

A STUDY ON EFFECTIVENESS OF PACKAGING PRODUCT IN ONLINE SHOPPING

Submitted in partial fulfillment of the requirements for the award of

Master of Business Administration

by

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SCHOOL OF BUSINESS ADMINISTRATION

SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

**Accredited with Grade "A" by NAAC | 12B Status by UGC | Approved by AICTE
Jeppiaar Nagar, RAJIV GANDHI SALAI, CHENNAI - 600 119**

April - 2021



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SCHOOL OF BUSINESS ADMINISTRATION

BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **Amaladevi.R (39410008)** who have done the Project work entitled "**A Study on Effectiveness of Packaging Product in Online Shopping**" under my supervision from **December 2021 to February 2021**

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DECLARATION

I **Amaladevi R (39410008)** hereby declare that the Project Report entitled “**A Study on Effectiveness of Packaging Product in Online Shopping** “ done by me under the guidance of **Ms. Kavitha Rajayogan** is submitted in partial fulfillment of the requirements for the award of Master of Business Administration degree.

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ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to Board of Management of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my sincere thanks to **Dr. BHUVANESWARI G.**, Dean, School of Business Administration and **Dr. PALANI A.**, Head, School of Business Administration for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to my Project Guide **Ms.KAVITHA RAJAYOGAN** for her valuable guidance, suggestions and constant encouragement paved way for the successful completion of my project work.

I wish to express my thanks to all Teaching and Non-teaching staff members of the School of Business Administration who were helpful in many ways for the completion of the project.

AMALADEVI.

ABSTRACT

Internet market has become the main sales channel in the era changing rapidly. Consumers change their consumption concepts, resulting in difficulties of traditional physical form of packaging in meeting the contemporary people's shopping patterns and aesthetic interests; therefore, the packaging design of online shopping goods arises at this historic moment. The innovative packaging of online shopping goods is based on the promotion of the Internet market and the online virtual trading market, as well as targeting at global consumers. The fashion and the unique way of online shopping in the Internet era has become the new orientation and design basis for the packaging of online shopping items. Unlike the package design of traditional shopping market, the most important characteristic of the package of online shopping goods is that consumers are unable to get practical shopping experience. How to make it accurately and clearly convey the information to help consumers make the right purchase decision and successfully complete the online trading is the principle of the package design of online shopping goods.

The e-commerce is an area that has grown considerably in recent years and continues to grow at a rapid pace. It is thereby becoming more and more important for companies to distinguish themselves amongst others, not least when it comes to getting customers to return for a second purchase. A good way to do this is to create a positive experience for consumers. As the interaction with the customers has shifted from physical meetings to a computer screen through the spread of online retail, it is important to nourish the few encounters that remain. An important point of interaction is the receiving of purchased goods. The packaging in which the goods are shipped, is thus an important source of communication to the customer, and a perfect means of displaying the company values.

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CHAPTER I

1.1 INTRODUCTION

A retailers e-commerce packaging is a vital marketing tool; however, many still under utilise it. Inevitably, this means missed opportunities for a business to promote their product and at worse, the company risk unintentionally damaging their brand.

Studies show the influence packaging has on consumers with 70% viewing online packaging as an important part of the buying experience. If the packaging is sub-par, the majority, roughly 95%, stated that it negatively affected their opinion of a company with half admitting that they would probably return the merchandise.

When observed from a consumer's standpoint, the basis for placing relevance on packaging becomes clear. For individuals buying from retailers with online-only outlets, packaging will most likely be the first and perhaps only physical contact they will have with the brand. Those who purchase from retailers with brick-and-mortar and online shops expect the online service to reflect their in-store experience, which merchants usually invest in a lot more. Basically, one could say that the package that comes to the consumer's door from online retailers is the most crucial contact they will have with their customers, so they need to make sure they get it right.

E-commerce is driving changes in packaging at multiple levels

- Brands and CPG manufacturers are having to reassess how they package products for the online shopper and to adapt to new generations of tech-savvy consumers
- Key trends in e-commerce packaging include increasing commitment to sustainability alongside need for cost-effectiveness of operations, for example:
- Easy-to-return packaging (e.g. with resealable plastic mailers, corrugate with tear strips)
- Second-life (re-useable) packaging

- PEFC (Programme for the Endorsement of Forest Certification) certification
- Paper as fill, including pre-consumer recycled material
- Key packaging-related consumer concerns include:
 - Integrity of packaging upon delivery (no damage)
 - Size of package relative to items(s) being shipped
 - Excessive volume of secondary packaging
 - Ease of opening
 - Overall user-friendliness, including instructions
- E-commerce is also generating demand for innovative packaging with radio frequency identification (RFID) and smart features optimized for last-mile delivery
 - As the Internet of Things (IoT) expands, auto-replenishment services (e.g. Amazon Dash Button) are also impacting how products are purchased
 - Online purchases create opportunities for richer brand experiences through video, 3D visualization, options for personalized packaging, “decorate-it-yourself” labels, portion-controlled snack boxes (e.g. Graze) that are customized by buyer for shipment, etc

E-commerce creates need for “omnichannel” branding and primary packaging designs that work both online and in-store

In e-commerce, the so-called “First Moment of Truth” (FMOT) of a product’s visual impact on the retail shelf is replaced by what Google has termed the “Zero Moment of Truth” (ZMOT), as consumers research products or services online before making purchase decisions

Respondents to a 2015 PMMI survey differed in how they see the impact on packaging design

Some argued for unified primary packaging design between online and retail sales, to limit number of SKUs and associated costs, and ensure brand consistency

Others believed primary packaging may differ between online and retail sales as: Online channel gives rise to different strategies and target consumer groups

E-commerce packaging does not need to be so attractive as sale has been made
Either way, branding and graphics remain important for online sales both when consumers comparison shop online and when they “unbox” a product after delivery

In physical stores, sales are influenced by location in store, available product selection and opportunity to touch or experience (smell/taste) products

Online, products frequently have to stand out from a mass of competing products, and design (including primary packaging) is one key point of differentiation

With increasing use of smartphones for online purchases, primary packaging also needs to be effective both online and offline, with consistent brand messaging across channels

Creates need to adapt traditional package designs for viewing on small mobile devices and distil brand and package design down to essential messages

E-commerce has particular impact on protective packaging demand and requirements

E-commerce shipping cases must be strong enough to withstand a substantially more complex, and less automated, supply chain than for traditional retail

According to Nestle, products may be handled 20+ times in e-commerce vs. 5 for in-store

Cost of replacing destroyed item can be over 15 times the cost of shipping

Negative online reviews from damaged goods can take months to counterbalance

Consumer surveys indicate that large majority of online shoppers have at some time received a package with damaged items, and in such cases are unlikely to buy from that supplier again

Parcel shipments of individual products create new packaging challenges due to rougher handling, risk of parcel movement, and greater protective function for secondary packaging

In protective packaging:

Flexible packaging (protective mailers, air pillows, bubble packaging, dunnage bags, paper fill products, etc.) will continue to dominate due to cost efficiency and versatility

Foam packaging (molded foams, rolled foam, insulated containers, foam-in-place polyurethane, loose fill etc.) is second largest segment, still popular for consumer durables and manufactured goods

Rigid packaging is growing from low base as molded pulp and paperboard protective elements benefit from sustainability trends

For e-commerce retailers, last mile delivery is most common source of damage and most difficult to control, and calls for:

Close collaboration between online retailer and logistics provider on packaging needs

Upfront engineering to identify shipping contingencies

Service Level Agreements with logistics provider to cover manufacturers' needs

Sustainability is driving greater use of recyclable and compostable packaging materials and related innovation

Companies shipping products are increasingly paying attention to sustainability, driven by concerns about:

Customers' perceptions

Quality and functionality

Cost (often cited as a barrier to expanding e-commerce sales)

High level of returns in e-commerce (20-30% versus <10% in traditional retail) due to:

Less opportunity to physically evaluate products before purchase

Higher risk of damage during transit

Environmental impact of packaging used, including its:

Recyclability

Compostability

Where required for shipping (e.g. void fill, cushioning, blocking, bracing, and wrapping) suppliers are introducing more sustainable alternatives to traditional materials, such as:

Polyethylene air cushioning and bubble wrap from recycled content

100% renewable, recyclable and reusable paper packaging

100% recycled-content and recyclable molded pulp packaging

Innovations include:

Mushroom root-based packaging (Sealed Air's Restore® Mushroom® Packaging) as alternative to expanded polystyrene

YFY Jupiter's Npulp® based on waste straw from Chinese wheat and rice farming

Increasing focus on customized packaging that is optimally sized while still fit-for-purpose for item(s) being shipped

As shipping rates continue to rise, package sizes will need to shrink continuously while maintaining adequate protection or ensuring consumer satisfaction

With increasing warehouse rental rates, supply chain participants need to identify and eliminate inefficiencies and maximize space utilization, including selection of space-efficient packaging materials

Some major e-commerce retailers have begun using new box-on-demand technology that customizes case sizes to exact size of product(s) being shipped

Eliminates need to warehouse multiple case sizes, reduces over-packaging, decreases or eliminates protective packaging, and optimizes case sizes

Eliminates need for void fill, such as packing peanuts and other cushioning

Optimizes volume of cardboard needed to make specific box sizes

Protects product better from damage during transport

Can produce boxes in real time, with case sizes managed automatically through product recognition or directly from a database

Customization and personalization in delivery and logistics will be key differentiators as suppliers try to compete beyond delivery date, price and terms by meeting consumers' delivery preferences, handling return shipments, and using packaging materials that can be recycled in the local area

Foodservice packaging is also impacted by retail e-commerce packaging trends

In its latest Trends Report, the Foodservice Packaging Institute highlights the proliferation of food delivery options for today's consumer, including:

Meal kits and delivery programs

Prepared food couriered by third-party vendors

Take-out and delivery options from traditional dine-in foodservice establishments

These delivery options raise additional performance requirements for foodservice packaging to ensure that meals are delivered hot, fresh and safe to consume, with appropriate branding

Related trends include continued interest in tamper-evident packaging and food safety, including innovations like time and temperature color-changing indicators/labels for home-delivered meals that help keep food fresh and safe

Industry participants continue to observe a movement away from polystyrene to other resins, paper and molded fiber due to growing interest in foodservice packaging that can be recycled and / or composted

1.2 INDUSTRIAL PROFILE

Packaging plays a pivotal role in consumers' experience with respect to the brand and the overall purchasing experience. There are four major functions of packaging—containment, protection, communication and utility—that are intended to maximise sales and profits while reducing losses and wastage; and all of them are critical for enhancing consumer experience. In a traditional brick-and-mortar commerce, packaging was used to create distinction and increase shelf presence through attractive and easy-to-spot colors, shapes and graphics. When damage is occurred in a brick-and-mortar store, it was easy for the consumer to keep the damaged product aside and pick an undamaged one placed right next to it. Loss of product was not necessarily compounded by the loss of sales or customer. In an e-commerce world, however, the effects of a damaged product are very different. A consumer makes a purchasing decision at the click of a button and to contend with a damaged product, after delivery wait time, can lead to a conclusive decision against the online retailer. As per eMarketer, 83% consumers are unlikely to purchase from an online retailer again after a poor experience.

The Indian e-commerce packaging market was valued at USD 451.4 million in 2019, and it is expected to reach USD 975.4 million by 2025, registering a CAGR. Owing to the rising population, increasing income levels, changing lifestyles, and growing economy, the demand for e-commerce packaging is growing in India. The country is focusing more on sustainable solutions, which is increasingly becoming a business imperative. With the growing awareness, the requirement for eco-friendly and sustainable packaging is steadily on the rise. With several billion parcels delivered every year, the threat of packaging waste is increasing due to which, the need for recyclable packaging material is on the rise.

Having realised the impact of their packaging decisions, companies are investing to enhance e-commerce packaging to meet consumer expectations and positively impact their perceptions and purchasing decisions.

Rise of the Indian e-commerce sector

India has been witnessing a surge in its e-commerce sector over the last 5-6 years. The Indian e-commerce market is projected to grow to US\$ 200 billion by 2026 from US\$ 38.5 billion in 2017. This growth is likely to be propelled by an increase in internet and smartphone penetration and the ongoing digital transformation in the country. After India locked down in March this year, the e-commerce segment witnessed a momentary decline for a few weeks; however, re-opening of markets led to recovery and subsequently, an upsurge. Marketplaces as well as direct brand websites witnessed an overall 130% spike in online orders.

Since June, the sector has recorded massive sales events such as Myntra's End of Reason Sale, Flipkart's Independence Day Sale and Amazon's Prime Day Sales, boosting order volumes. In fact, recently, Walmart declared (in its latest earnings report) that Flipkart's GMV (Gross Merchandising Volume) has exceeded the pre-COVID 19 levels.

Another driving factor for this surge in e-commerce transactions is the emergence of first-time shoppers and the digital-first approach. Social distancing has led to significant growth of first-time online shoppers. While India's top 5 metropolitan cities continue to dominate the e-commerce sector, Tier II and III cities have also joined the race with a rising share of online shoppers. Amazon and Flipkart have gone a step further in supporting this growth in smaller cities by offering their platform content in local languages.

Surge in e-commerce to continue post pandemic

The post-lockdown numbers indicate a systemic shift in consumer purchasing preferences from offline to online. Customers are increasingly getting used to the comforts of online shopping.

Local retail outlets (Kirana shops) are also digitising and starting to deliver online to keep up with changing customer preferences and not lose business to large marketplaces such as Amazon and Flipkart. This is largely adding to the convenience of customers—in having everything delivered to their doorstep and saving time.

In a post-pandemic scenario, whether consumers go back to their old ways of purchasing or will the comfort, ease and discounts of online shopping continue to

lure them remains a question. Nonetheless, it can be assumed that not all consumers will switch back to in-store shopping and continue buying online in the near future.

Another point to note is the change towards hygienic living—sanitisation, personal hygiene, social distancing or using healthy products—as this is expected to have a lasting impact on consumers even after the pandemic.

Mixed impact of e-commerce on the packaging sector

Amid the e-commerce surge, the Indian packaging industry is witnessing steep growth and is one of the strongest growing segments. According to the Indian Institute of Packaging (IIP), packaging consumption in India increased 200% in the past decade, from 4.3 kgs per person per annum (pppa) to 8.6 kgs pppa.

The industry is expected to reach US\$ 204.81 billion by 2025 from US\$ 50.5 billion in 2019 at 26.7% annually. The e-commerce segment of the packaging market was estimated at US\$ 451.4 million in 2019 and is forecast to reach US\$ 975.4 million by 2025 at 13.8% annually.

The packaging sector is categorised into two major segments (by type)—rigid and flexible packaging, with rigid packaging accounting for 64% market share. In terms of packaging materials, 55% of the sector is dominated by plastics, followed by paper & cardboard (20%) and glass (10%).

Food processing is the largest consumer of packaging at 45%, followed by pharmaceuticals (25%) and personal care products (10%). Increasing demand from these end-user segments is creating a huge potential for expansion.

Amid the pandemic, the demand for packaging for groceries, healthcare products and e-commerce transportation has increased exponentially; but, at the same, the demand for industrial, luxury and sections of B2B-transport packaging has declined. Some of the key end-user segments will witness mixed impact of the pandemic owing to a sharp increase in demand for some sub-segments and dip in others. For example:

- ***Food and beverages packaging:*** The packaged food and beverages segment is witnessing an upsurge due to a demand spike for essential food products and shelf-stable foods. Demand from the grocery and dairy product segments has subsequently fuelled the demand for vacuum packaging, trays and protective films including PVC film and shelf life-extending modified atmospheric packaging and others. However, demand from offline food chains including cafes and restaurants, which have been either entirely closed or operating partially, is negatively impacting the market.
- ***Transit and omnichannel packaging:*** Demand for this type of packaging has nosedived in the past few months due to reduced industrial activity. However, some of the negative impacts have been offset by the spike in demand from other end-user segments—such as disposable takeaway packaging for food and pharmaceuticals, and corrugated packaging for e-commerce and grocery deliveries.
- ***Consumer packaging:*** While the demand for packaging continues to be accentuated by the sharp increase in home deliveries for grocery purchases and other home care products, the demand for non-food, premium/luxury and non-essential purchases has been hit with stores remaining closed or consumer cut backs on spending.
- ***Healthcare packaging:*** Demand for all types of healthcare packaging and related substrates, including flexible blister foils, pumps, closures and rigid plastics, has soared. Similarly, the demand has also spiralled for packaging used in dietary supplements such as vitamins and essential supplies needed by consumers in a pandemic situation.

Packaging: A vital bridge for adapting to change and staying relevant

Since the pandemic, companies have been tweaking their products, marketing strategies and service offerings to cater to the evolving needs of consumers – highlighting what matters most today – safety, immunity and health. Swiggy, for instance, introduced a double-layered packaging that keeps food safe and fresh. Similarly, Nature's Basket switched from cloth bags to single-use paper bags that

can be disposed of immediately after use. Packaged food product companies are focussing on packaging materials that support longer shelf-life. A few others are updating their packing designs to include communication around appropriate sanitisation. A few months back, the world was busy shunning single-use plastics; however, consumers have re-adopted it for better hygiene. Irrespective of the strategy adopted by the company or consumer, each of that strategy boils down to an impact on packaging.

Packaging is now seen as a key bridge between consumers and brands to effectively communicate that hygiene is maintained, safety is prioritised and product or service quality is **not** being compromised.

Packaging already had a pivotal role in consumer buying experience in the e-commerce world. And now, its impact has even grown bigger. This sector will continue to ride the e-commerce wave long into the future

1.3 OBJECTIVES OF THE STUDY

PRIMARY OBJECTIVE

- To find the problem faced in packaging of product in online shopping

SECONDARY OBJECTIVES

- To find about damaged product due to improper packaging
- To know about recycling of these package
- To find about Frustration-Free Packaging

CHAPTER II

REVIEW OF LITERATURE `

Guniya Johnson(2001):The grocery retail industry, with its large product volumes, low margins and fierce competition, is constantly seeking efficiency improvements in its supply chain. The grocery retail industry uses an immense amount of packaging and is directly affected by packaging logistics activities. There is, therefore, a potential for efficiency improvements in the grocery retail supply chain through the integration and development of new systems of packaging and logistics. Packaging handling is identified as one of the main activities that has a strong impact on the overall logistical cost of a grocery chain. This research article investigates packaging handling evaluation methods and discusses how these are employed to benefit the industry. Case studies, involving six major companies from the Swedish grocery retail industry, have been used to evaluate packaging and logistics activities. This work, together with a literature review, was used to identify the need for evaluative methods and the present availability of such methods. The results indicated a lack of sufficient and usable packaging handling evaluation methods in today's grocery and packaging industry especially from a logistical point of view. The paper also highlights the lack of systematization among the few methods used and discusses how these can be used to build a systematic and multifunctional evaluation model in order to utilize the information from different studies to build a knowledge base for the future. Copyright © 2001 John Wiley & Sons, Ltd.

Sushmita A. Narayana(2006):Packaging enables the movement of product from its point of origin to its point of consumption and influences all other industries directly or indirectly. Despite technological advancements, increasing length of global supply chains for products has led to a simultaneous increase in the use of packaging layers and associated waste along the supply chain. Thus, packaging poses challenges and opportunities to the environment and society, with implications for supply chain costs. With growing popularity of concepts such as circular economy and sustainability, packaging and its relationship with sustainability and supply chain management in a circular economy needs to be studied. This paper presents a systematic literature review of studies done over the last 18 years with the objective to generate a greater understanding of the

work done in the field of sustainable packaging in supply chain management (SPSCM). Our findings indicate SPSCM trends are aligned to circular economy concepts but have not adequately considered the interaction of the product with its packaging system. Research efforts in SPSCM are restricted to environmental and economic dimensions and are mostly concentrated in developed economies. The review identifies three main supply chain structures studied in SPSCM literature of which there has been an increased focus on fragmented portions and dyads of the supply chain with respect to packaging. The research contributes by identifying and mapping the collated literature to organizational theories that support and drive SPSCM. In particular, the institutional theory, stakeholder theory and ecological modernization theory are investigated from a SPSCM perspective. Further, the three organizational theories are used to develop a framework for circular economy to highlight future avenues for research and practice in SPSCM for a circular economy.

John Wiley & Sons (2012):Traditionally, packaging design has had a subordinate role with respect to product design and production systems design; however, its impact on supply chain costs and performances can be devastating. Only in the past few years its strategic role has been recognized both in theory and in practice. Although packaging design research attracted considerable attention in the recent past, the purpose of this article is to broaden the field even further in two main directions. First, an attempt is made to review the status of literature on packaging design: a total of 89 articles published between 1990 and 2011 are reviewed and classified by content. In this context, related International Standards are also presented and discussed, and a conceptual framework for packaging design is presented. Second, an agenda for future research in this area is provided.

Wiley J. Appl (2012):The majority of materials used for short-term and disposable packaging application are non-biodegradable which are not satisfying the demands in environmental safety and sustainability. Biodegradable polymers are an alternative for these non-biodegradable materials. The biodegradable polymeric materials can degrade in a reasonable time period without causing environmental problems. However, biodegradable polymers possess some limitations such as comparatively high cost, insufficient mechanical performances, and inferior

thermal stability to extend their widespread application in packaging industry. To overcome these limitations, one of the most commonly used strategies is melt blending of dissimilar biodegradable polymers. Unfortunately, most of the biodegradable polymer blends exhibit insufficient performance because they are thermodynamically immiscible as well as exhibit poor compatibility between the blended components. It has been established that the compatibilization is a well-known strategy to improve the performances of the immiscible biodegradable polymer blends by enhancing the adhesion between the phases. As a result, recent studies focus on various compatibilizers to enhance the performances of the resulting biodegradable polymer blends. This review summarizes the recent developments on a variety of biodegradable polymer blends compatibilized by melt processing with a main focus of *ex situ* and *in situ* compatibilization strategies

N. Turner(2012):An important area of focus for the reduction of domestic waste is packaging and food packaging specifically. At some point in the life of packaging in the consumers' home, the packaging goes through a transition from something of use, of value and of worth to the consumer to something that is no longer any of these. Being able to identify attributes of packaging that might have an impact on this transitional point to change the use or value so that the packaging is re-used, recycled or composted rather than being landfilled is very important in successfully diverting packaging waste from landfill. This research aimed to conduct a variety of tests to identify attributes of packaging that have an influence on the eventual waste route and to determine what that influence was. The research included an extensive literature study looking at consumer test methods, current waste and packaging waste studies, and packaging design literature. This was followed by a series of four tests: 'bin raids', 'digital diary', 'visual survey' and 'ethnography'. These tests were designed to determine how consumers would treat specific examples of packaging in an end-of-life scenario and what influences those decisions.

Tayo fabusuyi, Andrea Broaddus (2012):Using publicly available microdata sets, we show how estimates for online delivery purchases can be generated for small geographic areas defined in our study as micro analysis zones (MAZ) and how these estimates vary across the MAZs that featured in our study. With a focus on Miami-Dade County, we use both the national household travel survey (NHTS) data and synthetic data obtained from Southeast Florida Regional Planning Model

(SERPM) to generate demand estimates of online delivery purchases for more than 5300 distinct geographic units in Miami-Dade County. We assess the quality of the estimates using measures of predictive accuracy and by comparing the cumulative values obtained with the population estimates generated from the NHTS survey data for Miami-Dade County. Our approach fills a void in the area of purchases of online delivery items where rich observable data are typically unavailable and it also provides the added potential benefit of being easily replicated nationwide given the emphasis on the use of publicly available data

Wen yan , Xinpu zhang(2012):Recently, 3D printing is a very promising method for fiber Bragg grating (FBG) sensor packaging, the physical and chemical properties of the printing materials will directly affect the performance of the packaged FBGs. Thus, in this paper, we focus on the analysis of the influence of the characteristic of the packaging material, especially the temperature characteristic. Firstly, an FBG is packaged based on 3D printing online packaging technology, and the feasibility of this packaging scheme is experimentally verified. Subsequently, the influence of the packaging scheme and material on the sensing characteristics of the packaged FBG is investigated, especially the influence of the temperature characteristic of the packaging material. Finally, we experimentally investigate the stability of the 3D-printing packaged FBG. Experimental results demonstrate that the measurement error caused by central wavelength fluctuation is lower than 0.01425 mm and 0.3 °C for displacement and temperature measurement, respectively. Besides that, the 3D-printing packaging structure can not only effectively protect the FBG, and the packaged FBG with high stability can also be obtained.

Clara Aranda-Jan James Moultrie(2014):Plastic packaging causes much waste, and its sustainability is receiving increasing attention. Companies have made efforts to mitigate the environmental impacts of packaging; however, plastic waste from packaging remains a big issue. This study builds a framework of factors that are important in helping companies reduce the amount of plastic in their packaging. The framework is based on findings from a literature review and five interviews with practitioners. The study found that to achieve a reduction of plastic in packaging, seven factors are imperative in the fuzzy-end stage of packaging design and development.

Moodie, Crawford(2015): The Australian Government intends to introduce plain tobacco packaging in 2012. We consider whether such a move appears justified by examining the wider marketing literature in order to understand the role that packaging has for consumer goods. Packaging is often called the fifth 'p' of the marketing mix. It is an effective marketing medium for all consumer products and helps build consumer relationships through possession and usage. Common packaging strategies to promote the product, distinguish products from competitors, communicate brand values and target specific consumer groups include innovative, special edition, value and green packaging. These strategies, combined with the visual and structural aspects of packaging design, such as colour, size and shape, influence consumer perceptions and purchase and usage behaviour. This gives packaging an important role at point-of-purchase and also post-purchase. Packaging also has a close relationship with the product, influencing perceived product attributes, and is a key representative of the brand. We conclude that plain tobacco packaging appears justified, based on the importance of packaging as a promotional tool, and will fundamentally restrict the opportunity for tobacco companies to influence consumers through package design.

Tom Andrews(2015):Early Warning Score leads to successful referral of patients by providing an agreed framework for assessment, increasing confidence in the use of medical language and empowering nurses. It is essential that nurses and nursing students are supported in its use and in developing confidence in using medical language by continued emphasis .

Helen Willams (2015):Packaging has great potential to contribute to sustainable development through its functions. Previous research has indicated a need for increased knowledge among consumers, suppliers, authorities and media of how packaging functions and features influence sustainable development. Previous research also shows the need for a common terminology of packaging functions and features in order to facilitate and improve communication and understanding in development and decision processes. This conceptual paper sets out to identify, collect, analyse and systemize packaging functions and features and evaluate them based on their indirect contributions to sustainable development. The systemized functions and features are expressed in generic terminology. Three clusters of packaging functions were identified from the literature: protect, facilitate

handling and communicate. Nineteen packaging features were also identified. They were grouped under the three functions and elaborated based on their indirect contributions to the environmental, social and economic dimensions of sustainable development. Fourteen potential positive indirect effects were identified including decreased product waste, reduced risk for human health hazards, increased handling and transport efficiency. Decreased product waste was generated by 13 of the features and was thus the most frequently appearing. Reducing waste is thereby indicated to be a manifold matter, but also one of great potential. The proposed terminology can contribute to an increased understanding of how packaging can actually contribute to sustainable development. In a theoretical context, this paper attempts to complement earlier work in sustainable packaging development by its emphasis on the indirect contributions of packaging to sustainable development.

Hosam ali(2016):Recent advances in e-commerce have resulted in significant progress being made toward strategies, requirements, and the development of various mechanisms aimed at influencing consumers' decisions to purchase online. The relationship between different packaging design elements and their effect on consumers' online buying decisions has been less researched, due in part to the lack of statistical power to detect cause and effect relationships between these elements. This study examines the feasibility of multiple-criteria decision-making in order to identify and analyze the causal relationships between the different packaging design elements that are required to stimulate consumers' decision to buy products online. Consumers' direct, indirect, and interdependent behaviors in relation to PDEs and purchase decisions were studied for this paper. A total of 142 students (89 males and 53 females, aged 22-37 years) participated in this study. The results identified several associations between design elements. The four most important PDEs found to influence consumers' decision to buy via the internet were graphics, colours, label information, and country of origin. This study provides the necessary insights into the design of product packaging by targeting aspects related to the appearance of the products' characteristics. Correlations between the various PDEs obtained from this study can be used to increase consumers' interactions with products in e-commerce environments.

HenrikPålsson(2017):The purpose is to analyse and explain factors determining whether conventional trade with stores or e-commerce with home delivery is more

energy-efficient. The findings from previous studies are compared in order to identify more general patterns of energy consumption, describe which energy consumption factors (product waste and product returns, buildings, packaging, passenger transport and freight transport) are considered and what assumptions are made. In this comparison, we analyse product characteristics and product classes, discuss the energy factors with the greatest impact and the contextual impact of each factor on the energy consumption. The paper is based on a structured literature review and a content analysis, which helped us to synthesise current knowledge and explain consistent and inconsistent findings across individual studies of energy consumption in conventional sales channels versus e-commerce channels. Our literature search identified 11 studies, with 16 cases, that compared the energy efficiency. The results show the following: 1) The net effect of energy consumption was in the majority of the cases positive for the e-commerce channel, 2) The proportion of unsold products and product returns seem to have a major impact on the energy efficiency of different sales channels, 3) Buildings had only a minor effect on the energy consumption difference. It was slightly lower in the home delivery systems, 4) Packaging contributed considerably to the energy consumption difference for some products. The e-commerce channel consumed generally more energy from packaging, but indirect effects (e.g. volume efficiency) were not considered, and 5) The total energy consumption from transportation was greater in the conventional supply chains, as the additional energy in passenger transport generally outweighed the increased energy in freight transport in e-commerce. The paper points out directions for future research and discusses implications for research, policy-making and practice.

Monirehalsadat Mahmoudi(2018):The pivotal shift from single-use to reusable packaging has recently challenged the concept of packaging ownership. Extant literature have studied supply chain systems using reusable packaging for bundling (known as secondary packaging) or transportation (known as tertiary packaging) of products. Although using reusable packaging for containing products (known as primary packaging) has been tested by more than two dozen of the world's biggest brands (e.g., Nestlé, PepsiCo, and Procter & Gamble), it has not received much attention in studies concerning supply chain systems yet. In this paper, we aim to review the extant literature in light of (1) the environmental and

economic costs of reusable packaging, (2) the design of reusable packaging logistics systems, and (3) the implications of operations management for reusable packaging. Based on our analysis of existing studies, we then deliver insights and potential opportunities for future research on reusable packaging.

PiekRodrigo Salvador,Cassiano Moro arski & Antonio Carlos de Francisco (2019):Packaging plays an important role in the preservation and protection of products, and it is an issue of concern all over the world. Many environmental concerns lie on packaging, and life cycle assessment (LCA) is said to be the most comprehensive and complete tool for assessing environmental profiles. Methods The Methodi Ordinatio was used to assist identifying high impact research. The EndNote software was used for reference management and the VOSviewer for clustering terms and authors. The main research themes, institutions, authors, software tools used for impact assessment, and journals were identified in order to draw on the main aspects of the referred body of literature and present an insight on its trends. Results and discussion The line of study has not shown many solid patterns concerning either global or Brazilian research on LCA of packaging, so far. Nevertheless, most research has been dedicated to the food and beverage industries and European countries are leading this theme's development. Research history shows that recycling has comprised one of the first concerns, whereas the search for alternative materials and end-of-life routes play an important role in the present and future of LCA of packaging. Brazil is the most prominent developing country in this field, featuring among the main contributors to the theme globally. Conclusions There is evidence that the referred body of literature has been increasingly receiving contributions both globally and in Brazil. However, it is not sufficient to state that there are solidly established either drifts or trends, as many research features change over time. The joint interest of public and private sectors can boost this study's theme's development and unveil novel alternatives for reducing environmental impacts of packaging systems.

Erika Loucanova, Martina Kalamarova, and Jan Parobek(2019):Packaging has always served a practical function-to hold goods together and protect it when moving toward the customer through distribution channel. Today packaging is also acontainer for promoting the product and making it easier and safer to use. The sheerimportance of packaging functions is still growing and consequently the

interest of the company is to access to the packaging more innovative and creative.

Antonio Tencti (2019) Packaging waste is a major issue in several countries. Representing in industrialized countries around 30–35% of municipal solid waste yearly generated, this waste stream has steadily grown over the years even if, especially in Europe, specific recycling and recovery targets have been fixed. Therefore, an increasing attention starts to be devoted to prevention measures and interventions. Filling a gap in the current literature, this explorative paper is a first attempt to map the increasingly important phenomenon of prevention policies

CHAPTER III

RESEARCH METHODOLOGY

Research Methodology is the specification of methods and procedures for acquiring the information needed to structure or solve problems. It is the overall operational pattern or framework of the project that stipulates what information is to be collected, from which sources and with what procedures. A Research Methodology is a plan of the proposed research work it involves a compromise dictated mainly by practical considerations.

In other words, a Research Methodology is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with the economy in procedure.

The researcher should have a better scientific methodology for the study, and then only the research will be good. The main goal is to study the investor opinion

3.2 RESERCH DESIGN

In this project, Descriptive statistics is used in research topic.

3.3SAMPLE SIZE

Sample Size of 170 customers who often use online shopping is taken

3.4 SOURCE OF DATA

Primary Data

In this project, primary data is collected through questionnaire and personal questions

Secondary Data

In this project, secondary data is collected from websites, journals and research papers

3.5 ANALYTICAL TOOL USED

- Pie chart analysis
- Correlation
- Anova
- Chi square

CHAPTER IV

4.1 DATA ANALYSIS AND INTERPRETATION

Table 4.1.1 Table showing Gender analysis

Gender	No. of Respondents	Percentage
Female	115	68
Male	54	32
Total	170	100

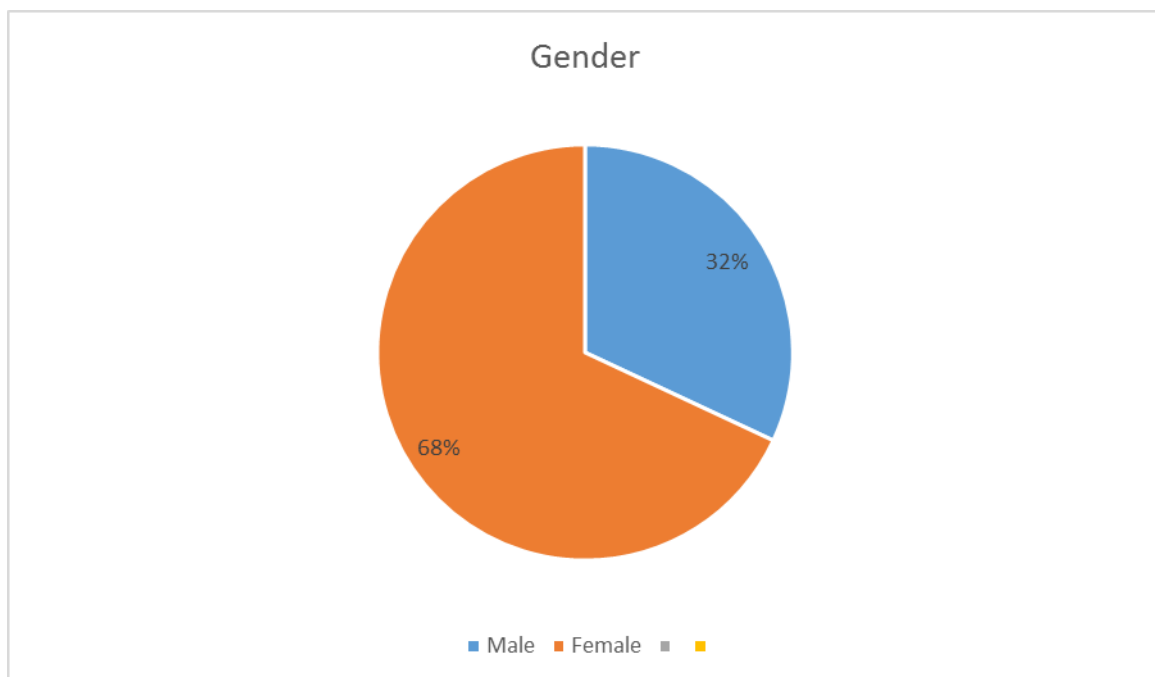


Chart 4.1.1 Chart representing Gender

Interpretation: From the above table it is interpreted that 32% of respondents are male and 68% of respondents are female

Inference: Majority (68%) are female .

Table 4.1.2 - Table showing Marital Status of respondents

Marital Status	No. of Respondents	Percentage
Married	51	30
Unmarried	119	70
Total	170	100

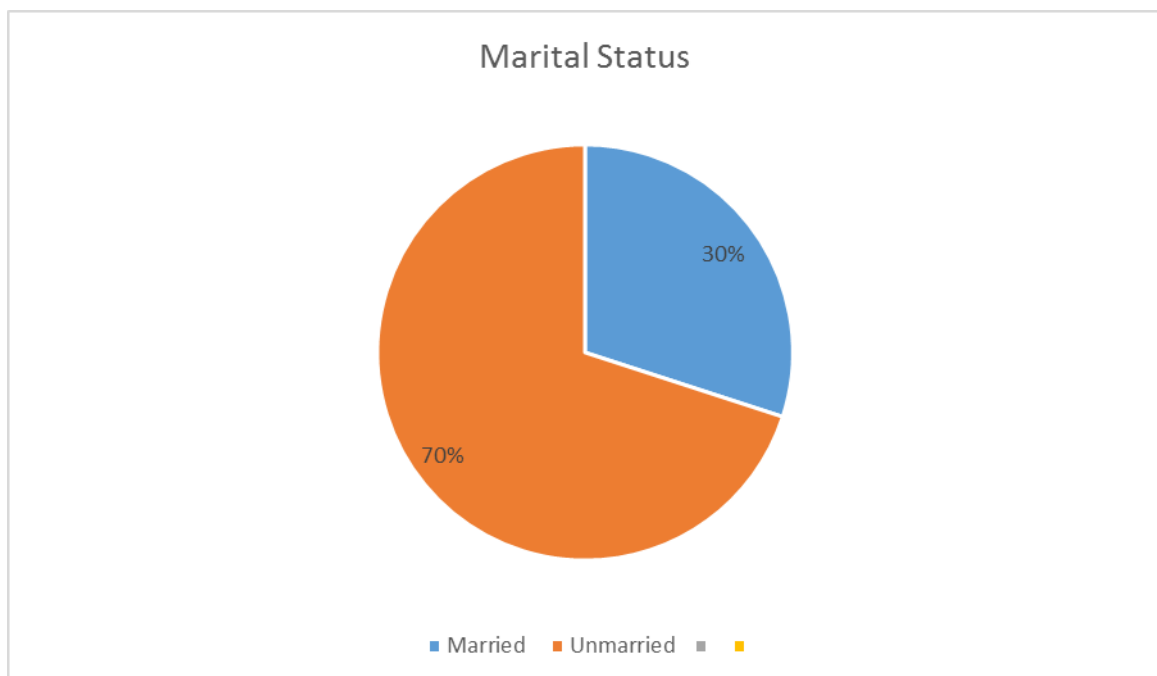


Chart 4.1.2 Chart representing Marital Status of respondents

Interpretation: From the above table it is interpreted that 30% of respondents are married and 70% of respondents are unmarried.

Inference: Majority (70%) are unmarried.

Table 4.1.3 Table showing Education qualification analysis

Education Qualification	No. of Respondents	Percentage
U.G	84	49.4
P.G	74	43.5
DME	5	2.9
Diploma	2	1.2
ITI	1	0.6
Diploma Mechanical	1	0.6
Schooling	1	0.6
Diplomo	1	0.6
IIT	1	0.6
Total	170	100

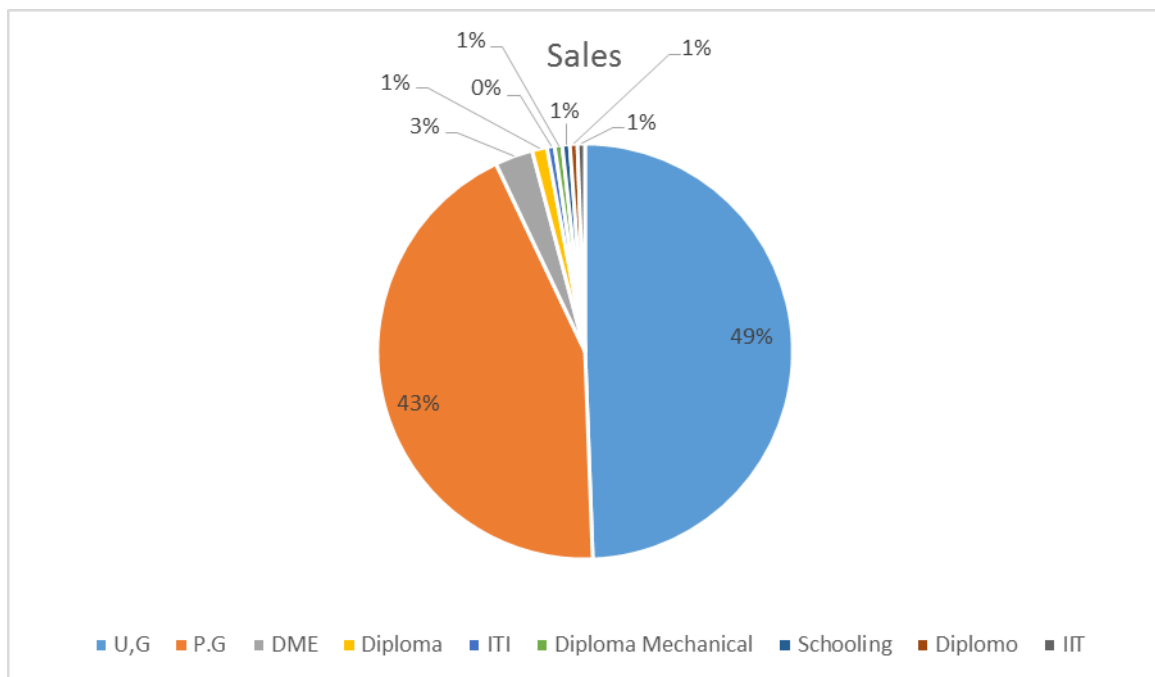


Chart 4.1.3 Chart representing education qualification

Interpretation: From the above table it is interpreted that 49% of the respondents have their Ug degree, 43% are Pg, 3% are DME ,1% Diploma, 1% ITI, 1% Diploma mech, 1% schooling, 1% diploma, 1% IIT .

Inference: Majority (49%) of respondents are UG graduates

Table 4.1.4 Table showing Occupation

Occupation	No. of Respondents	Percentage
Student	85	50
Job	71	41.8
Business	12	7.1
Home maker	1	0.6
Diploma mechanical	1	0.6
Total	170	100

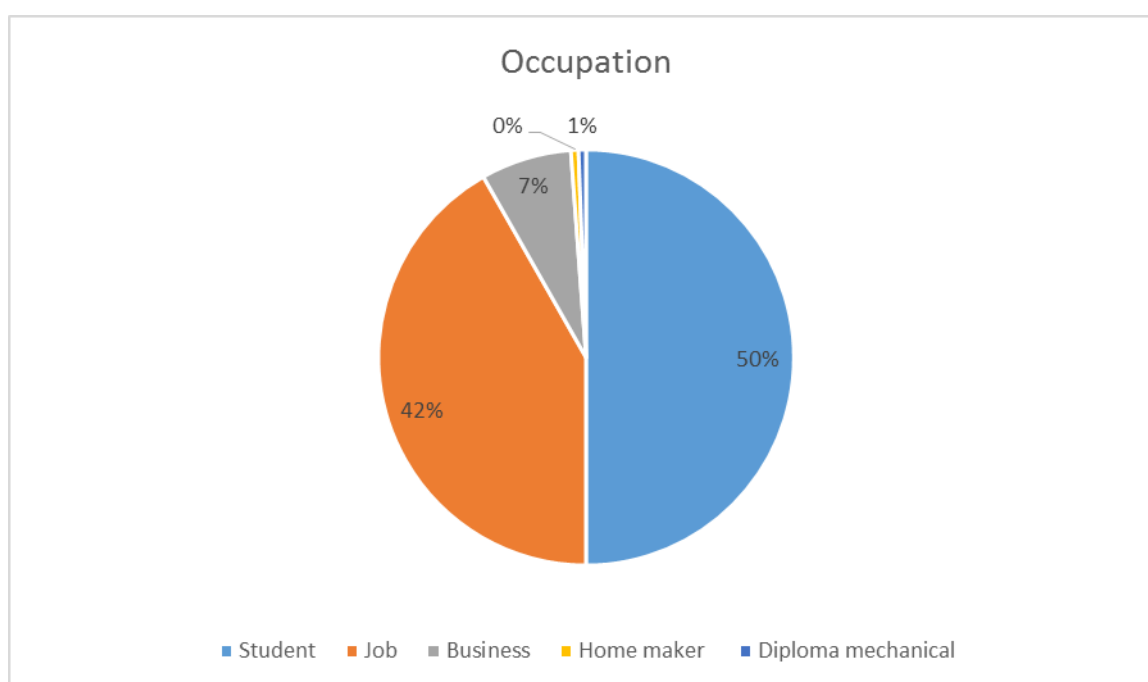


Chart 4.1.4 Chart representing occupation

Interpretation: Form the above table 50% of the respondents are student, 42% are doning job, 7% are doing business, 15 home maker

Inference: Majority 50% are students

4.1.5 Table showing Income

Income	No. of Respondents	Percentage
Less than 1,00,000	78	45.9
1,00,000-3,00,000	65	38.2
3,00,000-5,00,000	17	10
More than 5,00,000	10	5.9
Total	170	100

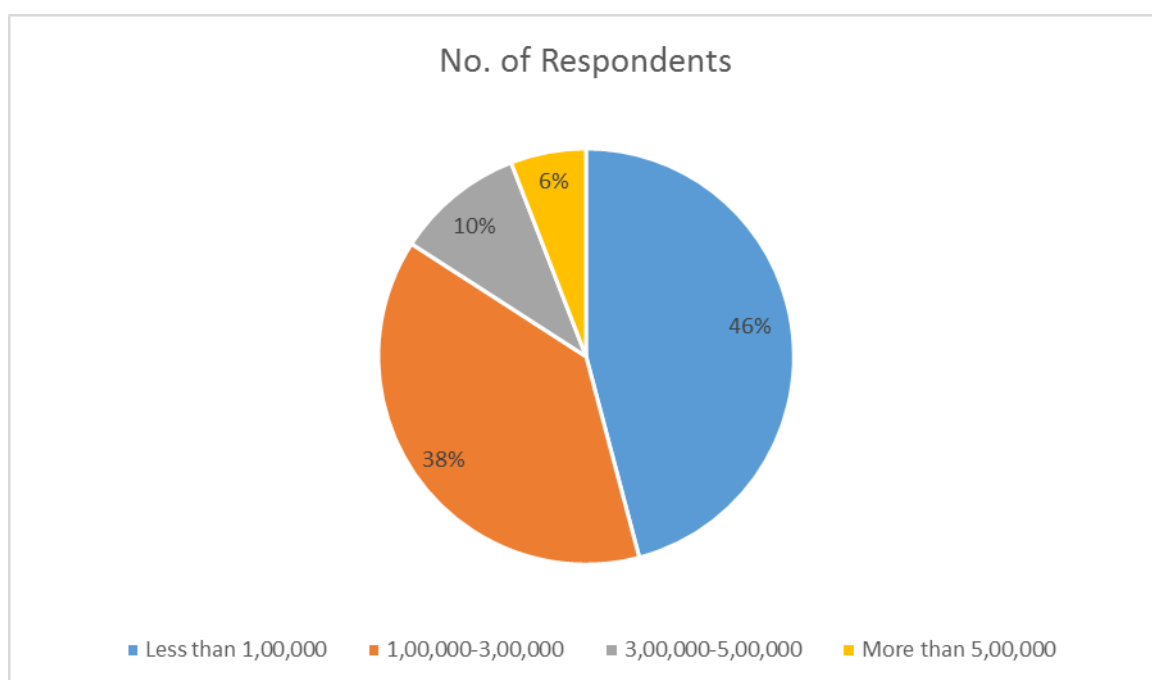


Chart 4.1.5 Chart representing Income

Interpretation: Form the above table 46% of the respondents comes under the category of less than 1,00,000, 38% comes under 1lakh to 3 lakh category , 10% comes under 3 to 5 lakh category and the rest 6% comes under more than 5lakh category

Inference: Majority 46% income is less than 1lakh

Table 4.1.6: Table showing how often you purchase a product from online

How often	No. of Respondents	Percentage
Very often	24	14.1
Often	78	45.9
Not so often	68	40
Total	170	100



Chart 4.1.6 Chart representing how often you purchase a product from online

Interpretation :

From the above table it is interpreted that 46% of the respondents purchase often, 40% not so often and 14% very often

Inference: Majority 46% often purchase from online

4.1.7 Table showing Preference of shopping

Preference	No. of Respondents	Percentage
Online	91	53.5
Offline	79	46.5
Total	170	100

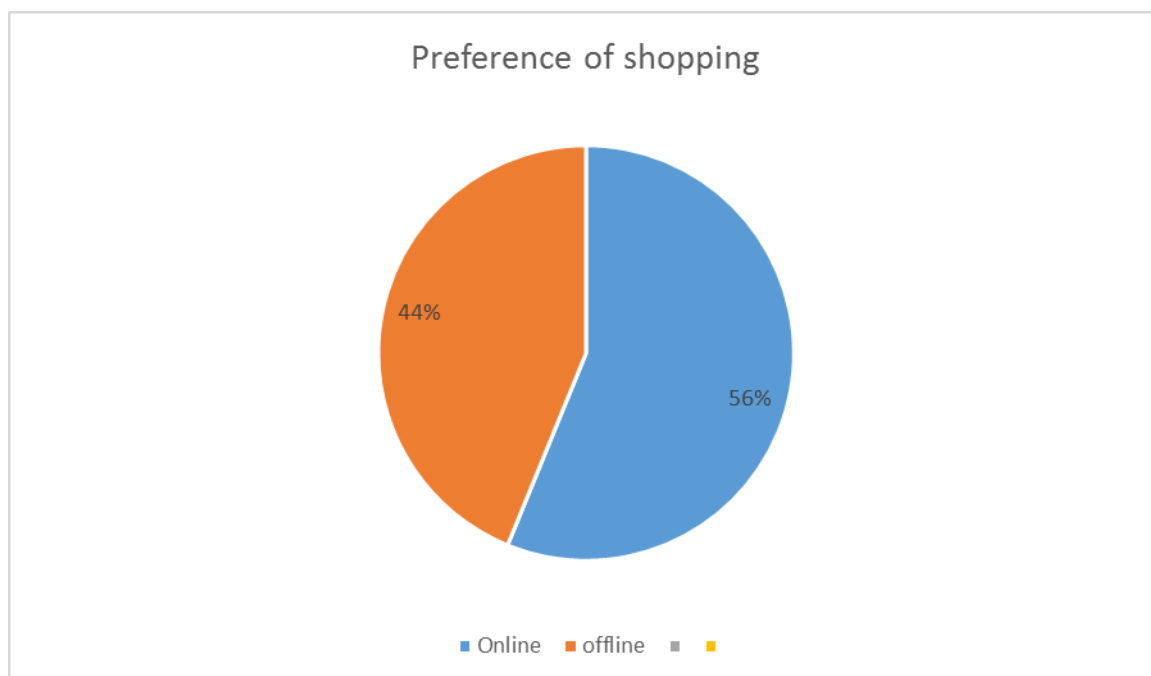


Chart 4.1.7 Chart representing Preference of shopping

Interpretation :

From the above table it is interpreted that 56% of the respondents prefer online shopping and the rest 44% prefer offline

Inference: Majority 56% people prefer online shopping

Table 4.1.8: Table showing preference of online shopping site

Online site	No. of Respondents	Percentage
Amazon	96	56.5
Flipkart	61	35.9
Myntra	8	4.7
Nature foody to your skin	1	0.6
Eps card	1	0.6
Nykaa	1	0.6
Amway	1	0.6
ajio	1	0.6
Total	170	100

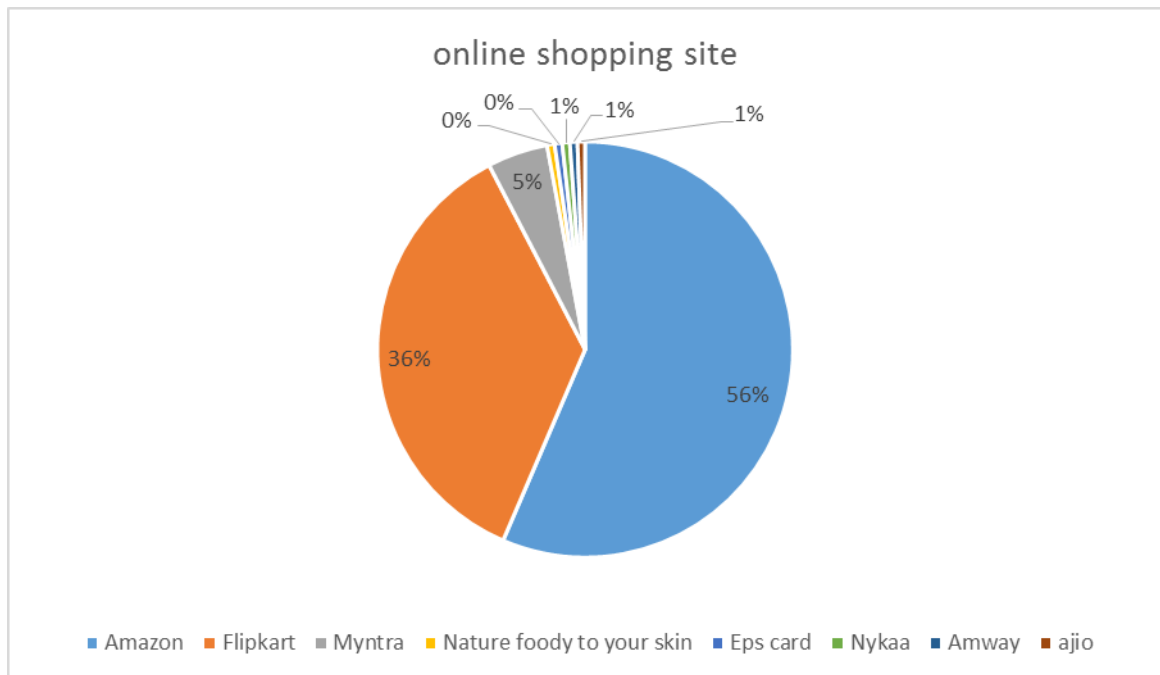


Chart 4.1.8: Chart representing preference of online shopping site

Interpretation:

From the above table it is interpreted that 56% shop at Amazon , 36% shop at Flipkart, 5% at myntra,1% at nyka ,!% at ajo , 1% at Amway

Inference: Majority (56%) shop at amazon .

Table 4.1.9 : Table showing Preference of online shopping

Preference of online shopping	No. of Respondents	Percentage
Strongly Agree	42	25
Agree	75	44
Neutral	47	27
Disagree	3	2
Strongly Disagree	3	2
Total	170	100

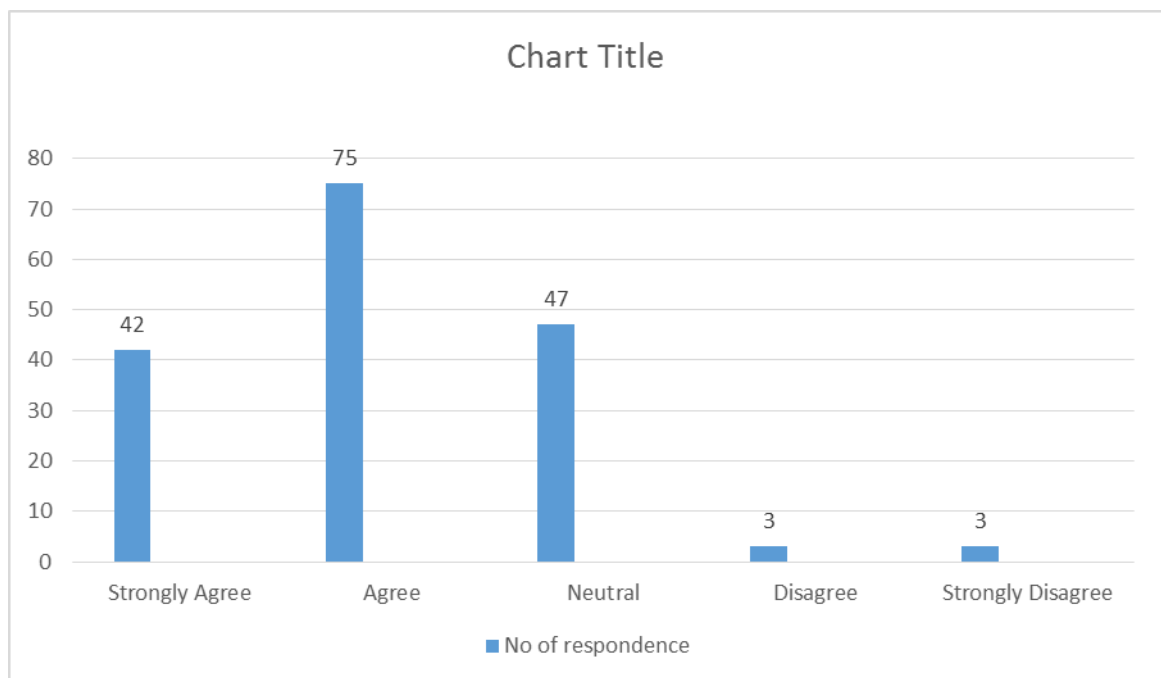


Chart 4.1.9 Chart representing preference in online shopping

Interpretation:

From the above table it is interpreted that 25% of the respondents strongly agree to the statement, 44% of them agrees to the statement 27%are neutral 2% disagrees and 2%stongly disagrees to this statement

Inference

Majority 75(44%) agrees to this statement.

Table 4.1.10:Table showing effectiveness of packaging

Effectiveness of packaging	No. of Respondents	Percentage
Strongly Agree	31	18
Agree	87	51
Neutral	42	25
Disagree	10	6
Strongly Disagree	0	0
Total	170	100

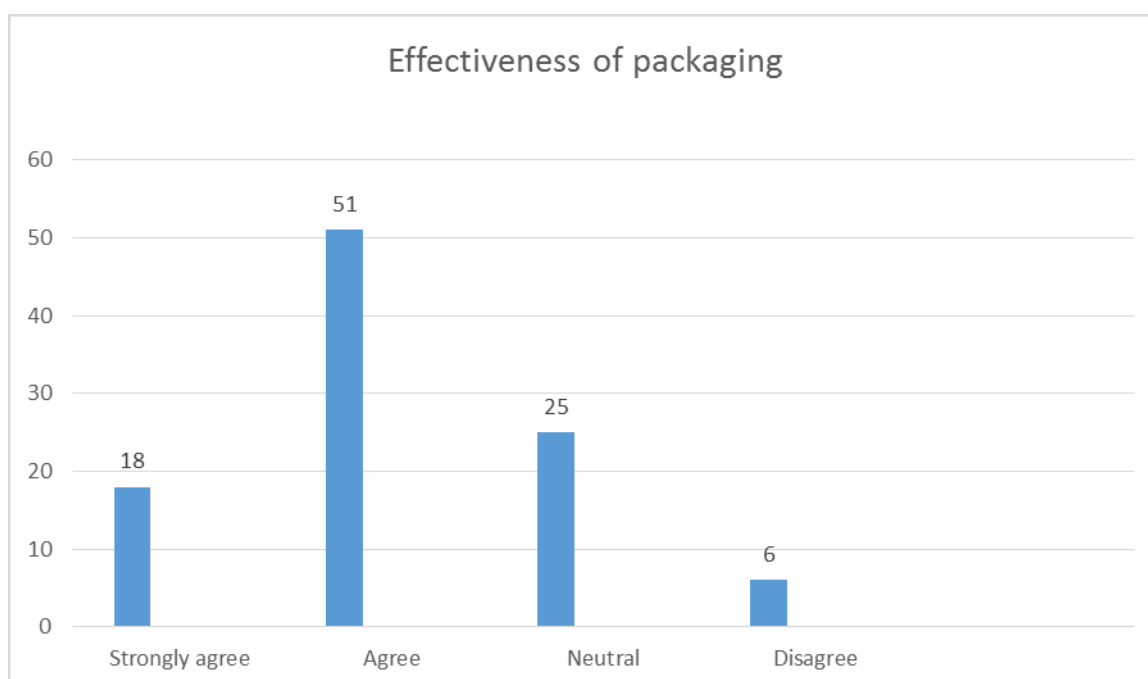


Chart 4.1.10:Chart representing effectiveness of packaging

Interpretation:

From the above table it is interpreted that 18% of the respondents strongly agree to the statement, 51% of them agrees to the statement 25%are neutral 6% disagrees and 0 stongly disagrees to this statement

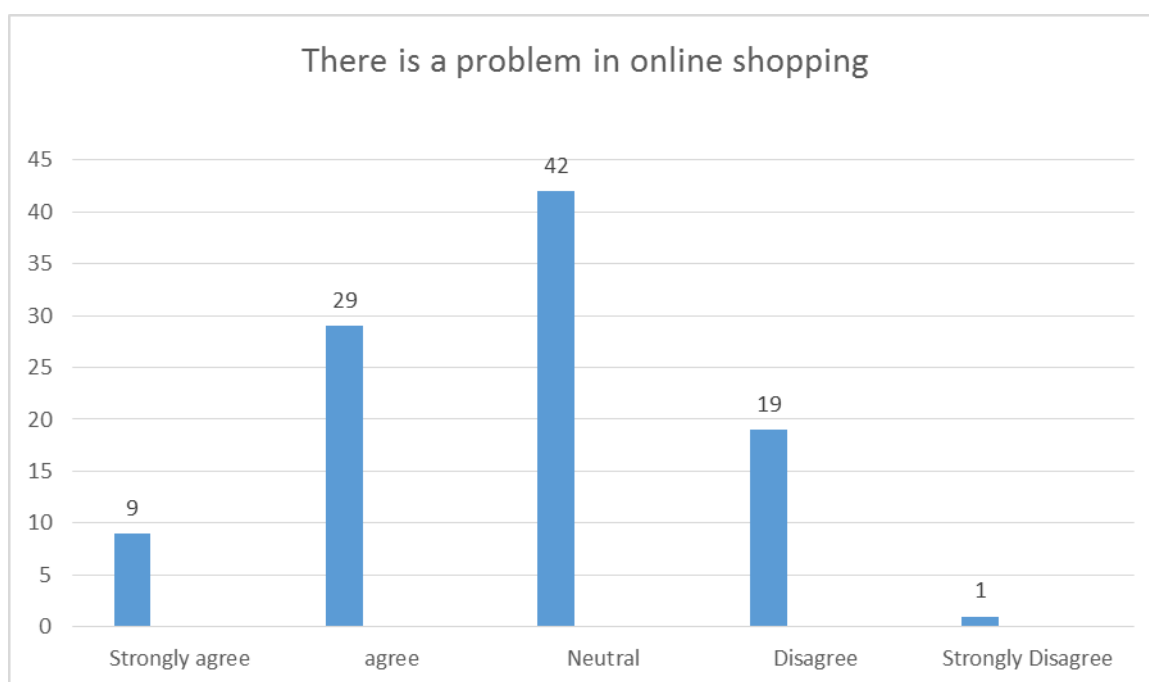
Inference

Majority 87(51%) agrees to this statement.

Table 4.1.11:Table showing there is a problem in online shopping

Effectiveness of packaging	No. of Respondents	Percentage
Strongly Agree	15	9
Agree	50	29
Neutral	71	42
Disagree	33	19
Strongly Disagree	1	1
Total	170	100

Chart 4.1.11:Table showing there is a problem in online shopping



Interpretation:

From the above table it is interpreted that 9% of the respondents strongly agree to the statement, 29% of them agrees to the statement 42%are neutral 19% disagrees and 1%strongly disagrees to this statement

Inference

Majority 71(42%) are neutral to this statement.

Table 4.1.12: Table showing received damaged product

Received damaged product	No. of Respondents	Percentage
Strongly Agree	24	14
Agree	61	36
Neutral	50	29
Disagree	25	15
Strongly Disagree	10	6
Total	170	100

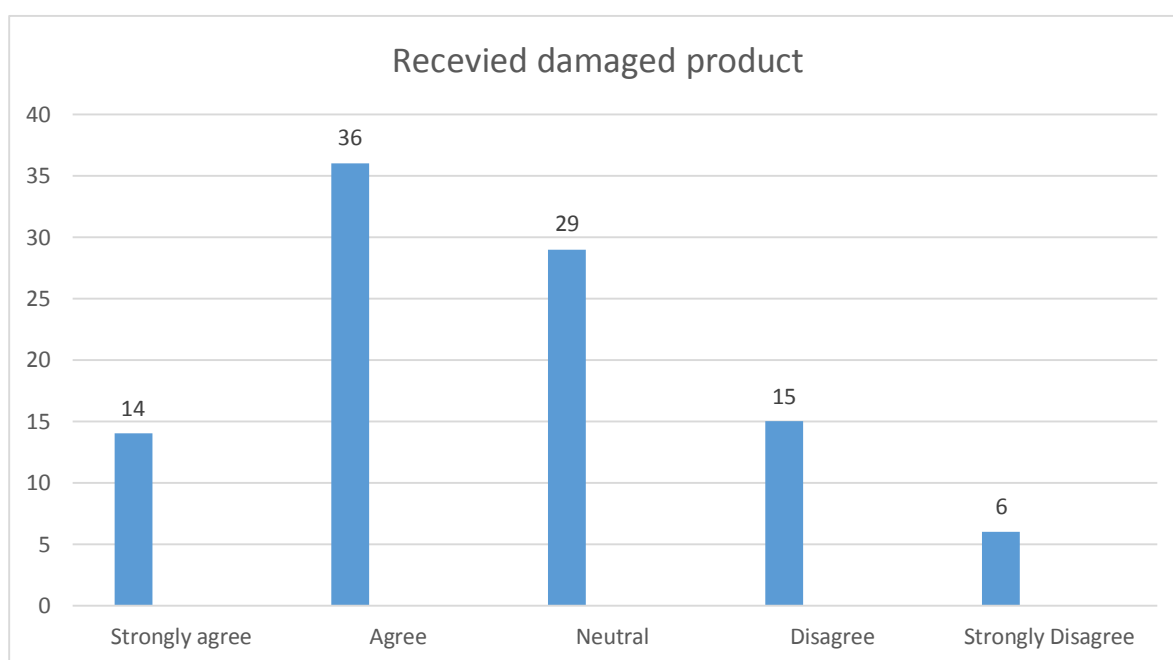


Chart 4.1.12:Chart representing received damaged product

Interpretation:

From the above table it is interpreted that 14% of the respondents strongly agree to the statement, 36% of them agrees to the statement ,29%are neutral, 15% disagrees and 6%strongly disagrees to this statement

Inference

Majority 61(36%) agrees to this statement.

Table 4.1.13:Table showing improper packaging is the reason for damaged product

Improper packaging	No. of Respondents	Percentage
Strongly Agree	29	17
Agree	71	42
Neutral	48	28
Disagree	18	11
Strongly Disagree	4	2
Total	170	100

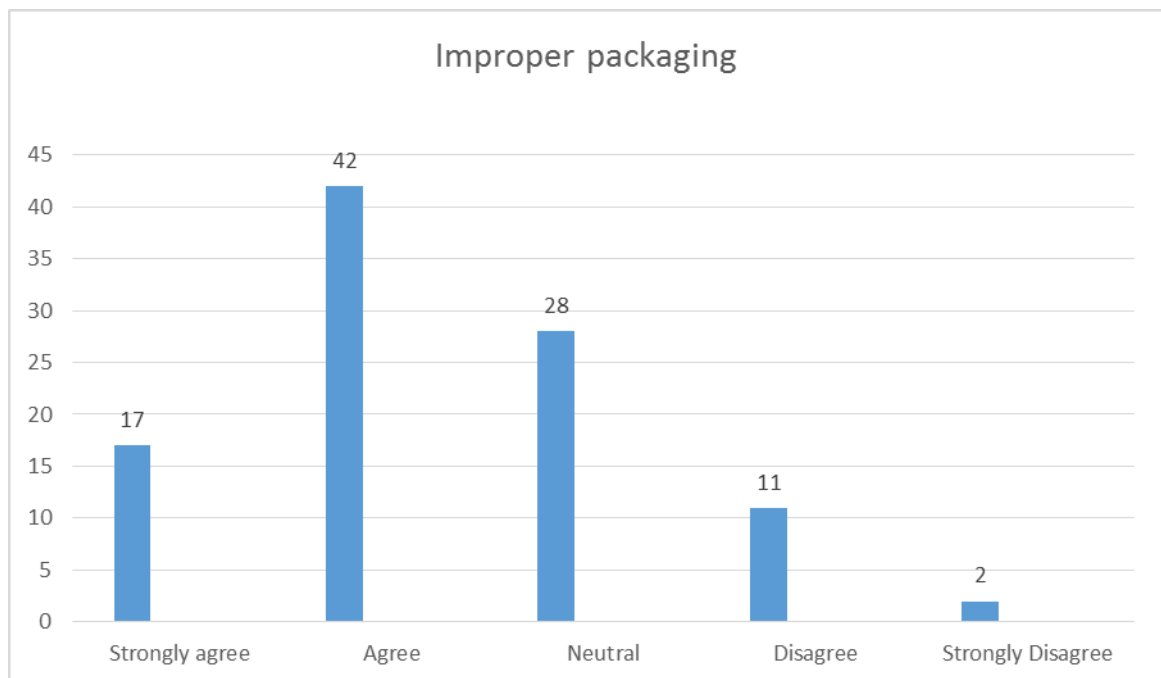


Chart 4.1.13:Chart representing improper packaging is the reason for damaged product

Interpretation:

From the above table it is interpreted that 17% of the respondents strongly agree to the statement, 42% of them agrees to the statement, 28%are neutral ,11 % disagrees and 2% strongly disagrees to this statement

Inference

Majority 71(42%) agrees to this statement.

Table 4.1.14 Table showing packaging used in online shopping are eco friendly

Eco friendly product	No. of Respondents	Percentage
Strongly Agree	25	15
Agree	64	38
Neutral	51	30
Disagree	22	12
Strongly Disagree	8	5
Total	170	100

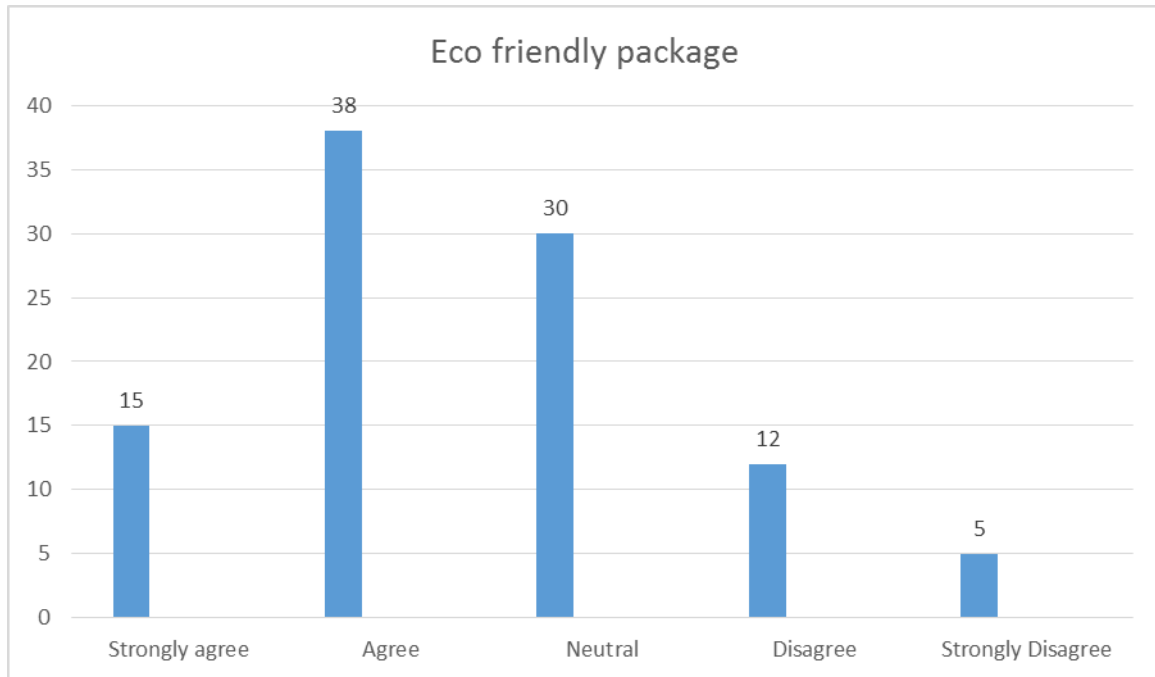


Chart 4.1.14: Chart representing packaging used in online shopping are eco friendly

Interpretation:

From the above table it is interpreted that 15% of the respondents strongly agree to the statement, 38% of them agrees to the statement, 30% are neutral, 12% disagree and 5% strongly disagree to this statement.

Inference

Majority 64(38%) agrees to this statement.

Table4.1.15: Table showing reuse of package

Reuse of package	No. of Respondents	Percentage
Strongly Agree	21	12
Agree	67	39
Neutral	49	29
Disagree	21	13
Strongly Disagree	12	7
Total	170	100

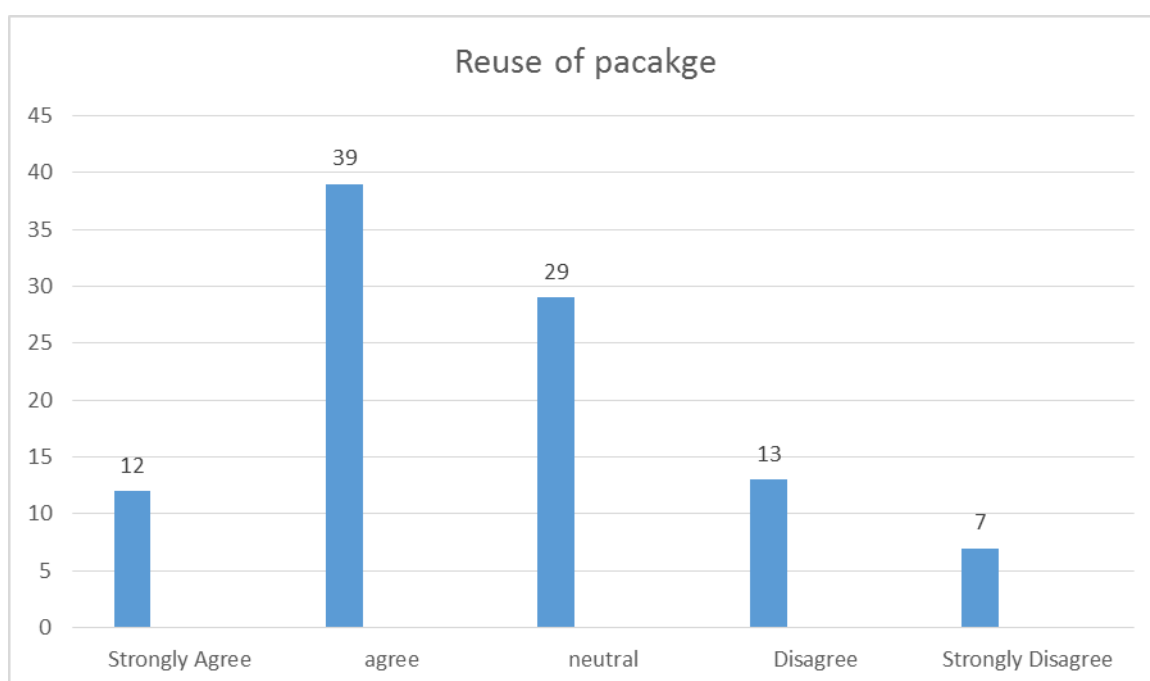


Chart 4.1.15: Chart representing reuse of package

Interpretation:

From the above table it is interpreted that 12% of the respondents strongly agree to the statement, 39% of them agrees to the statement, 29%are neutral, 13% disagrees and 7% strongly disagrees to this statement.

Inference

Majority 67(39%) agrees to this statement.

Table 4.1.16 Table showing packaging material has recycling symbol

Recycling symbol	No. of Respondents	Percentage
Strongly Agree	29	17
Agree	52	30
Neutral	64	38
Disagree	17	10
Strongly Disagree	8	5
Total	170	100

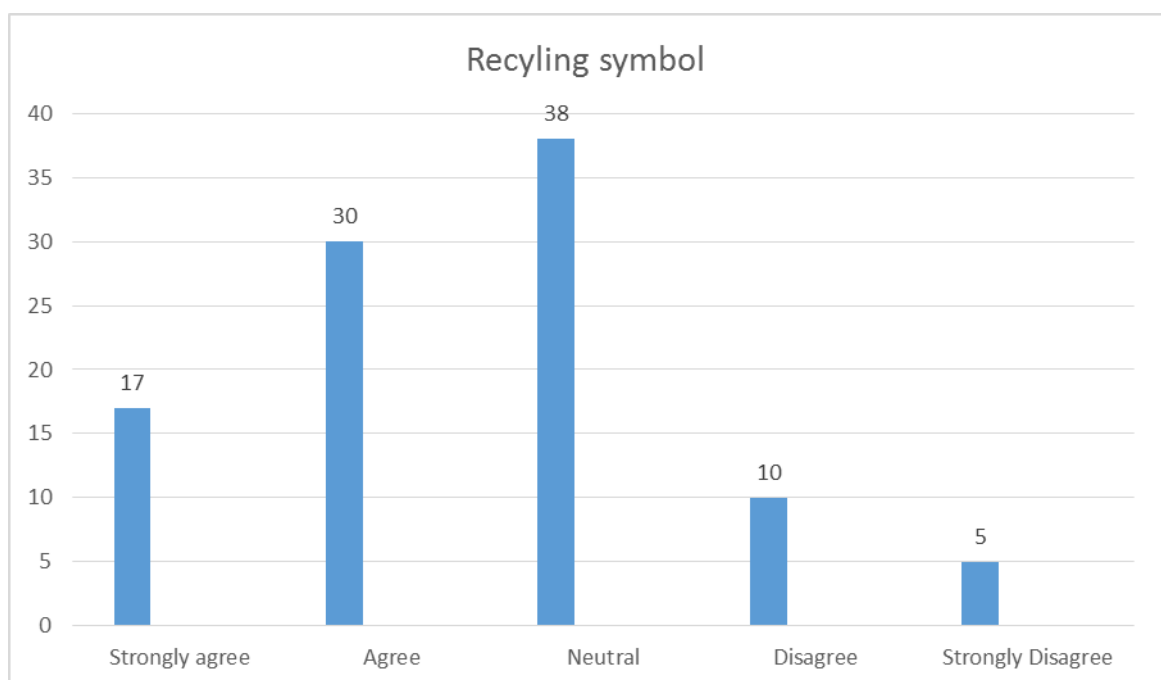


Chart 4.1.16: Chart representing packaging material has recycling symbol

Interpretation:

From the above table it is interpreted that 17% of the respondents strongly agree to the statement, 30% of them agrees to the statement, 38% are neutral, 10% disagrees and 5% strongly disagrees to this statement.

Inference

Majority 64(38%) are neutral to this statement.

Table 4.1.17 : Table showing packaging material used are hard to recycle

Material used are hard to recycle	No. of Respondents	Percentage
Strongly Agree	30	18
Agree	65	38
Neutral	62	36
Disagree	12	7
Strongly Disagree	1	1
Total	170	100

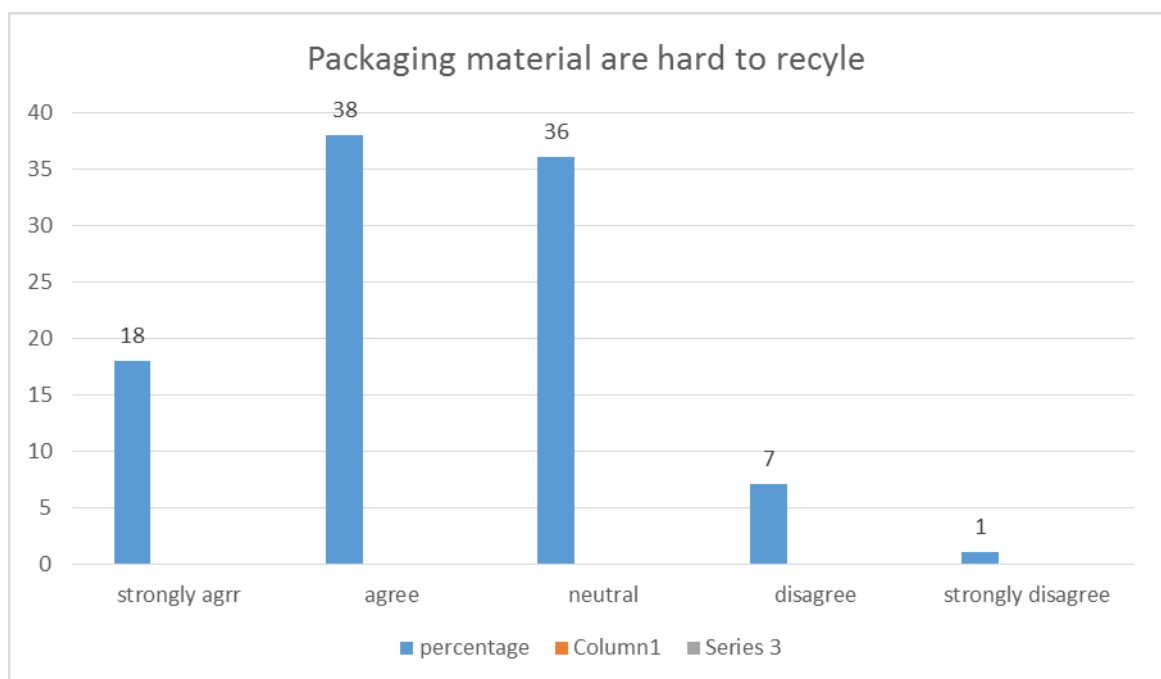


Chart 4.1.17 : Chart representing packaging material used are hard to recycle

Interpretation:

From the above table it is interpreted that 18% of the respondents strongly agree to the statement, 38% of them agrees to the statement, 36%are neutral, 7% disagrees and 1% strongly disagrees to this statement.

Inference

Majority 65(38%) agrees to this statement.

Table 4.1.18: Table showing customer need more ecofriendly measures

Eco friendly measures	No. of Respondents	Percentage
Strongly Agree	38	23
Agree	67	39
Neutral	54	32
Disagree	11	6
Strongly Disagree	0	0
Total	170	100

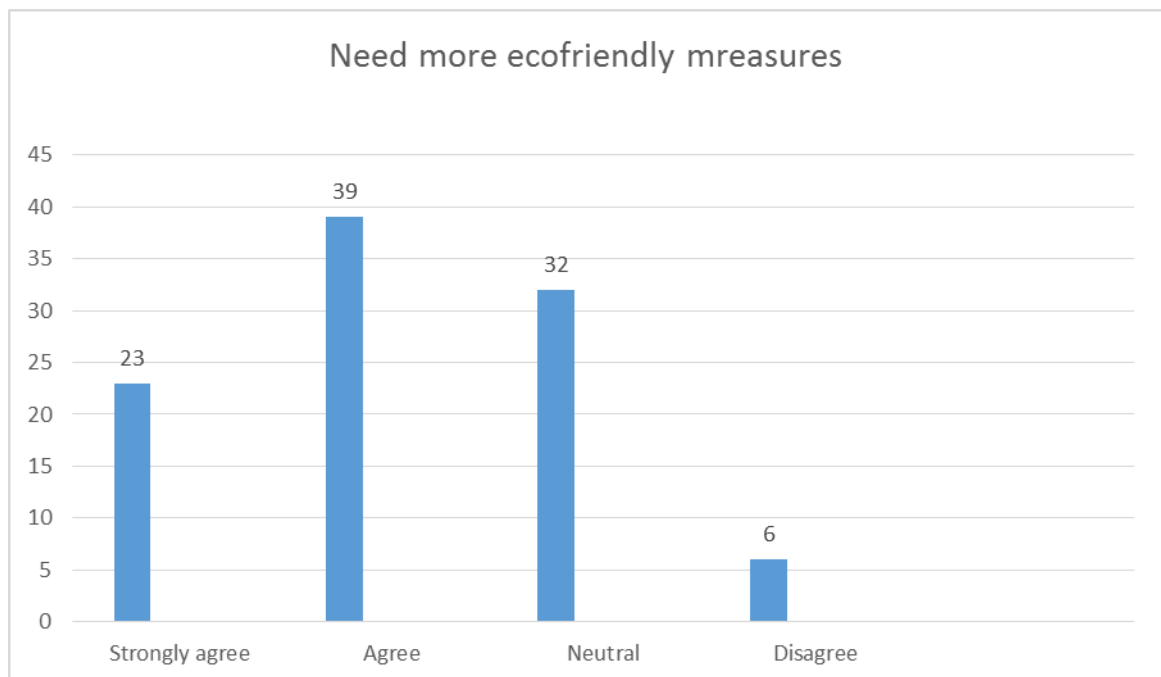


Chart 4.1.18: Chart representing more eco friendly measures should be taken

Interpretation:

From the above table it is interpreted that 23% of the respondents strongly agree to the statement, 39% of them agrees to the statement, 32% are neutral, 6% disagrees and 0% strongly disagrees to this statement.

Inference

Majority 67(39%) agrees to this statement.

Table4.1.19 : Table showing multiple package is not needed

Multiple package is not needed	No. of Respondents	Percentage
Strongly Agree	37	22
Agree	62	36
Neutral	48	28
Disagree	19	11
Strongly Disagree	4	2
Total	170	100

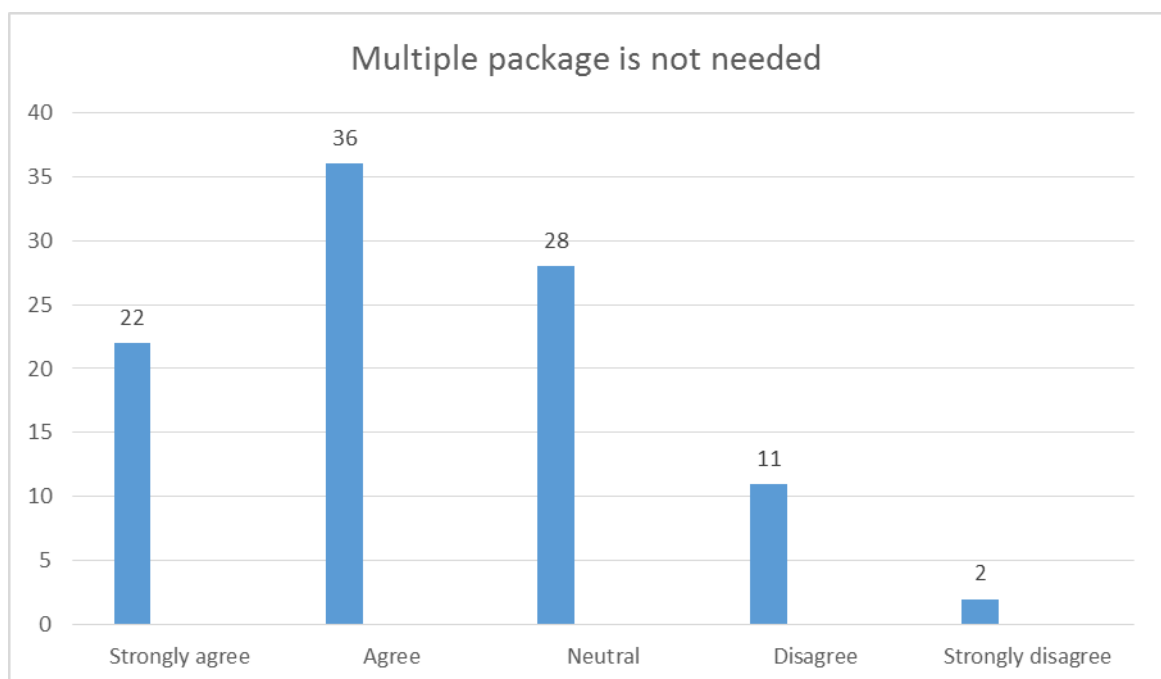


Chart 4.1.19 : Chart representing multiple package is not needed

Interpretation:

From the above table it is interpreted that 22% of the respondents strongly agree to the statement, 36% of them agrees to the statement, 28%are neutral, 11% disagrees and 2% strongly disagrees to this statement.

Inference

Majority 62(36%) agrees to this statement.

Table 4.1.20: Table showing handling of package

Handling of package	No. of Respondents	Percentage
Strongly Agree	29	17
Agree	83	49
Neutral	39	23
Disagree	14	8
Strongly Disagree	5	3
Total	170	100

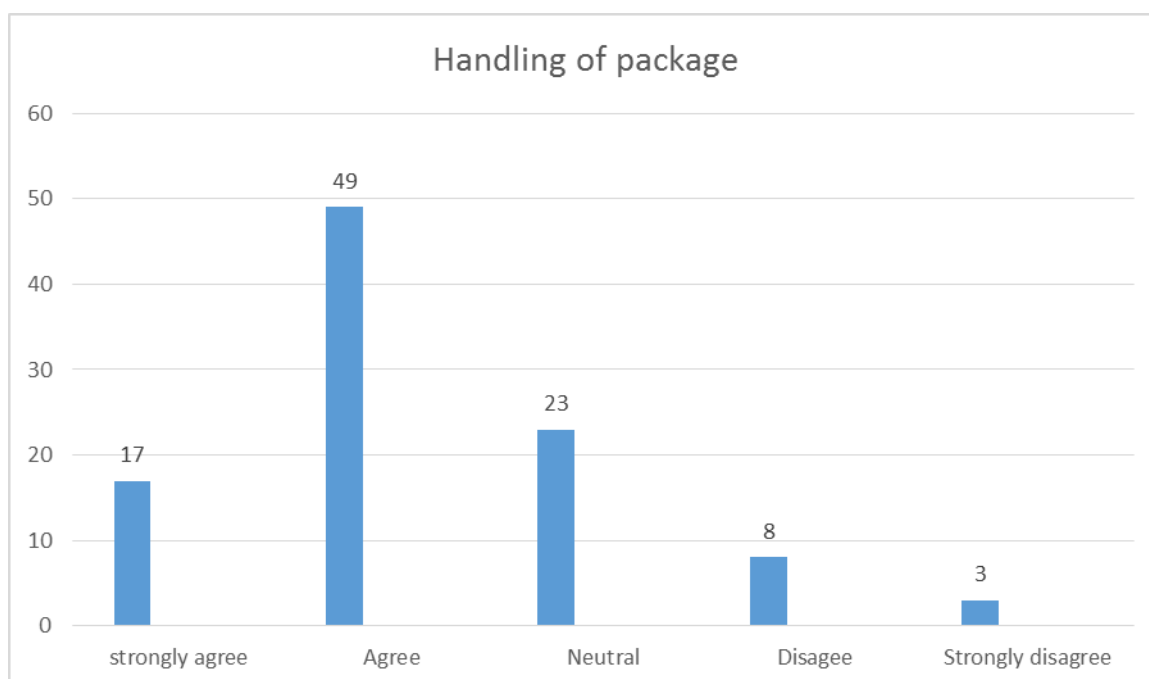


Chart 4.1.20: Chart representing handling of package

Interpretation:

From the above table it is interpreted that 17% of the respondents strongly agree to the statement, 49% of them agrees to the statement, 23%are neutral, 8% disagrees and 3% strongly disagrees to this statement.

Inference

Majority 83(49%) agrees to this statement.

Table 4.1.21 : Table showing Standardize packaging are frustrating

Standardize packaging are frustrating	No. of Respondents	Percentage
Strongly Agree	26	15
Agree	61	36
Neutral	64	38
Disagree	17	10
Strongly Disagree	2	1
Total	170	100

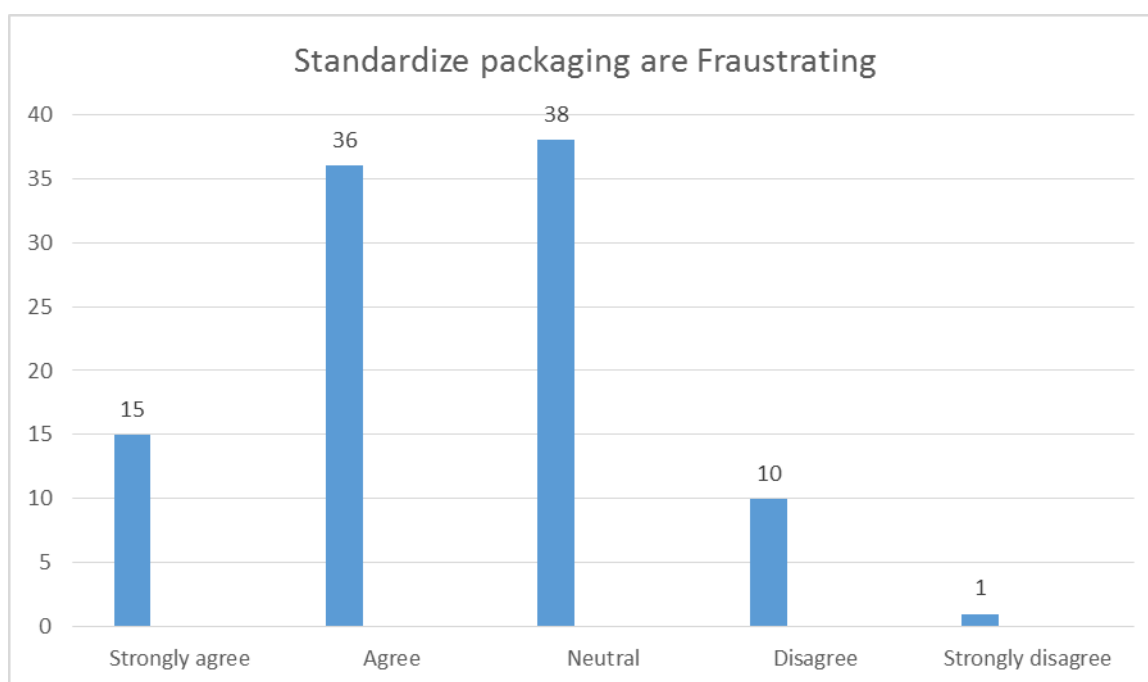


Chart 4.1.21: Chart representing Standardize packaging are frustrating

Interpretation:

From the above table it is interpreted that 15% of the respondents strongly agree to the statement, 36% of them agrees to the statement, 38%are neutral, 10% disagrees and 1% strongly disagrees to this statement.

Inference

Majority 64(38%) are neutral to this statement.

Table 4.1.22: Table showing Frustration free packaging are effective

Frustration free packaging are effective	No. of Respondents	Percentage
Strongly Agree	35	20
Agree	65	38
Neutral	57	34
Disagree	11	6
Strongly Disagree	2	1
Total	170	100

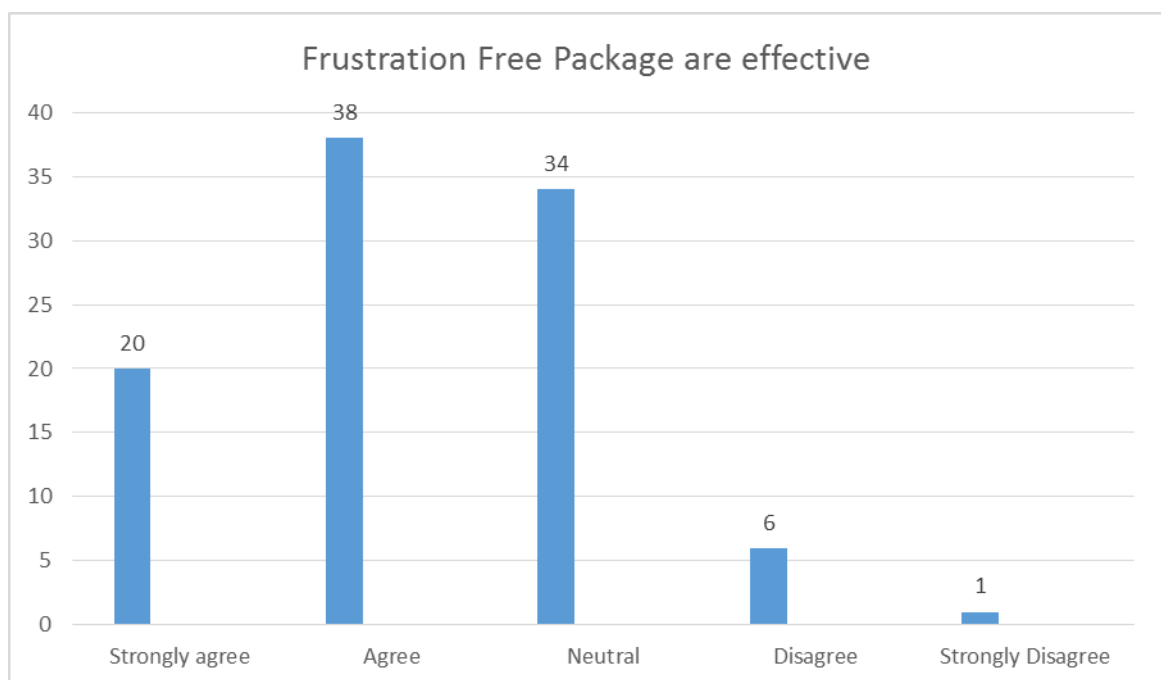


Chart 4.1.22: Chart representing Frustration free packaging are effective

Interpretation:

From the above table it is interpreted that 20% of the respondents strongly agree to the statement, 38% of them agrees to the statement, 34% are neutral, 6% disagrees and 1% strongly disagrees to this statement.

Inference

Majority 65(38%) agrees to this statement.

Table 4.1.23 : Table showing whether all companies can adopt FFP

All companies can adopt FFP	No. of Respondents	Percentage
Strongly Agree	38	23
Agree	69	41
Neutral	54	32
Disagree	7	4
Strongly Disagree	2	1
Total	170	100

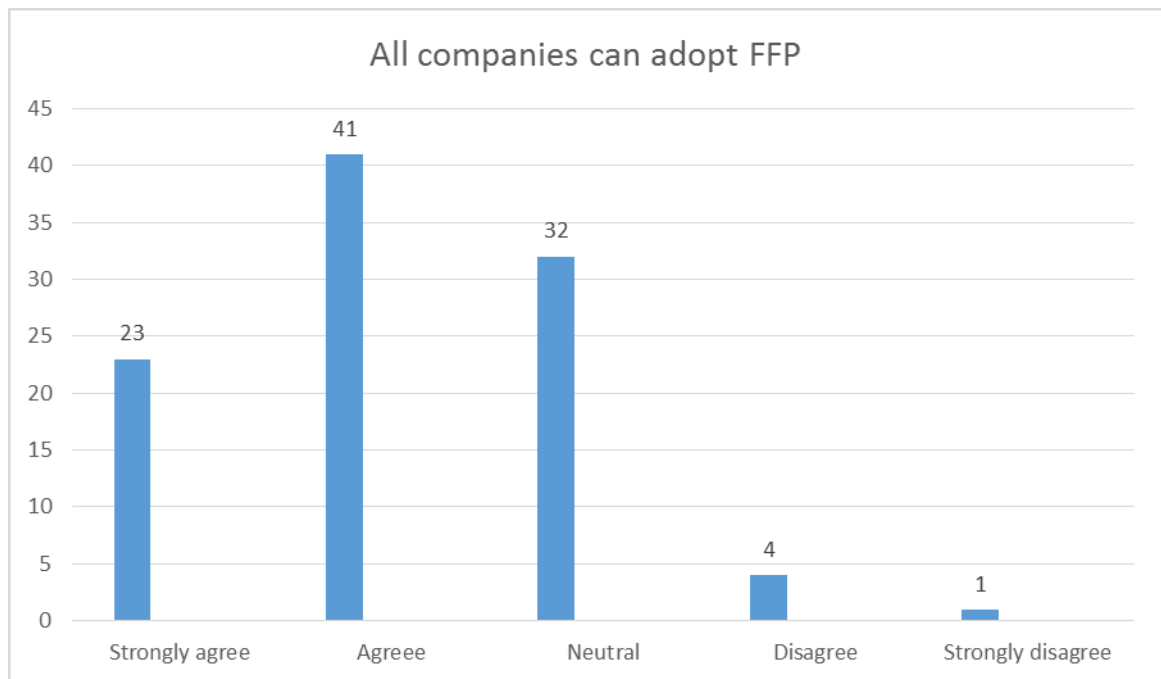


Chart 4.1.23 : Chart representing whether all companies can adopt FFP

Interpretation:

From the above table it is interpreted that 23% of the respondents strongly agree to the statement, 41% of them agrees to the statement, 32%are neutral, 4% disagrees and 1% strongly disagrees to this statement.

Inference

Majority 69(41%) agrees to this statement.

4.2 CORRELATION

Table 4.2.1: Table showing Correlations between Occupation and Problem faced in online shopping

		Occupation	Problems in online shopping
Occupation	Pearson Correlation	1	.633
	Sig. (2-tailed)		.084
	N	170	170
Problems in online shopping	Pearson Correlation	.633	1
	Sig. (2-tailed)	.084	
	N	170	170

Interpretation

From the above table it is interpreted that the Pearson correlation coefficient r , is 0.633 and that it is statistically significant(0.005)

4.3 ANNOVA

Null Hypothesis(H0): There is no significant difference between gender and Recycling of packaging.

Alternate Hypothesis(H1): There is significant difference between gender and Recycling of packaging.

Table 4.3.1: Table showing the descriptive relationship between gender and recycling of these packaging

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Strongly Agree	25	1.36	.490	.098	1.16	1.56
Agree	63	1.30	.463	.058	1.19	1.42
Neutral	50	1.34	.479	.068	1.20	1.48
Strongly Disagree	8	1.13	.354	.125	.83	1.42
Disagree	21	1.33	.483	.105	1.11	1.55
Total	170	1.32	.467	.036	1.25	1.39

Interpretation

The above table provides descriptive statistics including mean, standard deviation and 95% confidence intervals for the dependent variable

Table 4.3.2 : Table showing anova of gender and recycling of packages

Gender					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.388	4	.097	.439	.780
Within Groups	35.792	162	.221		
Total	36.180	166			

Interpretation

From the above table it is interpreted that the the significance value is 0.780 (i.e., $p = .780$), which is above 0.05. and, therefore, there is no significant difference in the mean length of time to complete the spreadsheet problem between the different courses taken.

4.4 Chi square Test

H0 (Null hypothesis) = There is no significant relationship between income of the respondents and opinion on package of a product

H1 (Alternate hypothesis) = There is a significant relationship between income of the respondents and opinion on package of a product

Table 4.4.1: Table showing the descriptive relation between the Income and Preference of standardise packaging

							Total
			Strongly Agree	Agree	Neutral	Disagree	
Income	Less than 1,00,000	Count	16	42	13	6	77
		Expected Count	14.1	39.2	19.1	4.6	77.0
		Residual	1.9	2.8	-6.1	1.4	
	1,00,000 - 3,00,000	Count	10	32	20	3	65
		Expected Count	11.9	33.1	16.2	3.8	65.0
		Residual	-1.9	-1.1	3.8	-.8	
	3,00,000 - 5,00,000	Count	3	9	5	0	17
		Expected Count	3.1	8.7	4.2	1.0	17.0
		Residual	-.1	.3	.8	-1.0	
	More than 5,00,000	Count	2	3	4	1	10
		Expected Count	1.8	5.1	2.5	.6	10.0
		Residual	.2	-2.1	1.5	.4	
Total		Count	31	86	42	10	169
		Expected Count	31.0	86.0	42.0	10.0	169.0

Table 4.4.1.2 :Table showing chi square test Income and standardised packaging

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.978 ^a	12	.028
Likelihood Ratio	22.797	12	.030
Linear-by-Linear Association	7.760	1	.005
N of Valid Cases	169		
a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .12.			

At 5% level of significance and df 12 the table value is 22.978

Calculated value is 0.028

H0 is accepted

Inference

From the above table I could find that majority of the respondents who has less than 1lakh as their income have agreed to the statement and majority of the respondents comes under 1lakh to 3 lakh category have Agreed to the statement And the majority of the respondents who comes under 3,00,000 to 5,00,000 category strongly agreed to the statement and finally majority of the respondents who comes under more than5lakh category have agreed to this statement

With the Expected Count values shown, we can confirm that respondents agrees to this statement

Table 4.4.2: Table Showing descriptive relationship between Income and Frustration Free Packaging

								Total
			Strongly Agree	Agree	Neutral	Strongly Disagree	Disagree	
Income	Lessthan 1,00,000	Count	15	31	16	3	12	77
		Expected Count	16.9	28.2	21.4	1.8	8.7	77.0
		Residual	-1.9	2.8	-5.4	1.2	3.3	
	1,00,000 - 3,00,000	Count	15	24	20	0	6	65
		Expected Count	14.2	23.8	18.1	1.5	7.3	65.0
		Residual	.8	.2	1.9	-1.5	-1.3	
	3,00,000 - 5,00,000	Count	6	3	8	0	0	17
		Expected Count	3.7	6.2	4.7	.4	1.9	17.0
		Residual	2.3	-3.2	3.3	-.4	-1.9	
	More than 5,00,000	Count	1	4	3	1	1	10
		Expected Count	2.2	3.7	2.8	.2	1.1	10.0
		Residual	-1.2	.3	.2	.8	-.1	
Total		Count	37	62	47	4	19	169
		Expected Count	37.0	62.0	47.0	4.0	19.0	169.0

Table 4.4.2.1: Table showing Chi square test of Income and Frustration Free Packaging

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.734 ^a	12	.160
Likelihood Ratio	19.308	12	.081
Linear-by-Linear Association	.485	1	.486
N of Valid Cases	169		
a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .24.			

At 5% level of significance and df 12 the table value is 14.619

Calculated value is 0.263

H₀ is accepted

Inference

From the above table I could find that majority of the respondents who has less than 1lakh as their income have agreed to the statement and majority of the respondents comes under 1lakh to 3 lakh category have agreed to the statement And the majority of the respondents who comes under 3,00,000 to 5,00,000 category are neutral to the statement and finally majority of the respondents who comes under more than 5lakh category is neutral to this statement

With the Expected Count values shown, we can confirm that respondents agrees to this statement

CHAPTER 5

FINDINGS, SUGGESTIONS AND CONCLUSION

The objectives of the study were developed with the assistance of journal papers and comprehensive reviews of the previous study. The data for the demographic factors, factors of emotional intelligence, and therefore the performance of the staff were collected with the assistance of primary information collected through Google forms. The objectives of the study were accomplished in stages

The problem faced in packaging of product in online shopping have been accomplished with the help of secondary data collected through journals and e-datas present in the websites .Recycling of packaging has been collected through Google forms and other journals. Data on and about Frustration free packaging have also been collect and a study is also made on FFP with the help of journals and other e data

5.1 FINDINGS:

- 54 respondents accounting to 32% are male and 115 respondents accounting to 68% are females
- 51 respondents accounting to 30% are married and 119 respondents accounting to 70% are unmarried.
- 46% of the respondents purchase often, 40% not so often and 14% very often
- 56% of the respondents prefer online shopping and the rest 44% prefer offline
- The highest count 33 of them who comes under 1,00,000 to 3,00,000 of income category have agreed to the statement . And most of the other income category have also agreed to the statement from which we can say that most of the respondents agrees to use online shopping .
- The Highest count 42 of them who comes under less than 1lakh income have agreed that the packing in online shopping is effective . And most of the other income category have also agreed to the statement from which we can say that most of the respondents agrees that online shopping is effective.
- 25% of the respondents strongly agree to the statement, 44% of them agrees to the statement 27%are neutral 2% disagrees and 2%stongly disagrees to this statement.

25% of the respondents strongly agree to the statement, 44% of them agrees to the statement 27%are neutral 2% disagrees and 2%strongly disagrees to this statement

- 18% of the respondents strongly agree to the statement, 51% of them agrees to the statement 25%are neutral 6% disagrees and 0 stongly disagrees to this statement

- 9% of the respondents strongly agree to the statement, 29% of them agrees to the statement 42%are neutral 19% disagrees and 1%strongly disagrees to this statement

- 14% of the respondents strongly agree to the statement, 36% of them agrees to the statement ,29%are neutral, 15% disagrees and 6%strongly disagrees to this statement

- 17% of the respondents strongly agree to the statement, 42% of them agrees to the statement, 28%are neutral ,11 % disagrees and 2% strongly disagrees to this statement

- 15% of the respondents strongly agree to the statement, 38% of them agrees to the statement, 30%are neutral, 12% disagrees and 5% strongly disagrees to this statement

- 17% of the respondents strongly agree to the statement, 30% of them agrees to the statement, 38%are neutral, 10% disagrees and 5% strongly disagrees to this statement

- 18% of the respondents strongly agree to the statement, 38% of them agrees to the statement, 36%are neutral, 7% disagrees and 1% strongly disagrees to this statement

- 15% of the respondents strongly agree to the statement, 36% of them agrees to the statement, 38%are neutral, 10% disagrees and 1% strongly disagrees to this statement

- 20% of the respondents strongly agree to the statement, 38% of them agrees to the statement, 34%are neutral, 6% disagrees and 1% strongly disagrees to this statement

- 23% of the respondents strongly agree to the statement, 41% of them agrees to the statement, 32%are neutral, 4% disagrees and 1% strongly disagrees to this statement

- The highest count 30 which comes under less than one lakh income are neutral to this statement . And most of the other income category have also been neutral to the statement from which we can say that most of the respondents don't have an idea on problem in packaging
- The highest count 27 which comes under less than one lakh income agrees to this statement. And most of the other income category have also been agreed to the statement from which we can say that most of the respondents have agreed that they got damaged product while purchasing on online
- The highest count 29 which comes under less than one lakh income agrees to this statement. And most of the other income category have also been agreed to the statement from which we can say that most of the respondents have agreed that package used in online shopping are eco friendly
- The highest count 29 which comes under less than one lakh income agrees to this statement. And most of the other income category have also been agreed to the statement from which we can say that most of the respondents have agreed that package they reuse the package
- The highest count 32 which comes under one lakh to 3 lakh income agrees to this statement. And most of the other income category have also been agreed to the statement from which we can say that most of the respondents have agreed that improper package is the main reason for getting damaged product
- The highest count 28 which comes under less than 1 lakh income are neutral to this statement. And most of the other income category have also neutral to the statement from which we can say that most of the respondents are neutral which means they don't have an idea on recycling package.
- The highest count 28 which comes under 1lakh to 3 lakh income agrees to this statement. And most of the other income category have also been agreed to the statement from which we can say that most of the respondents have agreed that FFP packaging is effective
- The highest count 34 which comes under less than one lakh income agrees to this statement. And most of the other income category have also been agreed to the statement from which we can say that most of the respondents have agreed that all e shopping company can adopt FFP

- It is interpreted that the the significance value is 0.780 (i.e., $p = .780$), which is above 0.05. and, therefore, there is no significant difference in the mean length of time to complete the spreadsheet problem between the different courses taken.
- From the above table it is interpreted that the Pearson correlation coefficient , r , is 0.633 and that it is statistically significant(0.005)

5.2 SUGGESTIONS

The ecommerce channel is prime for promoting the circular economy, says Emmy Corman, package design engineer at Dollar Shave Club. And she's got some ideas on how that can happen. But sustainability is just one of several challenges she sees for brands to up their ecommerce packaging game. Corman says brands face at least three challenges when it comes to ecommerce packaging:

- To be less wasteful by using less materials or reusable packaging.
- To offer a new type of “shelf presence” with better graphics or branding; or to elevate the unboxing experience.
- To optimize returns via the small parcel shipping environment, which is a concern brick-and-mortar retailers don't face.

It is very important to right size your product to the shipper. Not only does this prevent unnecessary voids that enable the product to move during transit, but it helps provide a neat unboxing experience. In our direct-to-consumer business, we always keep our shippers in mind. If a product doesn't fit in our shipper, it is the same as creating a product that doesn't fit on the store shelf.

While we were creating our Blueprint cologne we made sure that our 15-milliliter kits—some of which were sold as sets—would fit in our shipper efficiently. This meant balancing the size constraints of our shipper with the necessarily cushioning to keep our cologne intact.

Not all of our products are as fragile as glass cologne bottles, though. Our tube packaging is pretty robust, partially because tubes are fairly resistant to shock, we don't have a high scuffing concern and because all of our tubes have induction seals. This means that we can save some of the overall shipping weight by using E-flute board instead of B-flute. Even though E-flute does not provide the same

cushion as B-flute, we determined through testing that this wouldn't hinder our product's performance while in transit.

I must start by saying that I am satisfied with the result of this project, my goal is not to just create products that look appealing, but that also are easy to use and can contribute to making the users day a little bit better. I think that this is something I manage to do since the-package that constitutes the result of this project is really quick and easy to fold if used together , which can help ease the workload in a packaging line. The package is also easy for the consumer to open up and re-seal. When the opening strip is removed, the lid of the package automatically flips open, and when re-sealing the package all that needs to be done is to expose the glue of the tape-strip and fold the lid back over. I would also say that the aesthetics of the packaging helps in creating a positive unboxing experience, since this is something out of the ordinary and you can see that thought has been put in both the shape and the graphics of the package

Frustration Free Packaging a package design which has been adopted by amazon is a best solution for package in online shopping which reduce damage and cost effective .

Unlike traditional packaging, frustration free packaging programs are designed for e-commerce shipping. It protects the product but the packaging design is easy to open.

Open up the Amazon box without extra product packaging, maybe open another smaller box for small parts, and the product is ready to use. This process not only provides a better customer experience, but it also reduces packaging waste.

An added bonus? The Frustration Free Packaging (FFP) program uses packing materials that are 100% recyclable. You're helping yourself and the environment when using it.

Frustration-Free Packaging is packaging that is made of 100% recyclable materials, easy to open, and designed to ship products in their original packaging, which eliminates the need for an additional shipping box

According to Amazon "Frustration-Free Packaging" was designed with the customer in mind, making it easier to liberate products from their packages while also reducing waste.

Today, Frustration-Free Packaging includes 750,000 products but in 2008, the program launched with only 19 of the "worst offenders" including

products enclosed in hard plastic cases known as “clamshells” and secured with plastic-coated wire ties, which are commonly used in toy packaging.

One of the first brands to launch in Frustration-Free Packaging was Fisher-Price.

The example below highlights the improvements Fisher-Price made when they designed a Frustration-Free Packaging option for their product.

5.3 CONCLUSION

It was ascertain that people prefer FFP packaging which reduce damages ,cost effective a, recyclable and reusable .Online packaging waste in standardized is not recycled and it has multiple package with multiple material to cover a single product which hard to recycle and reuse and in the other hand customer feel frustrated while opening the product and it is not very easy to handle but the delivery man, where as in FFP packaging it is very easy to recycle as only single material is used that is cardboard which is very easy easy to recycle and reuse .And it is very easy to handle FFP package which reduce damages and it is very convenient to the customer to handle and open .

Only few E companies have adopted FFP packaging like Amazon . It is better that all e companies can adopt FFP packaging to reduce damages and cost . Even amazon uses FFP packing only for 70% of their product .

Currently, online shopping has become one of the main ways of people to consume. Considering that online shopping goods are generally delivered singly, it is not only necessary for to emphasize the protection performance of product, but also to bring a close shopping experience to consumers in the packaging design of online shopping goods, so as to reproduce the original goods packaging by taking advantaging of the e-commerce platform under the online shopping mode. Therefore, customers cannot enjoy a convenient, fast and environmental-friendly life

APPENDIX

1. Name:

2. Gender:

☐ Male

☐ Female

3. Marital Status:

☐ Married

☐ Unmarried

5. Educational qualification

☐UG

☐PG

☐others

6. Annual Income

☐ Less than 1,00,000 ☐ 1,00,000-3,00,000

☐ 300,000-5,00,000

☐ More than 5,00,000

7.Occupation

☐Student

☐ job

☐ Business

☐ other

8.How often you purchase a product from online

☐ Not so often

☒ often

9.Which online shopping site do you prefer?

☐ Amazon

☐ Flipkart

☐ Myntra

☐ others

10. Where do you shop

☐Online

☐Offline

Strongly agree (SA), Agree(A), Neutral (N), Disagree(D), Strongly disagree(SD)

Factors	SA	A	N	D	SD
11. I prefer online shopping.					
12. Packaging in online shopping is effective .					
13.I think there is a problem in online packaging .					
14. Received damaged package while purchasing product in online.					
15. Improper packaging is the main reason for damaged product in online shopping					

Strongly agree (SA), Agree(A), Neutral(N), Disagree(D), Strongly disagree(SD)

Factors	SA	A	N	D	SD
16. Packaging used in online shopping are eco friendly .					
17. My packaging material has recycling symbol .					
18. I re-use the package to meet my needs in the future.					
19. I feel that too much packaging material are used ,which is hard to recycle					
20. Customer seek more environmental-friendly measures from online shopping.					

Strongly agree (SA), Agree(A), Neutral(N), Disagree(D), Strongly disagree(SD)

Factors	SA	A	N	D	SD
21. I think, multiple packaging for a single product is not needed					
22. Packaging used in online shopping is easy to open and handle.					
23. I prefer standardized packaging.					
24. I think Frustration-Free Packaging is effective .					
25. All online shopping companies can adapt Frustration-Free packaging.					

REFERENCES

- Alsadir, P (2018). Traditional retailers target e-commerce. Available at: <http://www.news.com.au/finance/business/breaking-news/traditional-retailers-target-ecommerce/news-story/43e00e464f34951cbf5b2be4f77c8bea> (2018-04-23)
- Axbom, P., & Royal-Lawson, J. (2016). #125 Design doing with Don Norman (Part 1). UX Podcast. Retrieved from <https://uxpodcast.com/episodes/> (2018-04-18)
- Bohgard, M. (2011). Osvalder, A. L., Rose, L., & Karlsson, S. (p. 488-489). *Arbete och teknik på människans villkor* (edition 2:1). Stockholm: Preven
- Bo Rundh, (2009). Packaging design: creating competitive advantage with product packaging. *British Food Journal*, Vol. 111 (Issue 9), 988-1002
- Chen, Y.-H., Germain, C.A., & Rorissa, A. (2011). Defining Usability How Library Practice Dif-fers from Published Research. *Information Studies Faculty Scholarship*, Paper 4. Doi: 10.1353/pla.2011.0020
- Cooper, A. (1999). *THE INMATES ARE RUNNING THE ASYLUM – Why High-Tech Products Drive Us Crazy and How to Restore the Sanity*. Indianapolis: Macmillan Computer Publishing
- .DS Smith (n.d). Transforming e-commerce: Why poor packaging is bad for business and how to avoid it. Available at: https://www.dssmith.com/contentassets/a006ee8ff78a4ea9a6ffed24c796f8a5/ds_smith_whitepaper-nobleed_v10.pdf (2018-04-20)
- Dotcom distribution (2013). Brown boxes don't deliver for brands. Dotcom distribution (2016). *Driving Customer Loyalty With Fast Delivery and Quality Packaging*. Available at: <https://dotcomdist.com/2016-eCommerce-Packaging-Study/> (2018-05-01)
- Elmuti, D., & Kathawala, Y. (1997). An overview of benchmarking process: a tool for continuous improvement and competitive advantage. *Benchmarking for Quality Management & Technology*, 4(4), 229-243.
- FEFCO (n.d). How is corrugated made? Available at: <http://www.fefco.org/corrugated-packaging> (2018- 05-10)

- Fridley, J. L., Jorgensen, J. E., & Lamancusa, J. S. (1997, November). Benchmarking: a process basis for teaching design. In *Frontiers in Education Conference, 1997. 27th Annual Conference. Teaching and Learning in an Era of Change. Proceedings.* (Vol. 2, pp. 960-967). IEEE.
- Hassenzahl, M., & Tractinsky, N. (2006). User experience-a research agenda. *Behaviour & information technology*, 25(2), 91-97.
- IDEO (2015). *The Field Guide to Human-Centered Design*. By IDEO.org (1st edition), San Francisco
- Incpen (2012). *Packaging and the Internet*. Available at: <https://www.incpen.org/packaging-and-the-internet/> (2018-07-30)
- Incpen (2014). *Packaging innovations*. Available at: <https://www.incpen.org/packaging-innovations/> (2018-07-30)
- Incpen, 2017. *Packaging for Planet, people and Profit – a sustainable checklist*. Available at: <https://www.incpen.org/sustainability-checklist-for-packaging/> (2018-07-30)
- IT-ord (2014). *Unboxing*. Available at: <https://it-ord.idg.se/ord/unboxing/> (2018-05-29)
- Kujala, S., Roto, V., Väänänen-Vainio-Mattila, K., Karapanos, E., & Sinnelä, A. (2011). UX Curve: A method for evaluating long-term user experience. *Interacting with Computers*, 23(5), 473-483.
- Lankford, W. M. (2000) *Benchmarking: Understanding the basics*. *The Coastal Business Journal*, Vol. 1(1), 57-62.
- Lidwell, W., Holden, K., & Butler, J. (2015). *The pocket - Universal Principles of Design (1)*. USA: Rockport Publishers. Isbn: 978-1-63159-040-5
- Marshall, R., Cook, S., Mitchell, V., Summerskill, S., Haines, V., Maguire, M., Sims, R., Gyi, D. & Case, K. (2013). Design and evaluation: End user datasets and personas. *Applied ergonomics*, 46(2015), 311-317.
- Martin, B., & Hanington, B. (2012). *Universal Methods of Design*. Beverly, MA: Rockport Publishers.
- Milton, A. & Rodgers, P. (2013). *Research methods for product designers*. London: Laurence King Publishing Limited

- Niel, O (2017). The future of corrugated – Consumer is king. Available at: <https://noa.uk.net/future-corrugated-consumer-king/> (2018-04-21)
- Nielsen, L. & Hansen, K. S. (2014). Personas in Applicable – A study of the Use of Personas in Denmark. CHI - CONFERENCE; 2014, 2B: 1665-1674. New York, Association for Computing Machinery.
- Norman, D. A. (2005). Human Centered Design Considered Harmful. Magazine Interactions – Ambient Intelligence: Exploring our Living Environment. Volume 12 Issue 4, New York.
- Norman, D. A. (2013). The Design of Everyday Things. New York: Basic Books.
- Osvalder, A. L., Rose, L., & Karlsson, S. (2010) Arbete och teknik på människans villkor (2:1). Stockholm: Prenter.
- Packaging World (2018a). E-commerce a major growth area for corrugated packaging. Available at: <https://www.packworld.com/article/e-commerce-major-growth-area-corrugated-packaging> (2018-04-20)
- Packaging World (2018b). Can your current package navigate the e-commerce chain?. Available at: <https://www.packworld.com/article/can-your-current-package-navigate-e-commerce-supply-chain> (2018-04-20)
- Smets, G. & Overbeeke, K. (1994) Industrial design engineering and the theory of direct perception. Design Studies, Vol. 15 (2), pp. 175-184.
- Smurfit Kappa (n.d). The Power of Packaging: A missed opportunity. Available at: <https://info.smurfitkappa.com/esmart#our-whitepaper> (2018-04-27)
- Storaenso (n.d). E-commerce in the era of consumer experience: The evolution of packaging in the modern consumer journey. Available at: <http://assets.storaenso.com/se/com/Documents%20for%20external%20sharing/ViewPoint-ecommerce-%20era-of-customer-experience.pdf> (2018-05 - 01)
- Storaenso (2018). The Anticipation in Unboxing. Available at: <http://renewablepackaging.storaenso.com/news/the-anticipation-in-unboxing> (2018-05-17)
- Tovey, M. (1989). Drawing and CAD in industrial design. Design Studies, Vol. 10 (1), pp. 24-39.
- Ulrich, K. T., & Eppinger, S. T. (2012). Product Design and Development (edition 5). Singapore: McGraw Hill.

- Veryzer, R. W. & Borja de Mozota, B. (2005). The Impact of User-Oriented Design on New Product Development: An Examination of Fundamental Relationships. The journal of Product innovation management, Vol. 22 (2), 128-143.
- Wikberg Nilsson, Å., Ericsson, Å., & Törlind, P (2016). Design – Process och Metod (edition 1:2). Lund: Studentlitteratur AB.

BIBLIOGRAPHY

BOOKS

- Sunil Chopra , Peter Meindl , D.V. Kalra , Supply Chain Management, Pearson, 6th Edition, 2016.
- Janat Shah, Supply Chain Management, Pearson, 2016.
- Bowersox, Supply Chain Logistics Management, Tata McGraw Hill, 2011.
- Chandrasekaran. N, Supply Chain Management, Oxford University Press, 2010.
- Judy Dickens, Principles and Practice of Supply Chain Management, Willford Press, 2019.

TITLE: A STUDY ON EFFECTIVENESS OF PACKAGING PRODUCT IN ONLINE SHOPPING

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ABSTRACT

Internet market has become the main sales channel in the era changing rapidly. Consumers change their consumption concepts, resulting in difficulties of traditional physical form of packaging in meeting the contemporary people's shopping patterns and aesthetic interests; therefore, the packaging design of online shopping goods arises at this historic moment. The innovative packaging of online shopping goods is based on the promotion of the Internet market and the online virtual trading market, as well as targeting at global consumers. The fashion and the unique way of online shopping in the Internet era has become the new orientation and design basis for the packaging of online shopping items. Unlike the package design of traditional shopping market, the most important characteristic of the package of online shopping goods is that consumers are unable to get practical shopping experience. How to make it accurately and clearly convey the information to help consumers make the right purchase decision and successfully complete the online trading is the principle of the package design of online shopping goods.

The e-commerce is an area that has grown considerably in recent years and continues to grow at a rapid pace. It is thereby becoming more and more important for companies to distinguish themselves amongst others, not least when it comes to getting customers to return for a second purchase. A good way to do this is to create a positive experience for consumers. As the interaction with the customers has shifted from physical meetings to a computer screen through the spread of online retail, it is important to nourish the few encounters that remain. An important point of interaction is the receiving of purchased goods. The packaging in which the goods are shipped, is thus an important source of communication to the customer, and a perfect means of displaying the company values.

This thesis project aims at examining how an optimal packaging for this area can be created .During the contextual work of this project, where a basic analysis of the market was made, a number of needs could be established. To be able to create a positive user experience and thus a competitive edge in the market, these needs must be fulfilled by packages made for shipping online-bought items. Following these needs, the project's design phase was carried out

with the aim of creating a packaging solutions. This project will give an idea on effective package design which will be useful for both customer and the online shopping industry

1. INTRODUCTION

A retailers e-commerce packaging is a vital marketing tool; however, many still under utilise it. Inevitably, this means missed opportunities for a business to promote their product and at worse, the company risk unintentionally damaging their brand.

Studies show the influence packaging has on consumers with 70% viewing online packaging as an important part of the buying experience. If the packaging is sub-par, the majority, roughly 95%, stated that it negatively affected their opinion of a company with half admitting that they would probably return the merchandise.

When observed from a consumer's standpoint, the basis for placing relevance on packaging becomes clear. For individuals buying from retailers with online-only outlets, packaging will most likely be the first and perhaps only physical contact they will have with the brand. Those who purchase from retailers with brick-and-mortar and online shops expect the online service to reflect their in-store experience, which merchants usually invest in a lot more. Basically, one could say that the package that comes to the consumer's door from online retailers is the most crucial contact they will have with their customers, so they need to make sure they get it right.

1.1 INDUSTRIAL PROFILE

Packaging plays a pivotal role in consumers' experience with respect to the brand and the overall purchasing experience. There are four major functions of packaging—containment, protection, communication and utility—that are intended to maximize sales and profits while reducing losses and wastage; and all of them are critical for enhancing consumer experience. In a traditional brick-and-mortar commerce, packaging was used to create distinction and increase shelf presence through attractive and easy-to-spot colors, shapes and graphics. When damage is occurred in a brick-and-mortar store, it was easy for the consumer to set the damaged product aside and pick an undamaged one placed right next to it. Loss of product was not necessarily compounded by the loss of sales or customer. In an e-commerce world, however, the effects of a damaged product are very different. A consumer makes a purchasing decision at the click of a button and to contend with a damaged product, after delivery wait time, can lead to a conclusive decision against the online retailer. As per e marketer, 83% consumers are unlikely to purchase from an online retailer again after a poor experience.

The Indian e-commerce packaging market was valued at USD 451.4 million in 2019, and it is expected to reach USD 975.4 million by 2025, registering a CAGR of 13.8% during the period of 2020-2025.

Owing to the rising population, increasing income levels, changing lifestyles, and growing economy, the demand for e-commerce packaging is growing in India. The country is focusing more on sustainable solutions, which is increasingly becoming a business imperative. With the growing awareness, the requirement for eco-friendly and

sustainable packaging is steadily on the rise. With several billion parcels delivered every year, the threat of packaging waste is increasing due to which, the need for recyclable packaging material is on the rise.

Having realised the impact of their packaging decisions, companies are investing to enhance e-commerce packaging to meet consumer expectations and positively impact their perceptions and purchasing decisions.

1.3 STATEMENT OF THE PROBLEM

Problem faced in packaging of product in online shopping

Packaging for the most part, is designed to present products to consumers in such a way that they feel compelled to buy. When it comes to ecommerce, though, this is actually rather wasteful in a few very surprising ways

1.2 OBJECTIVES OF THE STUDY

PRIMARY OBJECTIVE

- To find the problem faced in packaging of product in online shopping

SECONDARY OBJECTIVES

- To find about damaged product due to improper packaging
- To know about recycling of these package
- To find about Frustration-Free Packaging

2. RESEARCH METHODOLOGY

It is a map or blue print according to which the research is to be concluded. Research design ensures that

- 1) The study will be relevant to the problem, and
- 2) The study will employ economical procedures.

In this project, Descriptive Research Design will be adopted. Descriptive Research studies are those studies which are concerned with describing the characteristics of a particular individual or group. The descriptive analysis is to produce a situation analysis.

2.1 DATA COLLECTION METHOD

There are 2 types of data collection namely,

- Primary data
- Secondary data

2.1.1 PRIMARY DATA

Primary data are fresh data, which do not exist in records and publications. The researcher has to gather primary data for his/her specific study. Primary data are generated when the researcher investigates a particular problem employing mail, questionnaires, telephone surveys, personal interviews, observations and experiments.

In this project, the primary data is required for the study will be collected using SURVEY METHOD.

2.1.2 SECONDARY DATA

On the other hand includes those data which are collected for some earlier data. Secondary data is the secondhand information. It is classified into two categories:

- Internal secondary data
- External secondary data

In this research, the researcher used the internal secondary data and it is collected from various sources like published books, companies' broacher and websites.

In this data was collected by contacting the respondents directly. The secondary data required for the study has been compiled from websites, journals, magazines and subject books.

Research Instrument:

A questionnaire consisting of rating scales viz, strongly agree, and Agree, Neutral, Disagree, Strongly Disagree.

2.2 DATA COLLECTION TOOL

The tool used for the survey method will be liker scale . A questionnaire is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from respondents.

RANDOM SAMPLING

This may be the most important type of sample. A random sample allows a known probability that each elementary unit will be chosen. For this reason, it is sometimes referred to as a probability sample.

POPULATION

The target population is the collection of elements or objects that process the information sought by the researcher and about which inferences are to be made.

SAMPLING SIZE

The sample size for the study is 170 respondents have been collected

2.3 TOOLS TO BE USED FOR ANALYSIS

In order to extract meaningful information from the data collected. The data analysis is carried out. The analysis is basically aimed at giving preference of association or difference between the various tables present in the research.

Statistics:

The term 'statistics' refers to a measured value based upon sample data. After collection of data, the questionnaires will be scrutinized and facts coded and tabulated followed by analysis and interpretation using statistical techniques mentioned below

- Percentage Analysis
- Annova
- Correlation
- Chi square

2.3.1 PERCENTAGE ANALYSIS:

Percentage refers to a special kind of ratio. Percentage helps in making comparison between two or more series of data. Percentage is used to describe the relationships. It is also used to compare the relative trees, the distribution two or more series of data.

$$\text{Percentage of respondents} = \frac{\text{Number of respondent} \times 100}{\text{Total respondents}}$$

2.3.2 ANNOVA

Gender					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.388	4	.097	.439	.780
Within Groups	35.792	162	.221		
Total	36.180	166			

Interpretation

From the above table it is interpreted that the the significance value is 0.780 (i.e., $p = .780$), which is above 0.05. and, therefore, there is no significant difference in the mean length of time to complete the spreadsheet problem between the different courses taken

2.3.3 CORRELATION

Correlations			
		Occupation	Recyclingofpackaging
Occupation	Pearson Correlation	1	-.133
	Sig. (2-tailed)		.084
	N	170	170
Recyclingofpackaging	Pearson Correlation	-.133	1
	Sig. (2-tailed)	.084	
	N	170	170

Interpretation

From the above table it is interpreted that the Pearson correlation coefficient ,r , is 0.633 and that it is statistically significant(0.005)

2.3.4 CHISQUARE

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.978 ^a	12	.028
Likelihood Ratio	22.797	12	.030
Linear-by-Linear Association	7.760	1	.005
N of Valid Cases	169		
a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .12.			

INTERPRETATION

From the above table I could find that majority of the respondents who has less than 1lakh as their income have agreed to the statement and majority of the respondents comes under 1lakh to 3 lakh category have Agreed to the statement And the majority of the respondents who comes under 3,00,000 to 5,00,000 category strongly agreed to the statement and finally majority of the respondents who comes under more than 5lakh category have agreed to this statement

With the Expected Count values shown, we can confirm that respondents agrees to this statement

4. CONCLUSION

It was ascertain that people prefer FFP packaging which reduce damages ,cost effective a, recyclable and reusable .Online packaging waste in standardized is not recycled and it has multiple package with multiple material to cover a single product which hard to recycle and reuse and in the other hand customer feel frustrated while opening the product and it is not very easy to handle but the delivery man, where as in FFP packaging it is very easy to recycle as only single material is used that is cardboard which is very easy easy to recycle and reuse .And it is very easy to handle FFP package which reduce damages and it is very convenient to the customer to handle and open .

Only few E companies have adopted FFP packaging like Amazon . It is better that all e companies can adopt FFP packaging to reduce damages and cost . Even amazon uses FFP packing only for 70% of their product .

Currently, online shopping has become one of the main ways of people to consume. Considering that online shopping goods are generally delivered singly, it is not only necessary for to emphasize the protection performance of product, but also to bring a close shopping experience to consumers in the packaging design of online shopping goods, so as to reproduce the original goods packaging by taking advantaging of the e-commerce platform under the online shopping mode. Therefore, customers cannot enjoy a convenient, fast and environmental-friendly life.

5. REFERENCES

- Alsadir, P (2018). Traditional retailers target e-commerce. Available at: from: <http://www.news.com.au/finance/business/breaking-news/traditional-retailers-target-ecommerce/news-story/43e00e464f34951cbf5b2be4f77c8bea> (2018-04-23)
- Chen, Y.-H., Germain, C.A., & Rorissa, A. (2011). Defining Usability How Library Practice Differs from Published Research. Information Studies Faculty Scholarship, Paper 4. Doi: 10.1353/pla.2011.0020
- Cooper, A. (1999). THE INMATES ARE RUNNING THE ASYLUM – Why High-Tech Products Drive Us Crazy and How to Restore the Sanity. Indianapolis: Macmillan Computer Publishing
- Dotcom distribution (2013). Brown boxes don't deliver for brands. Dotcom distribution (2016). Driving Customer Loyalty With Fast Delivery and Quality Packaging. Available at: <https://dotcomdist.com/2016-eCommerce-Packaging-Study/> (2018-05-01)
- Elmuti, D., & Kathawala, Y. (1997). An overview of benchmarking process: a tool for continuous improvement and competitive advantage. Benchmarking for Quality Management & Technology, 4(4), 229-243.
- Incpen (2014). Packaging innovations. Available at: <https://www.incpen.org/packaging-innovations/> (2018-07-30)
- Incpen, 2017. Packaging for Planet, people and Profit – a sustainable checklist. Available at: <https://www.incpen.org/sustainability-checklist-for-packaging/> (2018-07-30)
- IT-ord (2014). Unboxing. Available at: <https://it-ord.idg.se/ord/unboxing/> (2018-05-29)
- Kujala, S., Roto, V., Väänänen-Vainio-Mattila, K., Karapanos, E., & Sinnelä, A. (2011). UX Curve: A method for evaluating long-term user experience. Interacting with Computers, 23(5), 473-483.
- Marshall, R., Cook, S., Mitchell, V., Summerskill, S., Haines, V., Maguire, M., Sims, R., Gyi, D. & Case, K. (2013). Design and evaluation: End user datasets and personas. Applied ergonomics, 46(2015), 311-317.
- Norman, D. A. (2005). Human Centered Design Considered Harmful. Magazine Interactions – Ambient Intelligence: Exploring our Living Environment. Volume 12 Issue 4, New York.
- Norman, D. A. (2013). The Design of Everyday Things. New York: Basic Books. Osvalder, A. L., Rose, L., & Karlsson, S. (2010) Arbete och teknik på människans villkor (2:1). Stockholm: Prentice.
- Packaging World (2018a). E-commerce a major growth area for corrugated packaging. Available at: <https://www.packworld.com/article/e-commerce-major-growth-area-corrugated-packaging> (2018-04-20)
- Packaging World (2018b). Can your current package navigate the e-commerce chain?. Available at: <https://www.packworld.com/article/can-your-current-package-navigate-e-commerce-supply-chain> (2018-04-20)
- Storaenso (2018). The Anticipation in Unboxing. Available at: <http://renewablepackaging.storaenso.com/news/the-anticipation-in-unboxing> (2018-05-17)
- Wikberg Nilsson, Å., Ericsson, Å., & Törlind, P (2016). Design – Process och Metod (edition 1:2). Lund: Studentlitteratur AB.

