. Interestingly, the hypothesis that proposed a positive influence of incentives on attitudes was not found to be statistically significant. This may indicate that Indian consumers are intrinsically motivated to dispose of packaging responsibly, and external incentives may not be the most effective approach as consumers are now more aware.

This study offers valuable insights into the complexities of consumer behavior regarding responsible disposal of FMCG packaging in India. Understanding the factors that influence attitudes and intentions, alongside the identified barriers, will be crucial for developing effective interventions to promote sustainable disposal practices.

It also proposes some valuable recommendations to promote the recycling behavior.

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CHAPTER - 1

INTRODUCTION

1.1 Background

Fast Moving Consumer Goods (FMCG) is characterised by high turnover consumer packaged goods, i.e. goods that are produced, distributed, marketed and consumed within a short span of time. It includes various product categories, namely, Food and Beverages, Personal Care and Hygiene Products, Household Products, Pharmaceuticals.

As per FICCI, “Fast-moving consumer goods (FMCG) sector is the fourth largest sector in the Indian economy with Household and Personal Care accounting for 50 per cent of FMCG sales in India.” It has been expanding at a healthy rate over the years because of rising disposable income, a rising youth population, and rising brand awareness among consumers. The FMCG Industry is an important contributor to India’s GDP.

FMCG products are available at different price points and are bought by almost everyone be it in Rural or Urban areas. These items are purchased frequently, on a daily, weekly, or monthly basis.

Central to the functioning and success of the FMCG sector is packaging, which serves multiple purposes ranging from product protection and preservation to branding and marketing. However, the packaging used in FMCG products also contributes significantly to waste generation, posing environmental challenges that demand urgent attention. The role of packaging is indispensable as it ensures product safety, quality maintenance, and convenience for consumers. It also plays a crucial role in attracting consumers through innovative designs, labeling, and information dissemination.

However, a major disadvantage of packaging is that it adds to the world’s environmental footprint because it is always discarded immediately after the product is used.

The main types of materials used for food packaging include paper, wood, glass, metal, and various types of plastics. They add to the landfill, release gasses and increase pollution as well.

The disposal of packaging waste in landfills or incineration facilities releases additional greenhouse gases and other pollutants into the atmosphere, land degradation, pollution further exacerbating global warming.

The landfills are overflowing with mountains of discarded packaging materials, including cardboard and plastic, endangering the sustainability of the world. Globally, approximately 17% of all packaging waste comes from paper and cardboard. Plastic, a major culprit in packaging waste, has ballooned to a staggering 400 million metric tonnes by 2021. The average lifespan of plastic products falls at 10 years, but it can take up to 500 years to decompose depending on its composition and disposal. Alarmingly, projections suggest over 12 billion metric tons of plastic waste could be choking landfills by 2050.

The harmful effects of packaging waste on the environment are profound and multifaceted. As per Morgan Stanley Report, “Plastic packaging use has grown exponentially in the last fifty years. On current trends there will be more plastic in the ocean than fish by 2050. Around half of total plastic is used for consumer packaging, and most of it is only used once.” Currently, very little is recycled for economic and technical reasons. Since we cannot eliminate plastic, the main opportunity is to make it ‘circular’—reuse and recycle significantly more of it.

Improper disposal of packaging waste makes this issue worse.

Responsible disposal of FMCG Products Packaging post its use is important and holds a lot of potential in reducing the waste problem.

Responsible disposal of packaging waste means disposing of waste in such a manner that the negative impact on the environment is reduced. It includes recycling, composting, reusing packaging for other purposes and proper disposal in designated facilities. This includes separating recyclable materials from non-recyclables, disposing of waste in recycling bins, participation in recycling programs, promoting the use of biodegradable packaging materials, and supporting initiatives for extended producer responsibility (EPR). Additionally, raising awareness about the importance of responsible disposal among stakeholders and investing in infrastructure for waste

collection, sorting, and recycling are crucial steps toward minimizing the environmental impact of packaging waste.

However, currently the consumers do face hurdles and confusion in effective disposal of packaging waste. Although the Industry is moving towards sustainable packaging the shift is quite slow . As the Indian consumer is price sensitive the companies are thriving towards delivering products that are great in quality as well as affordable and to incorporate sustainable packaging with it is a major cause of concern.

The question arises whether the consumer is actually aware about the responsible disposal practices and do they engage in it or not? What are the factors that influence them and affect their attitude, intention and behavior?

1.2 Problem Statement

To understand and assess Indian consumers' current awareness level on Responsible Disposal of FMCG Products Packaging and investigate their attitude, intentions and behavior concerning Responsible Disposal of FMCG products Packaging using theory of Planned Behavior.

1.3 Objectives of The Study

- A. To understand the Current Level of Awareness among Indian consumers regarding responsible disposal practices for FMCG product packaging.
- B. To Identify the key barriers hindering adoption of responsible disposal of FMCG Packaging among Indian consumers.
- C. To understand the factors that influence Indian consumers' attitudes towards responsible disposal of FMCG product packaging.
- D. To Investigate the intentions of Indian consumers regarding the adoption of sustainable packaging practices for FMCG products.
- E. Propose recommendations and insights to promote adoption of responsible disposal behavior.

1.4 Scope of the Study

The scope of this study encompasses a comprehensive examination of Indian consumers' perceptions and behaviors concerning the responsible disposal of Fast-Moving Consumer Goods (FMCG) product packaging. The study will focus on understanding the current awareness levels, identifying barriers, analyzing influencing factors, and exploring the intentions and actual behaviors of Indian consumers in relation to sustainable packaging practices.

The research focuses on FMCG products in totality , including but not limited to food items, beverages, personal care products, and household goods. It will help in addressing the key issues and what measures can further be taken to increase adoption of responsible disposal behavior as well as reduce environmental impact of packaging waste . This research can be further expanded in the future to study the role of government and explore other aspects.

CHAPTER - 2

LITERATURE REVIEW

Responsible disposal behaviour refers to the conscious and proper handling of waste and discarded materials to minimize environmental impact and promote sustainability. It involves practices such as recycling, reusing, composting, and disposing of waste in designated and environmentally friendly ways. Various authors have defined responsible disposal behavior in different ways and names. Stern (2000) notes “significant environmental behaviour” as actions that modify or affect environmental resources or that influence the overall dynamics of the ecosystem. Further expanding his definition he includes the individual's inclination to safeguard the environment through their actions, described as “behaviour that is undertaken to change (normally to benefit) the environment” (Stern, 2000). Teixeira Et Al. (2022) states in his work that the term "pro-environmental behavior" describes the adoption of behaviors that aim to reduce environmental harm or restore the natural environment. These behaviors can be either public or private, such as recycling, making green purchases, conserving energy and water, or motivating others to take care of the environment and join environmental organizations.

Kollmuss & Agyeman (2002) also contribute to this perspective by highlighting the need to undertake actions with a conscious effort to minimize the negative environmental footprint associated with one's activities in both the natural and built environments.

Governments globally have implemented various initiatives to encourage recycling practices among the public (Wilson et al., 2012). These initiatives range from stringent rules to voluntary programs. Thomas & Sharp (2013) emphasizes that the goal of these efforts is to normalize recycling behaviors and motivate consistent participation among individuals.

A global census has emerged that Recycling provides greater environmental advantages as compared to alternative waste-management methods like landfill and incineration (WRAP, 2006).

In terms of packaging waste, when reuse is impractical, recycling emerges as the most eco-friendly method of resource recovery (Grant et al., 2001; WRAP, 2006).

With the ongoing Climate Crisis and increasing consumption around the globe, it is imperative to take public action and protect the environmental resources before they start depleting at a much faster rate.

Labels on Packaging

Recycling labels on packaging serve as the critical communication bridge between manufacturers, the recycling industry, and consumers. These labels adhere to established standards which dictate the use of specific logos and claims to inform consumers about the recyclability of different packaging materials. Research by the International Food Information Council Foundation (IFIC) indicates that clear and informative labels contribute significantly to consumer understanding and trust. Moreover, a study published in the *Journal of Consumer Affairs* highlights that labels indicating environmental or ethical certifications can positively influence consumer attitudes, leading to a willingness to pay premium prices for sustainable and socially responsible products (Vasić et al., 2019). Therefore, it has been analysed as per Literature review, that labels of packaging affect the attitude of the consumers.

Incentives

Wang et al. (2016) observed that incentives are used to influence behavior. They act as a motivating factor. When applied to recycling, these incentives aim to motivate individuals and communities to participate in effectively managing packaging waste. Studies have shown that economic incentives can be particularly effective in driving participation and changing consumer behavior towards recycling. Research from the *Journal of Environmental Economics and Management* highlights those financial incentives, such as cash rewards or discounts, can significantly influence consumer behavior towards recycling and proper waste disposal (Loch et al., 2017). Additionally, a study published in the *Journal of Consumer Policy* indicates that incentives in the form of convenience, such as easy access to recycling bins or curbside pickup services, can lead to a more positive attitude and increased participation in environmentally responsible behaviors (Carley et al., 2018).

Environment Knowledge and Concern

Weigel et al. (1978) interprets Environmental concern as the assessment of knowledge or attitudes toward one's own conduct and that of others that have an impact on the environment.

Research underscores the significance of environmental knowledge, particularly in recycling behaviors (Hornik et al. 1995). Understanding environmental issues and their consequences is fundamental to fostering a sense of responsibility and influences attitude and awareness towards sustainable practices (De Young, 1989). Scholarly discussions suggest that there are other variables which might affect the adoption of pro environmental behavior. There is plethora of literature that has looked into how environmental knowledge affects pro-environmental behaviour or attitudes.

Theoretical Background

Developed by Icek Ajzen, Theory of Planned Behavior (TPB) Is used to understand and predict human behavior. It essentially proposes that our intentions are the strongest indicator of what we'll actually do. TPB is an extension of Theory of Reasoned Actions (TRA) (Fishbein & Ajzen, 1975). Subjective norms, perceived behavioral control, and attitude toward the conduct are the three key elements that further influence these intents.

These elements interact to shape an individual's readiness to engage in a particular behavior.

Eagly and Chaiken (1993) have offered a thorough definition of one of the elements, Attitudes. It refers to a psychological inclination characterized by assessing a particular entity with varying degree of favour or disfavour.

Subjective norms, as described by Fishbein and Ajzen (1975, p. 302), refer to the perceived pressure from important social groups to engage in a specific behavior (p. 302). In simpler terms, subjective norms reflect how individuals believe their social circles expect them to act.

Ajzen (1985) explains another construct of TPB, perceived behavioural control. It refers to individuals' perceptions regarding their capability or control over executing a specific behavior.

PBC is an additional variable that was incorporated in to the model by Ajzen (1991) and gave rise to TPB. It offers a comprehensive framework that helps in identifying the underlying factors that influence consumer behavior related to packaging disposal.

Theory of Planned Behaviour is widely regarded as one of the most reliable model for its accuracy in forecasting human behavior and has been extensively employed to anticipate individual decision-making processes (Rao et al., 2022). But in the context of environmental matters, individuals decisions about whether to opt for eco- friendly behavior or not are frequently impacted by external circumstances and factors as stated by Cao et al. (2022).

This study incorporates TPB to formulate a conceptual framework to study the drivers of behaviour. It has taken into account that the attitude of consumers is further influenced by three factors, namely, Labels on Packaging, Incentives and Environment Knowledge and Concern based on the literature review done.

Research Gap Identified

- **Limited Focus on Indian Context :** While there are studies on consumer behavior, CSR initiatives, and waste management there is limited or negligible research in the context of responsible disposal of FMCG packaging, hence the gap in literature specifically focusing on the Indian consumer market. There exists a lot of literature based on global or Western perspectives, and there is a need for more research that directly addresses the unique challenges and opportunities faced by Indian consumers regarding FMCG packaging disposal.
- **Integration of Behavioral Theories:** While theoretical frameworks like the Theory of Planned Behavior mentioned, there is a gap in literature that integrates these theories to provide a comprehensive understanding of Indian consumer behavior regarding FMCG packaging disposal. Future research could explore how these theoretical perspectives can be applied to design interventions and strategies for fostering responsible disposal practices.

Hypothesis

- Hypothesis 1: Labels on packaging significantly influence the attitude towards responsible disposal of FMCG products packaging.
- Hypothesis 2: Incentives significantly influence the attitude towards responsible disposal of FMCG products packaging.
- Hypothesis 3: Environmental Knowledge and Concern significantly influence the attitude towards responsible disposal of FMCG products packaging.
- Hypothesis 4: A positive attitude towards responsible disposal practices has a positive effect on the intention to engage in responsible disposal.
- Hypothesis 5: Subjective norm significantly influence the intention to engage in responsible disposal.
- Hypothesis 6: Perceived behavioral control has a positive and direct effect on the intention to engage in responsible disposal.
- Hypothesis 7: Intention to engage in responsible disposal has a positive and direct effect on responsible disposal behavior.

Conceptual Framework - TPB

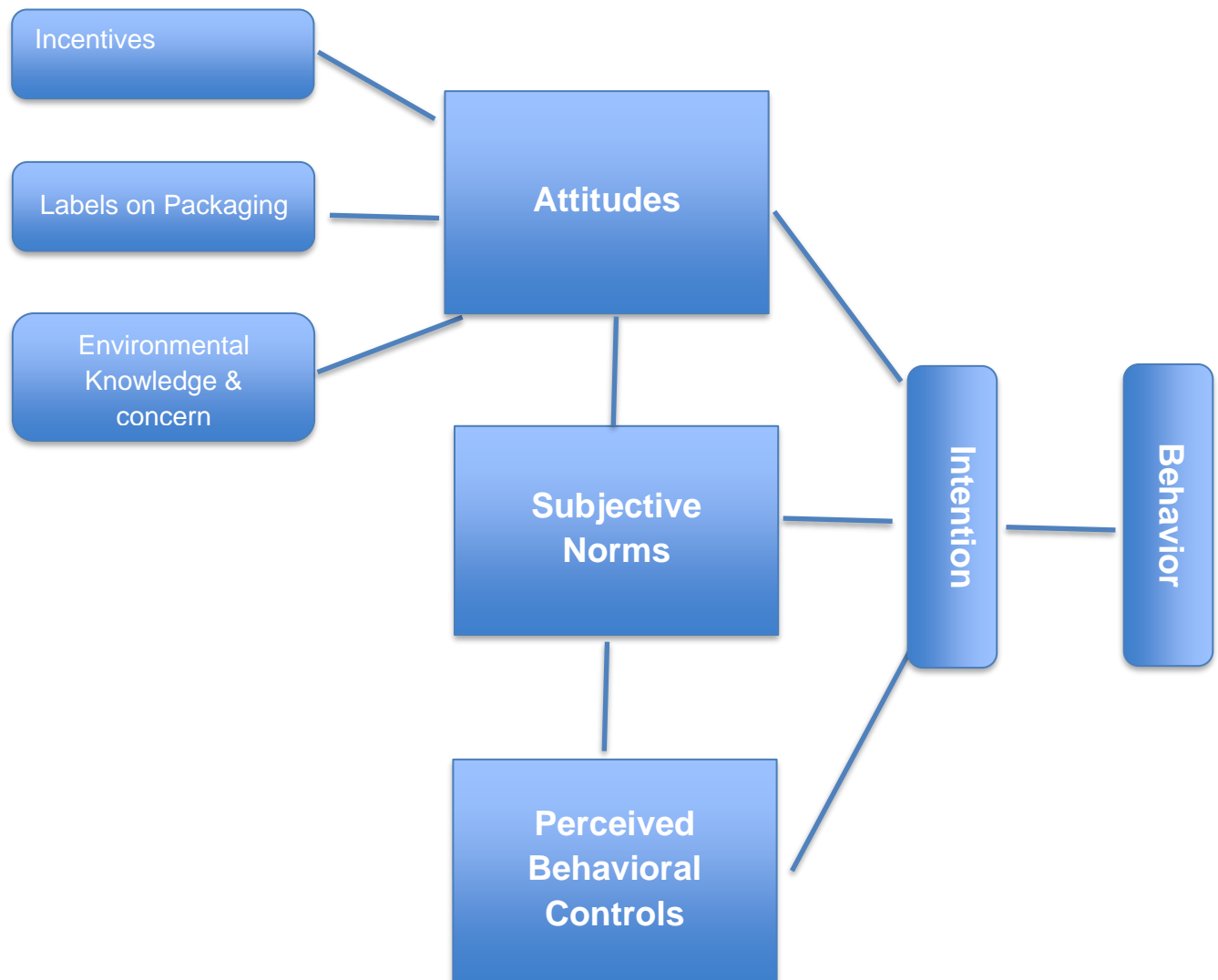


Figure 2.1 - Conceptual Framework ; Source : Own Analysis

CHAPTER - 3

RESEARCH METHODOLOGY

3.1 Data Collection

This research is centered around testing and validating research questions through relevant hypotheses. To achieve this, a quantitative approach has been adopted, using a survey method. An online questionnaire (Google Form) was distributed among participants to collect relevant data for the study.

The time horizon for this investigation is defined as a single cross-sectional period. A cross-sectional design involves gathering data from multiple cases at a single point in time to obtain quantitative data on multiple variables, intending to identify associations and patterns among them. To effectively carry out this study, a quantitative approach is deemed the most suitable method, with primary data being the primary source.

The research focuses on assessing whether the Indian consumers engage in responsible disposal of FMCG products packaging and through theory of planned behaviour research hypotheses has been framed. The survey instrument was adapted from pre-established scales. The statements related to the dependent and independent variables were derived from established scales with some adjustments made to ensure relevance within the given context.

Furthermore, the study is exclusively based on the behaviour of Indian consumers aged 18 years or above on the assumption that they are aware about the responsible disposal practices and independent in their approach to engage in responsible disposal behaviour.

3.2 Sample

To conduct a population study, it is often not feasible to include every single individual, so researchers opt for a sample selection. Probability sampling ensures an equal

likelihood of selecting each element in the population, while non-probability sampling relies on expert judgment rather than chance. In this study, non-probability convenient sampling is used, where expert opinions determined the sampling frame. Data is gathered from individuals/customers aged 18 and above. A sample size of 120 respondents has been chosen.

3.3 Measurements

All the measurement items were measured on a five-point Likert scale with anchors ranging from 1 to 5 (1 = strongly disagree and 5 = strongly agree). Age, gender, education level, occupation, Monthly income Bracket were measured on a nominal/ordinal scale.

Questions asked from the respondents were adapted from the already existing literature based on Theory of Planned Behavior in order to measure the constructs and establish the relationship or patterns. Questionnaire is enclosed in Annexure.

Mode of administration and tools used: The questionnaire was formed and administered through Google forms. Data collected was imported in Smart PLS 4 software where the reliability and validity of the constructs were tested as well as through Bootstrapping technique in the software p-value was found which helped in identifying whether the Hypothesis formulated is significant or not.

3.4 Data Cleaning

Before performing Data Analysis, The collected data was cleaned and organised to ensure accuracy and meaningful analysis. Questionnaires with incomplete responses were excluded from further consideration, as completed data was essential for drawing reliable conclusions. Additionally, responses demonstrating limited or no variance were not included, as a lack of diversity could compromise the depth of our analysis.

These steps ensured that the analysis focused on high-quality, relevant data, ultimately yielding a more accurate and insightful research outcome. This process resulted in a final dataset of 90 responses out of initial 120 responses selected for further analysis.

3.5 Techniques Used

i. Reliability Analysis

The study utilised Cronbach's alpha coefficient to evaluate the measurement scales' internal consistency and reliability. Given that all constructs examined in this research were assessed using multiple items, it is imperative to evaluate their internal consistency. Internal consistency, also known as internal reliability, pertains to how effectively the items within a measure correlate with each other, essentially measuring the same construct (Bryman and Bell, 2007, p. 163). To gauge the internal reliability of the study's variables, the Cronbach's alpha test was administered. A Cronbach's Alpha coefficient exceeding 0.7 serves as the benchmark for determining the reliability of a measure (Schutte et al., 2000, p. 56).

ii. Validity Analysis

To make sure the measurement model was robust, convergent validity and discriminant validity were assessed. To check for convergent validity, we used Average Variance Extracted (AVE). AVE is a measure used in Structural Equation Modeling (SEM). It measures the amount of variance that is captured by a construct and values above 0.5 are considered good whereas values below 0.5 indicate lower convergent validity.

To check for discriminant validity, Fornell Lacker Criteria has been used. It helps in determining whether the constructs in the model are distinct from each other or if they are too closely related, indicating potential issues with measurement redundancy. As per Fornell-Larcker criterion diagonal value should be larger than all values in the same row and column.

iii. Bootstrapping Analysis

For each bootstrap sample, the PLS-SEM model is estimated, and model parameters such as path coefficients, loadings, and variance explained are calculated. Bootstrapping can assess the significance of path coefficients and other model parameters by examining whether the confidence intervals include zero (indicating non-significance) or not.

It helped in establishing whether the hypothesis framed is significant or not.

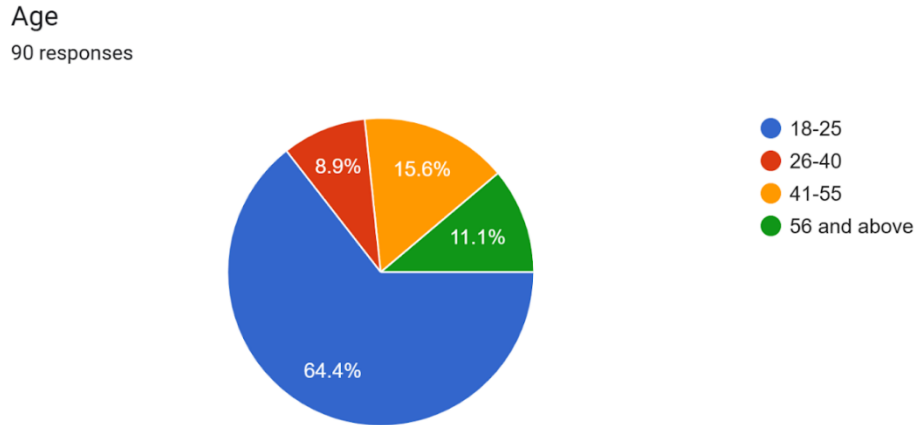
CHAPTER – 4

DATA ANALYSIS, FINDINGS & RECOMMENDATIONS

4.1 Data Analysis

4.1.1 Demographic Analysis

Figure 4.1 – Age Classification of Respondents



Source : Primary Survey Analysis

AGE	Number of Respondents
18-25	58
26-40	8
41-55	14
56 and above	10

Table 4.1 - Age Classification of Respondents ; Source : Primary Survey Results

In the data collected, the majority of respondents belong to Age group of 18-25 years followed by respondents in the 41 – 55 age group category.

Figure 4.2– Gender Classification of Respondents ; Source : Primary Survey Results

Gender
90 responses

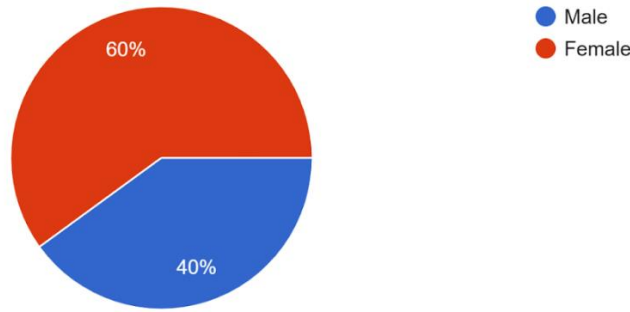


Table 4.2 : Gender Classification of Respondents ; Source : Primary Survey Results

Gender	Number of Respondents
Male	36
Female	54

Out of the total respondents,36 respondents are Male and 54 respondents are Female.

Figure 4.3– Education Level Among Respondents; Source: Primary Survey Results

Education Level
90 responses

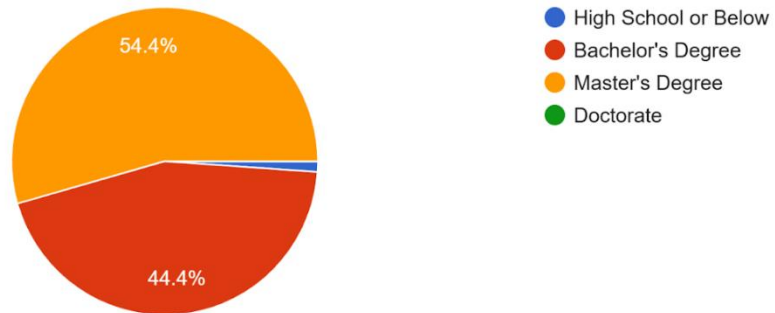


Table 4.3 - Education Level Among Respondents; Source: Primary Survey Results

Education Level	Number of Respondents
High School or Below	1
Bachelor's Degree	40
Master's Degree	49
Doctorate	0

Master's degree respondents represent the largest proportion among the four education level segments.

Figure 4.4– Occupation of Respondents; Source: Primary Survey Results

Occupation

90 responses

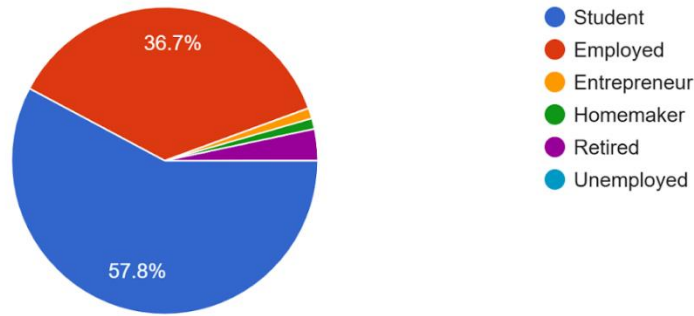


Table 4.4– Occupation of Respondents; Source: Primary Survey Results

Occupation	Number of Respondents
Student	52
Employed	33
Entrepreneur	1
Homemaker	1
Retired	3
Unemployed	0

Majority of the Respondents (52 out of 90) are Students, 33 respondents are currently employed whereas it also includes 3 retired employees, 1 Entrepreneur and 1 Homemaker. It is interesting to note that no one from the collected sample is currently unemployed.

Figure 4.5– Monthly Income Bracket of Respondents; Source: Primary Survey Results

Monthly Income Bracket

90 responses

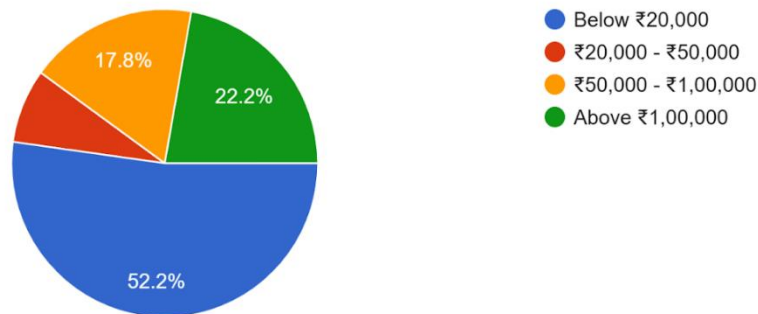


Table 4.5 – Monthly Income Bracket of Respondents; Source: Primary Survey Results

Monthly Income Bracket	Number of Respondents
Below Rs.20,000	47
Rs.20,000 – Rs.50,000	7
Rs.50,000 – Rs.100,000	16
Above Rs. 1,00,000	20

Here, it is noteworthy as students who have no monthly income as part of the survey were asked to select Below Rs.20,000 category. Hence the highest number of respondents fall in this category followed by 20 respondents in Above Rs.1,00,000 monthly income.

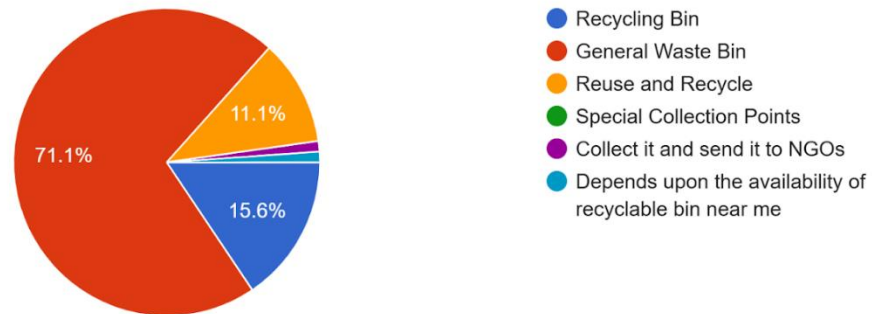
4.1.2 Current Awareness Level

This section checks the methods that consumers currently adopt to dispose of FMCG packaging post use and the current awareness level.

Figure 4.6– Packaging Disposal Method; Source: Primary Survey Results

Where do you usually dispose off empty FMCG packaging?

90 responses

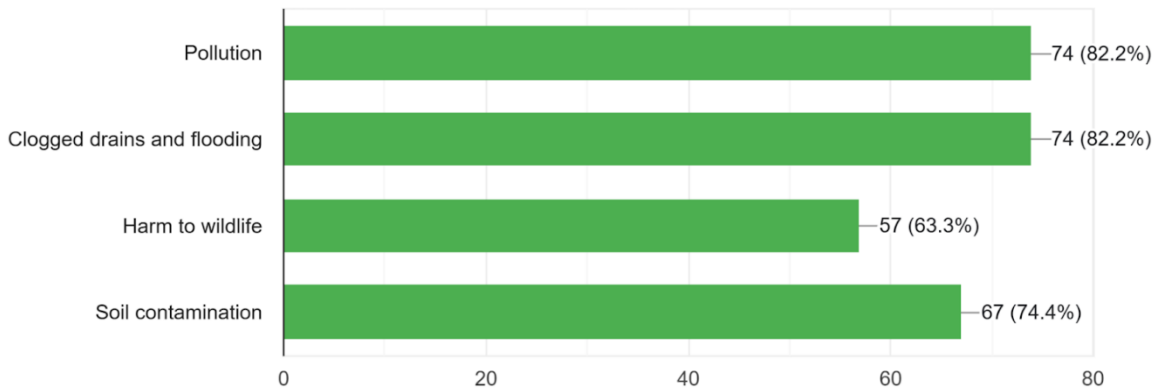


Majority of respondents that is 71.1% of the respondents usually dispose of the empty FMCG packaging waste in General Waste Bin followed by disposal in Recycling Bin by 15.6% of the respondents.

Figure 4.7– Environmental Concerns ; Source: Primary Survey Results

In your opinion, what are the environmental concerns associated with improper disposal of FMCG packaging? (Tick all that apply)

90 responses



The respondents were aware about the environmental concerns associated with improper disposal of FMCG packaging with Pollution being the major concern followed by Clogged drains & flooding.

What sources do you rely on for information about responsible disposal practices? (Select all that apply)

90 responses

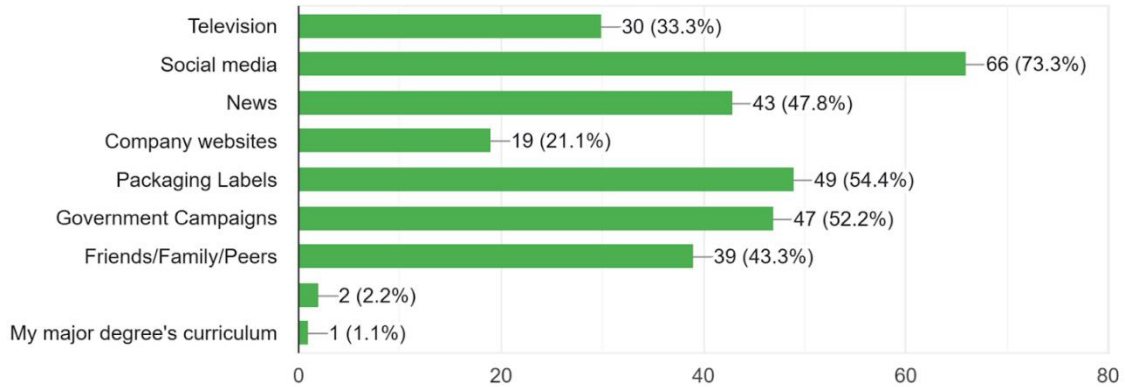


Figure 4.8– Sources of Information ; Source: Primary Survey Results

A major chunk of respondents that is 73.3% rely on Social media followed by Packaging Labels for gaining information about responsible disposal practices.

What challenges do you face in responsibly disposing of FMCG product packaging? (Select all that apply)

90 responses

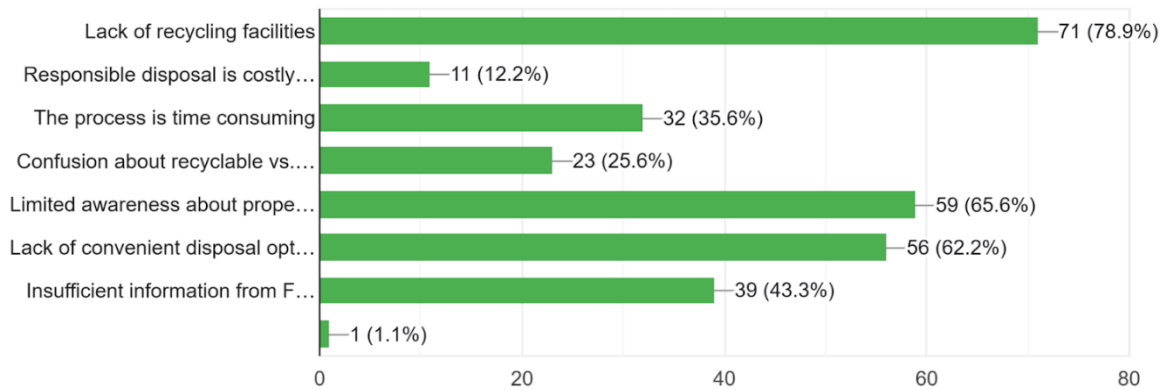


Figure 4.9– Challenges Faced ; Source: Primary Survey Results

The survey conducted shows that Respondents do face some challenges with respect to responsibly disposing of FMCG products packaging. Lack of recycling facilities is one of the biggest challenges that 71 respondents face followed by Limited awareness about proper disposal methods.

Model developed in SMART PLS 4 Software

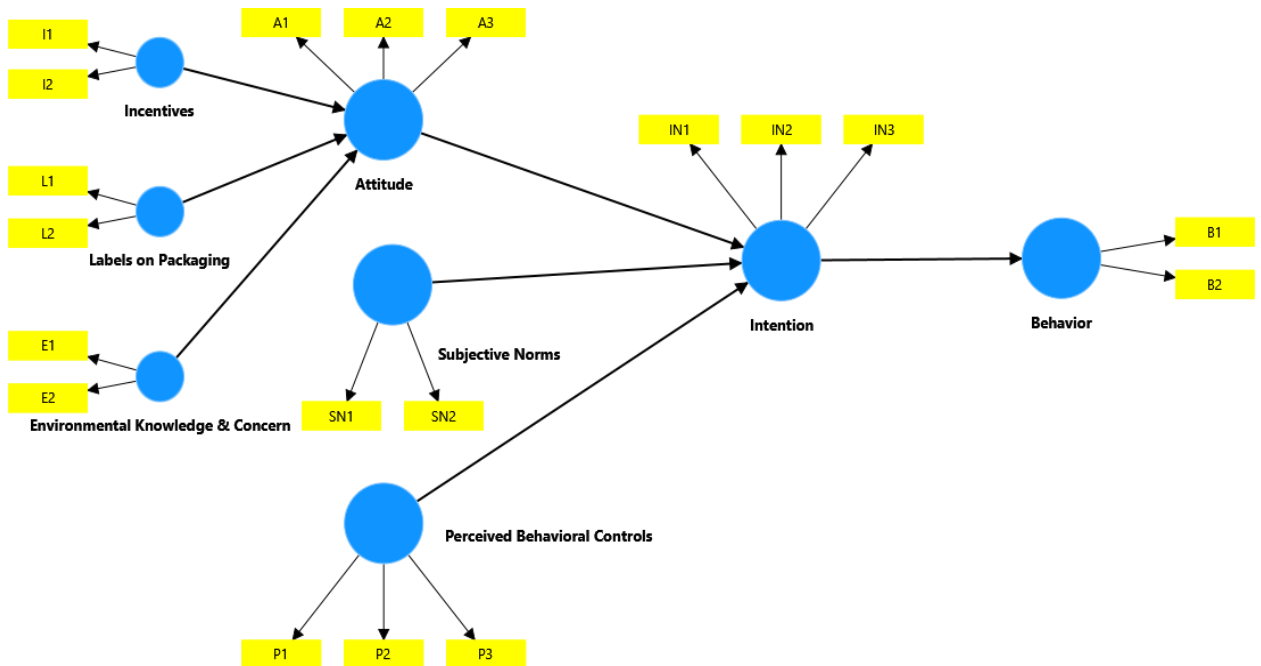


Figure 4.10 – Model in SMART PLS 4 ; Source : Own Analysis

4.1.3 Reliability and Validity Analysis

The constructs' internal consistency is assessed by its reliability. If the Alpha value comes out to be more than 0.70 the construct is considered to be reliable. It is assessed using Cronbach's Alpha in Smart PLS 4 software. For Convergent Validity, composite reliability and Average Variance Extracted has been used.

The results are summarized below:

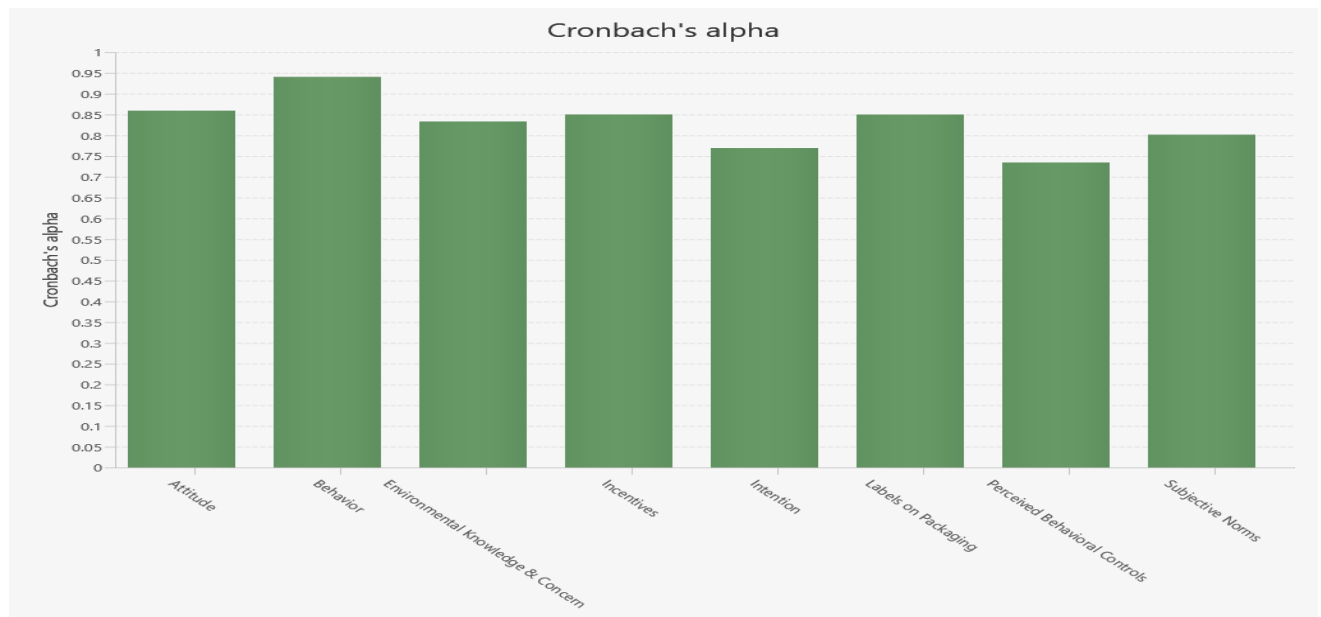
Table 4.6 – Reliability & Validity Analysis

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Attitude	0.859	0.989	0.908	0.768
Behavior	0.941	0.967	0.971	0.944
Environmental Knowledge & Concern	0.833	0.882	0.922	0.855
Incentives	0.850	0.833	0.843	0.735
Intention	0.769	0.822	0.867	0.686
Labels on Packaging	0.850	0.928	0.928	0.866
Perceived Behavioral Controls	0.735	0.768	0.846	0.647
Subjective Norms	0.802	0.805	0.910	0.834

Source: SMART PLS 4 OUTPUT

Cronbach's alpha was employed to assess reliability in order to measure internal consistency of the constructs and Table above indicates that the Cronbach alpha value for all variables is more than 0.7, indicating reliability in the study. Furthermore, it also demonstrates that all variables investigated possess AVE values greater than 0.5, alongside CR values exceeding 0.7. Consequently, it can be inferred that the study's Convergent Validity is confirmed.

Figure 4.11 – Cronbach Alpha ; Source : Smart Pls 4 Output



4.1.4 Discriminant Validity Analysis

To check whether the study meets the Discriminant Validity, Fornell - Larcker Criterion has been used. It is one of the most popular techniques to check Discriminant Validity of the model.

Table 4.7 – Discriminant Validity Analysis ; Source : Smart PLS 4 Output

	Attitude	Behavior	Environmental Knowledge & Concern	Incentives	Intention	Labels on Packaging	Perceived Behavioral Controls	Subjective Norms
Attitude	0.876							
Behavior	0.195	0.971						
Environmental Knowledge & Concern	0.113	0.115	0.925					
Incentives	0.099	-0.080	0.024	0.857				
Intention	0.196	0.357	0.049	-0.021	0.828			
Labels on Packaging	0.243	0.128	0.062	0.056	0.312	0.931		
Perceived Behavioral Controls	0.402	0.304	0.266	0.242	0.409	0.262	0.804	
Subjective Norms	0.135	0.227	-0.006	0.029	0.394	0.244	0.367	0.913

Based on this observation, the squared correlations of each variable were found to be lower than the AVE values associated with the respective variable. It suggests that the constructs are distinct from each other and have good discriminant validity.

Consequently, it can be inferred that all variables meet the criteria for discriminant validity, thus confirming the establishment of discriminant validity in the study.

4.1.5 Hypothesis Testing

In Smart PLS 4, by performing bootstrapping analysis, p values were found where the level of significance was set at 0.05 or 5%.

Table 4.8 – Bootstrapping Results ; Source : Smart PLS 4 Output

	Sample mean (M)	Standard deviation (STDEV)	P values
A -> IN	0.043	0.111	0.712
E -> A	0.111	0.128	0.035
I -> A	0.052	0.119	0.485
IN -> B	0.366	0.130	0.006
L -> A	0.247	0.095	0.014
P -> IN	0.299	0.118	0.014
SN -> IN	0.276	0.119	0.018

If the p value is less than 0.05, the hypothesis is accepted else rejected. Here the two hypotheses (A -> IN) and (I -> A) will be rejected as the p value is more than 0.05. Here the rest five Hypothesis have been accepted .

Note :A – Attitudes

E – Environmental Knowledge & Concern

I – Incentives

P - Perceived Behavioral Controls

SN – Subjective Norms

IN – Intention

B - Behavior

4.2 Findings

Hypothesis Testing

Table 4.9 – Hypothesis Testing ; Source : Own Analysis

Hypothesis	Statements	Decision
H₁	Labels on packaging significantly influence the attitude towards responsible disposal of FMCG products packaging.	Accepted
H₂	Incentives significantly influence the attitude towards responsible disposal of FMCG products packaging.	Rejected
H₃	Environmental Knowledge and Concern significantly influence the attitude towards responsible disposal of FMCG products packaging.	Accepted
H₄	A positive attitude towards responsible disposal practices has a positive effect on the intention to engage in responsible disposal.	Rejected
H₅	Subjective norms significantly influence the intention to engage in responsible disposal.	Accepted
H₆	Perceived behavioral control has a positive and direct effect on the intention to engage in responsible disposal.	Accepted
H₇	Intention to engage in responsible disposal has a positive and direct effect on responsible disposal behavior.	Accepted

The Hypothesis that Incentives significantly influence the attitude towards responsible disposal of FMCG products packaging is Rejected. It could be due to multiple reasons like Low perceived value, motivation for short term behavior, ineffective incentives and other reasons.

Contrary to the well-established relationship proposed in Hypothesis 4 based on the Theory of Planned Behavior, results indicate that attitudes toward responsible disposal behavior may not necessarily translate into intentions to engage in such behavior. This divergence could potentially be influenced by external factors.

This finding also finds evidence in existing literature where this relationship has been refuted.

Arli Et Al. (2019) also found in their study consisting of 800+ participants that attitudes did not influence the intention to recycle. Dr. Md. Tamzidul Islam (2021) in his research paper titled “The Role of Theory of Planned Behavior (TPB) Explaining Recycling Behavior: An Emerging Market Perspective” observed that at 95% confidence level that Attitudes do not lead to intention and hence violates the proven relationship in literature.

Many authors have also questioned the sufficiency of the TPB variables. Ajzen(1991) found in his analysis that when additional variables are combined with the TPB model it provides better results.

This study is dominated by respondents in the age group of 18-25 who are mostly students. Respondents are highly educated and the results can be relied upon. Majority of them have Master’s Degree as their Highest Level of Education.

Currently, a significant portion of individuals are disposing of empty FMCG packaging waste in general bins only, which is quite alarming.

In the 21st century, Consumers do rely on social media for informational purposes but the analysis also shows a remarkable finding that consumers do pay attention to the Labels on packaging for responsible disposal guidance.

The analysis also revealed that consumers face various hurdles in managing FMCG packaging waste, including limited access to recycling facilities, insufficient awareness of disposal methods, limited convenient options, and time-consuming and costly processes.

4.3 Recommendations

1. There is lack of awareness among Indian consumers on the responsible disposal of FMCG products packaging hence there is a need on part of companies as well as governments to increase awareness among consumers. It can be done through advertisements, billboards, Social Media Campaigns, partnerships, refining policies for companies to mention disposal details.

2. It is imperative to build adequate infrastructure in place in order to promote responsible disposal behavior. If there is a facility setup nearby consumers home the responsible disposal rate would be high as compared to areas where facilities are far away which brings lack of awareness and visibility.

3. Exploring innovative solutions that not only promote responsible waste management but also offer cost-effective and time-saving benefits is highly recommended. It can be done by leveraging advanced technologies and incentivizing those who come up with such innovative solutions.

4. Make the solutions affordable and easily accessible to increase the responsible disposal behavior among Indian consumers. It can be done by implementing community based waste collection centres or mobile collection units that are strategically located to serve residential areas, businesses, and public spaces.

5. Incorporating basic material on what is responsible disposal and what are the consequences of not engaging in it at school level education might have a significant impact on the Indian youth.

6. Companies can collaborate and partner with NGOs operating at local levels and recycle the waste generated through company packaging and hence reducing the waste.

7. For future research purposes, a larger sample size can be taken including more external factors to properly assess the relationship among the variables.

4.4 Limitations to the Study

There are a few limitations to this study that may impact the generalizability and robustness of the findings of the research.

1.Low sampling size: Due to resource limitations, the sample size was restricted, which may have influenced the statistical power and precision of the analyses. A larger sample size could have provided a more representative and diverse dataset, enhancing the reliability and validity of the results.

2.In this study, Convenience Sampling has been used instead of Random Sampling due to availability and accessibility constraints considerations. It should be noted that random sampling yields better results with broader applicability.

3.There could be another external factors influencing the variable, namely,attitudes, perceived behavioral control, subjective norms and intention apart from the already considered three variables, Environmental Knowledge and Concern, Labels on Packaging, and Incentives.

4.Cross Sectional Data might also be considered as one of the limitations as the behavior of the respondents might change overtime and Longitudinal data could reveal further interesting insights in the future.

5. While conducting this study, majority of respondents fall under the Age group of 18-25 and hence the overall dataset might not provide a fair view of Indian consumers.

CHAPTER- 5

CONCLUSION

Climate Change has become a cause of concern where unprecedented weather changes are taking place. FMCG contributes a huge proportion of Packaging waste which further leads to various problems and hazards for the environment, namely, Pollution, Depletion of natural resources, increasing risks to ecosystem, wildlife and Human beings etc. It is imperative to take action at individual level as well as actions by companies manufacturing the FMCG products.

This study aimed to test the current awareness level of the Indian Consumer as well as the challenges they face. It also used Theory of Planned Behavior to make the conceptual model and identify and test the relationships among the variables. In the study three additional variables identified from the existing literature influencing attitude were also tested. The Theory of Planned Behavior (TPB) has demonstrated significant utility in identifying factors that may promote recycling behavior. However, including additional variables would enhance the predictive capability of recycling behavior intentions.

After the analysis it can be concluded although the consumer is aware but they do face several challenges which ultimately hinders adoption of responsible disposal behavior. It was found that Labels on Packaging, Environmental Knowledge & Concern significantly influence the Attitudes of the consumer whereas Incentives do not have a significant influence. A well-established relationship that is Attitudes lead to Intentions has also been refuted in this study.

Subjective norms and Perceived Behavioral Control have a positive effect on Intentions and Intentions to recycle has a positive effect and influence on the Behavior of Individuals.

This study has contributed in the Indian context and addressed the research gap. It also has made contribution in the literature where proven relationship based on TPB has been found to be insignificant. It serves as a basis for further research by adding more

Individuals, communities and companies should come together and take proactive steps towards responsible disposal practices. This includes separating recyclable materials from non-recyclables, utilizing designated recycling bins or facilities, reducing packaging waste by opting for eco-friendly products or reusable alternatives, and raising awareness about proper waste management through educational campaigns and initiatives. Furthermore, supporting and advocating for policies that promote extended producer responsibility, incentivize recycling, and encourage sustainable packaging practices can also contribute to mitigating the impact of FMCG waste on the environment.

In today's era, working towards a more sustainable and healthier future has become the need of the hour.

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ANNEXURE
QUESTIONNAIRE

Section 1: Demographics

1. Age:

- 18-25
- 26-35
- 36-45
- 46-55
- 56 and above

2. Gender:

- Male
- Female
- Other

3. Education Level:

- High School or Below
- Bachelor's Degree
- Master's Degree
- Doctorate

4. Occupation:

- Student
- Employed
- Unemployed
- entrepreneur
- Homemaker
- Retired

5. Monthly Income Bracket:

- Below ₹20,000
- ₹20,000 - ₹50,000
- ₹50,000 - ₹1,00,000
- Above ₹1,00,000

Section 2 : Current Awareness Level on Responsible Disposal

1. Where do you usually dispose of empty FMCG packaging?
 - Recycling Bin
 - General Waste Bin
 - Reuse and Recycle
 - Special Collection Points
 - Collect it and send it to NGOs
 - Others (Please specify)

2. In your opinion, what are the environmental concerns associated with improper disposal of FMCG packaging? (Tick all that apply)
 - Pollution
 - Clogged drains and flooding
 - Harm to wildlife
 - Soil contamination
 - Others (Please specify): _____

3. What sources do you rely on for information about responsible disposal practices? (Select all that apply)
 - Television
 - Social media
 - News
 - Company websites
 - Packaging Labels
 - Government Campaigns
 - Friends/Family/Peers
 - Other (please specify)

4. What challenges do you face in responsibly disposing of FMCG product packaging? (Select all that apply)
 - Lack of recycling facilities
 - Responsible disposal is costly on my pocket
 - The process is time consuming
 - Confusion about recyclable vs. non-recyclable materials
 - Limited awareness about proper disposal methods
 - Lack of convenient disposal options
 - Insufficient information from FMCG companies
 - Other (please specify)

SECTION 3

Incentives (1 = strongly disagree ; 5 = strongly agree)

1. I will participate in recycling programs or return schemes for FMCG products packaging if offered economic incentives like cashbacks, discounts, coupons.
2. I engage in responsible disposal of Packaging only if some incentive is attached to it.

Environmental Knowledge and Concern

1. I know what packages can be recycled
2. Segregation of packaging waste at individual level holds potential to reduce environmental pollution

Labels on Packaging (1 = strongly disagree; 5 = strongly agree)

1. I find labeling on FMCG products packaging regarding disposal instructions helpful.
2. Visual aids or graphics on FMCG packaging labels showing proper disposal methods make me more likely to dispose of them responsibly.

Attitude

I believe responsible disposal of Packaging is :

1. 1=Waste of time 5. Useful
2. 1=Deceptive 5. Rewarding
3. 1=Not Sensible 5.Sensible

Subjective Norms (SN)

Most people who are important to me think I should engage in responsible disposal of empty packaging

1= strongly disagree 5= strongly agree

Most people would approve of me engaging in responsible disposal behavior.

1= strongly disagree 5= strongly agree

Perceived behavioural control

1. The decision to engage in responsible disposal of packaging is completely my own decision.
2. I am confident that I can engage in responsible disposal.
3. It would be difficult for me to engage in responsible disposal due to lack of proper infrastructure in place.

Intention (I)

1. I plan on participating in workshops and community initiatives towards responsible disposal of FMCG packaging.
2. I am willing to put in extra effort to dispose of FMCG packaging responsibly.
3. I will try to dispose of packaging in a responsible manner in the forthcoming month.

Behaviour

1. I engage in responsible disposal of FMCG packaging post use.
2. I will travel a short distance to access recycling facilities for disposing of packaging post use

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