

**A STUDY ON THE ECONOMIC FEASIBILITY OF THE
GROCERY SHOPKEEPERS IN SWITCHING TO
SUSTAINABLE SHOPS**

PROJECT SUBMITTED

TO

ST. TERESA'S COLLEGE (Autonomous), ERNAKULAM

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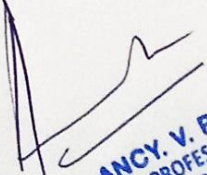
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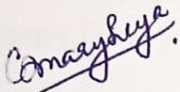
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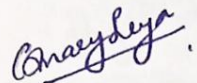
CERTIFICATE

This is to certify that the project titled "A STUDY ON THE ECONOMIC FEASIBILITY OF THE GROCERY SHOPKEEPERS IN SWITCHING TO SUSTAINABLE SHOPS" submitted in partial fulfilment of the requirement for B.A. Degree in Economics to St. Teresa's College (Autonomous), Ernakulam (Affiliated to Mahatma Gandhi University, Kottayam) is a bona fide record of the work done by the project group under my supervision and guidance.



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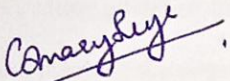


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DECLARATION

We hereby declare that the project titled "A STUDY ON THE ECONOMIC FEASIBILITY OF THE GROCERY SHOPKEEPERS IN SWITCHING TO SUSTAINABLE SHOPS" submitted by us for the B.A. Degree in Economics is our original work.

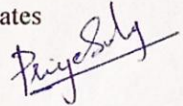


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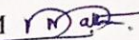
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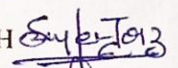
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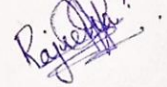
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CHAPTER 1
INTRODUCTION

INTRODUCTION

Sustainable Development has risen to become an inevitable debate today, and the future is being shaped by switching our lifestyle to a more sustainable one. This transition is being reflected in all sectors of the economy.

Belgian chemist Leo Baekeland pioneered the first fully synthetic plastic in 1907. This innovation changed the dynamics of the world as plastic affected every sector possible. The invention which gained appreciation for being incredibly useful, cheap, flexible exposed its darker sides in years. The combination of various chemical compounds in plastics make it difficult to dispose of, taking thousands of years to degrade in landfills. ^[1]

The degradation problem posed by plastics is a major environmental issue and the breaking down of plastics into microscopic particles pollutes air, ocean, and ecosystems.

Polyethylene shopping bags, polystyrene food containers, PET (polyethylene terephthalate, a form of polyester) ^[2] drinks bottle are the most widely used plastic evils.

Plastics began to be used as a best replacement tool for many products like steel, glass, wood, pottery etc., for its economic feasibility and flexibility. But this ease in choice eventually resulted in serious environmental problems and the cumulative effect of which has affected global climate change.

At every stage of plastic's life cycle, there are hazardous climatic impacts:

- Plastics are produced from fossil fuels, and these extraction processes emit huge amounts of greenhouse gases.
- Plastic production at the factories releases harmful gases in addition to the harmful chemicals added to obtain the final plastic product as output.
- From the point of sale to consumers, then to waste industries and finally to dumping and burning, results in a chaotic climatic setup.

Plastics have a significant carbon footprint, contributing 3.4% of global greenhouse gas (GHG) emissions throughout their lifecycle. ^[3] The United Nations dedicated SDG 13 "Climate Action" to take urgent action to combat climate change and its impacts. ^[4]

Today, cheap plastic products have led to a single-use culture. As per the Central Pollution Control Board, during the year 2020-21 plastic waste generation in the country was approximately 41,26,997 tonnes. The overexploitation of resources and increasing demand

for plastics has led to the generation of waste which exceeds the capacity to assimilate them by natural cycles, causing pollution. The mounting risk of plastics is a concern, and the Government of India enforced a ban on the manufacture, sale, and use of identified single-use plastic items like plates, cups, straws, trays, and polystyrene from July 1, 2022. ^[5]

This research paper focuses on the shopkeepers' angle. The shopkeepers are the direct and primary link between the manufacturers/companies and the consumers. They are left with the discretion of what to provide to the consumers, how to provide that and from whom to purchase the finished goods. They act as intermediaries, connecting consumers and industries. Sustainability can be inculcated in this process, as and when the shopkeepers decide to forgo plastic and related non-biodegradable materials being used in their shops which eventually is fed to the consumers, they are being a part of the anti-plastic campaign and with that they become the ambassadors of sustainable development. We study the economic feasibility of the grocery shopkeepers in setting up sustainable shops which are partially or completely plastic-free. The target group of this research is grocery shopkeepers as groceries are necessities and daily essentials. This project is aimed at understanding the economic feasibility of the shopkeepers in switching to a fully sustainable shop by ditching the conventional plastic-based shops. This study is relevant as it will open doors of thoughts to new and existing entrepreneurs and vendors to switch to sustainability and find alternatives to plastic as they will be assured to do good for the planet without distressing their profits. This paper also studies the attitudes of the shopkeepers towards sustainability and their willingness to take up this responsibility.

1.1 REVIEW OF LITERATURE

Do single use plastic bans work (Parriaux, 2022): The article highlights the increased consumption of plastic products such as straws and bags along with the increased usage of plastic packaging. Some countries like Germany, Austria, South Korea, and Wales have the ability to recycle most of their plastic products. France banned the usage of plastics in the food industry. They introduced cardboard as an alternative to plastics. But cardboards proved to be less efficient than plastics as the food packaged in cardboards often went stale. This increased food waste leading to an increased investment in transport of the same. Therefore, this example clearly points out the fact that how powerful and affluent plastic is today and there is nothing found as reliable as it is to initiate a replacement. This reality puts the producers in a state of no choice. Nevertheless, this side of the situation, plastics are a big threat to the climate and environment, so the need to come up with an alternative is not simply a 'choice' today but a 'no choice.' India too faces the problem of plastic waste. To address this issue, a few individuals came up with an alternative to plastics by bringing in the traditional method of using banana leaves as cups & plates. The leaves are treated and used as plastic replacements. Glass is also used as an alternative and is more eco-friendly if reused. Plastic has become one among the most cheap and easy to access material and it plays a major role in transporting food, this plastic culture must be put a halt to. ^[6]

Sustainable Grocery Stores, 7 Priorities for Greener Grocers(Solutions, 2021): The article has highlighted 7 priorities of a sustainable grocery store among which, the priority that benefits this research is Priority 4: Pare down packaging, which emphasizes on products with minimal or no packaging which has tremendous impact on the amount of waste that ends up in landfills. Zero waste has become a key focus for most of the grocery stores globally. In the article we also see the importance given to the 3 r's reduce, reuse, and recycle. A fully sustainable grocery store, renouncing plastic is a possible reality which can boost the economy as environment is automatically rescued out of the vicious cycle of plastic pollution. ^[7]

Packaging-free products - A lever of proximity and loyalty between consumers and grocery stores: The article reflects how countries and individuals all over the world have chosen to become responsible citizens. Consumers across the world consider buying and consuming packaging-free products important. By opting for the purchase of package free products, it proves that they are sensitive to the environment, and they buy fair trade, organic,

and local products in larger quantities than the average consumer does leading to the growth of farmers. The article reflects packaging-free products as a tool for a grocery store to establish relationship with its consumers, giving importance to customer loyalty. Therefore, the article reflects a positive view on package- free shops.^[8]

How sustainability is changing the world of grocery stores: The article focuses on the importance of reducing, reusing, and recycling plastic waste and the impact of the increased usage of plastic waste globally. The article also refers to the importance of banning single use plastic bags. The article emphasizes on the huge problem that grocery stores face with food waste (according to some estimates, they account for 10% of the country's total food waste), the retail food sector also generates a lot of packaging waste.^[9]

1.2 RESEARCH PROBLEM

Plastic has become one among the most widely used non-biodegradable material used for packaging and storing, which in the long run has turned out to be hazardous to the ecosystem. As plastic is an affordable and reliable material, it is used on a daily basis and thus we can see the mass production of the same. As it is cheap, we see an enormous use of the same by conventional shopkeepers. Plastic has become one among the major causes of global climate change.

Shopkeepers who have switched to sustainable ways partially or completely have opted for more environment friendly products in their shops.

This project studies the reasons that drives the grocery shopkeepers to adopt conventional or sustainable shops along with analysing the economic feasibility of the shopkeepers in setting up sustainable grocery shops.

Through this project we highlight the importance of switching to sustainable ways of living. This study is not merely for showing the statistics, but we also aim to encourage conventional shopkeepers and upcoming entrepreneurs to switch to more sustainable shops. The project also deals with the socio-economic and political factors involved in sustainable development.

1.3 OBJECTIVES

1. Analysing economic feasibility of the grocery shopkeepers in shifting from conventional shops to sustainable shops.
2. Cost involved in setting up sustainable shops.
3. Studying shopkeeper preferences and behaviour towards switching to sustainability.
4. Understanding grocery Shopkeepers' awareness on sustainability.

1.4 THEORETICAL FRAMEWORK

The Economic theory on consumer behaviour says that a consumer's purchasing power depends on their preferences and budget constraints. Consumer preferences and tastes are formed due to several reasons which eventually leads to the demand in the market.

The producer theory states that a producer supplies what is demanded and aims to maximise their profits by minimising costs involved in production.

This research shows a blend of the above two theories by inferring a hybrid assumption out of it.

As the study is based on the shopkeepers in the grocery market, they are the intermediaries between manufacturers and consumers. Consumers purchase from the shopkeepers and not directly from the manufacturers which gives the shopkeepers the power to influence both the manufacturers and the consumers in the market scenario.

If the shopkeepers become trend setters, promote sustainability by renouncing plastic in their shops, they can slowly influence consumer behaviour. In this case the result can also be traced to the effect of the nudge theory in behavioural economics. Similarly, if the consumer behaviour is gradually altered in such a way that the consumption of plastics is reduced considerably and no longer demanded, then the manufacturers/companies will start producing the commodities demanded by the public. This will reduce plastic production in the market and plastic pollution in the society. The above-mentioned scenario is the desired market and social condition which can be achieved only by breaking the current ongoing loop where the exact opposite scenario exists. In the present situation, the shopkeepers prefer the convenience and affordability of plastics ignoring its harmful effects. This in turn has shaped the consumer habit of choosing plastics. As plastics are demanded more, the manufacturers too increase their supply of the same to earn profit. This cycle needs to be reversed to create an eco-friendly market and economy.

1.5 METHODOLOGY

Area of study

The study was conducted among the grocery shopkeepers of Ernakulam district in Kerala.

Sample size

A total of 32 samples were evaluated for the study.

Focus area

The study was focused on analysing economic feasibility of grocery shopkeepers in shifting from conventional shops to sustainable shops and studying environmental, political, and socio-economic aspects.

Source of data

The study was carried out by collecting primary data and secondary data. A case study is incorporated in the research for practical assessment. The primary data was collected using surveys and questionnaire. Secondary data was accumulated from online articles, journals, news, and books.

Period of data

The data collected during the year 2022-2023.

1.6 STATISTICAL TOOLS

- Bar Diagrams
- Pie Charts
- Histograms

1.7 SCHEME OF STUDY

Chapter 1: INTRODUCTION: A STUDY ON THE ECONOMIC FEASIBILITY OF THE GROCERY SHOPKEEPERS IN SWITCHING TO SUSTAINABLE SHOPS: The chapter includes the introduction, review of literature, research problem, objectives, theoretical framework, methodology, statistical tools, and limitations.

Chapter 2: A STUDY ON THE ECONOMIC FEASIBILITY OF THE GROCERY SHOPKEEPERS IN SWITCHING TO SUSTAINABLE SHOPS: The chapter is a detailed overview on the economic feasibility of the grocery shopkeepers in switching to sustainable shops.

Chapter 3: A COMPARATIVE ANALYSIS AND INTERPRETATION OF DATA ON PARTIALLY SUSTAINABLE GROCERY STORE: The chapter includes the analysis and interpretation of the survey conducted with partially sustainable grocery shopkeepers.

Chapter 4: FINDINGS, RECOMMENDATIONS AND CONCLUSION: The chapter includes the major findings, suggestions, recommendations and conclusion of the research.

1.8 LIMITATIONS

- The respondents failed to answer every question in the questionnaire.
- The number of fully sustainable shops in the city is limited and therefore samples for the survey were not adequate.

CHAPTER 2
AN OVERVIEW ON THE TYPES OF
GROCERY SHOPS

2.1 INTRODUCTION

This chapter aims to provide an overview on the concept of sustainable development where the focus is on the fully sustainable, partial sustainable and conventional neighbourhood grocery stores.

2.2 SWITCHING TO SUSTAINABILITY

The United Nations Brundtland Commission defined sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.”^[10] In 2015, the United Nations adopted “the 2030 agenda for sustainable development” where the focus was on the three pillars of sustainable development — economic, social, and environmental. ^[11] The 17 Sustainable Development Goals (SDGs) are an urgent call to action for all nations, developed and developing in a global partnership.

Sustainability is of utmost importance in the present world especially when the population is rocketing, and the resources are limited. The projected world population on Jan. 1, 2023, is 7,942,645,086, an increase of 73,772,634, or 0.94%, from New Year’s Day 2022. ^[12] If current trends continue, human demands on the Earth's ecosystem would be around 75% greater than nature's capacity to regenerate, and by 2030, they will be 100% greater (i.e., two Earth planets would be required to accommodate human demands). Currently, human consumption of resources is 50% greater than the pace at which they can be replenished by nature. Fossil fuels and minerals are among the limited, non-renewable resources that are under increasing stress from the strains of population expansion, climate change, and environmental degradation. ^[13] The problem of waste generation is also a huge matter of concern since waste exceeds the assimilative capacity of the environment resulting in pollution. Human beings discard an enormous 2.12 billion tonnes of garbage annually. If all this trash were placed on trucks, they would circle the globe 24 times. We throw away 99 percent of the things we buy within six months, which contributes to this astounding quantity of waste. Human beings have been glued to this endless loop where the only escape is to switch to sustainability. ^[14]

The project “A study on the Economic Feasibility of the grocery shopkeepers in switching to sustainable shops” focuses on the narrative of the grocery shopkeepers in understanding their approach towards sustainability. The project classifies grocery stores into three – Fully sustainable stores, Partial sustainable stores, and conventional stores.

2.3 FULLY SUSTAINABLE GROCERY STORE

In this project, a fully sustainable grocery shop is one that employs only green items for packaging, storage, and delivery while using little to no plastic materials.

The research includes a case study of the 7 to 9 Green Store, an entirely sustainable grocery store in the Ernakulam district. The study also focuses on the probability of other grocery stores to switch to sustainable grocery stores.

2.4 PARTIAL SUSTAINABLE GROCERY STORE

In this project, a grocery store that employs both plastic and eco-friendly products for packaging, storage, and delivery is referred to as a partial sustainable grocery store. Green items are those that are recyclable and reusable for the environment. The majority of Kerala's grocery stores have converted to partially sustainable grocery stores after India's prohibition on single-use plastics, such as carry bags, took effect on July 1, 2022. These retailers promote the use of paper bags, cloth bags, and customer-provided bags, all of which reduce the amount of plastic garbage produced.

2.5 CONVENTIONAL GROCERY STORE

In this project, a grocery store that uses plastic for packaging, storage, and delivery is referred to as a conventional grocery store. Such stores account for a higher rate of plastic waste generation. The number of conventional stores has drastically decreased in India since the prohibition on plastic. The goal is to completely transition to sustainable grocery stores; thus, the conventional stores have been renovated to some extent.

In the project “A study on the Economic Feasibility of the grocery shopkeepers in switching to sustainable shops,” we have conducted a case study on an entirely sustainable grocery store in the Ernakulam district of Kerala “7 to 9 Green Store”, setting an example for the partially sustainable shops to replicate the model. A survey on 30 partially sustainable stores addressed the common hindrances these shops face in their road map to a fully sustainable grocery store.

The project analysis the economic feasibility for the shopkeepers in setting up a fully sustainable grocery store.

2.6 CONCLUSION

The project throws light on the importance of sustainable development and how grocery stores play a major role in the same. As the neighbourhood grocery stores refrain from the use of plastics, there has been a tremendous drop in the generation of waste in the shops and households. As the grocery shops demand less plastics for packaging, storage and delivery, the pattern will result in less plastic being produced in the producer market. Therefore, we can take a step towards sustainable development.

2.7 CASE STUDY

A personal interview with Bittu John, founder of '7 to 9 Green Store' was carried out at his Tripunithura store. An MTech-holder encourages his customers to refrain from the use of plastic packaging and carry bags and promotes the habit of carrying own containers for purchasing commodities from his store. This idea of a 'zero waste store' clicked during his visit to London.

The young owner of the fully sustainable grocery store already has 2 stores running successfully in the state and is rooting for many more in the future. He shared his opinion regarding shopkeepers switching to a fully sustainable grocery store to be more efficient in the long run than running a partial or conventional grocery store. According to him the initial investment to set up the store can be slightly high, but the long run phase has many benefits like

- Cost Efficient
- Convenient
- Reduces plastic waste generation.

In his shop he has revived the ancient grocery shop pattern of hoarding fresh grocery items and ditching high end brands with plastic packaging. The main priority of the consumers is to get quality products for lower prices. Keeping in mind this consumer behaviour he takes care of the quality of the products by self-producing the items like providing chilli powders, rice powders etc. the added benefit of this practice is that the store produces very less plastic waste, the production cost is less than the purchasing cost of the branded items and he is able to provide better quality commodities to the public.

Waste management is a problem for those who live in Cities and towns, so they prefer fully sustainable stores and that also becomes his marketing strategy and accentuate his USP. He also provides an option for the customers to bring their own bottles or buy bottles from the shop and reuse it with a full repayment if the customers return the bottle intact. All these measures taken as a shopkeeper has a strong impact on the environment.

The young entrepreneur focussed on the importance of education and inculcating the habit of caring for the environment by taking the very small steps possible from the perspective of a consumer and a shopkeeper.

Bittu is from a family that has been in the grocery business for 40 years, so he had a business backup in the grocery market, but that was not the only reason for his successful green store because a green store is a new concept and needed a lot of research, patience, and perseverance to excel in the field. Setting a zero-waste store and making it plastic free took almost six months.

The consumers took some time to familiarise them to the novel concept, but it was just a matter of taking the first step. His brand has made the new customers his repeated customers and the power of word of mouth really favoured him in his business. Every business takes its own time and pace to become an established one, but for any new business, it is important to focus on sustainability for becoming successful in the long run because getting rid of plastics is impossible, so the only solution is to use plastics wisely and efficiently and reduce the demand & production of new plastics.

CHAPTER 3

**ECONOMIC FEASIBILITY OF THE
GROCERY SHOPKEEPERS IN SWITCHING
TO SUSTAINABLE GROCERY STORE**

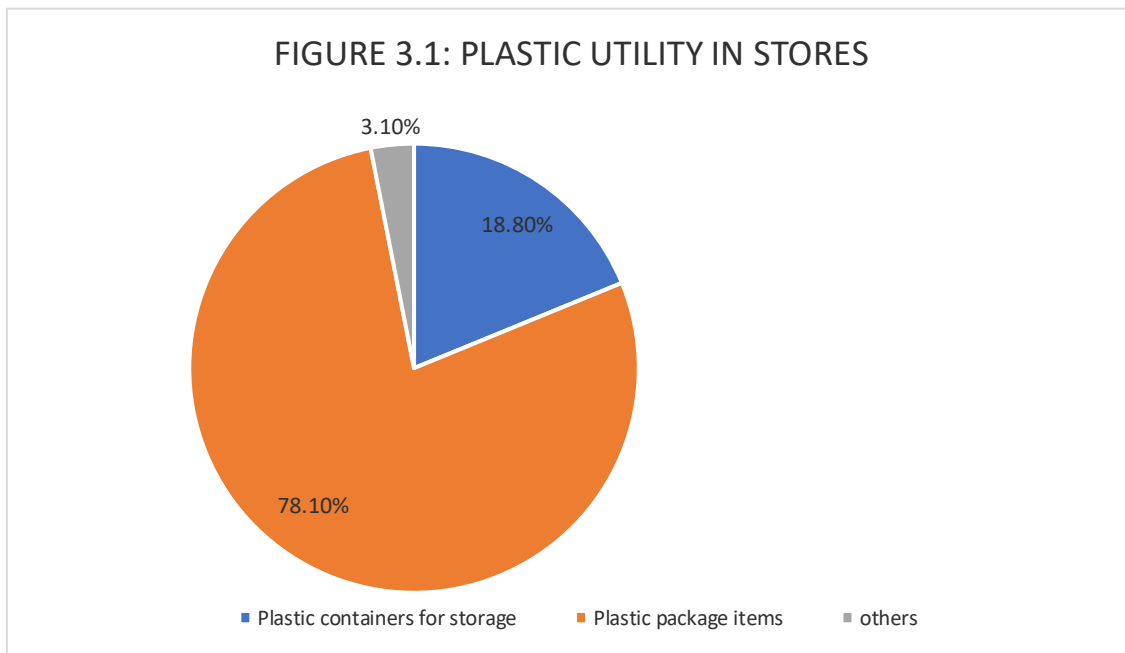
INTRODUCTION

This chapter is the analysis and interpretation of the primary data collected by means of questionnaire. Our samples are partially sustainable grocery stores, which were selected randomly from in and around the district of Ernakulam, Kerala. The total sample size being 32 units give us an idea about the preference of the respondents regarding conventional, partial, or fully sustainable grocery store.

The survey provides an insight on the shopkeeper preference and willingness to shift to a fully sustainable grocery store from their existing partially sustainable grocery store set up. This section also analyses the most acceptable form of grocery store. The respondents of the survey also reflect their attitude towards plastic packaged commodities and long run sustainability.

This section summarises the findings of the study and attempts to examine them in light of the theoretical framework. The survey's results are analysed and interpreted.

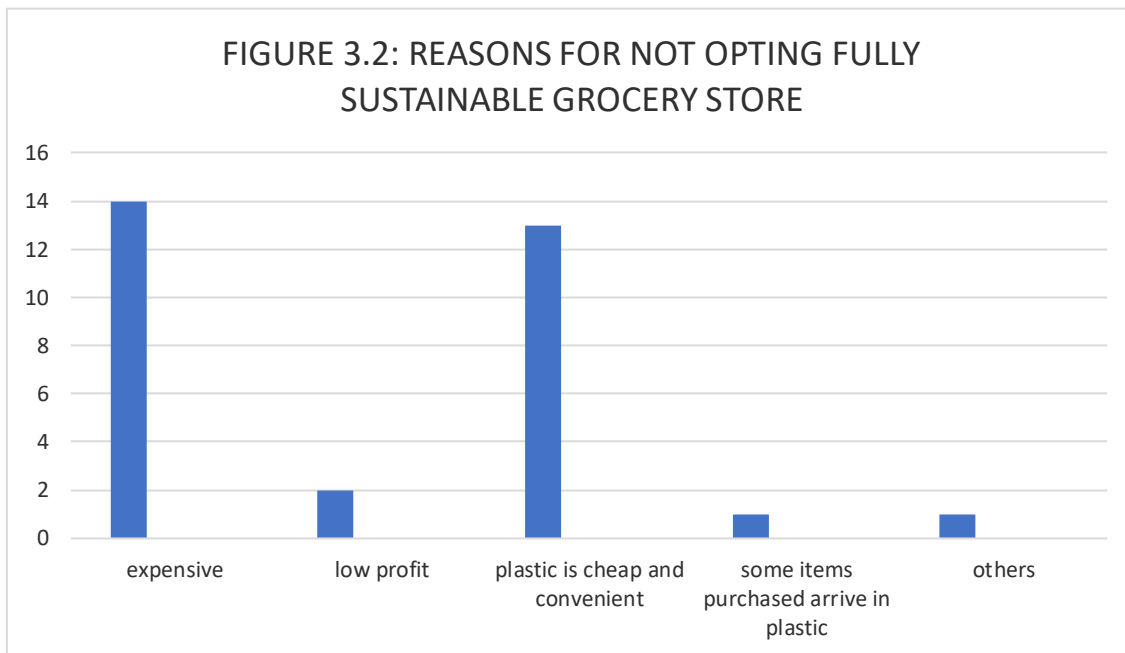
3.1 PLASTIC UTILITY IN THE STORE



Source: Primary data

In grocery stores plastics are used mostly in the form of plastic containers for storage and plastic packaged items. The above pie chart depicts that the majority of the partially sustainable grocery stores use plastic in the form of packaged items. According to the data, 78.1% of the respondents use plastic package items in their stores, 18.8% of respondents claim to use plastic as containers for storage, 3.1% respondents use plastic in other forms. The data indicates that reduction of plastics / plastic alternatives should be primarily introduced in plastic package items in order to shift to fully sustainable grocery store.

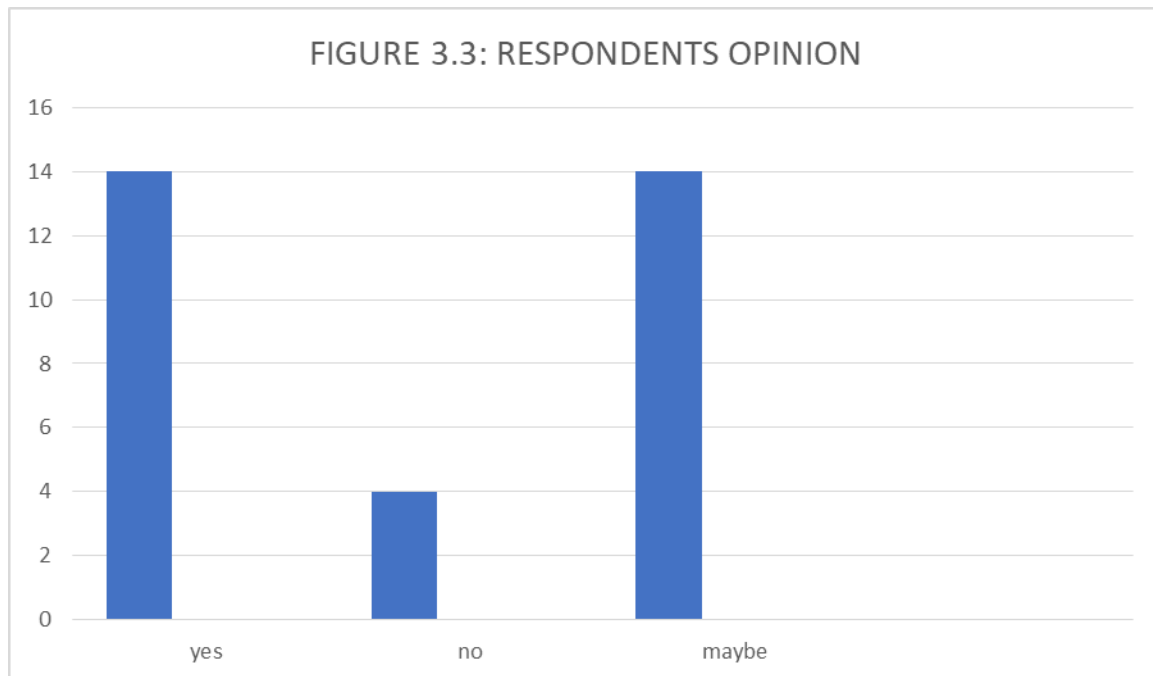
3.2 BARRIERS TO A FULLY SUSTAINABLE GROCERY STORE



Source: Primary data

It is evident from the data that the most common reason for not opting for a fully sustainable grocery store is the assumption of incurring higher expenses. As per the responses represented through the bar diagram 45.2% respondents assume that a fully sustainable grocery store is expensive, 41.9% rely on plastic as it is cheap and convenient, 6.5% respondents assume a fully sustainable grocery store to furnish lower profit, 3.2% respondents mention that the items purchased are delivered in plastic packaging and 3.2% respondents have also opted for “other” option. It can be interpreted that cost and profit are the prime focus of the shopkeepers. A fully sustainable grocery store is assumed to be expensive and yield low profit which makes the shopkeepers hesitant to switch to a fully sustainable grocery store.

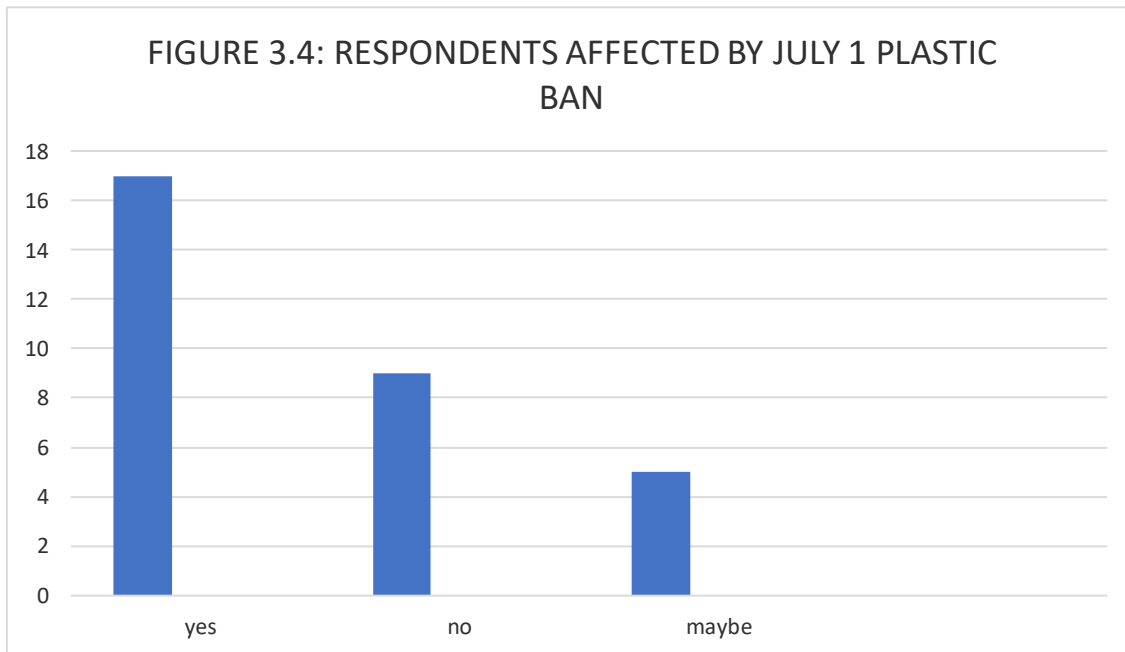
3.3 WILLIGNESS TO SWITCH FROM PARTIAL SUSTAINABLE TO FULLY SUSTAINABLE STORE



Source: Primary data

The attitude of the partial sustainable stores towards shifting to a fully sustainable store showcased mixed responses as 43.8% respondents selected YES and the same percentage of respondents selected MAYBE regarding the same, whereas 12.5% respondents selected NO in response. With the help of the bar diagram, it can be concluded that the majority of the respondents realise the importance of sustainability in the long run and are willing to switch to a fully sustainable store in the future.

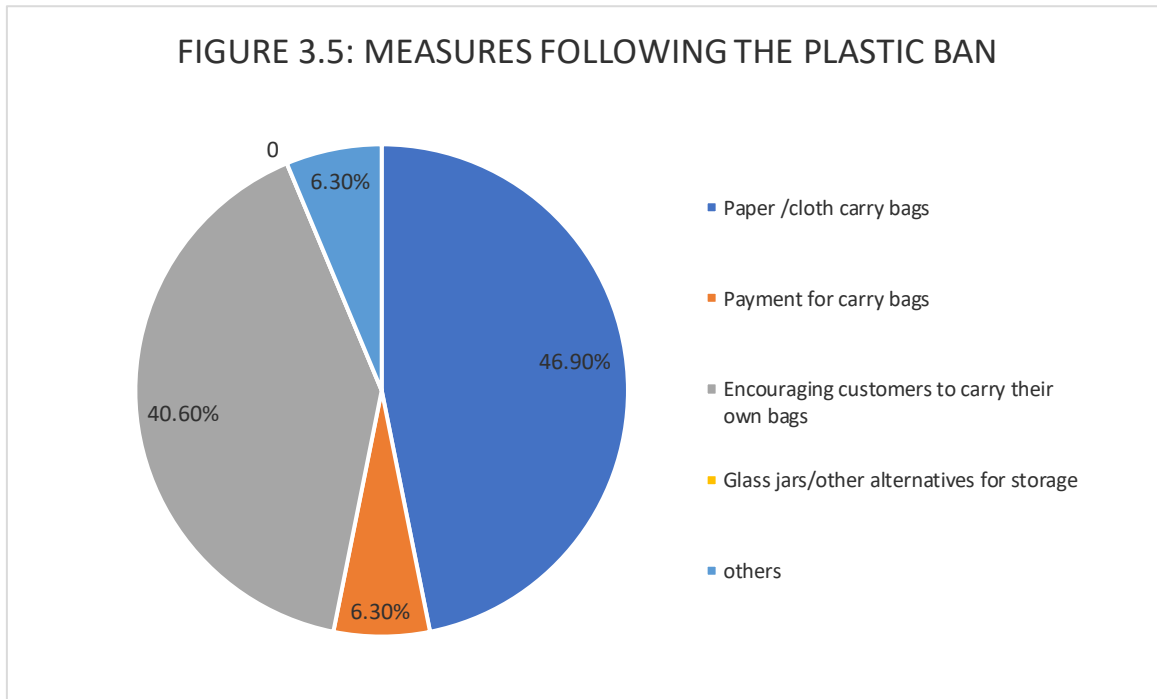
3.4 WAS THERE AN EFFECT OF PLASTIC BAN ON THE GROCERY STORES?



Source: Primary data

The bar diagram depicts whether the grocery stores were affected from the country wide plastic ban, majority of respondents agreed that they were affected by the plastic ban on July 1. As we can see in the data, 53.1% respondents have been affected by the plastic ban, 28.1% have not been affected, 15.6% respondents are sceptical of the effect of plastic ban. The most common change followed by the plastic ban was the promotion of plastic carry bag alternatives like paper bags and cloth bags.

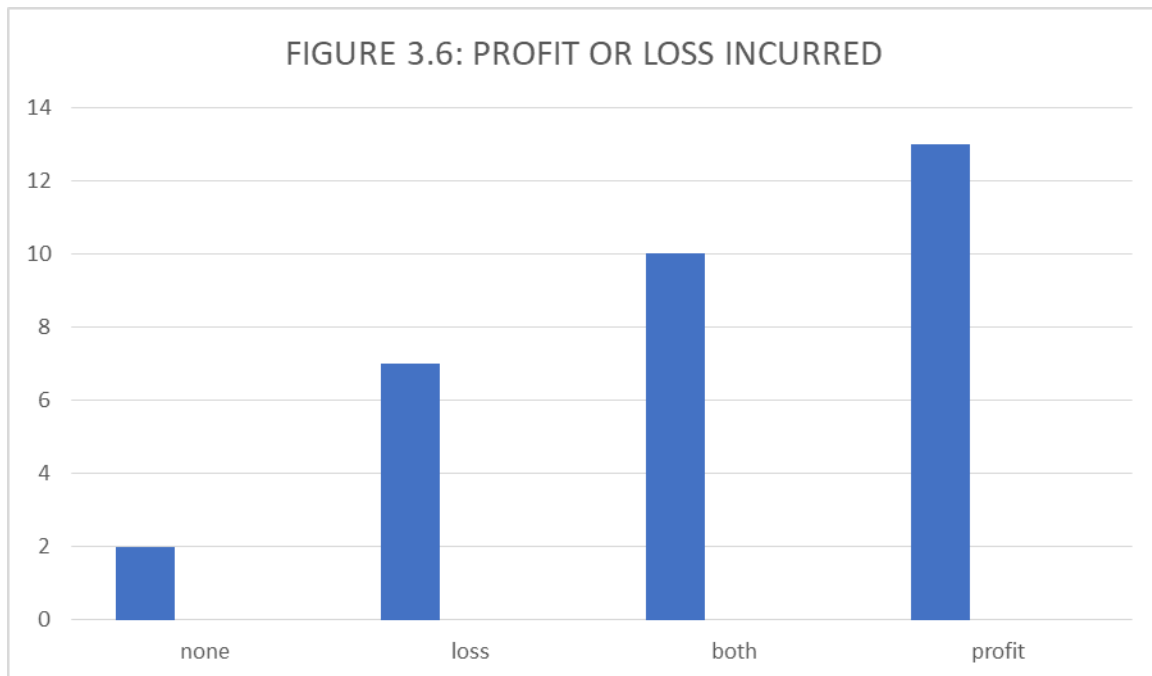
3.5 MEASURES FOLLOWING THE PLASTIC BAN



Source: Primary data

According to the pie chart, following the plastic ban 46.9% respondents shifted to paper/cloth carry bags, 40.6% respondents encouraged customers to carry their own bags, 6.3% respondents charged additional payment for carry bags and 6.3% respondents went forward with other options to replace plastic products. Environment friendly legislations can lead to greater impacts like reduction in single use plastic pollution, promotion of sustainable alternatives, fuelling good consumer habits and also generating additional income for the shopkeepers.

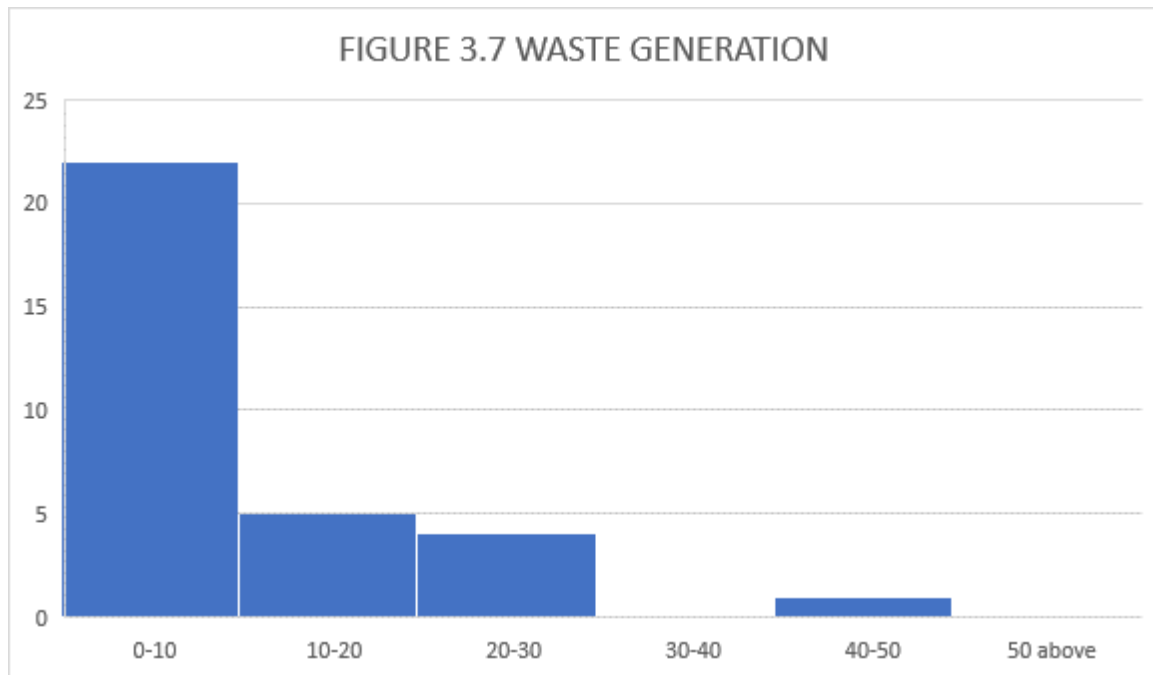
3.6 PROFIT OR LOSS INCURRED DUE TO SHIFT FROM CONVENTIONAL TO PARTIAL SUSTAINABLE STORE



Source: Primary data

The above bar graph depicts that 40.6% respondents profited from the shift to a partially sustainable grocery store, 21.9% respondents incurred a loss, and 31.3% respondents experienced both profit and loss at different times. It can be understood that for most of the shopkeepers the shift from conventional to partially sustainable grocery store has proven to be favourable at the same time profit and loss is subjective to different situations and individuals.

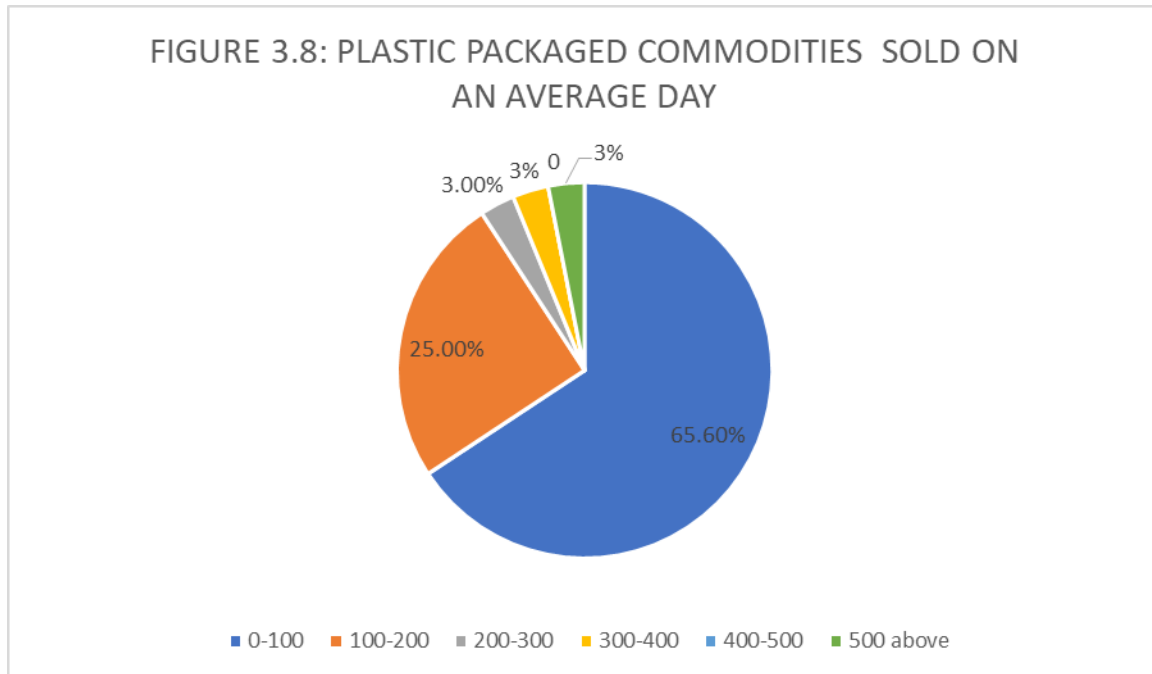
3.7 GENERATION OF PLASTIC WASTE IN THE STORE



Source: Primary data

The histogram shows that 68.8% respondents generate plastic waste between 0-10kg in a month, 15.6% respondents generate waste between 10-20kg, 12.5% respondents generate between 20-30 kg and 3.1% respondents generate between 40-50kg. It can be concluded from the data that majority of the respondents' plastic waste generation per month is between 0-10kg. This data is relevant to track plastic waste generation of a store in order to plan strategies to reduce plastic waste.

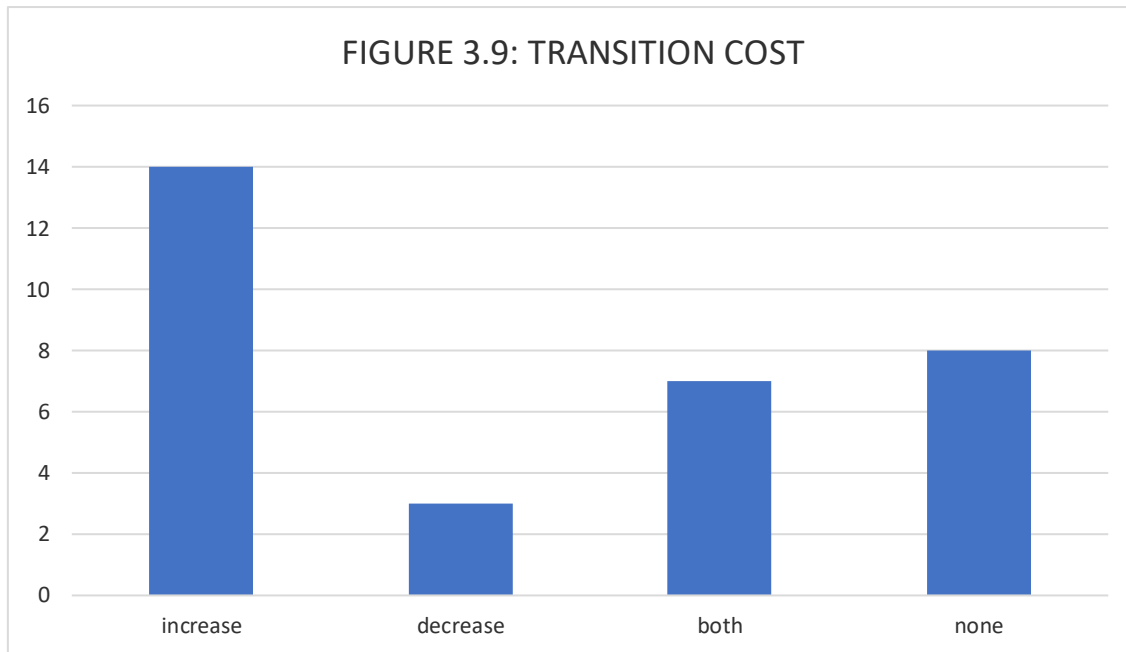
3.8 PLASTIC PACKAGED COMMODITIES SOLD ON AN AVERAGE DAY



Source: Primary data

According to the data presented in the pie chart, 65.6% shop owners claim to sell 0-100 plastic packaged commodities on an average day, 25% shop owners sell between 100-200 plastic packaged commodities, 3% shop owners sell between 200-300 plastic packaged commodities, 3% shop owners sell between 300-400 plastic packaged commodities and 3% shop owners sell above 500 plastic packaged commodities. This data provides a broad idea on the demand and supply of plastic packaged grocery commodities. With further information on the products, alternative packaging can be introduced by the stores in order to convert itself to a fully sustainable grocery store.

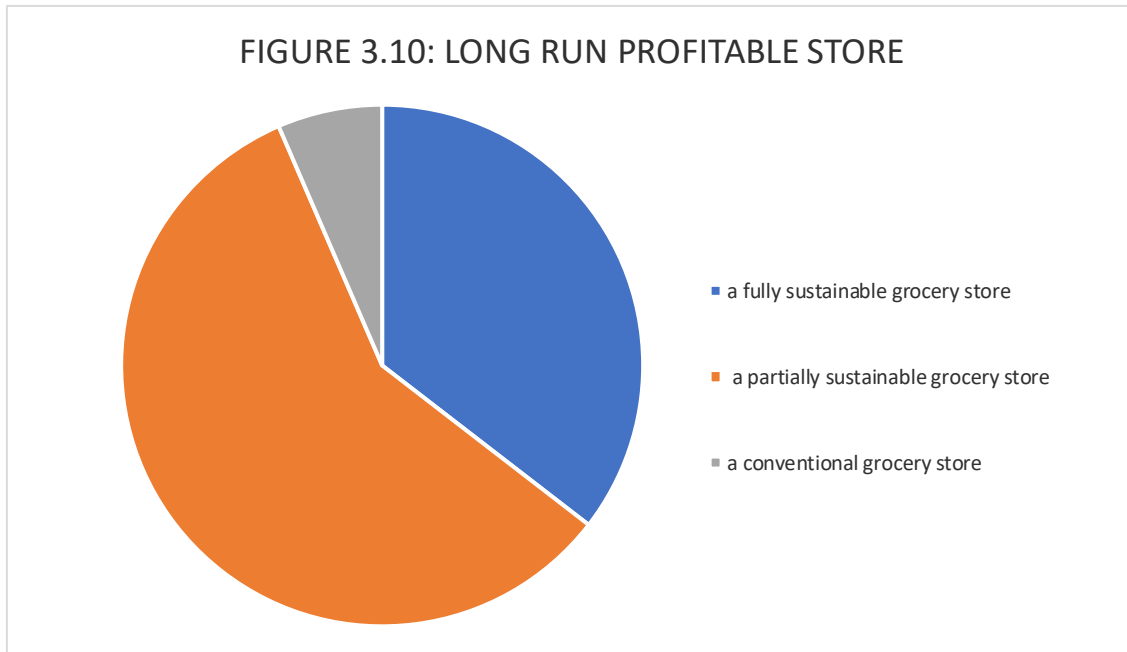
3.9 TRANSITION COST - CONVENTIONAL STORE TO PARTIAL SUSTAINABLE STORE



Source: Primary data

The transition cost for shifting to a partially sustainable shop from a conventional shop has been presented in the above bar graph. The transition cost increased for 43.8% respondents, decreased for 9.4%, 21.9% faced both an increase as well as a decrease in the transition cost and 25% faced no heavy transition cost. As per the data the respondents had to incur an increased transition cost in order to shift from a conventional to a partial sustainable grocery store. In a conventional store, cheap plastic material can be used for various purposes whereas in a partial sustainable store most plastic benefits must be foregone for greater good. In this process the transition cost can slightly go up.

3.10 PROFITABLE STORE IN THE LONG -RUN



Source: Primary data

According to the data presented in the pie chart, 58.1% respondents believe that in the long run a partially sustainable grocery is more profitable, 35.5% respondents believe that a fully sustainable grocery store is more profitable, and 6.5% respondents feel that a conventional grocery store will be profitable in the long run. From the sample survey it can be understood that more than half of the respondents find partial sustainable grocery store profitable in the long run which is a hybrid set up including plastic and non – plastic commodities. 35.5% respondents are convinced that a fully sustainable grocery store is profitable in the long run and the remaining uphold the traditional setup.

CHAPTER 4
FINDINGS, SUGGESTIONS
RECOMMENDATIONS, AND
CONCLUSION

This chapter points out the various findings obtained from the analysis and interpretation of data in the previous chapter and lists out the suggestions and conclusion.

4.1 FINDINGS

- Majority of the partially sustainable grocery stores use plastic package items more than plastic containers and other items.
- Most partially sustainable stores do not become fully sustainable stores due to high costs.
- If financially feasible, most of the partially sustainable stores ready to shift fully sustainable stores.
- The plastic ban on July 1 affected many partially sustainable stores.
- Following the plastic ban most of the partially sustainable stores shifted to paper or cloth carry bags.
- Majority of the respondents profited from the shift to a partially sustainable grocery store.
- Most of the partially sustainable stores generated plastic waste between 0 - 10 kg in a month.
- Shop owners claim to sell 0-100 plastic packaged commodities on an average day.
- The transition cost increase for shifting to a partially sustainable shop from a conventional shop.
- Most of the shop owners believe that in the long run a partially sustainable grocery is more profitable.

4.2 SUGGESTIONS

- Ask the store management to reduce plastic packaging or to provide more eco-friendly options. Support companies that are making an effort to reduce plastic usage.
- Promoting IS/ISO certified bio based and compostable plastic formulation bags which is an innovative solution to support zero waste and sustainability.
- Looking for products packaged in paper or glass instead of plastic.
- Supporting customers in bringing their own containers.
- Providing customers glass containers, cloth bags, paper bag etc.
- Avoid products with excessive packaging or packaging that is not recyclable.
- One way to suggest partially sustainable grocery store to switch to sustainable eco - friendly store and avoid plastic is to educate them on the environmental impact of plastic use and disposal. Sharing statistics and information on the harm plastic pollution cause to marine life and ecosystem as well as the potential health risk to human.
- Practice the mantra of 3 R's – Reduce, Reuse and Recycle.

4.3 RECOMMENDATIONS

After analysis and findings of the data collected were carried out, we came up with some recommendations for this area of study. The recommendations are purely based on the results from the study we conducted.

1. The usage of plastic in the form of containers for storage and packaging items should be reduced on the shopkeeper level and this will gradually lead to reduction in plastic goods production since the demand for it is controlled.
2. Government should initiate more legislation to control plastic production and should introduce and promote plastic alternatives.
3. Alternative to plastics should be economically feasible for the shopkeepers and consumers.
4. Government can introduce incentives or subsidies for shopkeepers who adopt sustainable stores.
5. Anti-plastic campaigns should be brought into light to the small-scale and medium-scale vendors.
6. Shopkeepers should be encouraged to switch to partially and then gradually to fully sustainable stores.
7. Awareness provided to people and stringent laws for smooth functioning should be a common practice in the society.
8. Plastic waste generation of a store should have an upper limit in terms of a decided unit.
9. Waste management should be highly prioritised.
10. Consumers too should be enlightened on the concept of sustainable development.

4.4 CONCLUSION

According to research findings *Plastic* is mostly used for packaging and storage in grocery stores. The most common answer to the question of ‘why not switch to a fully sustainable grocery store’ is that plastic alternatives are more expensive than plastic which affects their shops’ profitability. Plastic is cheap and comfortable to use, and this feature of it makes it more attractive to the shop owners. Another question we put forward was ‘whether it is possible for partial sustainable stores to shift to fully sustainable stores if proven economically feasible?’ the majority shopkeepers answered *yes* and *maybe* which shows their willingness to switch to sustainability under certain economically favourable conditions. A small percentage of shop owners answered *no*. The government decision to ban single use plastics from 1 July 2022, has affected grocery shops. A large percentage of shop owners have switched to paper or cloth carry bags. Many asked the consumers to bring their own carry bags. While assessing the profitability of the stores, it was understood that most of the shopkeepers believed that a sustainable shop will be more profitable in the long run. Most of them preferred partial sustainable shops over fully sustainable and conventional stores. When the average plastic waste generated in a month was estimated, the option chosen by the majority was 0 to 10 kg. When asked whether the transition costs increased or decreased after moving to a partially sustainable shop from a conventional shop, most shopkeepers responded that their cost has increased. Only a small percentage of people answered that it has decreased. This can be considered a major reason why shopkeepers do not switch to a fully sustainable grocery store. The study arrived at the conclusion, most people agree that a partially sustainable grocery store is better in the long run, as it is not possible for a grocery store to eliminate the use of plastic without finding a replacement material that is as cheap and easy to use as plastic. That is why shopkeepers chose partially sustainable grocery stores as a better option. At the same time, they also have shown the willingness to shift to fully sustainable grocery store if proven to be more profitable.

It is important to understand that plastics cannot be eliminated completely from this planet, so the smartest way to control pollution is to use the existing plastic population effectively by reusing and recycling it and to further cut down the production of new plastics. Everyone has the potential to make a difference whether it be a shopkeeper or a consumer. The cumulative effect of the efforts of individuals will be huge for the planet. This research paper is also a reminder for the changes each one of us can bring.

APPENDIX

ENDNOTE

1. BBVA OpenMind (13 September 2019) Bakelite, the First Synthetic Plastic to Transform the World
2. Britannica (20 March 2023) Polyethylene Terephthalate Chemical compound
3. OECD (2019) Plastic leakage and greenhouse gas emissions are increasing.
4. United Nations (2023) Goal 13: Take urgent action to combat climate change and its impacts.
5. IASGyan (7 July 2022) Single-use plastic
6. BBC, Axelle Parriaux (13 July 2022) Do single-use plastic bans work?
7. King Retail Solutions (24 August 2021) Sustainable Grocery Stores: 7 Priorities for Greener Grocers
8. ScienceDirect (May 2021) Packaging-free products: A lever of proximity and loyalty between consumers and grocery stores
9. Green Matters (30 April 2019) How Sustainability Is Changing the World of Grocery Stores
10. United Nations (2023) Sustainability
11. United Nations (2023) Sustainable Development
12. United States Census Bureau, Derick Moore (29 December 2022) U.S. Population Estimated at 334,233,854 on Jan. 1, 2023
13. European Commission (01 OCT 2018) Developments and Forecasts of Aggravating Resource Scarcity
14. The World Counts (2023) A world of waste

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1. BBVA OpenMind (13 September 2019) Bakelite, the First Synthetic Plastic to Transform the World
2. Britannica (20 March 2023) Polyethylene Terephthalate Chemical compound
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12. United States Census Bureau, Derick Moore (29 December 2022) U.S. Population Estimated at 334,233,854 on Jan. 1, 2023

QUESTIONNAIRE

The study focused on the Partial Sustainable grocery shopkeepers for whom the following questionnaire was prepared.

1. What are the plastic products used in this store?
 - a. Carry bags
 - b. Plastic containers for storage
 - c. Plastic package items
 - d. Others

2. What are the reasons for not opting for a fully sustainable grocery store?
 - a. Expensive
 - b. Low profit
 - c. Plastic is cheap and convenient
 - d. others

3. Is it possible for partially sustainable stores to shift to fully sustainable stores if proven economically feasible?
 - a. Yes
 - b. No
 - c. Maybe
 - d. others

4. Has the plastic ban on July 1 affected the store adversely?
 - a. Yes
 - b. No
 - c. Others

5. What are the measures taken following the plastic ban?
 - a. Paper /cloth carry bags
 - b. Glass jars/other alternatives for storage
 - c. Payment for carry bags
 - d. Encouraging customers to carry their own bags

6. Did you incur profit or loss after shifting to a partially sustainable shop from a conventional shop in the past?
 - a. Profit
 - b. Loss
 - c. Both
 - d. none

7. How much plastic waste is generated in the shop?
 - a. 0-10 kg
 - b. 10-20kg
 - c. 20-30kg
 - d. 30-40kg
 - e. 40-50kg
 - f. Above 50 kg

8. How much plastic packaged commodities are sold on an average day?
 - a. 0-100 packets
 - b. 100-200
 - c. 200-300
 - d. 300-400
 - e. 400-500
 - f. Above 500 packets

9. After shifting to a partially sustainable shop from a conventional shop, did the transition cost increase or decrease?

- a. Increase
- b. Decrease
- c. Both
- d. none

10. In your opinion, which mode of shop is more profitable in the long run?

- a. a fully sustainable grocery store
- b. a partially sustainable grocery store
- c. a conventional grocery store