

STUDY THE SELLING POTENTIAL OF
RECYCLED AND UPCYCLED HOUSEHOLD
PRODUCTS FOR URBAN PUNE

A Thesis

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TILAK MAHARASHTRA VIDYAPEETH
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In Management

Under the Board of Management Studies



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UNDER THE GUIDANCE OF

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Tilak Maharashtra Vidyapeeth, Pune

Declaration

I Smita Santoki is a PhD Scholar of Tilak Maharashtra Vidyapeeth in Marketing Management subject. Thesis entitled: Study the selling potential of recycled and upcycled household products for urban Pune, under the supervision of Dr. C. Sunanda Yadav, solemnly affirm that the thesis submitted by me is my own work. I have not copied it from any source. I have gone through extensive review of literature of the related published/ unpublished research works and the use of such references made has been acknowledged in my thesis. The title and the content of research is original, and I understand that, in case of any complaint especially plagiarism, regarding my PhD research from any party, I have to go through the enquiry procedure as decided by the Vidyapeeth at any point of time. I understand that, if my PhD thesis (or part of it) is found duplicate at any point of time, my research degree will be withdrawn and in such circumstances, I will be solely responsible and liable for any consequences arises thereby, I will not hold the TMV, Pune responsible and liable in any case.

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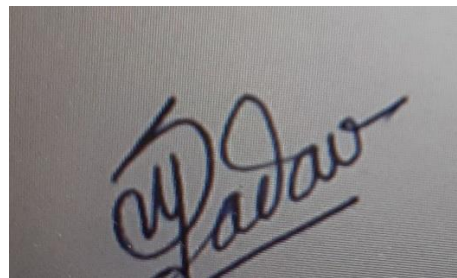
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CERTIFICATE OF THE SUPERVISOR

It is certified that work entitled- Study the selling potential of recycled and upcycled household products for urban Pune, is a original research work done by Mrs. Smita Santoki, under my supervision for the Doctor of Philosophy in Management to be awarded by Tilak Maharashtra Vidyapeeth, Pune.

To the best of my knowledge, this thesis:

- Embodies the work of candidate herself
- Has duly been completed
- Fulfills the requirement of the ordinance related to PhD degree of the TMV
- Up to the standard in respect of both content and language for being referred to the examiner

A photograph of a handwritten signature in black ink on a light-colored background. The signature is written in a cursive style and appears to read 'C. Sunanda Yadav'.

Dr. C. Sunanda Yadav

Signature of the Supervisor

Acknowledgement

To begin with, I would like to express my heartfelt gratitude to respectable **Chancellor of the Tilak Maharashtra Vidyapeeth Dr. Deepak J. Tilak, the Vice-Chancellor Dr. Geetali Tilak and to the Dean of Faculty of Management Dr. Pranati Tilak** for giving me the golden opportunity to pursue my PhD at the esteemed Tilak Maharashtra Vidyapeeth (TMV-Pune).

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- Smita Santoki

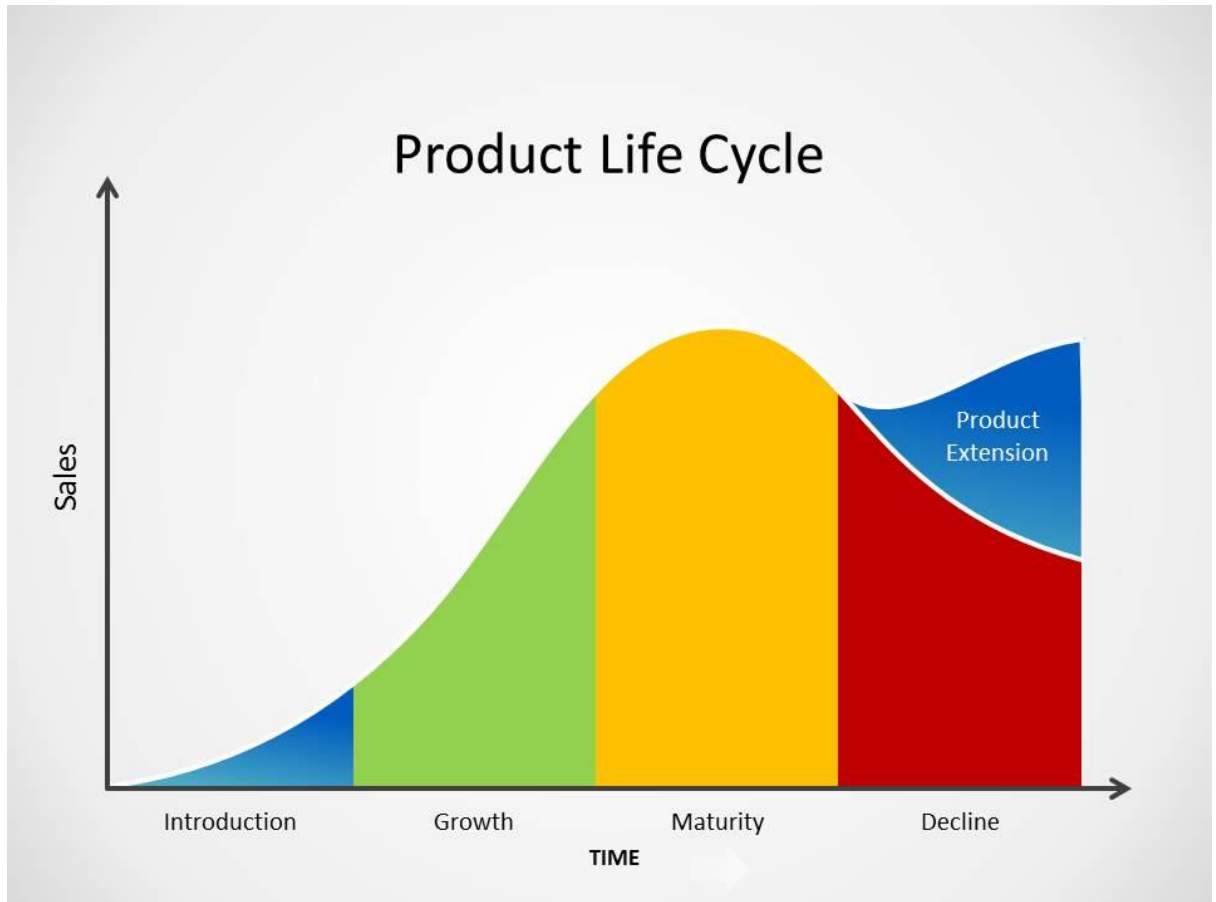
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Chapter 1: Introduction

1.1 Contextual Background for this Research:

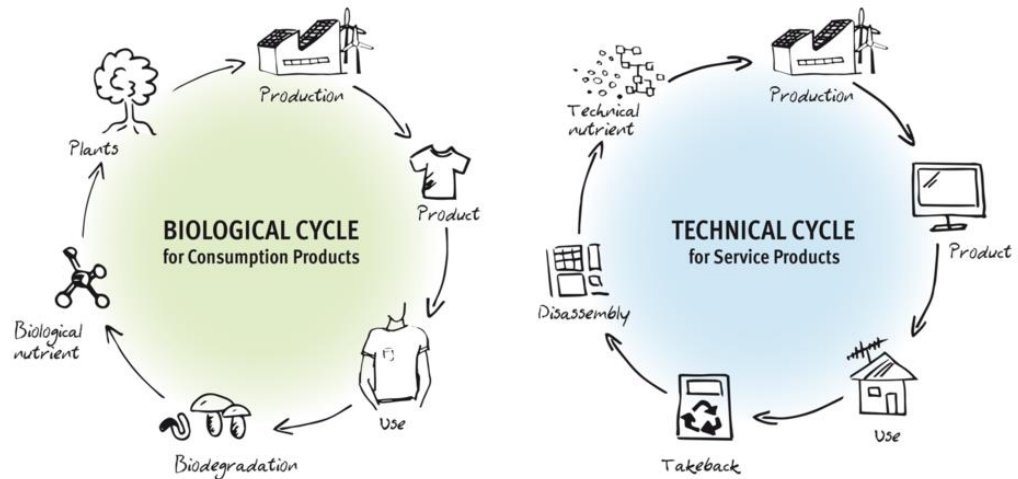
Marketing dynamics always begin with either a product or a service in place. Everyone in the marketing domain is well versed with the general life cycle of a product. In a nutshell, a product has four major stages namely- the introduction stage, the growth, the maturity, and the stage of decline.



Source: www.toolsgroup.com

'Recycling' and 'Upcycling' can be termed as important emergent strategies from this very declined stage in the life cycle of a product as this is the stage from where the said product instead of landing in a landfill; can be further churned through the process of recycling and or upcycling to convert into making a new product.

This approach is called the 'cradle-to-cradle' approach that is popularized by William McDonough and Dr. Michael Braungart (both are stalwarts of sustainable product designing)



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Source: <https://epea.com/en/about-us/cradle-to-cradle>

This concept is relevantly new and opposite to the one commonly in use which is ‘Cradle-Grave’ approach in which the product’s life cycle ends with the same landing in a landfill.

However, not much research has been done to find out on this new possibility of saving the products from landing in landfills through the process of recycling and upcycling. Therefore, as very little is known about this process post decline stage along with the knowledge about the recycled and upcycled set of products for household use also being extremely limited due to this being insufficiently explored; hence, the researcher with the intention of contributing more to this area of research has chosen this broad topic for study and titled it as: “Study the Selling Potential of Recycled and Upcycled Household Products for Urban Pune.”

What happens to the products made from recycling and upcycling process is important to find out and therefore the need to study the selling scope of these products made from the decline stage, gains a significant importance. And for mass consumption of these recycled and upcycled commodities to take place, they need to be used by the consumers for household purpose.

Further, the marketplace for such commodities is ‘urban’ as the rural areas do not have the resources as well as finances to support these initiatives and so urban city of Pune has been chosen for this research

Pune city in Maharashtra, India has been chosen for two reasons. One the availability of sellers dealing in recycled and upcycled household products and secondly the language of communication being Marathi conversant with researcher herself, that adds authenticity in data collection.

1.2 Meaning and Conceptual Understanding of ‘Recycling’ and ‘Upcycling’ terms

Words like eco-friendly, environmentally friendly, sustainability, green goods etc are not just merely words that are beautiful, bold, buzz words of today; but a very basic entity that must be used by one and all in the most practical manner. And two more crucial and significant words from the same family are ‘Recycling and Upcycling.’

The term ‘recycling’ means something which can be used again for some different purpose and reused. Breaking down of the main product into pieces which is then used as raw materials and processed to make something new that can be reused in the same or a different format, is recycling. Whereas the term ‘upcycling’ stands for something which is converted creatively into a completely different purpose and use.

According to the Oxford dictionary, “Recycling is the action or process of converting waste into reusable material. The reprocessing of discarded waste materials for reuse, which involves collection, sorting, processing, and conversion into raw materials which can be used in the production of new products.”

Therefore, recycling is a great alternative to prevent the waste of potentially useful materials that also can reduce the energy usage, air and water pollution. Recycling also helps in lowering the greenhouse gas emissions.

As far as the definition of Upcycling is concerned; this term itself is so nascent that no clear definition has been provided yet by even the Oxford, Cambridge, or Collins. However, one can find this definition on google as, “Upcycling is the process of transforming materials destined to be destroyed into new products of higher value and environmental purpose. Reusing waste without destroying it takes far less energy than breaking it down to be remade into something new.” So, upcycling is an organic way of creating something new altogether and that also which is sustainable in nature.

As per the foregorecycling firm of the United Kingdom (UK); ‘Recycling’ involves the destruction of waste in order to create something new, whereas upcycling takes waste and creates something new from it in its current state. While recycling is practical, upcycling is highly creative and can use a variety of creative techniques and materials to create the finished product.

Hence, both recycling and upcycling are different concepts and therefore cannot be used interchangeably as they are being today. Further, below Table 1.2 has a set of few examples that provides lucid understanding of both the concept of recycling and upcycling.

These examples are typically for use in household for general or specific purposes and can be produced in large quantities and therefore makes sense for a large public consumption.

Table1.2: Understanding the Recycling and Upcycling Differentiation

Recycling Examples	Upcycling Examples
1) Newspapers recycled to make more papers	1) Newspapers upcycled to pencils made from newspapers
2) Glossy Magazines and Advertisements into fresh colourful pages	2) Upcycled as the inside covers of a eco-friendly bag from the glossy magazines and advertisement brochures
3) Breaking the worn-out floor tiles to create mirror art	3) Worn tiles shaped up and hand painted for walls
4) Adult socks recycled to fresh cloth for reuse	4) Adult socks turned into a kids leggings
5) Gift wraps, packs recycled into paper	5) Gift paper and wraps converted into a fancy bag
6) Dried flowers recycled for fresh Incense Sticks	6) Dried flowers infused in papers and made diaries or greeting cards
7) Natural Bamboo cutlery recycled to reusable bamboo cutlery sets	7) Natural Bamboo upcycled to make Bamboo Fabric, toothbrushes, and straws
8) Banana fibre can be recycled to make compost	8) Banana fibre upcycled in fancy eco-friendly bags
9) Glass bangles recycled to make new glass	9) Glass bangles upcycled to make a wall hanging and other decorative items
10) Old sarees are recycled to make fresh fabric	10) Old sarees are upcycled into soft quilts

1.3 The Historical Significance of Recycling and Upcycling

At this junction, it will be interesting to share the history of recycling and the first ever recycling proof available to us human beings to refer. The timeline of recycling will be an interesting share for us to know through history as to how and where and at what stage are we at today.

Recycling lives through a timeline of events. The first ever history of recycling dates back to the fact of 1301 in Japan, wherein recycling of paper was done for the purpose of lack of resources and for the sake of using it again so that the manufacturing process also can be saved. Here is a table that describes the timeline of recycling and how various sectors and which stakeholders started it.

The idea of conservation and reusing the materials has been around for centuries and has seen a flexible and a fluctuating popularity and success over the years. This table provides a timeline of key historical recycling events, the start of recycling and how has it evolved over the years.

Table 1.3: Timeline of Recycling Events in History

Timeline of Recycling: Source Hintons, United Kingdom
(<https://www.hintonswaste.co.uk/news/history-of-recycling-timeline/>)

Time	Title	Brief Info
1301	Japan: The first ever proof of paper recycling	This process of reusing wastepaper became a norm to conserve materials and output maximisation
1690	Philadelphia-The Rittenhouse Mill	America's first ever paper mill built by a German took old clothes, cotton, linen and fabrics to produce recycled paper that was used for printing and publication
1776	New York- The first Metal Recycling	Statue of King George III was torn down, melted, and converted into bullets; post the America's Independence from the Britishers
1813	Batley, West Yorkshire-The Shoddy Process	Benjamin Law invented the 'shoddy' process that means the creation of recycled wool from old clothes and rags. He collected, grinded the

		gathered rags to respun into yarn.
1891	London- William Booth	Booth devised the 'darkest England' scheme to help the poor by asking his employees to get discarded items to a spot rented by him where these items were given to these poor, for reusing
1897	New York City- Material Recovery Centre	Heeding to the residents, first ever materials recovery facility started. This centre allowed discarded materials to be sorted and separated into various categories, so recyclable materials such as papers, fabrics, metals etc. could be reused
1904	Chicago- First American Aluminium Can Recycling Plant	Due to a large scale production of Aluminium in 1886, led to the first can recycling plant
1942	Recycling in Wartime	Both the first and the second World Wars forced both the Britishers and the Americans to have recycling approaches to manage their resources well. They seeked help from the public by asking them to take waste cooking oil fats to local meat dealers, that would be then recycled into fuels for explosives
1955	United States- 'Throwaway Living'	Recycling wasn't on the upswing as this year, the Life Magazine published a story titled 'Throwback Living' that encouraged single use items and showcased a lesser responsible way to thinking, drawing a bad and a guilty PR for them
1970	United States- The Recycling 'Mobius Loop' Logo	23 year old engineering student Gary Anderson won a competition by

		designing a logo for the recycled paper
1977	Barnsley, South Yorkshire-UK's first 'Bottle Bank'	6 th June 1977 with Stanley Race dropping an empty jar into the very first recycling bank in the country; became a pivotal moment that made glass recycling easy for everyone in this bottle bank
1983	Canada- The Blue Box Recycling System	In Ontario, the blue box recycling system was introduced as a way of sorting and collecting efficiently of household waste. This system made it simple for the public to recycle aluminium, steel, plastic, glass, paper and other materials. The system was modified and adopted across the globe and remains prevalent today too
1991	Switzerland-The first Electronic Recycling Program	In Switzerland, the IT and the electronics importers met together to tackle the issue of electronic waste disposal through which this Swico recycling system emerged out wherein they collected electronic items from the public and recycled free for customers. What started off with the old refrigerators, expanded to include the other electronic waste items too
2003	The EU- The WEEE Directive	The EU set the Waste Electrical and Electronic Equipment Directive (WEEE) as per the European Law. This was formulated to improve electronic recycling rates.
2003	England- The Household Waste Recycling Act	With the launch of this initiative, it became a law that local authorities in England provide every

		household with the collection of at least 2 types of recyclable materials by 2010
2006	United States- Dell develops Free Recycling Program	This year, Dell became the first company to provide free recycling for its products, that showed clearly a larger focus on the manufacturer's part to make sustainable products and owning responsibility for its disposal. Soon Sony and Apple followed suit
2015	England- 5P Single-Use Plastic Bag Charge	To curb the use, 5 pence charge was levied across all shops in England for using a plastic bag. This resulted in an 80% drop of the plastic bag usage

History of Upcycling: “Technically, the history of upcycling can be traced back to early humans, in which the reuse and “upcycling” of materials and products was part of everyday life and existence. However, in the scope of modern day and more consumer-based societies, the term and idea was first coined in 1998 by entrepreneur Gunter Pauli, who is frequently referred to as “The Steve Jobs of Sustainability.” He used the term in his book Upsizing: The Road to Zero Emissions- More Jobs, More Income and No Pollution.

The term was taken up by the mainstream in 2002, when architect William McDonough and chemist Michael Braungart published the book Cradle to Cradle: Remaking the Way We Make Things. The book was printed with soy-based ink on plastic pages. The soy-based ink could be removed, so that another book could be printed on the pages, or the plastic could be upcycled into an equal or higher quality product. In order to achieve sustainability in the face of limited resources, the global trash epidemic, and other interconnected global social and environmental challenges, McDonough and Braungart call for the necessity of designers and innovators across industry to remake the way we make things.” (Source: recoverbrands.com)

Modern history of Upcycling, as per the Gumtree.com is that the term was first used in 1994 by Reiner Pilz indirectly. But the term actually got noticed publicly in 2002 book Cradle to Cradle as mentioned above.

So, although this term may be new but not a new phenomenon as this probably has existed since ages, however people might not have realized this. Even today, people prefer and may upcycle in severe hostile situations, like that of war, drought, floods, refugee areas etc. One recent example which is of upcycling (**emotional upcycling**-term coined by the researcher) is a Syrian carpenter creating toys for children stuck in a refugee camp.

1.4 Relevance and Significance of Recycling and Upcycling-today, tomorrow, and beyond

It is since time immemorial, and the history too has been a testimony to the fact that; people have been long using recycling measures since the inception of the very first set of humankind or human beings in the species ever known to the mankind.

Recycling and Upcycling processes have never been so important and presumed larger dominance until now; for the simple fact that things have not been moving in the right direction in terms of land filling and the waste materials being just discarded for the sake of no solutions widely known.

In the decade of 2000-2010, the plastic produced that resulted into a plastic waste was more than the total of the four decades before this. And this simply proves the fact about the extension to which the plastics have been generated, produced, and really wasted and landed up in the landfills.

Therefore, in 2010 approximately 30 lakh tons of plastic waste was being generated every day that is close to the total weight of all humans. Curbing plastic use is going to be the next big environmental challenge for this decade too and beyond. Around 8.3 billion tons of plastics have been produced in the world since 1950s. Plastic waste alone is estimated to kill up to 1,000,000 birds, a lakh sea mammal and countless of fish every year.

A figure quoted widely suggest that by 2050; the number of plastic entities would be equal to the number of fish in the sea at present, as much as 80% of the dominance in the oceans is made of plastic. More than 800 species have been affected by the debris. Micro plastics or small plastic particles from paints, tires, artificial glass, cosmetics, and clothes are emerging as another threat to marine ecosystems. The textiles sector is the second largest polluter in the world and is estimated to release more carbon emissions, than the air and the sea put together.

Rising consumption of goods clubbed with rapid urbanization is making India face, a massive challenge of the piling of wastes that need to be managed. Urban India produces 62,000,000 metric tons of municipal solid waste every year, 70% of which is collected. Only 25% of this collected waste is processed. Figures for recycling are simply nothing as compared to the waste generated.

For instance, out of 25,000 940 tons of plastic waste, generated everyday only 15,005 64 tons get processed. Similarly, 95% of the waste is managed by the informal sector, which is a huge concern. The need of the hour is to shift the focus towards source segregation, recycle and reuse. This will further strengthen and foster circular economy by creating and optimising resources, loops along value chains and will ensure sustainable consumption and production patterns into the waste management systems.

It is expected to have a better understanding of the key aspects of management of solid plastic biomedical construction and demolition and the e waste. Feasibility of technologies involved in their treatment regulatory framework, best practices and stakeholder involved. And all of this begins with knowing if people at large are even

aware of this massive issue or not; at least the Urban population and therefore the researcher has been keen to begin her research work with finding out this fact, to start with.

The researcher picked up the Urban area for studies because it is a known fact that the rural people always are in the regular habit of recycling due to a severe crunch of money and lack of resources. Whereas on the contrary, the urban population is not only growing in size, but also is growing in appetite for its consumption and never-ending urge to buy more and more. Therefore, Urban Pune is the area for the research study.

The researcher decided to work on recycling and upcycling, with reference to the household goods, because this is the work which has not been attempted on a larger scale, not just in India but worldwide. There has been some research work available in recycling of Industrial goods, shipping, and paint industry too; however, nothing concrete in recycled and upcycled household goods that people at large can really put to use.

Predominantly speaking, the word 'recycling' has been used quite widely in all the circuits, till date. However, people at large are unaware about the term 'upcycling' and therefore the need felt by the research scholar was to bring forth both the concepts to the public.

Contrary to the fact that people do use recycling in the urban areas, it is found out by the researcher that usually people, even if they're buying a recycled good, are not aware about the how it is made of and despite buying an upcycled product, aren't aware of the meaning of the term 'upcycling'. And then there is a group of people at large for whom the term recycling and upcycling gets usually used very loosely and interchangeably. However, in reality; they stand out for a separate meaning altogether, as discussed in detail above with suitable examples, under the description segment.

1.5 Research Relevance- Title selection and research plan

Literature review insights bring out the fact that selling potential of recycled and upcycled household products have not been studied at all in the Indian context at large and in the global context too; in a very limited way. Secondly, but equally important reason to carry out this research is also to find out if there is any health-related concern amidst the customers towards using these recycled products and lastly to find out if there exists any cultural inhibition towards buying these products.

The researcher identified recycled and upcycled household products for ‘Urban’ Pune because the rural people mostly depend upon re-using their resources due to lack of finances and are mostly aware about the process and usage of recycling and upcycling as this is largely used by them, as a way of life.

However, it is important for the urban people to have the awareness and willingness towards buying recycled products as these are sustainable ways of protecting the environment around us.

Hence, prima facie these major reasons prompted the researcher to select this area for her research and to title her research as- “To study the Selling potential of recycled and upcycled household goods in urban Pune.”

The researcher’s choice for household goods is also well studied and justified in detail. The term ‘household’ is defined by the Cambridge dictionary as, “a group of people, often a family who live together.” And so, the household products are those goods of utility used by the family as a whole or by a few individuals of the household.

The recycled and upcycled household goods are mostly sought after for their maximum usage be it as a decorative piece, or a product of utility, or as a product of consumption. These household goods also back a great justification for buying when it comes to reusable goods or those that are upcycled into a completely different product altogether.

Household products can be divided into a few categories like the home décor segment (like upcycled glass wares, wall hangings of recycled paper), kitchenware items (like arecanut plates and spoons, consumable teacups), furniture segment (recycled bamboo sofas), products of daily utility like a bamboo toothbrush, newspaper made pencils etc.

And choice of place as the urban Pune city has been mentioned above under 1.1

Having decided on the title and the scope of research to be carried out, next in line came the laying out of a suitable research plan. This research plan needed to match with exact reasons why this research has been undertaken for study. So, she discussed at length with her respective Guide and laid out a detailed research plan as follows

Research Layout:

Step 1: This starts with defining the research problem statement: This the researcher mentions in her title itself, i.e. to see if there is a selling potential for the recycled and

upcycled household goods, in the urban Pune city. This is a strong and an important practical problem waiting to find solution.

Also, as there is a lot more to be done by the state as well as the central government in this direction; this dimension also plays a vital role for researching on this topic.

Therefore, the main purpose of undertaking this research study is for three major reasons:

- a) The researcher wants to contribute to the field of recycling and upcycling of household products to promote eco-friendly goods and sustainability
- b) To find out the selling potential of these products amidst public of a city like Pune
- c) To suggest that there exists an important and active role for the state as well as the central government to support the sellers of sustainable products by promoting, actively engaging, and building more direct linkages between sellers of such environmentally friendly products and the customers who would want to buy these.

Therefore, identifying the issue and therefore defining the problem statement clearly paved way for the next step in the research plan i.e., listing the objectives.

Step 2: Listing Research Objectives: The researcher in line with her problem statement listed the below objectives for her research:

- a) Finding out if the people of urban Pune city are aware about recycled and upcycled products for household use (Awareness)

It is important for the public to know the value of recycling and upcycling. It is therefore that the researcher decided to first checkout the **'awareness'** about the recycling and upcycling of products typically used for household goods.

To check whether the public in general is aware about recycling and upcycling both, the author took to taking a survey through questionnaire at the respective exhibitions where the public at large visit; to buy certain green recycled and upcycled products.

And also conducted online survey through floating a google form to support her process of data collection holistically.

The researcher included direct questions to see if the customers are aware about recycled products by way of asking them simple questions like "have they seen papers made from old newspapers? Or have they seen a toy made out of a scrap material? Almost 90% of the consumers responded in positive about knowing the products made from recycling.

The researcher then asked questions to check whether the public is aware about the term upcycling. These examples-based questions like have they seen pencils made from old newspapers or bamboo vase upcycled to pen holder etc.

On the contrary to knowing the term recycling, most of them did not know about upcycling, hadn't even heard about it. (at the time of data collection in 2018-19)

This is how awareness quotient was checked in public from urban Pune city, via visiting a lot of green exhibitions that hosted, recycled and upcycled household products for sale.

b) Finding out if there is willingness to buy these recycled and upcycled household goods (Acceptance)

Next plan of objective was to gauge whether the public in general are keen to buy, the products that are made of recycled upcycled variety. Also, if they have a wide acceptance for these kinds of products.

In the Indian context of the cultural belief that usually one should not use somebody else's used products or commodities. The researcher also tried to find out if any inhibitions with reference to cultural biases or cultural influences exist through Survey questions. The researcher found out that there did not exist any inhibitions on these, amongst majority of respondents on this.

This might be primarily due to two factors. Firstly, this study caters to Urban Pune who are assumed to be educated well and therefore know the difference between used clothes and recycled clothes. And secondly, people are aware about what exactly is the recycling process.

And, as stated earlier, 'upcycling' is relatively a new term which most of them had not even heard about, although they knew the products made like examples of upcycling. However, the term was not known by majority of people. This study was conducted in 2018, and therefore we are talking about a pre-pandemic scenario.

Also, the researcher keenly tried to find out if the consumers were reluctant in accepting recycled products due to any health concerns or have they ever experienced any health related allergies or issues after using a recycled product. On this factor also a very limited number of respondents felt there were health issues faced. However, largely people did not see or experience any health-related issues associated to recycled products.

Therefore, the acceptance rate is higher than expected.

c) Finding out if the recycled and upcycled household goods are easily made available to the Pune customers (Accessibility)

This formed the most crucial objective of the study because, as a matter of fact, if there is awareness and acceptance among the public along with willingness to buy these recycled and upcycled household goods; then it becomes imperative to know and check out whether if there is 'easy accessibility' to these recycled and upcycled products for urban Pune city consumers.

The accessibility factor was gauged by the researcher through direct survey questions to the public who participated in green exhibitions around Pune city in the major urban areas identified by the researcher on the basis of population density. And she also conducted an online survey to know where the consumers felt these goods are mostly available.

And she found out that the accessibility to such products is largely available in vast majority in the exhibitions that is hosted and organized in and around Urban Pune City.

Hardly any accessibility to these products via online metrics is available. And negligible number of physical stores exist that the public is hardly aware of. Few of the malls in Pune city also host a weekend bazaar haat or flea markets where one might find these recycled and upcycled products, but it is a rare sight. This is an observation of the year 2018-2019 while data collection process.

Relatively, things have changed on a large scale, probably due to the pandemic today, as well as due to certain companies of recycling and upcycling store sellers have realised the importance of coming online. And the malls have realised to host more of these bazaar haats as is been observed from the current advertisements placed by them. The more the merrier as they say, If more outlets and options are been made available to access these environmental friendly products; the better reach can be expected.

d) Finding out the firms dealing in recycled and upcycled household goods in Pune (Existence)

In order to find out the selling potential of recycled and upcycled household goods from Pune; it is of utmost importance to look for sellers existing in the region. The researcher's visit to the green exhibitions and the general exhibitions that housed recycled and upcycled household products has been the major resource to trace and find out sellers. Because as stated earlier, most of these companies have never bothered to come online. Neither they have a physical store presence. The only option through which they sell their recycled upcycled household product is via participating in exhibitions.

A total of 27 recycling and upcycling companies could be traced, majorly due to participation in exhibitions by the researcher. From the period between 2018 to early 2020, the researcher has visited 40 green exhibitions and general exhibitions and spoken at length to all these 27 firms or sellers of recycled and upcycled household products.

These discussions at length have happened in the form of both quantitative questions and qualitative discussions.

e) Finding out if there is a demand for recycled and upcycled household goods from Urban Pune (Salability)

Both the concerned stakeholders are considered for measuring the scope of selling the recycled and upcycled products of household goods in Pune city, especially amidst the urban areas. And these stakeholders are the sellers of these types of household goods and the consumers who will purchase these.

Therefore, both these stakeholders respectively are studied by the researcher at the same time, to know the real time behaviors of both the concerned parties. For instance, while the researcher checked out the selling potential possibilities with the sellers, on the other hand; she enquired people as consumers from urban Pune about

their intensity to consume these eco-friendly products. Following is a table clearing this fact:

Table 1.4: Questions for Studying the Selling Scope

Questions to Sellers for finding out the “Selling Scope”	Questions to Consumers for finding out the “Purchase Intention”
1) Which medium you sell through? Online/Offline/Both	1) Do you prefer buying recycled or upcycled products from outside? Yes/No
2) Is supply chain a concern?	2) Where do you buy from? Exhibitions/Malls/Online
3) Where do you promote your firm? Offline ads/Online/ Both online and offline	3) Are you a regular buyer? Yes/No
4) What’s your price range? <500rs/>500rs-1500rs/>1500rs	4) Are these products easily available to you?
5) What’s your percentage of repeat orders? Less than 10%/11%-50% or more than 50%	5) What price will you be willing to buy these at? <500rs/>500rs-1500rs/>1500rs

Step 3: Choosing the research methodology

The researcher set out with a sample pilot study with 50 potential customers to see if they are aware, have acceptance and the accessibility to the recycled and upcycled household products. For choosing this sample, convenience snowball sampling was done.

Next, reliability analysis is done on the pilot study data to understand the reliability of the responses to the questions asked through questionnaire to check if the data can be used for main study.

Generally, the Cronbach alpha is expected to be above 0.7 for the data to be considered as reliable for hypothesis testing.

From the reliability statistics it can be observed that the Cronbach’s alpha is 0.826 which means that the respondents are majorly aware of recycled products but are not aware of upcycled products.

After the pilot study is in sync with the objectives, main study is analysed through 'Descriptive Statistics' to see if people are aware of the terms 'recycling' and 'upcycling' respectively.

Then, the researcher performed the Pearson's correlation test and 2-tailed test to check out the hypothesis results.

Step 4: Estimate the timeline: This is important to keep the undertaken research study's progress in place and timely. Therefore, in accordance with timely and regular discussions with the guide, a proper timeline got prepared. This Timeline has been added to the Annexure.

Step 5: Noting down the Findings and Suggestions: This is crucial to note down as the ultimate goal of any research undertaken is to contribute to the research done, through findings and thereby the suggestions that emerged and are crystal clearly visible from the findings.

All the findings of this concerned research study has been included in the chapter of Findings

Step 6: Preparing a Mock Presentation: Once the complete research blueprint is ready and is clear on discussions with the guide, the researcher must give a mock presentation to peers for constructive suggestions, constructive criticism, and feedback. This needs to be done at this stage of the research progress. The researcher went through about six mock reviews and presentations before the final main PhD Viva.

These mock presentations were made in the presence of guide along with other fellow PhD colleagues, few professors and knowledge experts. And their inputs, feedback and valuable suggestions by the guide has helped in shaping the research work more ably and stands robust.

Step 7: Finally, Script it: Writing the Research Thesis is an absorbing, highly engrossing and a thoroughly immersing process, that may take from a few weeks up to a couple of months. This is the most crucial part of the research, as every minutest detail about the research journey, process and flow is to be presented in a lucid style to the readers of one's work.

So, in line with the above mentioned fundamental, the researcher presents the readers of this work, the last segment under the Introduction chapter of hers, through the lens of the research journey, flow and process undertaken to complete this undertaken research

1.6 The Research Journey- Flow and Process

Research begins with trying to seek solutions to a problem statement. This research identifies the problem of finding out if there exists selling potential for recycled and upcycled household products within the city of urban Pune (Maharashtra, India). There is deep concern, all the more in today's time-about the quantum of waste being generated and if this can be put to use, rather than it going to the landfill.

Therefore, as mentioned at the start of this chapter about the theory of Cradle-Cradle approach is what provides the direction to this research.

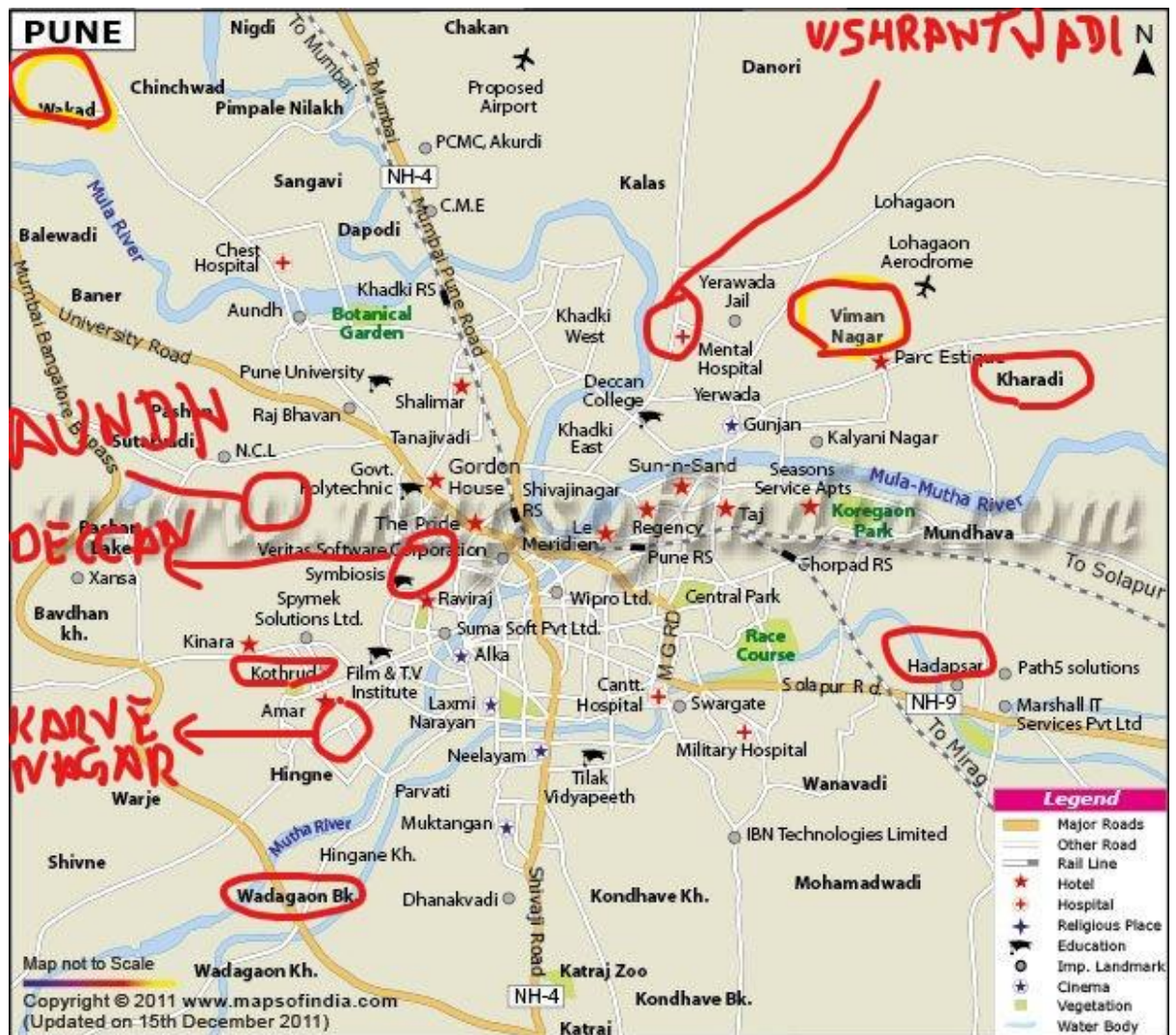
The entire research journey for this study has been divided into three stages, namely, the consumers perspective- to know their awareness and their buying intent towards the recycled and upcycled products and their opinion about the accessibility towards these goods. By Accessibility, the researcher means whether these eco-friendly products are easily available for them for buying or not.

Secondly, the sellers of recycled and upcycled products from urban Pune city. Detailed discussions with the sellers of these eco-friendly products, will provide deep insights into what is their take on challenges they face while promoting and selling these goods, and if there are any inhibitions in the minds of the consumers, while they purchase these goods from them. And what is their take on whether their customers are fully aware of these recycling and upcycling terms, their processes and environmental goodness.

Lastly, but equally important, is the stakeholder which is the government itself- both the Central as well as the State government of Maharashtra. This entity is relevant and their contribution is important to this area of research, because of the fact that this research is about environmentally friendly and sustainable products. And the need to promote them in the larger pool of society, and thereby; there is a lot that the government at both central and the state level can do and must contribute.

To begin with, she first identified the 'Urban Pune' area and through a proper study of the 'map of the Pune city' with all areas, she identified eleven such top areas within and the outskirts of Pune, that are urban, densely populated and therefore have a huge

number of housing societies. Pune Map highlighted with the Urban Areas identified for research



And from the above Pune city map, here are the names of the 11 selected urban areas (out of 35) on the basis of their urban location in Pune and the high population density:

- 1) Vishrantwadi
- 2) Viman Nagar
- 3) Wakad
- 4) Kothrud
- 5) Wadgaon Sheri
- 6) Kharadi
- 7) Karve Nagar

- 8) Deccan
- 9) Tathawade
- 10) Aundh
- 11) Hadapsar

Pune is the second largest city in Maharashtra and the ninth largest city in India. Pune is one of the fastest-growing cities in the Asian-Pacific and this has been true since a long time. Between 1991 and 2001, the city grew by 40%, increasing from 1.6 million to 2.5 million.

The per decade growth rate of Pune for the last 40 years has been at least 40% and it's estimated that population will hit 5.6 million by 2031 if this trend continues.

The Pune Municipal Corporation has found that about 40% of the city's population was living in slums in 2011. In 2019, this number has fallen to

The city in 2019 had a population of Sixty-four lakhs, fifty-one thousand, six hundred and eighteen (6,451,618)

Today in 2022, The city proper has a population density of 5,600 people per square kilometre (15,000/square mile) and encompasses a total surface area of 331.26 kilometres squared (127.90 square miles).

The larger metropolitan area has a population of 5 million, which makes it the 7th largest metro area by population in India.

Below table provides the population density of each of the urban pune area chosen for study purpose:

Table 1.7 List of Urban Areas in Pune undertaken for study for their population density:

Source- <https://worldpopulationreview.com/world-cities/pune-population>

<https://geoiq.io/places/Kothrud/ktUqNctkxH>

Serial Number	Urban Area Name	Population (2019)
1	Aundh	90264
2	Deccan	34465
3	Hadapsar	339931
4	Karve Nagar	84762
5	Kharadi	132336
6	Kothrud	226935
7	Tathawade	16230
8	Viman Nagar	72871
9	Vishrantwadi	16842
10	Wadgaon Sheri	117050
11	Wakad	32729

Having identified the Pune urban areas, along with highlighting the major housing urban societies in these chosen areas, she decided to visit each one of them. She planned of visiting these societies on a weekend so that she can meet most of the people.

And for this, she tried taking permission from the society offices respectively. Few of them did not entertain nor bothered to reply. And those who did reply in affirmation, could not confirm if the researcher can visit every flat directly. So, the researcher decided to visit to one of these societies in Vishrantwadi (Hari Ganga Apartments) and try out if she can meet a few people at the entry gate or the society office, but this was a futile effort.

The reason being two folded- either the people were disinterested, or they could not give quality time to the researcher. Therefore, to avoid this issue further, the researcher decided to visit exhibitions that are held in almost each of these areas as well as those in the nearby areas.

And this worked wonderfully well because an exhibition is the perfect place where the people visiting have either a visit or visit and buying intention. The research scholar, therefore planned her sample visit to test if this plan can work out well. So, she visited to one of these green exhibitions housing recycled and upcycled products in the month of September 2018 to the 'Ambar Hall' of Kothrud area. And was happy to meet 33 customers visiting here. And collected another 17 responses from a few residential societies.

She carried a self-prepared Questionnaire that comprised of 11 questions and asked to all these 50 respondents (pilot study). She got to observe surprisingly that people who were buying the upcycled goods, were not even aware of this word or the concept. However, they were mostly aware of recycling process and the recycled goods. Further, a lot of other interesting things emerged from the researcher's candid discussions with these people.

This visit to the exhibition was not only successful in getting to meet a lot of people but the researcher could also get a track of ‘who are these sellers’ of recycled and upcycled household products as contacting them shall be the next element of study for the researcher.

As this idea of visiting the exhibition did yield a positive outcome, so the researcher decided to visit these exhibitions; especially the ‘eco-friendly’ ones in and around the areas selected for study.

Finally (main study), from the time period beginning from September 2018 to March 2020, in total she visited 40 such exhibitions through which she got responses from 440 active and potential consumers of recycled and upcycled household products. And through online survey got 122 responses, which means the **total of 562 responses**.

Interestingly, to sample experience of selling all by herself, the researcher also put-up stall of eco-friendly products in 5 exhibitions in areas like Kothrud, Vishrantwadi and Wakad. She could firsthand herself, quite organically experience the visiting customers at her stall react, respond, discuss, and received compliments for her choice of products.

Next, for studying the sellers’ perspective with regards to their range of products sold within the eco-friendly segment, namely recycled, and upcycled products of household goods, specifically. The researcher has taken elaborate discussions with all 27 sellers that she could find in and around the selected areas of urban Pune, in depth interviews as well as quantitative techniques to find out their concerns about the various challenges that they face in promoting and selling these eco-friendly products. And to know from the sellers as to what they feel about their customers being aware about recycling and upcycling terms or not.

Through this entire journey of research that the research scholar has undertaken, amidst very interesting findings, one thing that has stood out strongly against these eco-friendly products is its pricing. Most of the customers who are regular buyers also signified their concern for these products being always mostly priced on a little higher side.

And this is usually a great withdrawal reason pulling potential customers from not buying these products as they genuinely felt the prices to be over-priced. The same concern and sentiments have been conveyed by the researcher to the sellers of these products.

The sellers although have a valid justification of the costs being high due to a specialized skilled labor, time and innovation required to produce or make this; however apart from this the researcher observes that the prices are hiked also to exhibit these eco-friendly goods to a status symbol or they trying to showcase this as a rich class must have and that may be a true problem to address.

While the cost factor pushes the prices may not be denied, creating a product assortment basket to cater to all classes of people alike, will turn in favor of the sellers

only. And also, the fact that in the wake of pandemic now, these sellers have no option left but to have an online presence too and that too an active one.

By being pro-active, researcher means to keep very aptly and regularly updating the website, every year must add more products to their kitty of offers and keep offering discounts at practically each and every occasion, national festivals etc. round the year.

Interacting with both these stakeholders had a simultaneously ongoing(parallel) plan, as the researcher's intention has been to get a real time data from both the stakeholders at the same time so that it has relevance to the studies undertaken. And can be cross-checked and validated too.

Having interacted with both these important stakeholders in the research study, namely the customers and the potential consumers of the recycled and upcycled commodities and the sellers selling these products, from urban Pune; the researcher has gained a lot of insights into the Selling potential of these recycled and upcycled items, particularly of the household goods. And therefore, once she collected the data, she moved ahead with the apt and necessary research methodology tools, hypotheses testing and the necessary modifications and detailed research analysis to derive the findings and suggestions.

More insights into these engaging research study and the complete research methodology tools and techniques used, the analysis and findings appear in great details, in the next subsequent chapters.

And before proceeding to these chapters, please find below the important key operational words and their meanings for further understanding the essence of this research.

Table 1.8 Operational Key Definitions:

Serial Number	Keywords	Keywords Meaning
1	Urban	Connected to a city/town
2	Household Goods	Products used within Households
3	Recycling	The reprocessing of discarded waste materials for reuse
4	Upcycling	Used items put to some other better use
5	Culture	Customs and beliefs
6	Selling potential	Possibility of selling

Table 1.9 Synopsis:

Serial Number	Sub-Topic	Content
A	Research Problem Statement	a) Do recycled and upcycled household products have selling potential?
B	Research Objectives	a) Finding out if the people of urban Pune city are aware about recycled and upcycled products for household use (Awareness) b) Finding out if there is willingness to buy these recycled and upcycled household goods (Acceptance) c) Finding out if the recycled and upcycled household goods are easily made available to the Pune customers (Accessibility) d) Finding out the firms dealing in recycled and upcycled household goods in Pune (Existence) e) Finding out if there is a demand for recycled and upcycled household goods from Urban Pune (Salability)
C	Research Questions	i) Are customers aware about recycling and upcycling terms ii) Are these recycled household goods easily available to them iii) Do consumers feel that their culture affects their buying decisions for such goods iv) Will consumers prefer buying these eco-friendly products regularly
D	Research Study Hypotheses	Hypothesis 1 Urban Pune is aware of Recycled

		<p>household products</p> <p>Ho: Urban Pune is not aware of Recycled household products</p> <p>Hypothesis 2 Urban Pune is aware of Upcycled household products</p> <p>Ho: Urban Pune is not aware of Upcycled household products</p> <p>Hypothesis 3 Urban Pune has the access and availability to buy Recycled household products</p> <p>Ho: Urban Pune does not have the access and availability to buy Recycled household products</p> <p>Hypothesis 4 Urban Pune is willing to buy Recycled household products</p> <p>Ho: Urban Pune is not willing to buy Recycled household products</p>
E	Significance of the Research Study	<p>This research study is of paramount importance as it highlights the significance of recycled and upcycled products for household use; thereby reiterating the theory of cradle-cradle that suits both business and our environment around. This research also has suggestions for the state and the central government that pioneers further actions to be taken by them for a robust plan and implementation of recycled and upcycled data centre collectively at a central place</p>
F	Scope and Limitations of Research Study	<p>The scope of this research is a multi-folded one as this</p>

		<p>study encompasses all related stakeholders in the process of buying selling of recycled and upcycled products as well as took into consideration the scope that lies for the state and the central government in pushing the importance of these eco-friendly products and introduce useful policies for the same. Sellers exclusively selling these recycled and upcycled household goods also have been covered through in-depth interviews.</p> <p>Limitations always pave the road for other researchers to progress and so the limitation in this research study is the study has been done primarily on Pune city and therefore the future researchers can take this study for other metropolitan urban cities of India. Other researchers outside India can imply the research on their respective region. Also, not much has been done in the “Upcycling” in research domain yet so this topic must be further explored by global researchers of environment, social sciences and those from circular economy.</p>
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Chapter 2: Review of Literature

A strong background and an in-depth study is always necessary to know the existing status of work done in the field that one wants to research in. As this enables one to know where they stand and which can be the direction taken, to move forward.

The research scholar has read in detail all the existing literature that is available in her area of research chosen that focusses on recycling and upcycling. She has thoroughly gone through research work done in the past eighteen years on recycling and upcycling (i.e. From the year 2000 up to 2018)

The reason for taking the year 2000 onwards for literature review is for two reasons. One for relevance of work done and secondly, prior to that year, in the 1990s decade, not much has been written on recycling and upcycling is completely missed.

Therefore, for the above-mentioned time period of eighteen years literature review; the researcher has been able to access eighteen research papers from the decade of 2000-2010 and has found another fifty-two research papers between 2011-2018.

And in addition to these, four papers related to cultural influence on customer's buying behavior and how health impacts the consumer buying behavior have been studied. So, here under this segment also researcher could not find a lot of papers on 'Impact of culture and health concerns in buying eco-friendly products.

Hence, a total of seventy-four research papers during the said period of study has been read by the researcher in details to know the research gap that emerges from each of them, the respective research methodology used by these researchers in the past. All their findings, analysis and conclusion has been read by the researcher to reach to her conclusion of which direction of research is required to take.

At the outset, the researcher after going through all papers available in these last eighteen years in great details, reached the conclusion that hardly any research is seen or directly done on studying the recycled and upcycled household goods in this part of geography (Pune, India) and could find a clear justification of choosing this topic for research.

Not only this, but the researcher is confident of the fact that world-wide too there has been no research done in the area of recycled or upcycled of "household goods" and therefore this research is a pioneer in itself for this very reason.

All the papers; although helped a lot in understanding as to where can 'recycling and upcycling' be used and done. However, it was all indirectly in sectors and places which is not same as what researcher undertook for her research study. For example, there is enough work that has been done in the field of industrial recycling, chemical recycling

and even in Ship recycling but nothing absolutely on recycled or upcycled household products.

The researcher has taken enough care to ensure that the study that she has done and followed based on all the papers, articles and the sustainability reports is enough literature gathered to be able to provide a suitable justification as to why this topic undertaken by her, is unique in itself and an extremely needed one.

Interestingly, the product life cycle theory and concept of cradle-cradle approach as put up aptly in the words of architect William McDonough and chemist Michael Braungart, “Cradle-Cradle is a sustainable business strategy that mimics the regenerative cycle of nature in which waste is reused.” This is in their book titled ‘Cradle-Cradle: Remaking the way we make things’ published in 2002.

Although, the word cradle-cradle is credited to Walter R. Stahel who had used this term, way back in 1980s. And he also used similar concept in his 1976 research paper “The potential for substituting Manpower for Energy.”

This cradle-cradle theory falls perfectly in line with the current research as the scholar is trying to see the “possibility of selling” for these recycled and upcycled household products.

Her chosen topic, “Study the Selling potential of recycled and upcycled household goods in Urban Pune” has never been studied in any region of the globe. And undertaking this study is important for all three key stakeholders in business and the betterment for a country: namely the Sellers, the Consumers, and the Government. And the researcher has precisely drawn her research work around these above-mentioned important stakeholders.

In the wake of the world realizing how important it has become to save the environment from the harmful effects of pollution and climate change; it even becomes imperative that such topics of importance must be researched upon to find a solution.

The researcher with this intention has undertaken the study to know if the urban Pune citizens are even aware of recycling and upcycling. If yes, are they willing to buy these recycled and upcycled household products. Selling potential if there, how can the sellers leverage out of this for their increased sales and lastly how can the state and the central government play a key role in ensuring smooth path for sellers selling these environmental-friendly products and make a platform available for consumers to reach these sellers.

And before venturing out for her research, the researcher studied what all is available and work done so far; so that she can identify the gaps existing and research ahead accordingly.

She began with studying in details two of the papers that were most relatable to her study and so made out the base papers for reference by her. And once the base papers got identified, studied them in detail; and then the rest of the papers were also read with the intention of finding deep insights from them to be able to find out if any concrete research is available indirectly to the researcher’s topic; if not directly.

Thus, the literature review is divided into three parts. Part, one includes all those research papers that are directly related to the topic undertaken for study by the researcher. Part two includes all those papers that are on upcycling or recycling but are indirectly related. And the third and the last part includes literature review of how 'health' concerns and 'culture' influence the consumer's buying behavior.

The two base papers identified by the researcher are as follows:

Reference paper one titled as 'Upcycling-a new perspective on waste in social innovation' that got published in October 2016 with the Journal of Comparative Social Work is written by Charlotte Wegener and Marie Aakjaer who have written this paper with the intention of introducing 'Upcycling' to the Social Innovation field.

So, the paper has been written in the context of explaining as to how the mindset of upcycling can assist in social innovation practices. And also, their paper highlights new areas in social innovations along with some ready to implement practical guide.

Therefore, their paper gave out the connection that Upcycling has with social innovations and how can the two be closely linked for practical relevance too. This came as a direction and a confirmation for the researcher as she has a validation that upcycling works well practically and so useful for sellers dealing in upcycled household products.

Base paper two: The next paper that the scholar considered for her base paper is titled as 'A review on upcycling: Current body of literature, knowledge gaps and a way forward.' This interesting paper by Kyungeun Sung is referred by the researcher as this paper clearly states the reason why there is not much literature review available on 'Upcycling',

"Despite the rising interest in upcycling manifested by industrial interest along with increased publication levels, surprisingly, no major academic review has yet been presented" as per the author's knowledge, is what the writer writes. "This might be partially attributed to the fact that the term, upcycling, is a neologism. For this reason, the overall volume of literature dealing with upcycling is still low."

Therefore, the fact that the researcher claims in her thesis writing that there is hardly any literature review available on Upcycling, gets validated by the paper referred above.

Below, the author discusses learnings and synopsis of each referred paper and their relevant learnings to take her work ahead with confidence and a sense of confirmation.

And as stated above; the research scholar has divided the literature review in three parts. Part, one includes all those research papers that are directly related to the topic undertaken for study by the researcher. Part two includes all those papers that are on upcycling or recycling but are indirectly related. And the third and the last part includes literature review of how 'health' concerns and 'culture' influence the consumer's buying behavior.

In the paper titled, "Does Recycling improve information usefulness of income? The case of Japan" by (Frendy, 2017); this paper proposes a new set of International Financial Reporting Standards as per June 2015.

The main objective of the study is to test whether recycling improves information usefulness of net income from six perspectives: variability, operating cash flow, net income predictive power, relative and incremental value relevance, and persistence.

This paper is an empirical work by using listed Japanese firms of 5,385 firm between 2012-2014. The results challenge the claim that recycling improves the general information usefulness characteristics of net income.

The empirical results show that OCI recycling improves net income's relative value relevance characteristic of financial firms. However, recycling information by itself does not improve the incremental value relevance, and the predictive power of operating cash flow and net income.

Thus, this paper discusses about recycling in accounting practices and has no relevance to the actual environmental impact of recycling.

In Closing the loop- an exploratory study of rivers readymade garment supply chains in Delhi NCR- by (Anita Kumar, 2016) projects how the fast fashion industry has a splurged growth in the emerging economies and those activities are oriented towards recycling; are gaining a traction here in this field of fashion, showing an upward trend in a developing economy.

An adapted and extended theory of planned behaviour (TPB) model is employed to explore recycling behaviour at the household level, for treating their garments and fashionable materials.

The authors find rather haphazard garment recycling channels in Delhi NCR. This is due to either lack of awareness or the lack of intensity to approach this through proper systems and recycling processes. And this is supported by the householder survey that finds poor satisfaction levels with most recycling channels.

The study considers the impact of the garment product lifecycle on household behaviour. In this context the adapted TPB model addressed the role of conscious planning. The model is extended to include sense of duty, this contributes to emerging work in this field.

A paper on "Reverse logistics in household recycling and waste systems: A symbiosis Perspective" by (Emy Ezura A Jalil et al, 2016) investigates on the basis that there is a symbiosis effect for exchanges between household waste recycling systems (HWRSs) and household recycling behaviour (HRB) within the reverse logistics (RL) discourse. The paper contains empirical findings from a two phase, multi-method approach comprising consecutive inductive and deductive investigations.

A mixed method approach of both quantitative and qualitative data has been used by the authors in this paper, that signals both explanatory and exploring findings. This has resulted in the better understanding of this phenomenon.

The key factors identified as 'engagement, convenience, availability and accessibility' proves an existence of a symbiosis effect between situational and personal factors and

inform current research trends in the environmental sciences, behavioural and logistics literature, particularly identifying consumers as being an important pivot point.

The paper further highlights the need to educate the stakeholders in following a proper process of recycling and thereby creating effective exchanges between household waste recycling systems (HWRSSs) and household recycling behaviour (HRB).

This paper contributes in linking these to reverse logistics and therefore important from this linking perspective.

Importance or relevance of recycling is not there and so the author of the current research cannot find quite a high relevance of recycling per se here. Conclusions offer the possibility of an epistemological bridge between the social and natural sciences.

Another paper studied by the research scholar discusses about the “Nudging waste diversion at Western State Colorado University: application of behavioural insights” (by Kimberly McCoy et al, 2018) that aims testing a “nudge or intervention” which is created keeping in mind the behavioural insights at a university campus so that they can decipher the cost-effective means needed to have a larger recycling participation.

Also, the ways of estimating waste removal cost savings being the other aim of this research. Therefore, they conducted a series of tests to check the effectiveness of “behaviourally based recycling interventions.”

And the location for carrying these tests included an academic building, a performing arts/studio arts building, a sports arena, and a library at the campus.

This paper addresses the need of measuring the cost savings due to adopting recycling measures at college and university campuses and shows that nudge will help in changing the design of recycling programs which are a success in campuses.

This paper explains methods for estimating waste removal that act as an important enabler to calculate cost savings from such interventions.

In conclusion, this paper highlights to have plastic bottles aimed at to get a suitable return on investment and suggest that other universities should also follow these methods to improve existing recycling programs and realize their cost savings.

In short, the recycling process not only assists in an environmentally friendly place like students’ campus but also acts as a cost saving tool.

Next paper that the researcher studied in detail is based on “Recycling, paper reduction, and environmentally preferable purchasing (by Elaine J. Cole 2013) that intends to design a community-based social marketing (CBSM) campaign to promote a sustainable behavioural change in paper reduction, recycling, and purchasing environmentally preferred products (EPP).

However, this study is restricted to just a university campus and therefore cannot be confident about using the same across other customer segmentations.

At this point of studying and reviewing of literature; the researcher got access to another paper based on analysing “the barriers for plastic recycling in the Indian plastic industry” by (Suchismita Satapathy, 2017) which is written with an objective to develop a new model in which the ‘interrelationship between the barriers can be determined’ which hinders and affects successful implementation of effective recycling processes in India’s plastic sector.

Manufacturers of today do not want their input to be deemed waste and subsequently be discarded, so their efforts and resources have been channelled into the development of efficient recycling methods. Despite this goal, they do face several barriers that hinders the process of efficient and effective recycling.

The paper discusses interpretive structural modelling to implement suggestions and solutions for effective recycling to happen.

Plastic waste is a global concern and one that is seen only having an upward trend. Recycling of plastic is getting a lot of attention as the companies see it as a viable option in not only to reduce costs but also as a point of highlighting sales by showing recycling practices adopted by them to attract conscious customers.

But the paper also informs that there are recycling units lacking in India.

“Effective strategies for enhancing waste management at university campuses” is again a paper based on waste management studied in a university campus by (Kianoosh Ebrahimi, 2017) that identifies and assesses waste management approaches as key to the educating campuses.

Waste minimization-oriented policy instruments turned out to be a key approach suggested by the authors.

A research work carried on “Recycling as a result of “cultural greening?” by Julia A. Flaggs, 2016) aims to test whether faculty and students who have developed the most pro-environmental values and concerns are also the most likely to reduce the on-campus waste stream. It does so by using the theory of ecological modernization.

Questionnaires were created and circulated to a sample of 590 undergraduate students and faculty on one college campus. Among the measures of environmental orientation (values, concern about pollution and green consumption), only environmental values were associated with claiming to know guidelines and self-reporting higher levels of recycling effort.

The authors concluded through this research findings that active interventions are necessary to teach about campus recycling guidelines to reduce the waste produced on campus.

This proves that awareness is such an important first step to begin with when it comes to protecting the environment around.

Author also ensured that her review of literature covers a vast geography and so she accessed paper based in Ghana, Africa that studies the “Source separation and recycling potential of municipal solid waste in Ghana” by S. Oduro-Kwarteng et al, 2016.

The purpose of this paper is to assess the waste characteristics and separation efficiency of source separation of household waste in low- and middle-income communities in Kumasi Metropolis, Ghana.

The findings showed there is potential for recycling through source separation programme in low-and middle-income communities. Public education and economic incentives are necessary for successful source separation programme.

The paper provides insight into source separation to contribute to better understanding of how city authorities in developing countries could take advantage of economic incentives to scale-up recycling.

Overall, a paper hinting awareness yet again, being an important parameter to effectively run recycling programs, amidst larger public.

The paper “What makes manufacturing companies more desirous of recycling?” by Bülent Başaran, 2013) is a study done in the Turkey to understand if the manufacturing companies focus on recycling their manufacturing wastes. 255 firms related to furniture, automotive, textiles and machine industries are studied under this research.

They used Pearson chi-square and categorical regression analyses to get results that show that a few characteristics that were expected to have relationships with the treatment options, are supported by the two analyses while others are not.

Although this study in details show the challenges, however, hasn’t provided a well laid strategy to overcome the same. Bringing out the fact is again “awareness” and “attitude” amongst people for recycling.

Investigating the determinants of recycling behaviour in Malta is a paper on similar lines like the above paper from Turkey, which has worked in determining what promotes a recycling behaviour. The paper by Frank H. Bezzina et al, 2011) explores different factors that signify predicting Maltese residents towards recycling. Randomly 400 residents chosen from the e-Electoral Register for general elections. Questionnaire that used elements of the theory of planned behaviour (TPB), model of Altruistic Behaviour (MAB) and a few more determinants of recycling behaviours like the demographic divide, convenience to recycle etc to derive the recycling behaviour amongst Maltese residents.

The study brings out nine and also finds that the first three factors show a strong predictor and accounted for 48.5 per cent of the variability in recycling participation.

Observing these emergent findings from their research, the authors suggest adopting a corporate communications programme as a possible strategy aimed at explaining the mandatory EU (European Union) recycling targets for Malta to bring their recycling practices at large levels.

Another paper titled, “Greening the environment through recycling: an empirical study- T. Ramayah, Elham Rahbar, 2013” is yet another research on university students to check their recycling orient and study done is a model based on the Theory of Reasoned Action that aimed to test the variance-based structural equation modelling technique of Partial Least Square (PLS).

The findings revealed that the “attitude towards recycling is significantly influenced by perceived value, awareness and actual gains perceived by the consumers. Recycling behaviour was significantly influenced by resistance to change and attitude towards recycling.”

The paper asks the policy makers to target these variables in their future action plans in order to enhance recycling behaviour.

However, the researcher feels that it has to be a joined effort by every stakeholder like public at large (students included), the companies and the government who can make this happen at a larger scale only through joined efforts.

At this junction, the researcher read a paper on ‘Environmental management accounting in local government: A case of waste management’ (by Wei Qian et al, 2011) that is based in the New South Wales (NSW) in Australia and aims to study the accounting practices of environmental managing and thereby motivations, if any to improve waste and recycling management by their local government there.

Environmental management accounting act as an enabling resource for waste management is what the prior studies signalled to the writers of this paper.

They approached through exploratory case study method because of taking the case of only 12 NSW local government organisations. Interviews were conducted with managers responsible for waste and recycling issues and from these discussions; the authors found out that contradicting to the earlier research available, their study found that in the local governments investigated, an increasing amount of environmental management accounting information is being made available.

The institutional theory and contingency theory used for this study has provided them with different but parallelly working explanations for the development of environmental management accounting in waste management.

The paper ‘Application of agent technology for recycling-oriented product assessment by Ewa Dostatni et al, 2013) is aimed at distributing ideas and the implementing of the same in a computer tool for computer-aided that has a recycling-oriented design.

Currently, the tendency is to consider the impact of a product on the natural environment, but the writers of this paper wanted to focus on recycling process of products with reference to its design.

Authors of the paper claim their main achievement to be the method that is based on and supports the eco-design based on agent technology. “Based on the analysis of the process of recycling-oriented eco-design, the authors designed and then implemented the tool that aids designers' activities in the area of eco-design.

The drawn-up method supports decision making concerning designing environmentalfriendly products. Thanks to agent technology, the design process can be conducted in the distributed design environment.”

Next paper studied by the research scholar is that on the Fast fashion consumers and their post-purchase behaviours by Hyun-Mee Joung, 2014. This paper throws light on checking on how fast fashion purchases is disposed, hoarded and if participates in recycling and attitudes towards the environment.

335 college students were asked to complete a questionnaire to check how many bought fast-fashion. 274 students who purchased fast fashions were then used for this study.

Descriptive statistics for data summarizing and “Pearson correlations were conducted to examine relationships among the variables.

Results indicated that fast-fashion purchase was positively related to disposing and hoarding, but negatively related to participation in recycling.” Thereby, again showing and signalling the need to make them “aware” about the consequences of not participating in recycling and creating the right intent of recycling.

Textile sector is one of the largest polluters and also uses gallons of water to make its products. And therefore, consciously this sector must promote recycling amongst its consumers through active participation in recycling and should take responsibility in collecting their post-purchase products. This paper provides adequate information about fashion marketing/distribution/retailing and post-purchase behaviours

Part two segment of the literature review begins from here that includes indirectly related papers to the present study but includes recycling and upcycling on other industries.

This paper not directly related to the research scholar’s study but mentions sustainable innovations is a paper by Davorin Kralj of 2011 with focus of this paper on optimization of recycling of concrete from lightweight aggregates containing expanded glass and hard polyurethane (*PU) and on the issue of importance of environmental management in constructions, they based their research through mixed methods.

A paper referred by the research scholar in her review of literature is also a paper on

“multimodal network design for sustainable household plastic recycling” by Xiaoyun Bing et al, 2013 which studies a “plastic recycling system from a reverse logistics angle and investigates the potential benefits of a multimodality strategy to the network design of plastic recycling.

This research aims to quantify the impact of multimodality on the network, to provide decision support for the design of more sustainable plastic recycling networks in the future.”

Although, not relatable to the researcher’s current study; however the process of recycling useful in the logistics industry is also a no less revelation and thrusts the fact that be it any sector in question today, recycling must be practiced and upcycling too can be implemented, wherever applicable.

As mentioned earlier by the research scholar that she has ensured to study papers and existing literature from different geographies to understand truly the essence of work done amidst the globe, her next paper studied in depth is by author Irene Tilikidou in 2013 who writes on the “evolutions in the ecologically conscious consumer behaviour in Greece.”

The purpose of this paper is to examine all types of ecologically conscious consumer behaviour (ECCB) of Greece during their economic crisis.

And further attempts to determine the factors able to affect it to reveal the distances between the results of this study and those of previous studies in the same geographical region. Her intention of the paper to bring out these ecologically conscious consumers’ (ECCs) segment.

This is what emerges from this paper.

This paper is relevant to know the factors that assist in contributing an eco-friendly behaviour.

This next paper read on “Innovation in cleaner production through waste recycling in composites” by Mohamed Osmani in 2013 is not relevant to the research scholar’s research direction. However, this paper is interesting from the perspective to see how recycling plays an important role in architectural designing and practices too.

A reverse logistics inventory model for plastic bottles is a paper by Nouri Matar et al, 2014 the purpose of which was to present a model which is claimed to be original and is applicable for the production-recycling-reuse of plastic beverage bottles.

Discarded two-litre plastic polyethylene terephthalate (PET) bottles are collected from the market is an assumption which are then sorted into non-contaminated and contaminated streams.

The research scholar is of the opinion after going through this paper that it needs two forms of convincing strategies for people to recycle. First is the cost savings measure

that the corporates keenly like to follow and then there is the ecologically conscious consumer who needs to be self-motivated throughout and must continue to care for the environment around.

This either can come naturally to him/her or is imbibed in them through sustained training to adhere to recycling. It is in this second context that **the research scholar under her current research work on studying the selling potential of recycled and upcycled household goods, want to coin a new concept relevant today. Her contribution to the research with (ECQ) Environmental Consciousness Quotient, based on lines of the IQ and EQ that already exists.**

A paper on the “Post-retail responsibility of garments – a fashion industry perspective by Kerli Kant Hvass from 2014 is an attempt to highlight the reuse and recycling of garments from the fashion industry's perspective.

The approach to study this is by way of a multiple case studies to bring out the emerging organizational role in post-retail responsibility of garments, that tries to explain why and how many fashion companies have engaged with reuse and recycling practices and the various challenges that they confront with.

This paper on “When Online Recycling Enables Givers to Escape the Tensions of the Gift Economy” by Valérie Guillard et al of 2012 is an article that claims to highlight a new gifting which is “both rewarding and liberating: it is rewarding thanks to the interaction with the recipient (unlike donations to charities) without necessarily creating a bond of dependence (unlike giving to someone you know).”

This idea of gifting recycled goods through online medium is what the paper explores about.

The paper based on “Value creation through reverse logistics in used clothing networks” by Rudrajeet Pal in 2017 is aimed to “identify the major reverse logistics design aspects in used clothing value chains, and those enabling and challenging manifestation of value creation.

This research is based on an exploratory study of 12 established organizations in Swedish used clothing networks.”

It is for this reason that the research scholar has cited this paper as it attempts to study the “environmental motivation” and further includes implications in the form of strategic solutions for higher value creation.

Next paper for studying is on understanding consumer upcycling titled “When creative consumers go green: understanding consumer upcycling” by Matthew Wilson in 2016 which shows its projection and focuses on “an environmentally conscious form of creative consumption known as upcycling.

This conceptual paper presents and defines the consumer practice of upcycling. The author has identified gaps in the literature regarding consumer upcycling and identifies avenues for future research and theory development.”

Upcycling in luxury commodities too can bring in a new ray of faith for upcycling is a highlight in the paper on “New life luxury: upcycled Scottish heritage textiles” by Sara Keith in 2015 that tries to link the perception of luxury to handcrafted artifacts and those made from upcycled woven fabrics too.

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This paper tries to throw light on how people perceive terms that might not be followed by everyone and therefore makes it difficult to link it to the actual intended meaning as mentioned above.

Highly applicable in a highly cultural contextual countries and can find a relevance if studied in such markets.

Paper referred on “Quality assessment methods for index of community sustainability” by Maria Odette Lobato et al in 2018 is to design and test a user satisfaction model “to evaluate the contribution of biodiesel production and consumption to the sustainability of a semi-urban community in the Cowichan Valley in British Columbia Canada.

This case study is part of a larger research study whose purpose is to create a model for an index of sustainable community production and consumption. The theoretical approach selected was the national indices of consumer satisfaction models.”

“The apparel aftermarket in India – a case study focusing on reverse logistics” by Nandita Abraham in 2011 aims to map and understand the reverse logistics systems in the apparel aftermarket in India through 93 in-depth interviews.

The intention of this paper is to assist in taking business decisions with reference to reverse logistics and to look at this as a value-addition model.

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David's paper confirms the fact of the meanings of recycling and upcycling as understood by the world. However, lacking is the awareness spread of the term 'Upcycling' which the researcher also has found out through her analysis.

"From Trash to Treasure: Recycling Scrap Metal into Steel" by Cantu, Diana 2011 discusses about the ocean pollution and how this has disrupted the marine ecosystems of today, globally.

Trash created is not only affecting the marine life and disturbing the ecological balance but is detrimental to the life located around oceans. Climate change gets its contribution from this marine disbalances too. And the solution that this paper tries to provide is Recycling.

Lastly, the literature review in part three encompasses all important work related to research related to 'cultural influence on customer's buying decisions' and is discussed along with just one paper found in the following period of years of study, related to health concerns for buying products.

And this paper titled as 'The factors of Lifestyle of Health and Sustainability (LOHAS) influencing pro-environmental buying behaviour by Kamal Picha et al, 2019) that has found out that the "LOHAS customers search for the same values as producers, they prefer local producers, high quality and natural products." And their other major finding has been that "Women are more interested in LOHAS than men."

Culture is one of the most critical factors of purchase decision by customers. This is not an easy topic to study as the culture segment further involves sub-culture elements too like the race, religion, sect etc. And this is difficult for companies to market their products if they do not understand well the cultural aspects of their customers.

In the paper titled-'the influence of cultural factors on consumer buying behaviour and an application in Turkey,' the authors (Dr. Yakup Durmaz et al 2014) observed that consumer purchasing decisions no longer just depend on a customer's individual motivation and personality but by relationships within the families.

Hence, "it provides a tremendous advantage for a marketer to know the family structure and its consumption characteristics."- (Durmaz and Zengin, 2011: 53).

In their paper on 'impact of culture, behaviour and gender on green purchase intention, the authors (Naman Sreen et al, 2017) mention that the awareness levels amidst Indian consumers towards green products is still very less and so the policymakers and the practitioners need to take efforts to spread knowledge to them.

"Policy makers and marketers need to work together to create knowledge about the benefits of green products and knowledge about the labels that identify green products.

More availability of green products may help to create better knowledge for identifying green products. Therefore, the government should create policies that encourage organizations to manufacture more of such products."

The above sums up the major suggestions of the paper aptly and is also going to be a major suggestion by the research scholar too under her study.

And in addition to these, four papers related to cultural influence on customer's buying behavior and how health impacts the consumer buying behavior have been studied. So, here under this segment also researcher could not find a lot of papers on 'Impact of culture and health concerns in buying eco-friendly products.

Hence, a total of seventy-four research papers during the said period of study has been read by the researcher in details to know the research gap that emerges from each of them, the respective research methodology used by these researchers in the past. All their findings, analysis and conclusion has been read by the researcher to reach to her conclusion of which direction of research is required to take.

At the outset, the researcher after going through all papers available in these last eighteen years in great details, reached the conclusion that hardly any research is seen or directly done on studying the recycled and upcycled household goods in this part of geography (Pune, India) and could find a clear justification of choosing this topic for research.

Not only this, but the researcher is confident of the fact that world-wide too there has been no research done in the area of recycled or upcycled of "household goods" and therefore this research is a pioneer in itself for this very reason.

All the papers; although helped a lot in understanding as to where can 'recycling and upcycling' be used and done. However, it was all indirectly in sectors and places which is not same as what researcher undertook for her research study. For example, there is enough work that has been done in the field of industrial recycling, chemical recycling and even in Ship recycling but nothing absolutely on recycled or upcycled household products.

The researcher has taken enough care to ensure that the study that she has done and followed based on all the papers, articles and the sustainability reports is enough literature gathered to be able to provide a suitable justification as to why this topic undertaken by her, is unique in itself and an extremely needed one.

Interestingly, the product life cycle theory and concept of cradle-cradle approach as put up aptly in the words of architect William McDonough and chemist Michael Braungart, "Cradle-Cradle is a sustainable business strategy that mimics the regenerative cycle of nature in which waste is reused." This is in their book titled 'Cradle-Cradle: Remaking the way we make things' published in 2002.

Although, the word cradle-cradle is credited to Walter R. Stahel who had used this term, way back in 1980s. And he also used similar concept in his 1976 research paper "The potential for substituting Manpower for Energy."

This cradle-cradle theory falls perfectly in line with the current research as the scholar is trying to see the "possibility of selling" for these recycled and upcycled household products.

Her chosen topic, “Study the Selling potential of recycled and upcycled household goods in Urban Pune” has never been studied in any region of the globe. And undertaking this study is important for all three key stakeholders in business and the betterment for a country: namely the Sellers, the Consumers, and the Government. And the researcher has precisely drawn her research work around these above-mentioned important stakeholders.

In the wake of the world realizing how important it has become to save the environment from the harmful effects of pollution and climate change; it even becomes imperative that such topics of importance must be researched upon to find a solution.

The researcher with this intention has undertaken the study to know if the urban Pune citizens are even aware of recycling and upcycling. If yes, are they willing to buy these recycled and upcycled household products. Selling potential if there, how can the sellers leverage out of this for their increased sales and lastly how can the state and the central government play a key role in ensuring smooth path for sellers selling these environmental-friendly products and make a platform available for consumers to reach these sellers.

And before venturing out for her research, the researcher studied what all is available and work done so far; so that she can identify the gaps existing and research ahead accordingly.

She began with studying in details two of the papers that were most relatable to her study and so made out the base papers for reference by her. And once the base papers got identified, studied them in detail; and then the rest of the papers were also read with the intention of finding deep insights from them to be able to find out if any concrete research is available indirectly to the researcher’s topic; if not directly.

Thus, the literature review is divided into three parts. Part, one includes all those research papers that are directly related to the topic undertaken for study by the researcher. Part two includes all those papers that are on upcycling or recycling but are indirectly related. And the third and the last part includes literature review of how ‘health’ concerns and ‘culture’ influence the consumer’s buying behavior.

The two base papers identified by the researcher are as follows:

Reference paper one titled as ‘Upcycling-a new perspective on waste in social innovation’ that got published in October 2016 with the Journal of Comparative Social Work is written by Charlotte Wegener and Marie Aakjaer who have written this paper with the intention of introducing ‘Upcycling’ to the Social Innovation field.

So, the paper has been written in the context of explaining as to how the mindset of upcycling can assist in social innovation practices. And also, their paper highlights new areas in social innovations along with some ready to implement practical guide.

Therefore, their paper gave out the connection that Upcycling has with social innovations and how can the two be closely linked for practical relevance too. This came as a direction and a confirmation for the researcher as she has a validation that

upcycling works well practically and so useful for sellers dealing in upcycled household products.

Base paper two: The next paper that the scholar considered for her base paper is titled as 'A review on upcycling: Current body of literature, knowledge gaps and a way forward.' This interesting paper by Kyungeun Sung is referred by the researcher as this paper clearly states the reason why there is not much literature review available on 'Upcycling',

"Despite the rising interest in upcycling manifested by industrial interest along with increased publication levels, surprisingly, no major academic review has yet been presented" as per the author's knowledge, is what the writer writes. "This might be partially attributed to the fact that the term, upcycling, is a neologism. For this reason, the overall volume of literature dealing with upcycling is still low."

Therefore, the fact that the researcher claims in her thesis writing that there is hardly any literature review available on Upcycling, gets validated by the paper referred above.

Below, the author discusses learnings and synopsis of each referred paper and their relevant learnings to take her work ahead with confidence and a sense of confirmation.

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In the paper titled, "Does Recycling improve information usefulness of income? The case of Japan" by (Frendy, 2017); this paper proposes a new set of International Financial Reporting Standards as per June 2015.

The main objective of the study is to test whether recycling improves information usefulness of net income from six perspectives: variability, operating cash flow, net income predictive power, relative and incremental value relevance, and persistence.

This paper is an empirical work by using listed Japanese firms of 5,385 firm between 2012-2014. The results challenge the claim that recycling improves the general information usefulness characteristics of net income.

The empirical results show that OCI recycling improves net income's relative value relevance characteristic of financial firms. However, recycling information by itself does not improve the incremental value relevance, and the predictive power of operating cash flow and net income.

Thus, this paper discusses about recycling in accounting practices and has no relevance to the actual environmental impact of recycling.

In Closing the loop- an exploratory study of rivers readymade garment supply chains in Delhi NCR- by (Anita Kumar, 2016) projects how the fast fashion industry has a splurged growth in the emerging economies and those activities are oriented towards

recycling; are gaining a traction here in this field of fashion, showing an upward trend in a developing economy.

An adapted and extended theory of planned behaviour (TPB) model is employed to explore recycling behaviour at the household level, for treating their garments and fashionable materials.

The authors find rather haphazard garment recycling channels in Delhi NCR. This is due to either lack of awareness or the lack of intensity to approach this through proper systems and recycling processes. And this is supported by the householder survey that finds poor satisfaction levels with most recycling channels.

The study considers the impact of the garment product lifecycle on household behaviour. In this context the adapted TPB model addressed the role of conscious planning. The model is extended to include sense of duty, this contributes to emerging work in this field.

A paper on “Reverse logistics in household recycling and waste systems: A symbiosis Perspective” by (Emy Ezura A Jalil et al, 2016) investigates on the basis that there is a symbiosis effect for exchanges between household waste recycling systems (HWRSS) and household recycling behaviour (HRB) within the reverse logistics (RL) discourse. The paper contains empirical findings from a two phase, multi-method approach comprising consecutive inductive and deductive investigations.

A mixed method approach of both quantitative and qualitative data has been used by the authors in this paper, that signals both explanatory and exploring findings. This has resulted in the better understanding of this phenomenon.

The key factors identified as ‘engagement, convenience, availability and accessibility’ proves an existence of a symbiosis effect between situational and personal factors and inform current research trends in the environmental sciences, behavioural and logistics literature, particularly identifying consumers as being an important pivot point.

The paper further highlights the need to educate the stakeholders in following a proper process of recycling and thereby creating effective exchanges between household waste recycling systems (HWRSS) and household recycling behaviour (HRB).

This paper contributes in linking these to reverse logistics and therefore important from this linking perspective.

Importance or relevance of recycling is not there and so the author of the current research cannot find quite a high relevance of recycling per se here. Conclusions offer the possibility of an epistemological bridge between the social and natural sciences.

Another paper studied by the research scholar discusses about the “Nudging waste diversion at Western State Colorado University: application of behavioural insights” (by Kimberly McCoy et al, 2018) that aims testing a “nudge or intervention” which is

created keeping in mind the behavioural insights at a university campus so that they can decipher the cost-effective means needed to have a larger recycling participation.

Also, the ways of estimating waste removal cost savings being the other aim of this research. Therefore, they conducted a series of tests to check the effectiveness of “behaviourally based recycling interventions.”

And the location for carrying these tests included an academic building, a performing arts/studio arts building, a sports arena, and a library at the campus.

This paper addresses the need of measuring the cost savings due to adopting recycling measures at college and university campuses and shows that nudge will help in changing the design of recycling programs which are a success in campuses.

This paper explains methods for estimating waste removal that act as an important enabler to calculate cost savings from such interventions.

In conclusion, this paper highlights to have plastic bottles aimed at to get a suitable return on investment and suggest that other universities should also follow these methods to improve existing recycling programs and realize their cost savings.

In short, the recycling process not only assists in an environmentally friendly place like students’ campus but also acts as a cost saving tool.

Next paper that the researcher studied in detail is based on “Recycling, paper reduction, and environmentally preferable purchasing (by Elaine J. Cole 2013) that intends to design a community-based social marketing (CBSM) campaign to promote a sustainable behavioural change in paper reduction, recycling, and purchasing environmentally preferred products (EPP).

However, this study is restricted to just a university campus and therefore cannot be confident about using the same across other customer segmentations.

Upcycling in luxury commodities too can bring in a new ray of faith for upcycling is a highlight in the paper on “New life luxury: upcycled Scottish heritage textiles” by Sara Keith in 2015 that tries to link the perception of luxury to handcrafted artifacts and those made from upcycled woven fabrics too.

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Trash created is not only affecting the marine life and disturbing the ecological balance but is detrimental to the life located around oceans. Climate change gets its contribution from this marine disbalances too. And the solution that this paper tries to provide is Recycling.

Lastly, the literature review in part three encompasses all important work related to research related to ‘cultural influence on customer’s buying decisions’ and is discussed along with just one paper found in the following period of years of study, related to health concerns for buying products.

And this paper titled as ‘The factors of Lifestyle of Health and Sustainability (LOHAS) influencing pro-environmental buying behaviour by Kamal Picha et al, 2019) that has found out that the “LOHAS customers search for the same values as producers, they prefer local producers, high quality and natural products.” And their other major finding has been that “Women are more interested in LOHAS than men.”

Culture is one of the most critical factors of purchase decision by customers. This is not an easy topic to study as the culture segment further involves sub-culture elements too like the race, religion, sect etc. And this is difficult for companies to market their products if they do not understand well the cultural aspects of their customers.

In the paper titled-‘the influence of cultural factors on consumer buying behaviour and an application in Turkey,’ the authors (Dr. Yakup Durmaz et al 2014) observed that consumer purchasing decisions no longer just depend on a customer’s individual motivation and personality but by relationships within the families.

Hence, “it provides a tremendous advantage for a marketer to know the family structure and its consumption characteristics.”- (Durmaz and Zengin, 2011: 53).

In their paper on ‘impact of culture, behaviour and gender on green purchase intention, the authors (Naman Sreen et al, 2017) mention that the awareness levels amidst Indian consumers towards green products is still very less and so the policymakers and the practitioners need to take efforts to spread knowledge to them.

“Policy makers and marketers need to work together to create knowledge about the benefits of green products and knowledge about the labels that identify green products.

More availability of green products may help to create better knowledge for identifying green products. Therefore, the government should create policies that encourage organizations to manufacture more of such products.”

The above sums up the major suggestions of the paper aptly and is also going to be a major suggestion by the research scholar too under her study.

And in addition to these, four papers related to cultural influence on customer’s buying behavior and how health impacts the consumer buying behavior have been studied. So, here under this segment also researcher could not find a lot of papers on ‘Impact of culture and health concerns in buying eco-friendly products.

Hence, a total of seventy-four research papers during the said period of study has been read by the researcher in details to know the research gap that emerges from each of them, the respective research methodology used by these researchers in the past. All their findings, analysis and conclusion has been read by the researcher to reach to her conclusion of which direction of research is required to take.

At the outset, the researcher after going through all papers available in these last eighteen years in great details, reached the conclusion that hardly any research is seen or directly done on studying the recycled and upcycled household goods in this part of

geography (Pune, India) and could find a clear justification of choosing this topic for research.

Not only this, but the researcher is confident of the fact that world-wide too there has been no research done in the area of recycled or upcycled of “household goods” and therefore this research is a pioneer in itself for this very reason.

All the papers; although helped a lot in understanding as to where can ‘recycling and upcycling’ be used and done. However, it was all indirectly in sectors and places which is not same as what researcher undertook for her research study. For example, there is enough work that has been done in the field of industrial recycling, chemical recycling and even in Ship recycling but nothing absolutely on recycled or upcycled household products.

The researcher has taken enough care to ensure that the study that she has done and followed based on all the papers, articles and the sustainability reports is enough literature gathered to be able to provide a suitable justification as to why this topic undertaken by her, is unique in itself and an extremely needed one.

Interestingly, the product life cycle theory and concept of cradle-cradle approach as put up aptly in the words of architect William McDonough and chemist Michael Braungart, “Cradle-Cradle is a sustainable business strategy that mimics the regenerative cycle of nature in which waste is reused.” This is in their book titled ‘Cradle-Cradle: Remaking the way we make things’ published in 2002.

Although, the word cradle-cradle is credited to Walter R. Stahel who had used this term, way back in 1980s. And he also used similar concept in his 1976 research paper “The potential for substituting Manpower for Energy.”

This cradle-cradle theory falls perfectly in line with the current research as the scholar is trying to see the “possibility of selling” for these recycled and upcycled household products.

Her chosen topic, “Study the Selling potential of recycled and upcycled household goods in Urban Pune” has never been studied in any region of the globe. And undertaking this study is important for all three key stakeholders in business and the betterment for a country: namely the Sellers, the Consumers, and the Government. And the researcher has precisely drawn her research work around these above-mentioned important stakeholders.

In the wake of the world realizing how important it has become to save the environment from the harmful effects of pollution and climate change; it even becomes imperative that such topics of importance must be researched upon to find a solution.

The researcher with this intention has undertaken the study to know if the urban Pune citizens are even aware of recycling and upcycling. If yes, are they willing to buy these recycled and upcycled household products. Selling potential if there, how can the sellers leverage out of this for their increased sales and lastly how can the state and the central government play a key role in ensuring smooth path for sellers selling these

environmental-friendly products and make a platform available for consumers to reach these sellers.

And before venturing out for her research, the researcher studied what all is available and work done so far; so that she can identify the gaps existing and research ahead accordingly.

She began with studying in details two of the papers that were most relatable to her study and so made out the base papers for reference by her. And once the base papers got identified, studied them in detail; and then the rest of the papers were also read with the intention of finding deep insights from them to be able to find out if any concrete research is available indirectly to the researcher's topic; if not directly.

Thus, the literature review is divided into three parts. Part, one includes all those research papers that are directly related to the topic undertaken for study by the researcher. Part two includes all those papers that are on upcycling or recycling but are indirectly related. And the third and the last part includes literature review of how 'health' concerns and 'culture' influence the consumer's buying behavior.

The two base papers identified by the researcher are as follows:

Reference paper one titled as 'Upcycling-a new perspective on waste in social innovation' that got published in October 2016 with the Journal of Comparative Social Work is written by Charlotte Wegener and Marie Aakjaer who have written this paper with the intention of introducing 'Upcycling' to the Social Innovation field.

So, the paper has been written in the context of explaining as to how the mindset of upcycling can assist in social innovation practices. And also, their paper highlights new areas in social innovations along with some ready to implement practical guide.

Therefore, their paper gave out the connection that Upcycling has with social innovations and how can the two be closely linked for practical relevance too. This came as a direction and a confirmation for the researcher as she has a validation that upcycling works well practically and so useful for sellers dealing in upcycled household products.

Base paper two: The next paper that the scholar considered for her base paper is titled as 'A review on upcycling: Current body of literature, knowledge gaps and a way forward.' This interesting paper by Kyungeun Sung is referred by the researcher as this paper clearly states the reason why there is not much literature review available on 'Upcycling',

"Despite the rising interest in upcycling manifested by industrial interest along with increased publication levels, surprisingly, no major academic review has yet been presented" as per the author's knowledge, is what the writer writes. "This might be partially attributed to the fact that the term, upcycling, is a neologism. For this reason, the overall volume of literature dealing with upcycling is still low."

Therefore, the fact that the researcher claims in her thesis writing that there is hardly any literature review available on Upcycling, gets validated by the paper referred above.

Below, the author discusses learnings and synopsis of each referred paper and their relevant learnings to take her work ahead with confidence and a sense of confirmation.

And as stated above; the research scholar has divided the literature review in three parts. Part, one includes all those research papers that are directly related to the topic undertaken for study by the researcher. Part two includes all those papers that are on upcycling or recycling but are indirectly related. And the third and the last part includes literature review of how 'health' concerns and 'culture' influence the consumer's buying behavior.

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The main objective of the study is to test whether recycling improves information usefulness of net income from six perspectives: variability, operating cash flow, net income predictive power, relative and incremental value relevance, and persistence.

This paper is an empirical work by using listed Japanese firms of 5,385 firm between 2012-2014. The results challenge the claim that recycling improves the general information usefulness characteristics of net income.

The empirical results show that OCI recycling improves net income's relative value relevance characteristic of financial firms. However, recycling information by itself does not improve the incremental value relevance, and the predictive power of operating cash flow and net income.

Thus, this paper discusses about recycling in accounting practices and has no relevance to the actual environmental impact of recycling.

In Closing the loop- an exploratory study of rivers readymade garment supply chains in Delhi NCR- by (Anita Kumar, 2016) projects how the fast fashion industry has a splurged growth in the emerging economies and those activities are oriented towards recycling; are gaining a traction here in this field of fashion, showing an upward trend in a developing economy.

An adapted and extended theory of planned behaviour (TPB) model is employed to explore recycling behaviour at the household level, for treating their garments and fashionable materials.

The authors find rather haphazard garment recycling channels in Delhi NCR. This is due to either lack of awareness or the lack of intensity to approach this through proper systems and recycling processes. And this is supported by the householder survey that finds poor satisfaction levels with most recycling channels.

The study considers the impact of the garment product lifecycle on household behaviour. In this context the adapted TPB model addressed the role of conscious planning. The model is extended to include sense of duty, this contributes to emerging work in this field.

A paper on "Reverse logistics in household recycling and waste systems: A symbiosis Perspective" by (Emy Ezura A Jalil et al, 2016) investigates on the basis that there is a

symbiosis effect for exchanges between household waste recycling systems (HWRSs) and household recycling behaviour (HRB) within the reverse logistics (RL) discourse. The paper contains empirical findings from a two phase, multi-method approach comprising consecutive inductive and deductive investigations.

A mixed method approach of both quantitative and qualitative data has been used by the authors in this paper, that signals both explanatory and exploring findings. This has resulted in the better understanding of this phenomenon.

The key factors identified as ‘engagement, convenience, availability and accessibility’ proves an existence of a symbiosis effect between situational and personal factors and inform current research trends in the environmental sciences, behavioural and logistics literature, particularly identifying consumers as being an important pivot point.

The paper further highlights the need to educate the stakeholders in following a proper process of recycling and thereby creating effective exchanges between household waste recycling systems (HWRSs) and household recycling behaviour (HRB).

This paper contributes in linking these to reverse logistics and therefore important from this linking perspective.

Importance or relevance of recycling is not there and so the author of the current research cannot find quite a high relevance of recycling per se here. Conclusions offer the possibility of an epistemological bridge between the social and natural sciences.

Another paper studied by the research scholar discusses about the “Nudging waste diversion at Western State Colorado University: application of behavioural insights” (by Kimberly McCoy et al, 2018) that aims testing a “nudge or intervention” which is created keeping in mind the behavioural insights at a university campus so that they can decipher the cost-effective means needed to have a larger recycling participation.

Also, the ways of estimating waste removal cost savings being the other aim of this research. Therefore, they conducted a series of tests to check the effectiveness of “behaviourally based recycling interventions.”

And the location for carrying these tests included an academic building, a performing arts/studio arts building, a sports arena, and a library at the campus.

This paper addresses the need of measuring the cost savings due to adopting recycling measures at college and university campuses and shows that nudge will help in changing the design of recycling programs which are a success in campuses.

This paper explains methods for estimating waste removal that act as an important enabler to calculate cost savings from such interventions.

In conclusion, this paper highlights to have plastic bottles aimed at to get a suitable return on investment and suggest that other universities should also follow these methods to improve existing recycling programs and realize their cost savings.

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Next paper that the researcher studied in detail is based on "Recycling, paper reduction, and environmentally preferable purchasing (by Elaine J. Cole 2013) that intends to design a community-based social marketing (CBSM) campaign to promote a sustainable behavioural change in paper reduction, recycling, and purchasing environmentally preferred products (EPP).

However, this study is restricted to just a university campus and therefore cannot be confident about using the same across other customer segmentations.

Upcycling in luxury commodities too can bring in a new ray of faith for upcycling is a highlight in the paper on "New life luxury: upcycled Scottish heritage textiles" by Sara Keith in 2015 that tries to link the perception of luxury to handcrafted artifacts and those made from upcycled woven fabrics too.

The design of work and a collective approach that this paper etches is a true epitome of a model for sustainable upcycled textiles, indicating a pure luxury.

This paper titled, "The sustainability word challenge: Exploring consumer interpretations of frequently used words to promote sustainable fashion brand behaviors and imagery" by Susan Evans and Anne Peirson-Smith in 2018 examines user perceptions toward consumer-facing fashion brands to stimulate sustainable consumption and post consumption behaviour.

This paper tries to throw light on how people perceive terms that might not be followed by everyone and therefore makes it difficult to link it to the actual intended meaning as mentioned above.

Highly applicable in a highly cultural contextual countries and can find a relevance if studied in such markets.

A strong background and an in-depth study is always necessary to know the existing status of work done in the field that one wants to research in. As this enables one to know where they stand and which can be the direction taken, to move forward.

The research scholar has read in detail all the existing literature that is available in her area of research chosen that focusses on recycling and upcycling. She has thoroughly gone through research work done in the past eighteen years on recycling and upcycling (i.e. From the year 2000 up to 2018)

The reason for taking the year 2000 onwards for literature review is for two reasons. One for relevance of work done and secondly, prior to that year, in the 1990s decade, not much has been written on recycling and upcycling is completely missed.

Therefore, for the above-mentioned time period of eighteen years literature review; the researcher has been able to access eighteen research papers from the decade of 2000-2010 and has found another fifty-two research papers between 2011-2018.

And in addition to these, four papers related to cultural influence on customer's buying behavior and how health impacts the consumer buying behavior have been studied. So, here under this segment also researcher could not find a lot of papers on 'Impact of culture and health concerns in buying eco-friendly products.

Hence, a total of seventy-four research papers during the said period of study has been read by the researcher in details to know the research gap that emerges from each of them, the respective research methodology used by these researchers in the past. All their findings, analysis and conclusion has been read by the researcher to reach to her conclusion of which direction of research is required to take.

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However, this study is restricted to just a university campus and therefore cannot be confident about using the same across other customer segmentations.

At this point of studying and reviewing of literature; the researcher got access to another paper based on analysing “the barriers for plastic recycling in the Indian plastic industry” by (Suchismita Satapathy, 2017) which is written with an objective to develop a new model in which the ‘interrelationship between the barriers can be determined’ which hinders and affects successful implementation of effective recycling processes in India’s plastic sector.

Manufacturers of today do not want their input to be deemed waste and subsequently be discarded, so their efforts and resources have been channelled into the development of efficient recycling methods. Despite this goal, they do face several barriers that hinders the process of efficient and effective recycling.

The paper discusses interpretive structural modelling to implement suggestions and solutions for effective recycling to happen.

Plastic waste is a global concern and one that is seen only having an upward trend. Recycling of plastic is getting a lot of attention as the companies see it as a viable option in not only to reduce costs but also as a point of highlighting sales by showing recycling practices adopted by them to attract conscious customers.

But the paper also informs that there are recycling units lacking in India.

“Effective strategies for enhancing waste management at university campuses” is again a paper based on waste management studied in a university campus by (Kianoosh Ebrahimi, 2017) that identifies and assesses waste management approaches as key to the educating campuses.

Waste minimization-oriented policy instruments turned out to be a key approach suggested by the authors.

A research work carried on “Recycling as a result of “cultural greening?” by Julia A. Flaggs, 2016) aims to test whether faculty and students who have developed the most pro-environmental values and concerns are also the most likely to reduce the on-campus waste stream. It does so by using the theory of ecological modernization.

Questionnaires were created and circulated to a sample of 590 undergraduate students and faculty on one college campus. Among the measures of environmental orientation (values, concern about pollution and green consumption), only environmental values were associated with claiming to know guidelines and self-reporting higher levels of recycling effort.

The authors concluded through this research findings that active interventions are necessary to teach about campus recycling guidelines to reduce the waste produced on campus.

This proves that awareness is such an important first step to begin with when it comes to protecting the environment around.

Author also ensured that her review of literature covers a vast geography and so she accessed paper based in Ghana, Africa that studies the “Source separation and recycling potential of municipal solid waste in Ghana” by S. Oduro-Kwarteng et al, 2016.

The purpose of this paper is to assess the waste characteristics and separation efficiency of source separation of household waste in low- and middle-income communities in Kumasi Metropolis, Ghana.

The findings showed there is potential for recycling through source separation programme in low-and middle-income communities. Public education and economic incentives are necessary for successful source separation programme.

The paper provides insight into source separation to contribute to better understanding of how city authorities in developing countries could take advantage of economic incentives to scale-up recycling.

Overall, a paper hinting awareness yet again, being an important parameter to effectively run recycling programs, amidst larger public.

The paper “What makes manufacturing companies more desirous of recycling?” by Bülent Başaran, 2013) is a study done in the Turkey to understand if the manufacturing companies focus on recycling their manufacturing wastes. 255 firms related to furniture, automotive, textiles and machine industries are studied under this research.

They used Pearson chi-square and categorical regression analyses to get results that show that a few characteristics that were expected to have relationships with the treatment options, are supported by the two analyses while others are not.

Although this study in details show the challenges, however, hasn't provided a well laid strategy to overcome the same. Bringing out the fact is again “awareness” and “attitude” amongst people for recycling.

Investigating the determinants of recycling behaviour in Malta is a paper on similar lines like the above paper from Turkey, which has worked in determining what promotes a recycling behaviour. The paper by Frank H. Bezzina et al, 2011) explores different factors that signify predicting Maltese residents towards recycling. Randomly 400 residents chosen from the e-Electoral Register for general elections. Questionnaire that used elements of the theory of planned behaviour (TPB), model of Altruistic Behaviour (MAB) and a few more determinants of recycling behaviours like the demographic divide, convenience to recycle etc to derive the recycling behaviour amongst Maltese residents.

The study brings out nine and also finds that the first three factors show a strong predictor and accounted for 48.5 per cent of the variability in recycling participation.

Observing these emergent findings from their research, the authors suggest adopting a corporate communications programme as a possible strategy aimed at explaining the mandatory EU (European Union) recycling targets for Malta to bring their recycling practices at large levels.

Another paper titled, “Greening the environment through recycling: an empirical study- T. Ramayah, Elham Rahbar, 2013” is yet another research on university students to check their recycling orient and study done is a model based on the Theory of Reasoned Action that aimed to test the variance-based structural equation modelling technique of Partial Least Square (PLS).

The findings revealed that the “attitude towards recycling is significantly influenced by perceived value, awareness and actual gains perceived by the consumers. Recycling behaviour was significantly influenced by resistance to change and attitude towards recycling.”

The paper asks the policy makers to target these variables in their future action plans in order to enhance recycling behaviour.

However, the researcher feels that it has to be a joined effort by every stakeholder like public at large (students included), the companies and the government who can make this happen at a larger scale only through joined efforts.

At this junction, the researcher read a paper on 'Environmental management accounting in local government: A case of waste management' (by Wei Qian et al, 2011) that is based in the New South Wales (NSW) in Australia and aims to study the accounting practices of environmental managing and thereby motivations, if any to improve waste and recycling management by their local government there.

Environmental management accounting act as an enabling resource for waste management is what the prior studies signalled to the writers of this paper.

They approached through exploratory case study method because of taking the case of only 12 NSW local government organisations. Interviews were conducted with managers responsible for waste and recycling issues and from these discussions; the authors found out that contradicting to the earlier research available, their study found that in the local governments investigated, an increasing amount of environmental management accounting information is being made available.

The institutional theory and contingency theory used for this study has provided them with different but parallelly working explanations for the development of environmental management accounting in waste management.

The paper 'Application of agent technology for recycling-oriented product assessment by Ewa Dostatni et al, 2013) is aimed at distributing ideas and the implementing of the same in a computer tool for computer-aided that has a recycling-oriented design.

Currently, the tendency is to consider the impact of a product on the natural environment, but the writers of this paper wanted to focus on recycling process of products with reference to its design.

Authors of the paper claim their main achievement to be the method that is based on and supports the eco-design based on agent technology. "Based on the analysis of the process of recycling-oriented eco-design, the authors designed and then implemented the tool that aids designers' activities in the area of eco-design.

The drawn-up method supports decision making concerning designing environmental friendly products. Thanks to agent technology, the design process can be conducted in the distributed design environment."

Next paper studied by the research scholar is that on the Fast fashion consumers and their post-purchase behaviours by Hyun-Mee Joung, 2014. This paper throws light on checking on how fast fashion purchases is disposed, hoarded and if participates in recycling and attitudes towards the environment.

335 college students were asked to complete a questionnaire to check how many bought fast-fashion. 274 students who purchased fast fashions were then used for this study.

Descriptive statistics for data summarizing and “Pearson correlations were conducted to examine relationships among the variables.

Results indicated that fast-fashion purchase was positively related to disposing and hoarding, but negatively related to participation in recycling.” Thereby, again showing and signalling the need to make them “aware” about the consequences of not participating in recycling and creating the right intent of recycling.

Textile sector is one of the largest polluters and also uses gallons of water to make its products. And therefore, consciously this sector must promote recycling amongst its consumers through active participation in recycling and should take responsibility in collecting their post-purchase products. This paper provides adequate information about fashion marketing/distribution/retailing and post-purchase behaviours

Part two segment of the literature review begins from here that includes indirectly related papers to the present study but includes recycling and upcycling on other industries.

This paper not directly related to the research scholar’s study but mentions sustainable innovations is a paper by Davorin Kralj of 2011 with focus of this paper on optimization of recycling of concrete from lightweight aggregates containing expanded glass and hard polyurethane (*PU) and on the issue of importance of environmental management in constructions, they based their research through mixed methods.

A paper referred by the research scholar in her review of literature is also a paper on “multimodal network design for sustainable household plastic recycling” by Xiaoyun Bing et al, 2013 which studies a “plastic recycling system from a reverse logistics angle and investigates the potential benefits of a multimodality strategy to the network design of plastic recycling.

This research aims to quantify the impact of multimodality on the network, to provide decision support for the design of more sustainable plastic recycling networks in the future.”

Although, not relatable to the researcher’s current study; however the process of recycling useful in the logistics industry is also a no less revelation and thrusts the fact that be it any sector in question today, recycling must be practiced and upcycling too can be implemented, wherever applicable.

As mentioned earlier by the research scholar that she has ensured to study papers and existing literature from different geographies to understand truly the essence of work done amidst the globe, her next paper studied in depth is by author Irene Tilikidou in 2013 who writes on the “evolutions in the ecologically conscious consumer behaviour in Greece.”

The purpose of this paper is to examine all types of ecologically conscious consumer behaviour (ECCB) of Greece during their economic crisis.

And further attempts to determine the factors able to affect it to reveal the distances between the results of this study and those of previous studies in the same geographical region. Her intention of the paper to bring out these ecologically conscious consumers' (ECCs) segment.

This is what emerges from this paper.

This paper is relevant to know the factors that assist in contributing an eco-friendly behaviour.

This next paper read on "Innovation in cleaner production through waste recycling in composites" by Mohamed Osmani in 2013 is not relevant to the research scholar's research direction. However, this paper is interesting from the perspective to see how recycling plays an important role in architectural designing and practices too.

A reverse logistics inventory model for plastic bottles is a paper by Nouri Matar et al, 2014 the purpose of which was to present a model which is claimed to be original and is applicable for the production-recycling-reuse of plastic beverage bottles.

Discarded two-litre plastic polyethylene terephthalate (PET) bottles are collected from the market is an assumption which are then sorted into non-contaminated and contaminated streams.

The research scholar is of the opinion after going through this paper that it needs two forms of convincing strategies for people to recycle. First is the cost savings measure that the corporates keenly like to follow and then there is the ecologically conscious consumer who needs to be self-motivated throughout and must continue to care for the environment around.

This either can come naturally to him/her or is imbibed in them through sustained training to adhere to recycling. It is in this second context that **the research scholar under her current research work on studying the selling potential of recycled and upcycled household goods, want to coin a new concept relevant today. Her contribution to the research with (ECQ) Environmental Consciousness Quotient, based on lines of the IQ and EQ that already exists.**

A paper on the "Post-retail responsibility of garments – a fashion industry perspective by Kerli Kant Hvass from 2014 is an attempt to highlight the reuse and recycling of garments from the fashion industry's perspective.

The approach to study this is by way of a multiple case studies to bring out the emerging organizational role in post-retail responsibility of garments, that tries to explain why and how many fashion companies have engaged with reuse and recycling practices and the various challenges that they confront with.

This paper on "When Online Recycling Enables Givers to Escape the Tensions of the Gift Economy" by Valérie Guillard et al of 2012 is an article that claims to highlight a new gifting which is "both rewarding and liberating: it is rewarding thanks to the

interaction with the recipient (unlike donations to charities) without necessarily creating a bond of dependence (unlike giving to someone you know).”

This idea of gifting recycled goods through online medium is what the paper explores about.

The paper based on “Value creation through reverse logistics in used clothing networks” by Rudrajeet Pal in 2017 is aimed to “identify the major reverse logistics design aspects in used clothing value chains, and those enabling and challenging manifestation of value creation.

This research is based on an exploratory study of 12 established organizations in Swedish used clothing networks.”

It is for this reason that the research scholar has cited this paper as it attempts to study the “environmental motivation” and further includes implications in the form of strategic solutions for higher value creation.

Next paper for studying is on understanding consumer upcycling titled “When creative consumers go green: understanding consumer upcycling” by Matthew Wilson in 2016 which shows its projection and focuses on “an environmentally conscious form of creative consumption known as upcycling.

This conceptual paper presents and defines the consumer practice of upcycling. The author has identified gaps in the literature regarding consumer upcycling and identifies avenues for future research and theory development.”

Upcycling in luxury commodities too can bring in a new ray of faith for upcycling is a highlight in the paper on “New life luxury: upcycled Scottish heritage textiles” by Sara Keith in 2015 that tries to link the perception of luxury to handcrafted artifacts and those made from upcycled woven fabrics too.

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This case study is part of a larger research study whose purpose is to create a model for an index of sustainable community production and consumption. The theoretical approach selected was the national indices of consumer satisfaction models.”

“The apparel aftermarket in India – a case study focusing on reverse logistics” by Nandita Abraham in 2011 aims to map and understand the reverse logistics systems in the apparel aftermarket in India through 93 in-depth interviews.

The intention of this paper is to assist in taking business decisions with reference to reverse logistics and to look at this as a value-addition model.

Paper next undertaken to study in details is on “The Worn, The Torn, The Wearable: textile recycling in Union Square” by David Goldsmith in 2012 and is a narrative focused on textile recycling and used ethnographic studies to see if both recycling and upcycling has any relevance taken together. He also highlights the fact that how these terms are understood or not.

David’s paper confirms the fact of the meanings of recycling and upcycling as understood by the world. However, lacking is the awareness spread of the term ‘Upcycling’ which the researcher also has found out through her analysis.

“From Trash to Treasure: Recycling Scrap Metal into Steel” by Cantu, Diana 2011 discusses about the ocean pollution and how this has disrupted the marine ecosystems of today, globally.

Trash created is not only affecting the marine life and disturbing the ecological balance but is detrimental to the life located around oceans. Climate change gets its contribution from this marine disbalances too. And the solution that this paper tries to provide is Recycling.

Lastly, the literature review in part three encompasses all important work related to research related to ‘cultural influence on customer’s buying decisions’ and is discussed along with just one paper found in the following period of years of study, related to health concerns for buying products.

And this paper titled as ‘The factors of Lifestyle of Health and Sustainability (LOHAS) influencing pro-environmental buying behaviour by Kamal Picha et al, 2019) that has found out that the “LOHAS customers search for the same values as producers, they prefer local producers, high quality and natural products.” And their other major finding has been that “Women are more interested in LOHAS than men.”

Culture is one of the most critical factors of purchase decision by customers. This is not an easy topic to study as the culture segment further involves sub-culture elements too like the race, religion, sect etc. And this is difficult for companies to market their products if they do not understand well the cultural aspects of their customers.

In the paper titled-‘the influence of cultural factors on consumer buying behaviour and an application in Turkey,’ the authors (Dr. Yakup Durmaz et al 2014) observed that consumer purchasing decisions no longer just depend on a customer’s individual motivation and personality but by relationships within the families.

Hence, “it provides a tremendous advantage for a marketer to know the family structure and its consumption characteristics.”- (Durmaz and Zengin, 2011: 53).

In their paper on ‘impact of culture, behaviour and gender on green purchase intention, the authors (Naman Sreen et al, 2017) mention that the awareness levels amidst Indian consumers towards green products is still very less and so the policymakers and the practitioners need to take efforts to spread knowledge to them.

“Policy makers and marketers need to work together to create knowledge about the benefits of green products and knowledge about the labels that identify green products.

More availability of green products may help to create better knowledge for identifying green products. Therefore, the government should create policies that encourage organizations to manufacture more of such products.”

The above sums up the major suggestions of the paper aptly and is also going to be a major suggestion by the research scholar too under her study.

And in addition to these, four papers related to cultural influence on customer’s buying behavior and how health impacts the consumer buying behavior have been studied. So, here under this segment also researcher could not find a lot of papers on ‘Impact of culture and health concerns in buying eco-friendly products.

Hence, a total of seventy-four research papers during the said period of study has been read by the researcher in details to know the research gap that emerges from each of them, the respective research methodology used by these researchers in the past. All their findings, analysis and conclusion has been read by the researcher to reach to her conclusion of which direction of research is required to take.

At the outset, the researcher after going through all papers available in these last eighteen years in great details, reached the conclusion that hardly any research is seen or directly done on studying the recycled and upcycled household goods in this part of geography (Pune, India) and could find a clear justification of choosing this topic for research.

Not only this, but the researcher is confident of the fact that world-wide too there has been no research done in the area of recycled or upcycled of “household goods” and therefore this research is a pioneer in itself for this very reason.

All the papers; although helped a lot in understanding as to where can 'recycling and upcycling' be used and done. However, it was all indirectly in sectors and places which is not same as what researcher undertook for her research study. For example, there is enough work that has been done in the field of industrial recycling, chemical recycling and even in Ship recycling but nothing absolutely on recycled or upcycled household products.

The researcher has taken enough care to ensure that the study that she has done and followed based on all the papers, articles and the sustainability reports is enough literature gathered to be able to provide a suitable justification as to why this topic undertaken by her, is unique in itself and an extremely needed one.

Interestingly, the product life cycle theory and concept of cradle-cradle approach as put up aptly in the words of architect William McDonough and chemist Michael Braungart, "Cradle-Cradle is a sustainable business strategy that mimics the regenerative cycle of nature in which waste is reused." This is in their book titled 'Cradle-Cradle: Remaking the way we make things' published in 2002.

Although, the word cradle-cradle is credited to Walter R. Stahel who had used this term, way back in 1980s. And he also used similar concept in his 1976 research paper "The potential for substituting Manpower for Energy."

This cradle-cradle theory falls perfectly in line with the current research as the scholar is trying to see the "possibility of selling" for these recycled and upcycled household products.

Her chosen topic, "Study the Selling potential of recycled and upcycled household goods in Urban Pune" has never been studied in any region of the globe. And undertaking this study is important for all three key stakeholders in business and the betterment for a country: namely the Sellers, the Consumers, and the Government. And the researcher has precisely drawn her research work around these above-mentioned important stakeholders.

In the wake of the world realizing how important it has become to save the environment from the harmful effects of pollution and climate change; it even becomes imperative that such topics of importance must be researched upon to find a solution.

The researcher with this intention has undertaken the study to know if the urban Pune citizens are even aware of recycling and upcycling. If yes, are they willing to buy these recycled and upcycled household products. Selling potential if there, how can the sellers leverage out of this for their increased sales and lastly how can the state and the central government play a key role in ensuring smooth path for sellers selling these environmental-friendly products and make a platform available for consumers to reach these sellers.

And before venturing out for her research, the researcher studied what all is available and work done so far; so that she can identify the gaps existing and research ahead accordingly.

She began with studying in details two of the papers that were most relatable to her study and so made out the base papers for reference by her. And once the base papers got identified, studied them in detail; and then the rest of the papers were also read with the intention of finding deep insights from them to be able to find out if any concrete research is available indirectly to the researcher's topic; if not directly.

Thus, the literature review is divided into three parts. Part, one includes all those research papers that are directly related to the topic undertaken for study by the researcher. Part two includes all those papers that are on upcycling or recycling but are indirectly related. And the third and the last part includes literature review of how 'health' concerns and 'culture' influence the consumer's buying behavior.

The two base papers identified by the researcher are as follows:

Reference paper one titled as 'Upcycling-a new perspective on waste in social innovation' that got published in October 2016 with the Journal of Comparative Social Work is written by Charlotte Wegener and Marie Aakjaer who have written this paper with the intention of introducing 'Upcycling' to the Social Innovation field.

So, the paper has been written in the context of explaining as to how the mindset of upcycling can assist in social innovation practices. And also, their paper highlights new areas in social innovations along with some ready to implement practical guide.

Therefore, their paper gave out the connection that Upcycling has with social innovations and how can the two be closely linked for practical relevance too. This came as a direction and a confirmation for the researcher as she has a validation that upcycling works well practically and so useful for sellers dealing in upcycled household products.

Base paper two: The next paper that the scholar considered for her base paper is titled as 'A review on upcycling: Current body of literature, knowledge gaps and a way forward.' This interesting paper by Kyungeun Sung is referred by the researcher as this paper clearly states the reason why there is not much literature review available on 'Upcycling',

"Despite the rising interest in upcycling manifested by industrial interest along with increased publication levels, surprisingly, no major academic review has yet been presented" as per the author's knowledge, is what the writer writes. "This might be partially attributed to the fact that the term, upcycling, is a neologism. For this reason, the overall volume of literature dealing with upcycling is still low."

Therefore, the fact that the researcher claims in her thesis writing that there is hardly any literature review available on Upcycling, gets validated by the paper referred above.

Below, the author discusses learnings and synopsis of each referred paper and their relevant learnings to take her work ahead with confidence and a sense of confirmation.

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literature review of how 'health' concerns and 'culture' influence the consumer's buying behavior.

In the paper titled, "Does Recycling improve information usefulness of income? The case of Japan" by (Frendy, 2017); this paper proposes a new set of International Financial Reporting Standards as per June 2015.

The main objective of the study is to test whether recycling improves information usefulness of net income from six perspectives: variability, operating cash flow, net income predictive power, relative and incremental value relevance, and persistence.

This paper is an empirical work by using listed Japanese firms of 5,385 firm between 2012-2014. The results challenge the claim that recycling improves the general information usefulness characteristics of net income.

The empirical results show that OCI recycling improves net income's relative value relevance characteristic of financial firms. However, recycling information by itself does not improve the incremental value relevance, and the predictive power of operating cash flow and net income.

Thus, this paper discusses about recycling in accounting practices and has no relevance to the actual environmental impact of recycling.

In Closing the loop- an exploratory study of rivers readymade garment supply chains in Delhi NCR- by (Anita Kumar, 2016) projects how the fast fashion industry has a splurged growth in the emerging economies and those activities are oriented towards recycling; are gaining a traction here in this field of fashion, showing an upward trend in a developing economy.

An adapted and extended theory of planned behaviour (TPB) model is employed to explore recycling behaviour at the household level, for treating their garments and fashionable materials.

The authors find rather haphazard garment recycling channels in Delhi NCR. This is due to either lack of awareness or the lack of intensity to approach this through proper systems and recycling processes. And this is supported by the householder survey that finds poor satisfaction levels with most recycling channels.

The study considers the impact of the garment product lifecycle on household behaviour. In this context the adapted TPB model addressed the role of conscious planning. The model is extended to include sense of duty, this contributes to emerging work in this field.

A paper on "Reverse logistics in household recycling and waste systems: A symbiosis Perspective" by (Emy Ezura A Jalil et al, 2016) investigates on the basis that there is a symbiosis effect for exchanges between household waste recycling systems (HWRSSs) and household recycling behaviour (HRB) within the reverse logistics (RL) discourse. The paper contains empirical findings from a two phase, multi-method approach comprising consecutive inductive and deductive investigations.

A mixed method approach of both quantitative and qualitative data has been used by the authors in this paper, that signals both explanatory and exploring findings. This has resulted in the better understanding of this phenomenon.

The key factors identified as ‘engagement, convenience, availability and accessibility’ proves an existence of a symbiosis effect between situational and personal factors and inform current research trends in the environmental sciences, behavioural and logistics literature, particularly identifying consumers as being an important pivot point.

The paper further highlights the need to educate the stakeholders in following a proper process of recycling and thereby creating effective exchanges between household waste recycling systems (HWRSs) and household recycling behaviour (HRB).

This paper contributes in linking these to reverse logistics and therefore important from this linking perspective.

Importance or relevance of recycling is not there and so the author of the current research cannot find quite a high relevance of recycling per se here. Conclusions offer the possibility of an epistemological bridge between the social and natural sciences.

Another paper studied by the research scholar discusses about the “Nudging waste diversion at Western State Colorado University: application of behavioural insights” (by Kimberly McCoy et al, 2018) that aims testing a “nudge or intervention” which is created keeping in mind the behavioural insights at a university campus so that they can decipher the cost-effective means needed to have a larger recycling participation.

Also, the ways of estimating waste removal cost savings being the other aim of this research. Therefore, they conducted a series of tests to check the effectiveness of “behaviourally based recycling interventions.”

And the location for carrying these tests included an academic building, a performing arts/studio arts building, a sports arena, and a library at the campus.

This paper addresses the need of measuring the cost savings due to adopting recycling measures at college and university campuses and shows that nudge will help in changing the design of recycling programs which are a success in campuses.

This paper explains methods for estimating waste removal that act as an important enabler to calculate cost savings from such interventions.

In conclusion, this paper highlights to have plastic bottles aimed at to get a suitable return on investment and suggest that other universities should also follow these methods to improve existing recycling programs and realize their cost savings.

In short, the recycling process not only assists in an environmentally friendly place like students’ campus but also acts as a cost saving tool.

Next paper that the researcher studied in detail is based on “Recycling, paper reduction, and environmentally preferable purchasing (by Elaine J. Cole 2013) that intends to design a community-based social marketing (CBSM) campaign to promote a sustainable behavioural change in paper reduction, recycling, and purchasing environmentally preferred products (EPP).

However, this study is restricted to just a university campus and therefore cannot be confident about using the same across other customer segmentations.

Upcycling in luxury commodities too can bring in a new ray of faith for upcycling is a highlight in the paper on “New life luxury: upcycled Scottish heritage textiles” by Sara Keith in 2015 that tries to link the perception of luxury to handcrafted artifacts and those made from upcycled woven fabrics too.

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“From Trash to Treasure: Recycling Scrap Metal into Steel” by Cantu, Diana 2011 discusses about the ocean pollution and how this has disrupted the marine ecosystems of today, globally.

Trash created is not only affecting the marine life and disturbing the ecological balance but is detrimental to the life located around oceans. Climate change gets its contribution from this marine disbalances too. And the solution that this paper tries to provide is Recycling.

Lastly, the literature review in part three encompasses all important work related to research related to ‘cultural influence on customer’s buying decisions’ and is discussed along with just one paper found in the following period of years of study, related to health concerns for buying products.

And this paper titled as ‘The factors of Lifestyle of Health and Sustainability (LOHAS) influencing pro-environmental buying behaviour by Kamal Picha et al, 2019) that has found out that the “LOHAS customers search for the same values as producers, they prefer local producers, high quality and natural products.” And their other major finding has been that “Women are more interested in LOHAS than men.”

Culture is one of the most critical factors of purchase decision by customers. This is not an easy topic to study as the culture segment further involves sub-culture elements too like the race, religion, sect etc. And this is difficult for companies to market their products if they do not understand well the cultural aspects of their customers.

In the paper titled-‘the influence of cultural factors on consumer buying behaviour and an application in Turkey,’ the authors (Dr. Yakup Durmaz et al 2014) observed that consumer purchasing decisions no longer just depend on a customer’s individual motivation and personality but by relationships within the families.

Hence, “it provides a tremendous advantage for a marketer to know the family structure and its consumption characteristics.”- (Durmaz and Zengin, 2011: 53).

In their paper on ‘impact of culture, behaviour and gender on green purchase intention, the authors (Naman Sreen et al, 2017) mention that the awareness levels amidst Indian consumers towards green products is still very less and so the policymakers and the practitioners need to take efforts to spread knowledge to them.

“Policy makers and marketers need to work together to create knowledge about the benefits of green products and knowledge about the labels that identify green products.

More availability of green products may help to create better knowledge for identifying green products. Therefore, the government should create policies that encourage organizations to manufacture more of such products.”

The above sums up the major suggestions of the paper aptly and is also going to be a major suggestion by the research scholar too under her study.

And in addition to these, four papers related to cultural influence on customer’s buying behavior and how health impacts the consumer buying behavior have been studied. So, here under this segment also researcher could not find a lot of papers on ‘Impact of culture and health concerns in buying eco-friendly products.

Hence, a total of seventy-four research papers during the said period of study has been read by the researcher in details to know the research gap that emerges from each of them, the respective research methodology used by these researchers in the past. All their findings, analysis and conclusion has been read by the researcher to reach to her conclusion of which direction of research is required to take.

At the outset, the researcher after going through all papers available in these last eighteen years in great details, reached the conclusion that hardly any research is seen or directly done on studying the recycled and upcycled household goods in this part of geography (Pune, India) and could find a clear justification of choosing this topic for research.

Not only this, but the researcher is confident of the fact that world-wide too there has been no research done in the area of recycled or upcycled of “household goods” and therefore this research is a pioneer in itself for this very reason.

All the papers; although helped a lot in understanding as to where can’ recycling and upcycling’ be used and done. However, it was all indirectly in sectors and places which is not same as what researcher undertook for her research study. For example, there is enough work that has been done in the field of industrial recycling, chemical recycling and even in Ship recycling but nothing absolutely on recycled or upcycled household products.

The researcher has taken enough care to ensure that the study that she has done and followed based on all the papers, articles and the sustainability reports is enough literature gathered to be able to provide a suitable justification as to why this topic undertaken by her, is unique in itself and an extremely needed one.

Interestingly, the product life cycle theory and concept of cradle-cradle approach as put up aptly in the words of architect William McDonough and chemist Michael Braungart, “Cradle-Cradle is a sustainable business strategy that mimics the regenerative cycle of nature in which waste is reused.” This is in their book titled ‘Cradle-Cradle: Remaking the way we make things’ published in 2002

Paper referred on “Quality assessment methods for index of community sustainability” by Maria Odette Lobato et al in 2018 is to design and test a user satisfaction model “to evaluate the contribution of biodiesel production and consumption to the sustainability of a semi-urban community in the Cowichan Valley in British Columbia Canada.

This case study is part of a larger research study whose purpose is to create a model for an index of sustainable community production and consumption. The theoretical approach selected was the national indices of consumer satisfaction models.”

“The apparel aftermarket in India – a case study focusing on reverse logistics” by Nandita Abraham in 2011 aims to map and understand the reverse logistics systems in the apparel aftermarket in India through 93 in-depth interviews.

The intention of this paper is to assist in taking business decisions with reference to reverse logistics and to look at this as a value-addition model.

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And in addition to these, four papers related to cultural influence on customer’s buying behavior and how health impacts the consumer buying behavior have been studied. So, here under this segment also researcher could not find a lot of papers on ‘Impact of culture and health concerns in buying eco-friendly products.

Interestingly all these research papers referred to; have been published in the top journal publications that are indexed in Scopus, ABDC (Australian Business Dean Council) ranked journals.

Therefore, the source of selection of literature to review authenticates the fact that the researcher has referred to all quality work that is available in the field of recycling and upcycling to reach to conclusion that the present study undertaken by the researcher is unique and never done yet in the past.

The gap existing in the current literature available on the recycling and upcycling in household goods and their selling potential is therefore of a significant contribution to the research body.

Objectives of Research Study:

- a) Finding out if the people of urban Pune city are aware about recycled and upcycled products for household use (Awareness)
- b) Finding out if there is willingness to buy these recycled and upcycled household goods (Acceptance)
- c) Finding out if the recycled and upcycled household goods are easily made available to the Pune customers (Accessibility)
- d) Finding out the firms dealing in recycled and upcycled household goods in Pune (Existence)
- e) Finding out if there is a demand for recycled and upcycled household goods from Urban Pune (Saleability)

Chapter 3: Research Methodology

This chapter has details of the entire ‘Research process and methodology’ adopted to get results that validate the hypotheses testing and thereby the analysis done and the findings derived. A detailed logical sequence has been followed for the same.

Right from identifying the research problem to be addressed, purpose for this research to study and objectives thereby identified for this study is mentioned to begin with.

Next a pilot study has been undertaken to see if the study is feasible and fits in with the hypotheses put forth by the researcher. Once the pilot study is analyzed, defining the population and sample size for the main research work has been undertaken, and that is described in great details below.

It is crucial to ensure the right actions taken each time the research process is followed. Be it the Hypothesis framing, framing the Questionnaires, Selection process of approaching the Primary and the Secondary sources of data collection etc.; all this has been done with careful planning and in-depth ground execution.

3.1) Defining the Research Problem Statement

The entire planet is worried at the speed with which our natural resources are depleting, and this menace unfortunately is a man-made disaster which faces utmost catastrophe in the very near future.

And as predicted earlier by the scientists, the ecologists, the environmentalists, and the conservationists; it has already started to show traces of the devastation in the form of excessive droughts, floods, concrete jungles being created under the grab of infrastructural improvements and genuinely speaking, the list may continue to a few pages. However, the underlying fact remains that if something concretely well is not executed to curb these climate change shocks by the public at large from all societies of the globe, the world will no longer be a place worth living well.

Thus, from the researcher’s this sentiment of concern, the idea of ‘studying the selling potential of recycled and upcycled household products for urban Pune’ city, got stemmed out for research study. At the first instance, readers might feel that selling potential of recycled and upcycled products is the main goal of the researcher, which is in actual, but not the only focus as an equal thrust lies on the products chosen too. The research tends to focus on eco-friendly products for household goods made from recycling and upcycling.

Moreover, the researcher's elaborate study on the existing literature shows that there is nothing significantly done in studying the selling scope of recycled and upcycled household goods and therefore this particular research becomes extremely relevant and important for contributing to this body of research.

As there is no back up plan beyond our planet, therefore we all must play a collaborative role to make the place well and further ensure it sustains. One of the ways to do this can be by using eco-friendly products like those which are recycled or upcycled.

Therefore, this research problem undertaken, aims to find out a variety of solutions to remain sustainable by a larger pool of the society as the research targets citizens of a city (Pune in this research).

Data collection is done through both the sources namely the 'primary and secondary.' Primary sources like:

- a) Approaching the Customers with a questionnaire at various Eco-Friendly Exhibitions in and around Pune and data collected also through online questionnaire crafted to navigate in the right direction of research objectives and purpose set for the study
- b) Identifying and reaching out to Sellers of Recycled and Upcycled Products from Pune through a list of Questions posed to them for getting a correct perspective of what the state of sales is today, challenges in recycled and upcycled goods and the way ahead

And through secondary sources like studying the past review of literature existing of the past eighteen years (2000-2018), various Recycling and Upcycling based Websites, Testimonials, Newsletters, Reviews, Reports, Social media coverage and print media covered Articles and Updates.

3.2) Purpose of this Research Study

The main purpose of undertaking this research study is for three major reasons:

- a) The researcher wants to contribute to the field of recycling and upcycling of household products to promote eco-friendly goods and sustainability
- b) To find out the selling potential of these products amidst public of a city like Pune
- c) To suggest that there exists an important and active role for the state as well as the central government to support the sellers of sustainable products by promoting, actively engaging, and building more direct linkages between sellers of such environmentally friendly products and the customers who would want to buy these.

Simply by knowing how much significance, recycling and upcycling holds; the study becomes all the more imperative. Also, the detailed existing literature review done brought the fact to the limelight that this study has not yet been done by anyone in India on the selling scope of these goods.

There are papers on Recycling of Industrial goods, E-Waste (Electronic waste) and recycling in the shipping industry too; but hardly any study done on Upcycling and Recycling of Household Goods. And so, this makes the need and the relevance of the study all the more necessary.

3.3) Objectives of the Study

a) Finding out if the people of urban Pune city are aware about recycled and upcycled products for household use (Awareness)

It is important for the public to know the value of recycling and upcycling. It is therefore that the researcher decided to first checkout the ‘**awareness**’ about the recycling and upcycling of products typically used for household goods.

To check whether the public in general is aware about recycling and upcycling both, the author took to taking a survey through questionnaire at the respective exhibitions where the public at large visit; to buy certain green recycled and upcycled products.

The researcher directly asked questions Like whether they are aware about recycled products. By giving certain examples. The researcher, ask them simple questions like “have you ever seen newspaper made pencil? Or have you seen a toy made out of a scrap material?” 90% of the public Responded in positive about knowing the products made from recycling.

The researcher then asked examples through questions to check whether the public is aware about the upcycling term. On the contrary to knowing the term recycling, most of them did not know about upcycling, hadn't even heard about it.

This is how awareness quotient was checked in public from urban Pune city, via visiting a lot of green exhibitions that hosted, recycled, and upcycled household products for sale.

b) Finding out if there is willingness to buy these recycled and upcycled household goods (Acceptance)

Next plan of objective was to gauge whether the public in general are keen to buy, the products are made of recycled upcycled variety. Also, if they have a wide acceptance in these kinds of products.

In the Indian context of the cultural belief that usually one should not use somebody else's used products or commodities. The researcher also tried to find out if any inhibitions with reference to cultural biases or cultural influences were there through Survey questions. The researcher found out that there did not exist any inhibitions on these, amongst almost all respondents on this.

This might be primarily due to two factors 1. This study caters to Urban Pune who are assumed to be educated well and therefore know the difference between used clothes and recycled clothes. And secondly, people are aware about what exactly is the recycling process.

And, as stated earlier, 'upcycling' is relatively a new term which most of them had not even heard about, although they knew the products made like examples of upcycling. However, the term was not known by majority of people as this study has been conducted in 2018.

Therefore, the acceptance rate is higher than expected.

c) Finding out if the recycled and upcycled household goods are easily made available to the Pune customers (Accessibility)

This formed the most crucial objective of the study because, as a matter of fact, if there is awareness and acceptance among the public along with willingness to buy these recycled and upcycled household goods; then it becomes imperative to know and check out whether if there is 'easy accessibility' to these recycled and upcycled products for urban Pune city consumers.

The accessibility factor was gauged by the researcher through direct survey questions To the public who participated in green exhibitions around Puna city in the areas identified by the researcher and she found out that the accessibility to such products Is largely available only in the exhibitions that is hosted and organized in and around Urban Pune City.

Hardly any accessibility to these products via online metrics is available. And Negligible number of physical stores exist that the public is hardly aware of. Few of the malls in Pune city also host a weekend bazaar haat, where one might find these recycled upcycled products, but it is a rare sight. This is an observation of the year 2018.

Relatively, things have changed on a large scale, probably due to the pandemic today, as well as due to certain companies of recycling and upcycling store sellers have realised the importance of coming online. And the malls have realised to host more of these bazaar haats' once the pandemic

d) Finding out the firms dealing in recycled and upcycled household goods in Pune (Existence)

In order to find out the selling potential of recycled and upcycled household goods from Pune; it is of utmost importance to look for sellers existing in the region. The researcher's visit to the green exhibitions and the general exhibitions that housed recycled and upcycled household products has been the major resource to trace and find out sellers. Because as stated earlier, most of these companies have never bothered to

come online. Neither they have a physical store presence. The only option through which they sell their recycled upcycled household product is via participating in exhibitions. A total of 27 recycling and upcycling companies could be traced, majorly due to participation in exhibitions by the researcher. From the period between 2018 to early 2020, the researcher has visited 40 green exhibitions and general exhibitions and spoken at length to all these 27 firms or sellers of recycled and upcycled household products.

These discussions at length have happened in the form of both quantitative questions and qualitative discussions.

e) Finding out if there is a demand for recycled and upcycled household goods from Urban Pune (Salability)

Both the concerned stakeholders are considered for measuring the scope of selling the recycled and upcycled products of household goods in Pune city, especially amidst the urban areas. And these stakeholders are the sellers of these types of household goods and the consumers who will purchase these.

Therefore, both these stakeholders respectively are studied by the researcher at the same time, to know the real time behaviors of both the concerned parties. For instance, while the researcher checked out the selling potential possibilities with the sellers, on the other hand; she enquired people as consumers from urban Pune about their intensity to consume these eco-friendly products.

3.4) Pilot Study Testing and from Main Research- Framing the Hypotheses:

The reliability analysis is done on the pilot study data to understand the reliability of the responses got from the questionnaire collected and to check if the data can be used for the main study.

Generally, the Cronbach alpha is expected to be above 0.7 for the data to be considered as reliable for hypothesis testing.

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded ^a	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.826	3

Item Statistics

	Mean	Std. Deviation	N
Q1 b	.9200	.27405	50
Q1 c	.8200	.38809	50
Recoded Q1a	.9400	.23990	50

From the reliability statistics it can be observed that the Cronbach's alpha is 0.826 which means that the respondents are majorly aware of recycled products but are not aware of upcycled products.

HYPOTHESIS FRAMING:

The genesis of framing a hypothesis is based completely on the research frame and emerging constructs from the same. The hypotheses are a logical outcome of the objectives undertaken for the research study:

Hypothesis 1 Urban Pune is not aware of Recycled household products Ho:

Urban Pune is aware of Recycled household products

Hypothesis 2 Urban Pune is not aware of Upcycled household products

Ho: Urban Pune is aware of Upcycled household products

Hypothesis 3 Urban Pune does not have the access and availability to buy Recycled household products

Ho: Urban Pune has the access and availability to buy Recycled household products

This hypothesis stems from the objective of knowing whether the urban pune has the access to buy these eco-friendly products and if yes, where are these available to them. Questions 4, 5, 6 and 7 caters to this. This is an important fact to find out as people willing to buy can do so only if these goods are made easily available to them

Hypothesis 4 Urban Pune is not willing to buy Recycled household products Ho: Urban Pune is willing to buy Recycled household products

This is the main focusing construct of the researcher's study as this revolves around finding out the selling scope of these eco-friendly products amongst urban pune. Questions 8,9, 10 and 11 relate to this. Are the consumers willing to buy these commodities, from where and at what price is significant part of the study.

{All these respective set of Questions have been added below at the end of this chapter as Annexure for reference.}

The entire construct directly revolves around the core research. And is linked to the concurrent all other hypotheses. And these factors have been independently tested by the researcher to see if they directly affect the salability or do not. And the objectives got validated with these hypotheses testing.

3.5) The Research Methodology:

This includes type of research decided depending upon the scope of research defined as per the objectives. Defining the sampling techniques adopted to get the sample size, population, and the data collection. Then the research methods used to get the results thereby.

a) Type of Research: Defining the type of research is very important to begin with. This study is majorly a descriptive as well as a bit of exploratory for its very own strong reasons. Descriptive as there are ways to get the exact details from the customers or the potential consumers through a variety of structured questions,

descriptive statistics like Pearson's correlation test and 2-tailed test and cluster analysis.

As the researcher interacted with two stakeholders majorly for research. The customers and the sellers of recycled and upcycled household goods. The buyers or customers of recycled household products are those whom the researcher interviewed at the various green exhibitions that were visited by the consumers, which is a total of 440 customers who answered the Questionnaire put forth by the researcher in 40 different green exhibitions that were held in different urban locations of Pune city (between 2018-2020) and other customers residing in various Urban societies of Pune city whom the researcher sent Online Questionnaire through Google form circulation. These are a total of 122 respondents who replied to the Questions put forth by the researcher.

Thus, a total of 562 customers of recycled household goods responded to the Questionnaire and are an integral part of the research study.

Therefore, for customers part, she uses the following research methodology to get her results, all of which are explained below and in further details in the chapter of Analysis:

- a) The Cochran Formula and the Yamane Formula to justify the Main Sample Size
- b) Hypotheses Testing and Analysis
- c) Correlation Testing and Analysis

Whereas this research is exploratory also in a way as there is a lot to study and innovate in the field of recycling and upcycling goods that the sellers of this space need to implement. And the same got emerged out from various in-depth interviews that the researcher conducted by way of interacting with 27 sellers of recycled and upcycled household goods in great details. Therefore, from the sellers' point of view, this research is exploratory approach based. And therefore, has a qualitative research bent to it as well, along with the quantitative studies. Hence, this particular study has mixed research methods.

b) The Population and the Sample Size: This was a challenging thing for the researcher, given the fact that nothing previously has been done in the same area of research as seen from literature review. It is important to define the population, at the beginning of the research itself.

So, the researcher decided that she will follow 2 tests namely the "Cochran Method" and the "Yamane Method" by applying their respective formulae to justify the sample size. And also, the "Hair et al 2010" 1:10 logic for her population and sample size. This could be applied for the customers to be interviewed for the study.

Sample size calculation:

Cochran Method:

$$n = \frac{(Z^2)pq}{e^2}$$

Where:

Z = z score at 95% confidence level

p = Degree variability (it is the estimated proportion of an attribute that is present in the population) – Generally taken as 0.5 q = 1 – p e = margin of error (alpha) n = sample size

Yamane Method:

$$n = \frac{N}{1 + N(e^2)}$$

Where:

N = population size n =

Sample size e = margin

of error (alpha)

Calculations:

Cochran Method:

$$n = \frac{(1.96^2) * 0.5 * 0.5}{0.05^2}$$

$$n = 384$$

Yamane Method:

Assuming the population equal to the population of Pune (35 lakhs)

$$n = \frac{N}{1 + N(e^2)}$$

$$n = \frac{3500000}{1 + 3500000(0.05^2)}$$

$$n = 400$$

Hence the sample size required for research purpose needs to be greater than or equal to 400. In actual the survey has been conducted on a sample of 562 respondents and hence the sample can be considered to be adequate enough for analysis purpose.

A total of 562 respondents from 40 eco-friendly exhibitions and through online survey that the researcher received, after almost a year and a half (2018-early 2020)

A demographic profiling is made depending on their Gender, Age group, Monthly Income, and their urban area location in Pune city as below:

Table 3.5a

Demographic Profile of Customers from Green Exhibition

VARIABLE DESCRIPTION	FREQUENCY	PERCENTAGE
Gender		
Male	145	33%
Female	295	67%
Age Group		
18yrs-35yrs	48	11%
36yrs-60yrs	335	76%
Above 60yrs	57	13%
Monthly Income Level		
Less than 10,000 rupees	18	4%
Between 10k-25k	48	11%
Above 25k	374	85%
Areas in Urban Pune		
Vishrantwadi	47	10.6%
Viman Nagar	52	11.8%
Wakad	43	9.7%
Kothrud	33	7.5%
Wadgaon Sheri	41	9.3%
Kharadi	39	8.8%
Karve Nagar	46	10.4%
Deccan	38	8.6%
Tathawade	46	10.4%
Aundh	24	5.4%
Hadapsar	31	7.0%

Table 3.5b**Demographic Profile of Online Customers**

VARIABLE DESCRIPTION	FREQUENCY	PERCENTAGE
Gender		
Male	72	59%
Female	50	41%
Age Group		
Below 36 yrs	111	91%
36yrs-60yrs	10	8%
Above 60yrs	1	1%
Monthly Income Level		
Student/ Home Maker / Senior Citizen	102	84%
Less than or equal to 25k per month	4	3%
Above 25k per month	16	13%
Areas in Urban Pune		
Vishrantwadi	2	2%
Viman Nagar	19	16%
Wakad	31	25%
Kothrud	14	11%
Wadgaon Sheri	3	2%
Kharadi	1	1%
Karve Nagar	1	1%
Deccan	15	12%
Tathawade	1	1%
Aundh	10	8%
Hadapsar	9	7%
Others	16	13%

And for the other part of the study i.e., the sellers; the researcher could find twentyseven sellers of recycled and upcycled household goods and carried detailed in-depth discussions with all these to understand their side.

c) Data Collection and Data Sources: The primary data collection method is followed with utmost detailing to get the best authentic data possible. The reason why the data collection becomes more critical in this study is because of the fact that no research has taken place in the past ever, and therefore the onus on the researcher had a higher sense of responsibility to ensure the data collection becomes the most distinct and a clear transparent one.

The data to be collected was from two stakeholders namely the sellers of eco-friendly products and the consumers yet to explore buying or already buy and are willing to buy these products.

As the area chosen for the study focuses on the urban pune city; hence identification of urban areas based on the population density is done. Table displaying the same is provided below:

Table 3.5c List of Urban Areas in Pune undertaken for study for their population density:

Source- <https://worldpopulationreview.com/world-cities/pune-population>
<https://geoiq.io/places/Kothrud/ktUqNctkxH>

Serial Number	Urban Area Name	Population (2019)
1	Aundh	90264
2	Deccan	34465
3	Hadapsar	339931
4	Karve Nagar	84762
5	Kharadi	132336
6	Kothrud	226935
7	Tathawade	16230
8	Viman Nagar	72871
9	Vishrantwadi	16842
10	Wadgaon Sheri	117050
11	Wakad	32729

Note: Data is as per 2019 that provides the latest at the time of researcher's time of data collection and is aptly chosen as 2019 because around the same time the revised numbers were declared by both the local Pune Municipal authorities. This helps for authentication purposes.

A total of 11 (out of 35) areas in Pune emerged important from the population density point of view for this study. Further, by visiting to 40 different exhibitions in these identified areas and a few on the outskirts of Pune, for a period of one and a half years (from September 2018 to March 2020) the researcher collected responses through questionnaire from 440 respondents who visited these exhibitions.

And spread through the same period mentioned above; the researcher carried out online survey through google form from 122 respondents (so a total of 562 responses collected) and detailed in-depth interviews with 27 sellers of recycled and upcycled household goods, to find out her research answers from sellers 'perspective.

The data collection was a lengthy process and spread across a year and a half for getting genuine responses from a mixed variety of people, gender, age group, income level etc. from the urban pune. This is required for reaching correct analysis and findings thereby. Therefore, the data collection becomes a highly engaging and time oriented process; but a one that yielded the desired results and findings.

Interestingly, to sample experience of selling all by herself, the researcher also put-up stall of eco-friendly products in 5 exhibitions in areas like Kothrud, Vishrantwadi and Wakad. She could firsthand herself, quite organically experience the visiting customers at her stall react, respond, discuss, and received compliments for her choice of products.

And further to support her primary research, she also has carried out secondary research collection through various websites of green recycling and upcycling, articles and latest news from eco-friendly forums, newspaper and journal articles etc.

d) Pilot Study: A pilot study is always important to be carried out for knowing the research if is heading in the right direction so that the main study can be accordingly done. Pilot study for this research has been done with 50 respondents from 10 urban areas of Pune and checked for reliability.

Reliability testing is done through the Cronbach alpha as below:

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded ^a	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
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Item Statistics

	Mean	Std. Deviation	N
Q1 b	.9200	.27405	50
Q1 c	.8200	.38809	50
Recoded Q1a	.9400	.23990	50

The reliability analysis is done on the pilot study data to understand the reliability of the responses for the above questions and to check if the data can be used for the main study. Generally, the Cronbach alpha is expected to be above 0.7 for the data to be considered.

From the reliability statistics it can be observed that the Cronbach's alpha is 0.826 which means that the respondents are majorly aware of recycled products but are not aware of upcycled products.

Once the reliability test on pilot study gave successful and justified output in the right direction for the mail research, the researcher carried out Correlation for hypothesis testing

Correlation:

Purpose: we are using correlation to understand the degree of association between two variables and the statistical significance of the associations. In the correlation table if there is “ * “ symbol on any value then that value is considered to be significant at 0.05 (95% CI) level and if there “ ** “ symbol on any value then that value is considered to be significant at 0.01 (99% CI) level. The association can be either positive or negative depending on the sign that the value takes. Thus correlation helps in statistically proving if there is any relationship existing between variables or not. (the Correlation tables are explained in details in the Analysis Chapter)

Reliability Test: Since the study has no previous benchmarking to refer to so the questions are more based on an exploratory lines and so not based on Likert scale pattern. Hair et al. (2010) defined **reliability** as an assessment of the degree of consistency between multiple measurements of a variable. This study assesses the consistency of the entire scale with Cronbach's alpha and its overall reliability of each factor of productivity values. In short, it proves to be reliable.

Based on a satisfactory outcome from pilot study, main study got undertaken and data thereby collected of a total of 562 customers (from green exhibitions) of recycled household goods and from online consumers along with 27 sellers of these recycled and upcycled household goods

After the successful completion of data collection, analysis is done through the SPSS statistics tool and Excel. SPSS version used is v262019

A detailed analysis of the same and the relevant findings are enlisted in detail are in the next chapter 4 of Analysis and Findings

Supporting Documents kept under Annexure

CLUSTER ANALYSIS:

DEFINITION AND WHY IS IT USED HERE

Cluster Analysis:

Analysis method: Two step clustering

Purpose: To identify various segment / clusters having a particular set of characteristics which define their perceptions, knowledge, and willingness towards recycled and upcycled products. This clustering helps us understand segment wise preferences which can be leveraged by the recycling companies to moulding their plan, communication and marketing efforts accordingly.

Following inputs were taken for cluster analysis:

1. Gender
2. Age

3. Income
4. Area of respondent
5. Q6 (Are these recycled and upcycled products easily available to you?)
6. Q8 (Do you regularly buy these recycled/upcycled products)
7. Q10 (If made easily available, will you prefer regular buying?)
8. Q11 (How much price will you be willing to buy at?)

CLUSTER ANALYSIS:

This analysis becomes an integral part of the research since the research is catered around studying the ‘Selling potential’ and so Cluster analysis which is a powerful data -mining tool for any sales firm has been used here. It helps in identifying the discrete groups of customers, sales transactions and other types of observations related to customers can emerge out from this analysis.

The researcher has done two step clustering with the purpose of identifying various segment / clusters having a particular set of characteristics which define their perceptions, knowledge, and willingness towards recycled and upcycled products. This clustering helps us understand segment wise preferences which can be leveraged by the recycling companies to moulding plan their communication and marketing efforts accordingly.

Following **variables** have been taken for cluster analysis:

9. Gender
10. Age
11. Income
12. Area of respondent
13. Q6 (Are these recycled and upcycled products easily available to you?)
14. Q8 (Do you regularly buy these recycled/upcycled products)
15. Q10 (If made easily available, will you prefer regular buying?)
16. Q11 (How much price will you be willing to buy at?)

Output:

Analysis = Two Step Clustering

Number of clusters formed (output) = 2

(After conducting the Two Step Clustering, the output showed that there are two clusters that can be formed from the data)

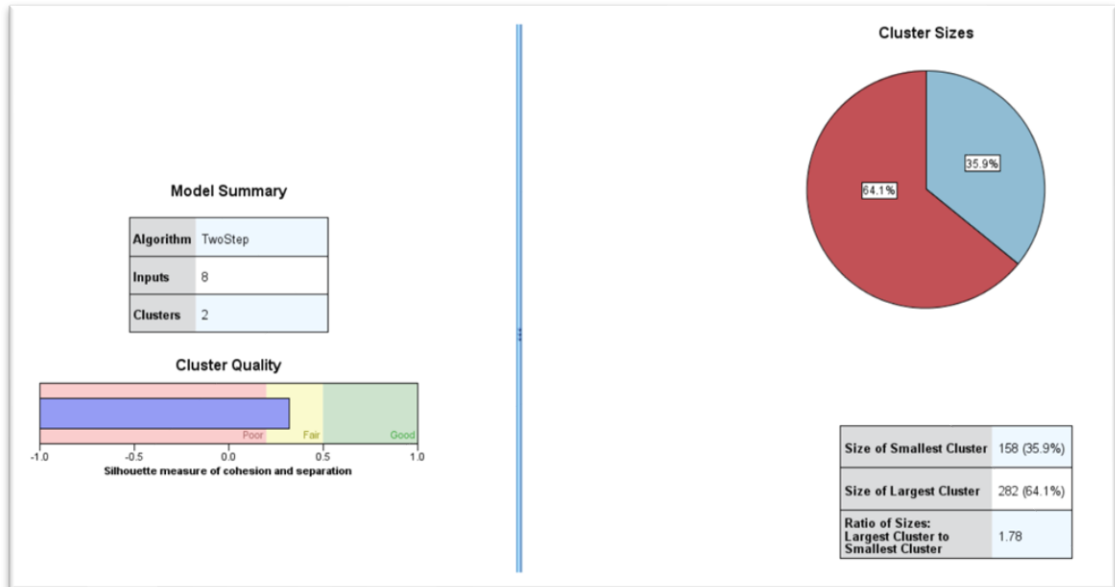
Cluster 1 size = 158

Total 158 (36.9%) respondents belong to cluster 1

Cluster 2 size = 282

Total 282 (64.1%) respondents belong to cluster 2

The following figure shows the cluster analysis model summary and the cluster size pie chart. From the “Cluster Quality” diagram it can be concluded that the quality of the formed cluster is fair enough and can be considered significant. The Cluster Sizes pie chart shows the respective sizes of the two clusters formed and the ratio of largest cluster to smallest cluster.



Cluster description:

The following diagram shows the responses in terms of percentage for all the questions under both the clusters.

Clusters

Input (Predictor) Importance

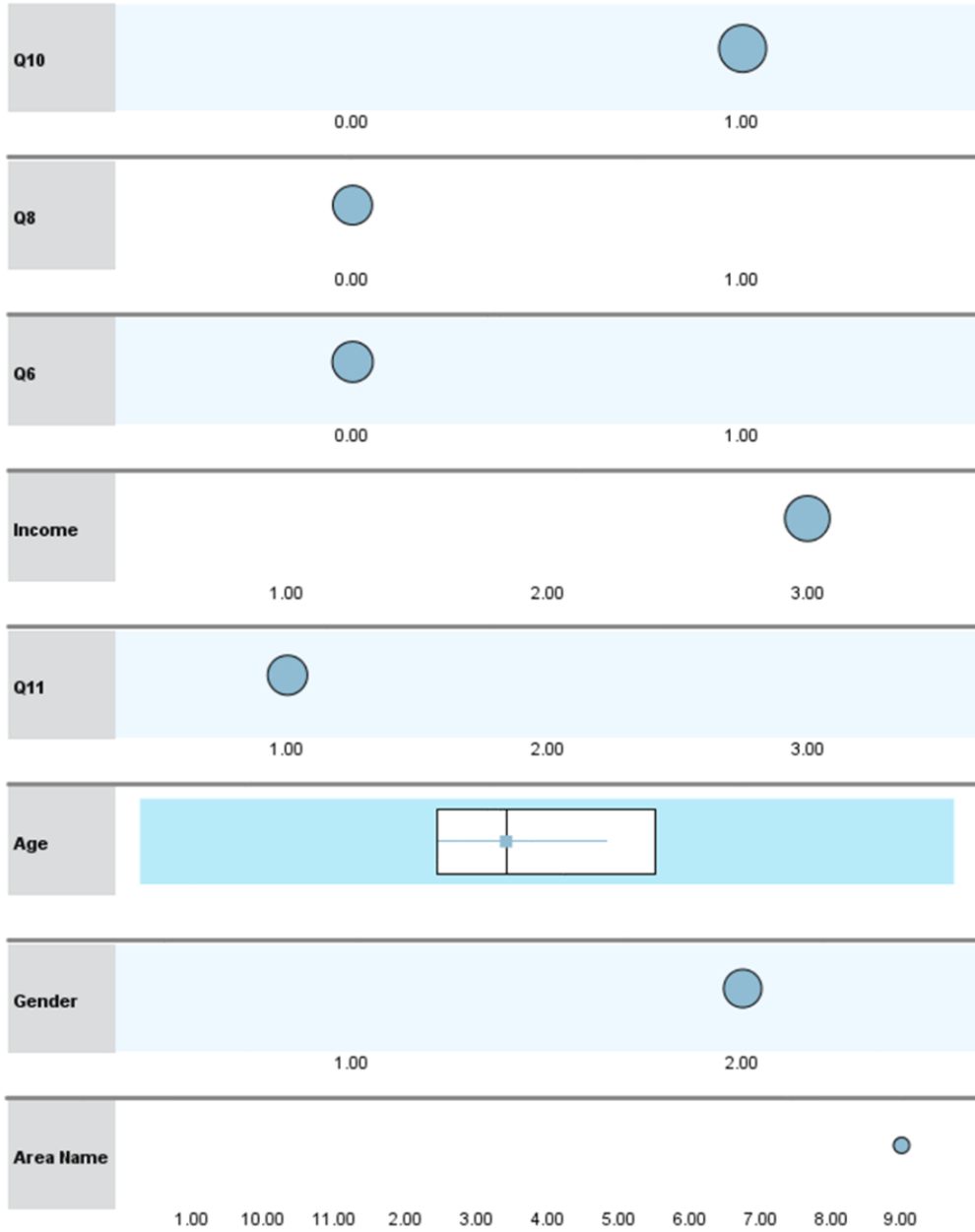


Cluster	2	1																
Label																		
Description																		
Size	64.1% (282)	35.9% (158)																
Inputs	<table border="1"> <tbody> <tr> <td>Q10 1.00 (100.0%)</td> <td>Q10 0.00 (83.5%)</td> </tr> <tr> <td>Q8 0.00 (68.8%)</td> <td>Q8 1.00 (97.5%)</td> </tr> <tr> <td>Q6 0.00 (73.4%)</td> <td>Q6 1.00 (60.8%)</td> </tr> <tr> <td>Income 3.00 (91.1%)</td> <td>Income 3.00 (74.1%)</td> </tr> <tr> <td>Q11 1.00 (69.9%)</td> <td>Q11 1.00 (58.9%)</td> </tr> <tr> <td>Age 44.80</td> <td>Age 46.66</td> </tr> <tr> <td>Gender 2.00 (64.9%)</td> <td>Gender 2.00 (71.5%)</td> </tr> <tr> <td>Area Name 9.00 (11.3%)</td> <td>Area Name 2.00 (17.1%)</td> </tr> </tbody> </table>	Q10 1.00 (100.0%)	Q10 0.00 (83.5%)	Q8 0.00 (68.8%)	Q8 1.00 (97.5%)	Q6 0.00 (73.4%)	Q6 1.00 (60.8%)	Income 3.00 (91.1%)	Income 3.00 (74.1%)	Q11 1.00 (69.9%)	Q11 1.00 (58.9%)	Age 44.80	Age 46.66	Gender 2.00 (64.9%)	Gender 2.00 (71.5%)	Area Name 9.00 (11.3%)	Area Name 2.00 (17.1%)	
Q10 1.00 (100.0%)	Q10 0.00 (83.5%)																	
Q8 0.00 (68.8%)	Q8 1.00 (97.5%)																	
Q6 0.00 (73.4%)	Q6 1.00 (60.8%)																	
Income 3.00 (91.1%)	Income 3.00 (74.1%)																	
Q11 1.00 (69.9%)	Q11 1.00 (58.9%)																	
Age 44.80	Age 46.66																	
Gender 2.00 (64.9%)	Gender 2.00 (71.5%)																	
Area Name 9.00 (11.3%)	Area Name 2.00 (17.1%)																	

The following table of Cluster Comparison helps in identifying the characteristics of the respective cluster for all the variables under consideration. The table below is reflecting question wise attributes for Cluster 2.

Cluster Comparison

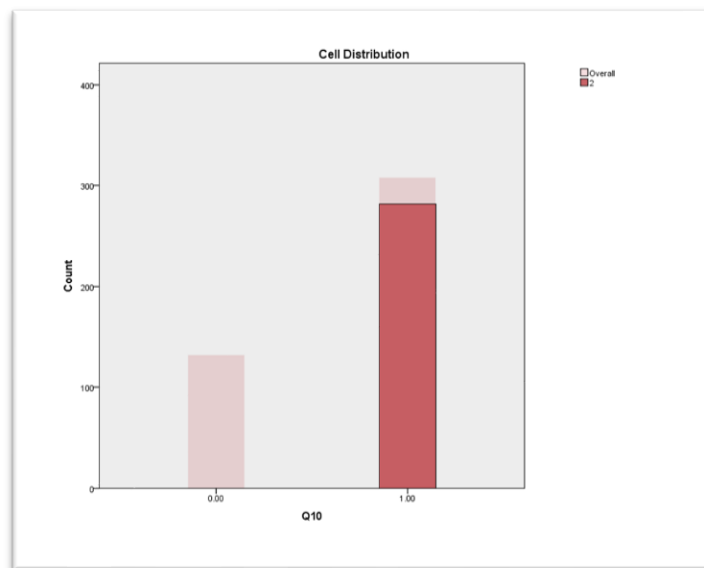
■ 2



Cluster 2 Characteristics (64.1%, 282) – CLUSTER MEANING:

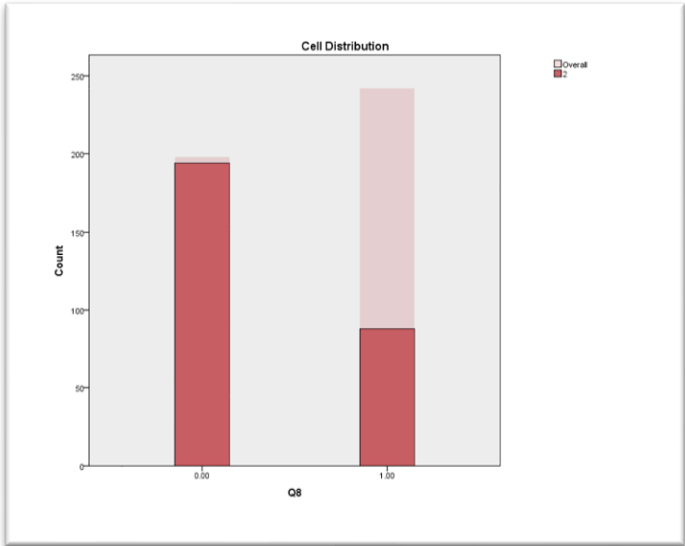
After analysing the cluster comparison table for cluster 2, the following characteristics can be concluded:

- If availability is ensured, then there is a strong preference shown for regular buying
- The respondents in this cluster are not regular buyers of recycled and upcycled products
- The recycled and upcycled products are not easily available as per this cluster, hence we can consider that there is less awareness about the product among this group of respondents
- The respondents are majorly from high income group (Above 25K)
- Preference for buying at less than Rs 500
- Mean age of the respondents is 45 years
- The respondents are majorly from the following areas: Tathawade, Karve Nagar & Wakad



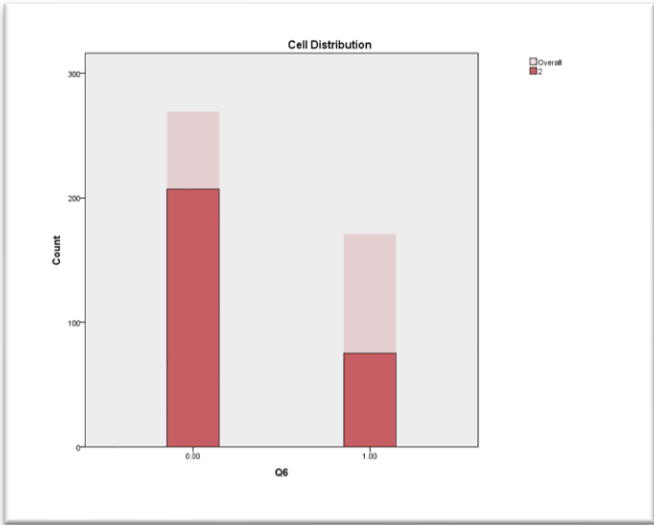
Cluster 2 respondent distribution for Q10

(All the respondents in cluster 2 have responded "1" for Q10)



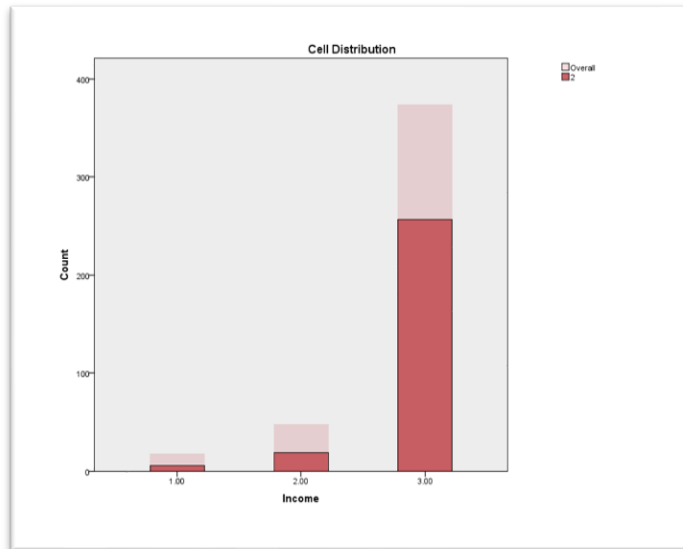
Cluster 2 respondent distribution for Q8

(Majority of the respondents in cluster 2 have responded “0” for Q8)



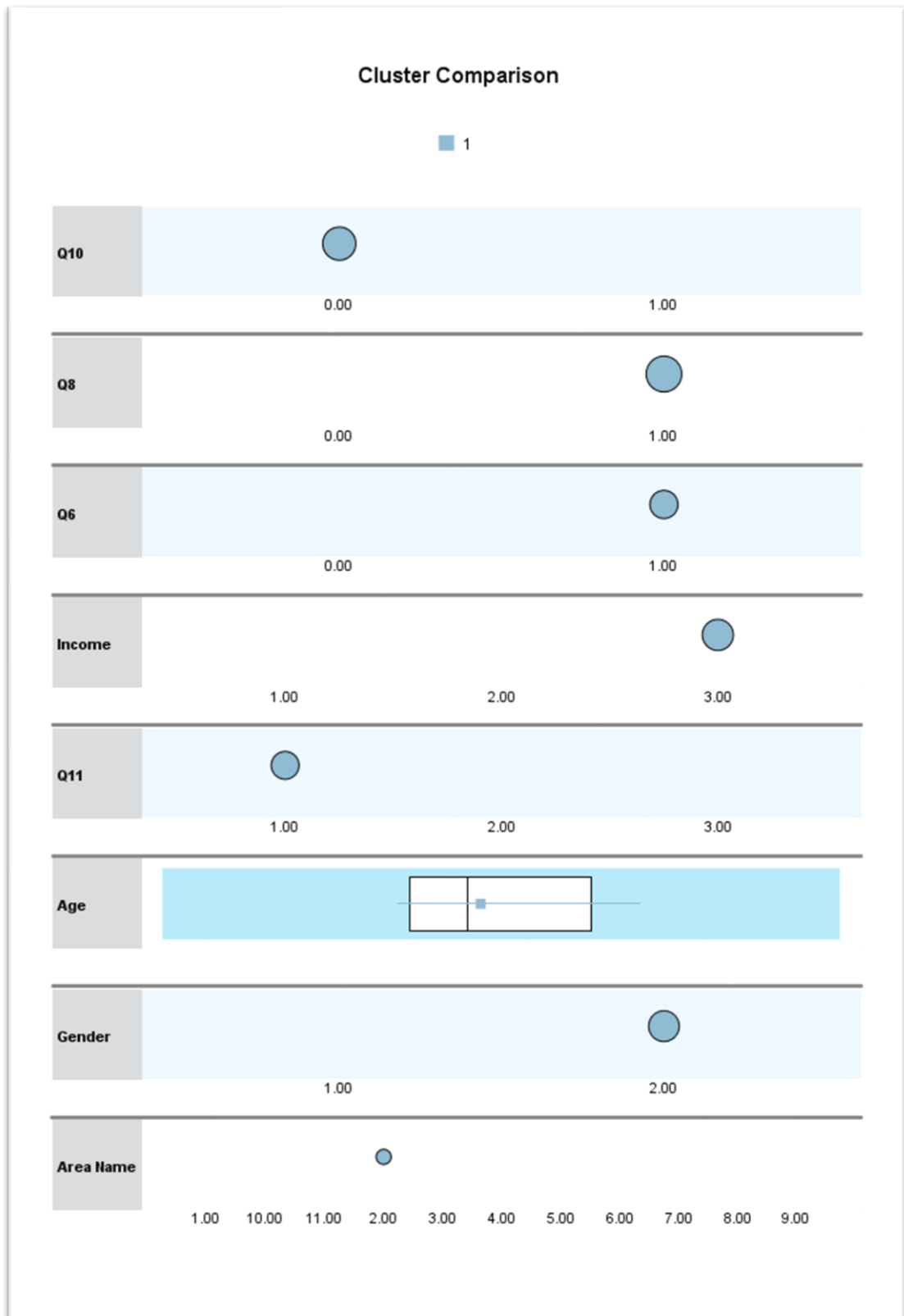
Cluster 2 respondent distribution for Q6

(Majority of the respondents in cluster 2 have responded “0” for Q6)



Cluster 2 respondent distribution for income variable

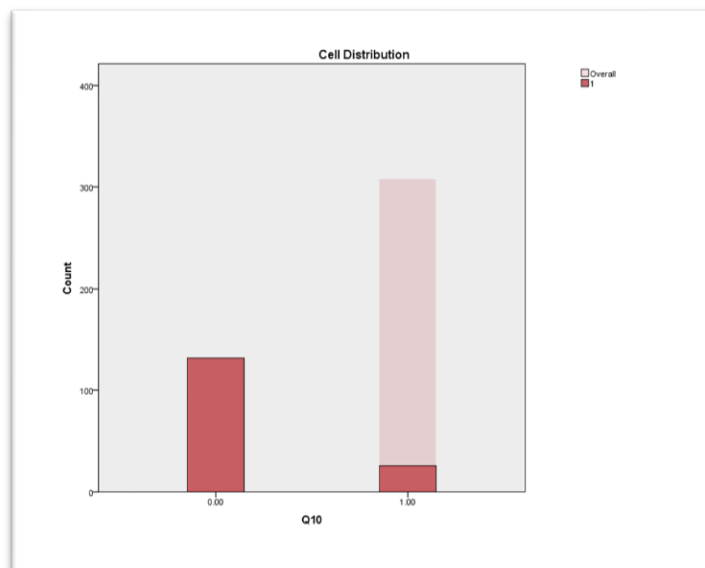
(Majority of the respondents in cluster 2 are from income level “3”) The following table of Cluster Comparison helps in identifying the characteristics of the respective cluster for all the variables under consideration. The table below is reflecting question wise attributes for Cluster 1.



Cluster 1 Characteristic (35.9%, 158) – CLUSTER MEANING:

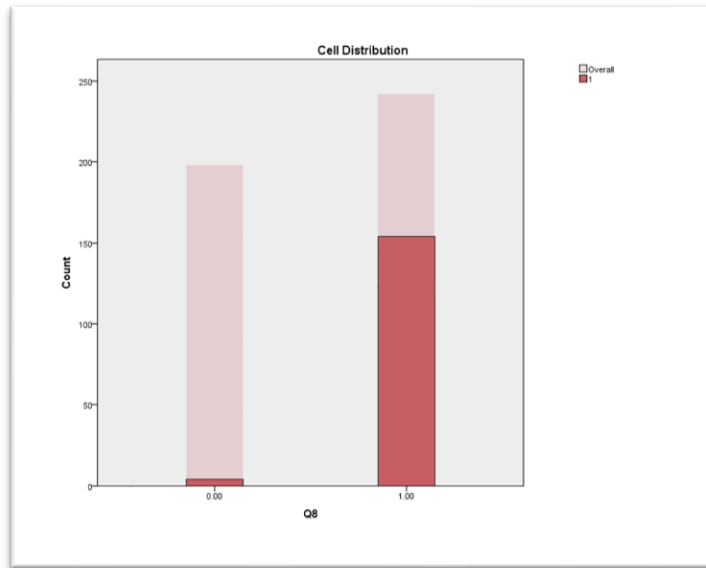
After analysing the cluster comparison table for cluster 1, the following characteristics can be concluded:

- Even if the availability is ensured, there is a negative preference shown for regular buying
- The respondents in this cluster are regular buyers of recycled and upcycled products
- The recycled and upcycled products are easily available as per this cluster, hence we can consider that there is significant awareness about the product among this group of respondents
- The respondents are from mixed income brackets in this cluster (no specific income group can be stated)
- Preference for buying at less than Rs 500
- Mean age of the respondents is 47 years
- The respondents are majorly from the following areas: Vishrantwadi, Viman Nagar & Wadgaon Sheri

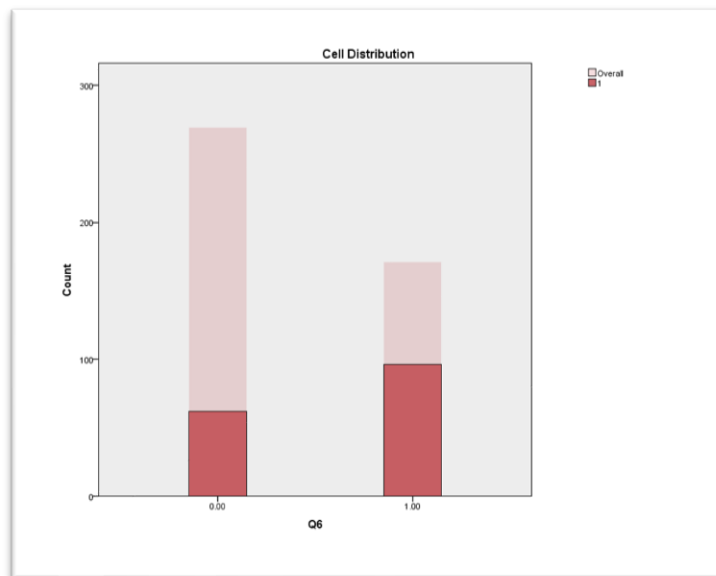


Cluster 1 respondent distribution for Q10

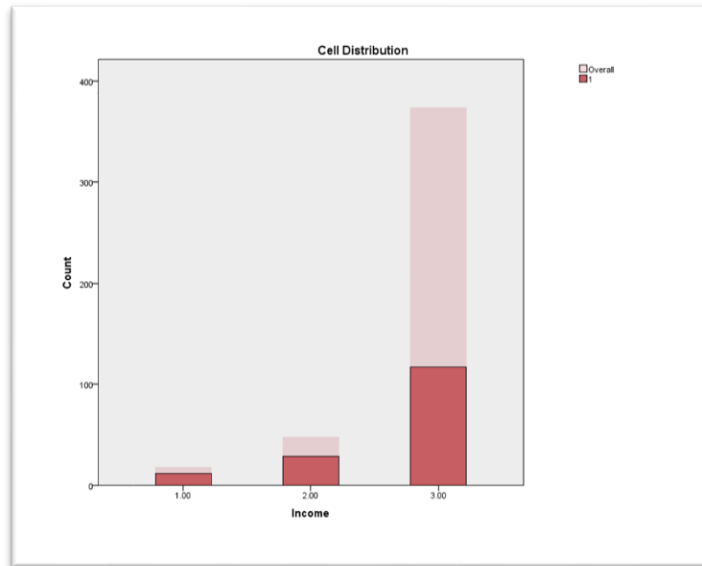
(Majority of the respondents in cluster 1 have responded "0" for Q10)



Cluster 1 respondent distribution for Q8
(Majority of the respondents in cluster 1 have responded "1" for Q8)



Cluster 1 respondent distribution for Q6
(Majority of the respondents in cluster 1 have responded "1" for Q6)



Cluster 1 respondent distribution for income variable

(Majority of the respondents in cluster 1 are from income level “1” & “2”)

Conclusion drawn: The major distinction between the clusters is with respect to the willingness/preference to become a regular buyer (Q10), current regularity of buying the recycled and upcycled products (Q8), awareness about the availability of the products (Q6) and income bracket of the respondents.

Chapter 4: Analysis and Findings

4.1) Analysis:

Data Analysis for this elaborate research is done as follows:

- a) The Cochran Formula and the Yamane Formula to justify the Main Sample Size
- b) Reliability Cronbach alpha Testing for Pilot Study
- c) Pearson's Correlation Testing and 2-tailed Significance Test for Hypothesis Testing
- d) Cluster Analysis on Segmentation

At every stage, the researcher has used various tests and testing that were necessary and deemed fit to determine the progress in the right direction, required for her research. Also, it is important to mention here that the research data collected is from two important stakeholders namely the customers of recycled and upcycled products and the sellers of these eco-friendly products. Therefore, analysis of both the stakeholders is critical for this study and therefore has been done in details as below.

Initial sample size is taken as per the hair et al 2010 that recommends a 1:10 ratio. As the main study as per the Cochran and Yamane Formula gave 384 and 400 respectively; so researcher could justify her main research sample as 562 people belonging to Urban Pune

Also the fact that no prior research has ever been carried out on the awareness of recycled and upcycled household goods by the general public as consumers, this sample size gets a fair validation.

The researcher has used the Cochran formula to justify her main study's sample size as the formula allows one to calculate an ideal sample size given a desired level of precision, desired confidence level and the estimated proportion of the attribute present in the population. Cochran's formula is considered especially appropriate in situations with large populations. Below is the calculation and the sample size for study derived from it.

Sample size calculation:

Cochran Method:

$$n = \frac{(Z^2)pq}{e^2}$$

Where:

Z = z score at 95% confidence level

p = Degree variability (it is the estimated proportion of an attribute that is present in the population) – Generally taken as 0.5 q = 1 – p e = margin of error (alpha) n =

sample size **Calculations:**

Cochran Method:

$$n = \frac{(1.96^2) * 0.5 * 0.5}{0.05^2}$$

$$n = 384$$

Therefore, this method suggests the sample size to be 384.

Next, the researcher has used the Yamane Formula to reaffirm her sample size as got from the Cochran formula. This Yamane formula is provided by a mathematician by the name Taro Yamane who developed this statistical formula for determining and calculating the sample size in relation to the population under study so that the conclusions reached, and the inferences drawn from the survey can be generalized over the entire population from which the sample has been taken. So, the researcher has used this Yamane formula on her sample size selection for the main research, to get the validity testing done.

Yamane Method:

$$N n =$$

$$1 \frac{N}{e^2} +$$

$N(e_2)$ Where:

N = population size n =

Sample size e = margin

of error (alpha)

Calculations:

Yamane Method:

Assuming the population equal to the population of Pune (35 lakhs)

$$N$$

$$n = 1 \frac{N}{e^2} + N(e_2)$$

$$n = \frac{3500000}{1 + 3500000(0.05^2)}$$

$$n = 400$$

Hence the sample size required for research purpose needs to be greater than or equal to 400. And as per the Cochran formula this has come as 384.

In actual, the survey has been conducted with 562 respondents and hence the sample can be considered to be adequate enough for analysis purpose and gets justified.

The researcher has used the Descriptive Statistics test first. And then Pearson's Correlation and 2-tailed test for Hypothesis Testing.

Correlation Purpose: This was to understand the degree of association between two variables and the statistical significance of the associations. In the correlation table if there is “ * “ symbol on any value then that value is considered to be significant at 0.05 (95% CI) level and if there “ ** “ symbol on any value then that value is considered to be significant at 0.01 (99% CI) level. The association can be either positive or negative depending on the sign that the value takes and the cut off criteria generally followed for the correlation to be considered as good are “ $R > 0.5$ ” and “ $R < -0.5$ ”. Thus, correlation helps in statistically proving if there is any relationship existing between variables and the significance of the relation.

Below is the **Analysis of Hypotheses Testing: Analysis 1 –**

H1: Urban Pune is not aware of recycled products

H0: Urban Pune is aware of recycled products (**failed to reject**)

H2: Urban Pune is not aware of upcycled products

H0: Urban Pune is aware of upcycled products (**failed to accept**)

Descriptive Statistics

	Mean	Std. Deviation	N
Are you aware of the term "Recycling?"	.8986	.30216	562
Are you aware of the term "Upcycling?"	.1423	.34972	562
Are you aware about the products made out of discarded clothes, flower vases, glass and other household items waste?	.9502	.21777	562

Correlations

		Are you aware of the term "Recycling?"	Are you aware of the term "Upcycling?"	Are you aware about the products made out of discarded clothes, flower vases, glass and other household items waste?
Are you aware of the term "Recycling?"	Pearson Correlation	1	.036	.357**
	Sig. (2-tailed)		.399	.000
	N	562	562	562
Are you aware of the term "Upcycling?"	Pearson Correlation	.036	1	.070
	Sig. (2-tailed)	.399		.098
	N	562	562	562
Are you aware about the products made out of discarded clothes, flower vases, glass and other household items waste?	Pearson Correlation	.357**	.070	1
	Sig. (2-tailed)	.000	.098	
	N	562	562	562

** . Correlation is significant at the 0.01 level (2-tailed).

Scales taken –

- 0 – “No”
- 1 – “Yes”

Total responses - **562**

From the descriptive statistics it can be clearly observed that the mean score of **0.89** for the Question – “Are you aware of the term Recycling?” signifies that most of the respondents are **aware** of the term. Similarly, a mean score of **0.14** for the question “Are you aware of the term Upcycling” means that most of the respondents are **not aware** of the term.

We also performed the **Pearson's correlation test & 2-tailed significance test** to check our hypothesis results.

If, the **significance value < 0.05 b/w the 2 variables**, then the correlation can be considered to be statistically significant b/w the two variables.

Here, multi variable correlation has been checked on the 3 variables. The table above indicates the Pearson's correlation coefficient (R) and the two tailed significance values for all correlation values. The correlation b/w the variables "Are you aware of the term recycling" & "Awareness about the products" is **0.357 and the significance value of the correlation is 0.000 < 0.05**. As the significance value is way less than 0.05 the correlation b/w the two variables is statistically significant at alpha 0.01 (99% CI). Hence it can be concluded that there is a significant positive correlation b/w the awareness of the term recycling and awareness about the products.

Whereas, from the table it can be observed that the correlation b/w the variables "Are you aware of the term Upcycling" & "Awareness about the products" is **0.07 and the significance value of the correlation is 0.140 > 0.05**. As the significance value is greater than alpha, we cannot reject the null hypothesis and hence we can conclude that there **doesn't exist any correlation** b/w the two variables.

From the above table, it can be concluded that there is a **significant correlation** between the variables "Recycled term awareness" and "Awareness about products", hence we **cannot reject the Null Hypothesis** ("Urban Pune is aware of recycled") as majority of the respondents are aware about Recycling.

From the above table, it can be concluded that there is **no significant correlation** between the variables "Upcycle term awareness" and "Awareness about products", hence we **can reject the Null Hypothesis** ("Urban Pune is aware of upcycled products") as majority of the respondents **are not** aware about Upcycling.

Remarks – **From the analysis of the main study in the context of awareness, it can be concluded that the respondents are only aware about recycled products and there is very less awareness regarding upcycled products.**

As from the Main study of Questionnaire, it also emerged out that the consumers of urban Pune are majorly aware about recycled goods and on the other hand, majority of them are ignorant about the 'Upcycling' term and did not know about the upcycled goods (almost 90% of them). Therefore, the result of the first and the second hypothesis testing is as follows:

H1: Urban Pune is not aware of recycled products

H0: Urban Pune is aware of recycled products (failed to reject)

H2: Urban Pune is not aware of upcycled products

H0: Urban Pune is aware of upcycled products (failed to accept)

Analysis 3 –

H3: Urban Pune does not have the access and availability to buy recycled products

H0: Urban Pune has the access and availability to buy recycled products (**failed to reject**)

Descriptive Statistics

	Mean	Std. Deviation	N
Q6) Are these recycled and upcycled products easily available to you?	.4413	.49698	562
Q8) Do you regularly buy these recycled/upcycled products	.6068	.48890	562

Correlations

		Q6) Are these recycled and upcycled products easily available to you?	Q8) Do you regularly buy these recycled/upcycled products
Q6) Are these recycled and upcycled products easily available to you?	Pearson Correlation	1	.224**
	Sig. (2-tailed)		.000
	N	562	562
Q8) Do you regularly buy these recycled/upcycled products	Pearson Correlation	.224**	1
	Sig. (2-tailed)	.000	
	N	562	562

** . Correlation is significant at the 0.01 level (2-tailed).

The above table shows the descriptive statistics of the two variables considered for hypothesis testing for the accessibility and availability of recycled products.

Remarks – the correlation coefficient value of 0.224 indicates a moderately positive correlation b/w the two variables and hence we can say that there are regular buyers

because of easy availability of recycled products in the market. The significance value of $0.000 < 0.05$ also highlights that the moderately positive correlation is statistically significant and hence we cannot reject the null hypothesis. **Therefore, the conclusion of this hypothesis is** Urban Pune has the access and availability to buy recycled products

Analysis 4 –

H3: Urban Pune is not willing to buy recycled products

H0: Urban Pune is willing to buy recycled products (**Failed to reject**)

Descriptive Statistics

	Mean	Std. Deviation	N
Q8) Do you regularly buy these recycled/upcycled products	.6068	.48890	562
Q10) If made easily available, will you prefer regular buying?	.7633	.42541	562

Correlations

		Q8) Do you regularly buy these recycled/upcycled products	Q10) If made easily available, will you prefer regular buying?
Q8) Do you regularly buy these recycled/upcycled products	Pearson Correlation	1	-.405**
	Sig. (2-tailed)		.000
	N	562	562
Q10) If made easily available, will you prefer regular buying?	Pearson Correlation	-.405**	1
	Sig. (2-tailed)	.000	
	N	562	562

** . Correlation is significant at the 0.01 level (2-tailed).

The above Descriptive statistics table highlights the variables showing the willingness to buy recycled products. The variable “If made easily available will you prefer to buying regularly” has a mean of 0.76 (almost 1 – meaning “Yes”), highlighting the willingness of the respondents to buy recycled products.

The correlation coefficient value of -0.405 indicates a strong negative correlation b/w the two variables, which means that the respondents who are not regularly buying the recycled product have a strong willingness of buying the recycled products if they are made easily available. The significance value of **0.000 < 0.05** also highlights that the correlation is statistically significant and hence we cannot reject the null hypothesis. Thus it can be concluded that there is strong willingness for buying recycled product among the respondents as below:

Analysis 4 –

H3: Urban Pune is not willing to buy recycled products

H0: Urban Pune is willing to buy recycled products (**Failed to reject**)

All four-hypothesis testing done by the researcher above is mentioned below in the chart for a quick glance of reference:

Serial Number	Theme	Null Hypothesis	Test Result
Hypothesis 1	Recycled products Awareness	Urban Pune is aware of Recycled household products	Failed to reject
Hypothesis 2	Upcycle products Awareness	Urban Pune is aware of Upcycled household products	Failed to accept
Hypothesis 3	Access and Availability	Urban Pune has the access and availability to buy Recycled household products	Failed to reject
Hypothesis 4	Willingness to buy	Urban Pune is willing to buy Recycled household products	Failed to reject

This Research’s other equally important Stakeholder: Sellers of Recycled and Upcycled Household Goods:

The other equally important stakeholder for the researcher to approach for her study have been the Sellers’ community of these recycled and upcycled household goods. The researcher could get access to twenty-eight of them. And she has taken in-depth interviews and has had detailed conversations with all of them to know greater insights in this research study.

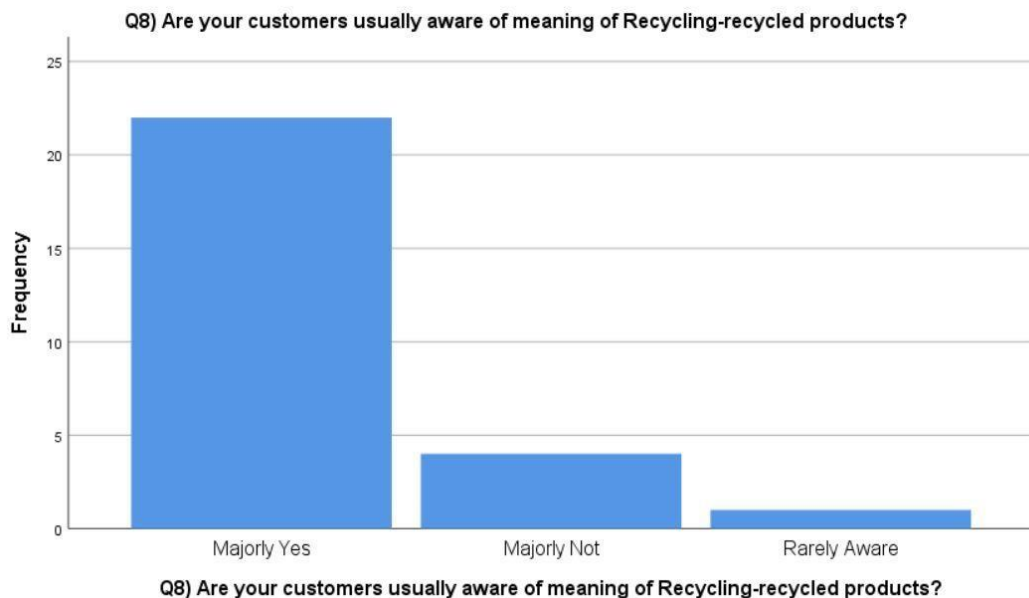
They also filled up a questionnaire comprising a set of twelve questions, that have been provided at the end of this chapter under annexure.

SELLERS’ ANALYSIS:

Descriptive statistics for awareness of customers about recycled products

Q8) Are your customers usually aware of meaning of Recycling-recycled products?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Majorly Yes	22	81.5	81.5	81.5
	Majorly Not	4	14.8	14.8	96.3
	Rarely Aware	1	3.7	3.7	100.0
Total		27	100.0	100.0	

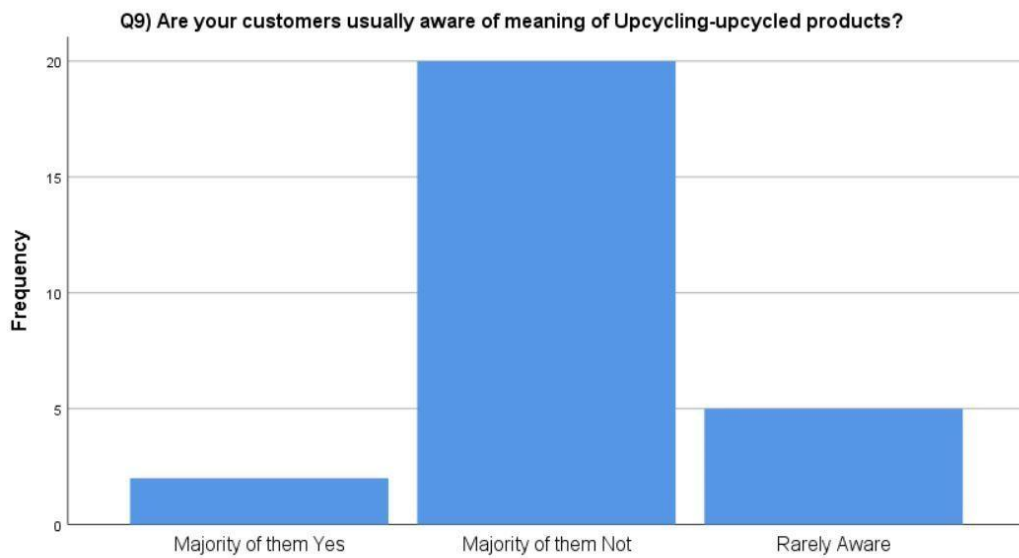


From the frequency table and the frequency graph it can be observed that the **81.5% of the respondents (sellers) have responded that their customers are aware about the recycled products.** This substantiates the previous hypothesis that the people from Pune are majorly aware the recycling concept and recycled products.

Descriptive statistics for awareness of customers about upcycled products

Q9) Are your customers usually aware of meaning of Upcycling-upcycled products?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Majority of them Yes	2	7.4	7.4	7.4
	Majority of them Not	20	74.1	74.1	81.5
	Rarely Aware	5	18.5	18.5	100.0
	Total	27	100.0	100.0	



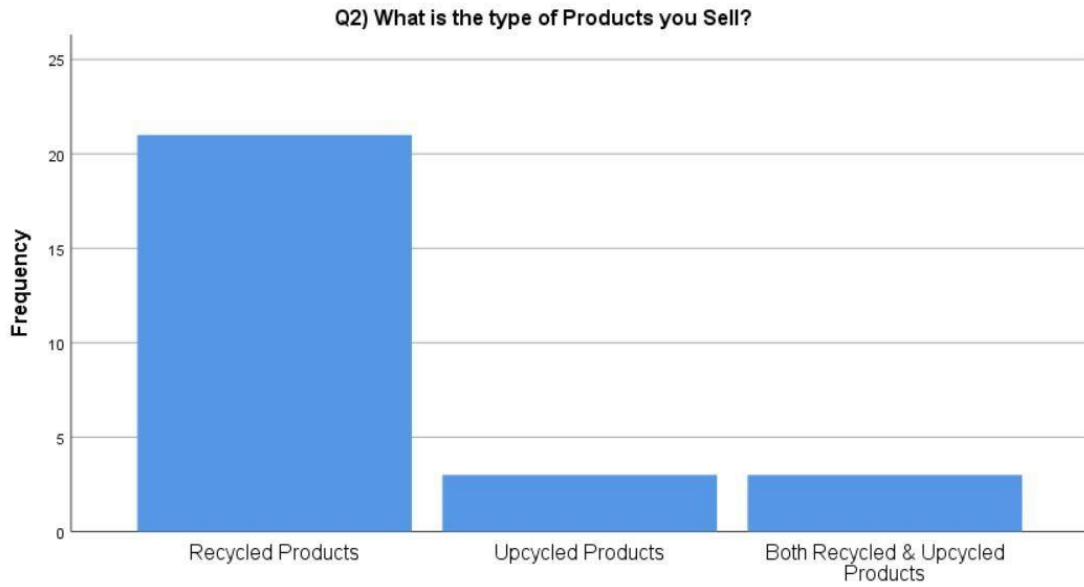
Q9) Are your customers usually aware of meaning of Upcycling-upcycled products?

From the frequency table and the frequency graph it can be observed that the **74.1% of the respondents (sellers) have responded that their customers are not aware about the upcycled products.** This substantiates the previous hypothesis that the people from Pune are majorly not aware the upcycling concept and upcycled products.

Availability of recycled products

Q2) What is the type of Products you Sell?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Recycled Products	21	77.8	77.8	77.8
	Upcycled Products	3	11.1	11.1	88.9
	Both Recycled & Upcycled Products	3	11.1	11.1	100.0
	Total	27	100.0	100.0	



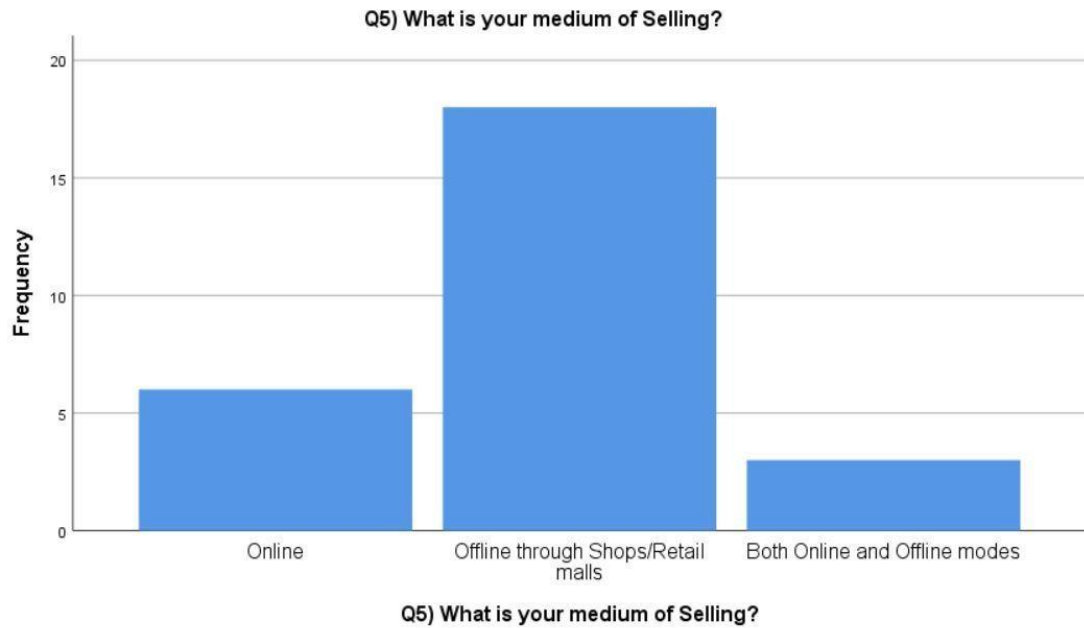
Q2) What is the type of Products you Sell?

From the frequency table and the frequency graph it can be observed that the **77.8% of the respondents (sellers) have responded that they sell only recycled products.** Hence it proves that the recycled products are more easily available and accessible.

Descriptive statistics of Sales Channel

Q5) What is your medium of Selling?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Online	6	22.2	22.2	22.2
	Offline through Shops/Retail malls	18	66.7	66.7	88.9
	Both Online and Offline modes	3	11.1	11.1	100.0
	Total	27	100.0	100.0	



From the frequency table and the frequency graph it can be observed that the **66.7% of the respondents (sellers) use offline medium for selling their products**. Hence this reflects that there is a huge scope in the online space for these products.

CLUSTER ANALYSIS:

DEFINITION AND WHY IS IT USED HERE

Cluster Analysis:

Analysis method: Two step clustering

Purpose: To identify various segment / clusters having a particular set of characteristics which define their perceptions, knowledge, and willingness towards recycled and upcycled products. This clustering helps us understand segment wise preferences which can be leveraged by the recycling companies to moulding their plan, communication and marketing efforts accordingly.

Following inputs were taken for cluster analysis:

1. Gender
2. Age
3. Income
4. Area of respondent
5. Q6 (Are these recycled and upcycled products easily available to you?)
6. Q8 (Do you regularly buy these recycled/upcycled products)
7. Q10 (If made easily available, will you prefer regular buying?)
8. Q11 (How much price will you be willing to buy at?)

CLUSTER ANALYSIS:

This analysis becomes an integral part of the research since the research is catered around studying the ‘Selling potential’ and so Cluster analysis which is a powerful data -mining tool for any sales firm has been used here. It helps in identifying the discrete groups of customers, sales transactions and other types of observations related to customers can emerge out from this analysis.

The researcher has done two step clustering with the purpose of identifying various segment / clusters having a particular set of characteristics which define their perceptions, knowledge, and willingness towards recycled and upcycled products. This clustering helps us understand segment wise preferences which can be leveraged by the recycling companies to moulding plan their communication and marketing efforts accordingly.

Following **variables** have been taken for cluster analysis:

9. Gender
10. Age
11. Income
12. Area of respondent
13. Q6 (Are these recycled and upcycled products easily available to you?)
14. Q8 (Do you regularly buy these recycled/upcycled products)

15. Q10 (If made easily available, will you prefer regular buying?)

16. Q11 (How much price will you be willing to buy at?)

Output:

Analysis = Two Step Clustering

Number of clusters formed (output) = 2

(After conducting the Two Step Clustering, the output showed that there are two clusters that can be formed from the data)

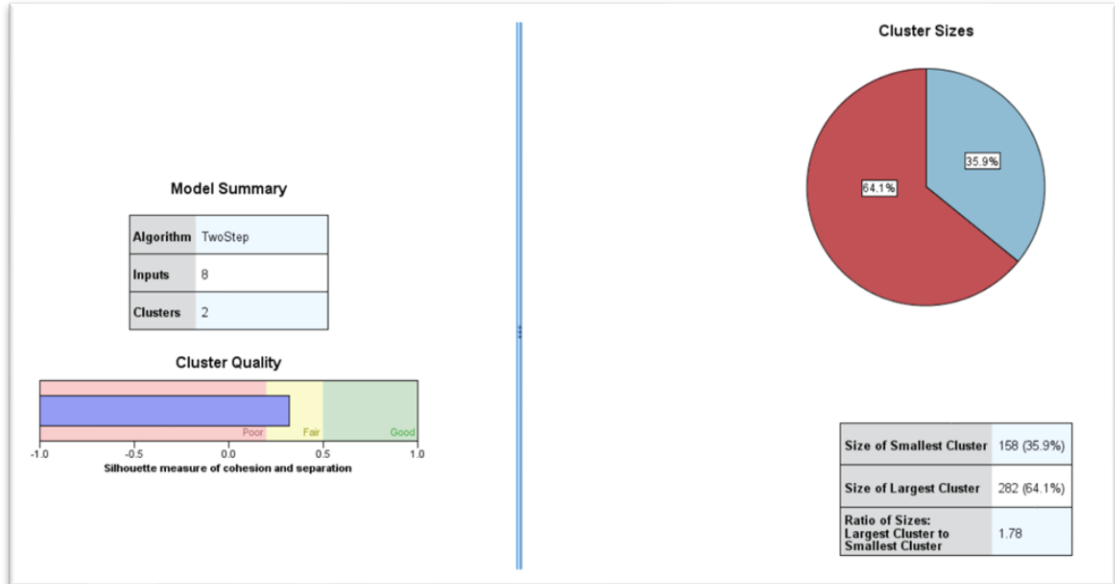
Cluster 1 size = 158

Total 158 (36.9%) respondents belong to cluster 1

Cluster 2 size = 282

Total 282 (64.1%) respondents belong to cluster 2

The following figure shows the cluster analysis model summary and the cluster size pie chart. From the “Cluster Quality” diagram it can be concluded that the quality of the formed cluster is fair enough and can be considered significant. The Cluster Sizes pie chart shows the respective sizes of the two clusters formed and the ratio of largest cluster to smallest cluster.



Cluster description:

The following diagram shows the responses in terms of percentage for all the questions under both the clusters.

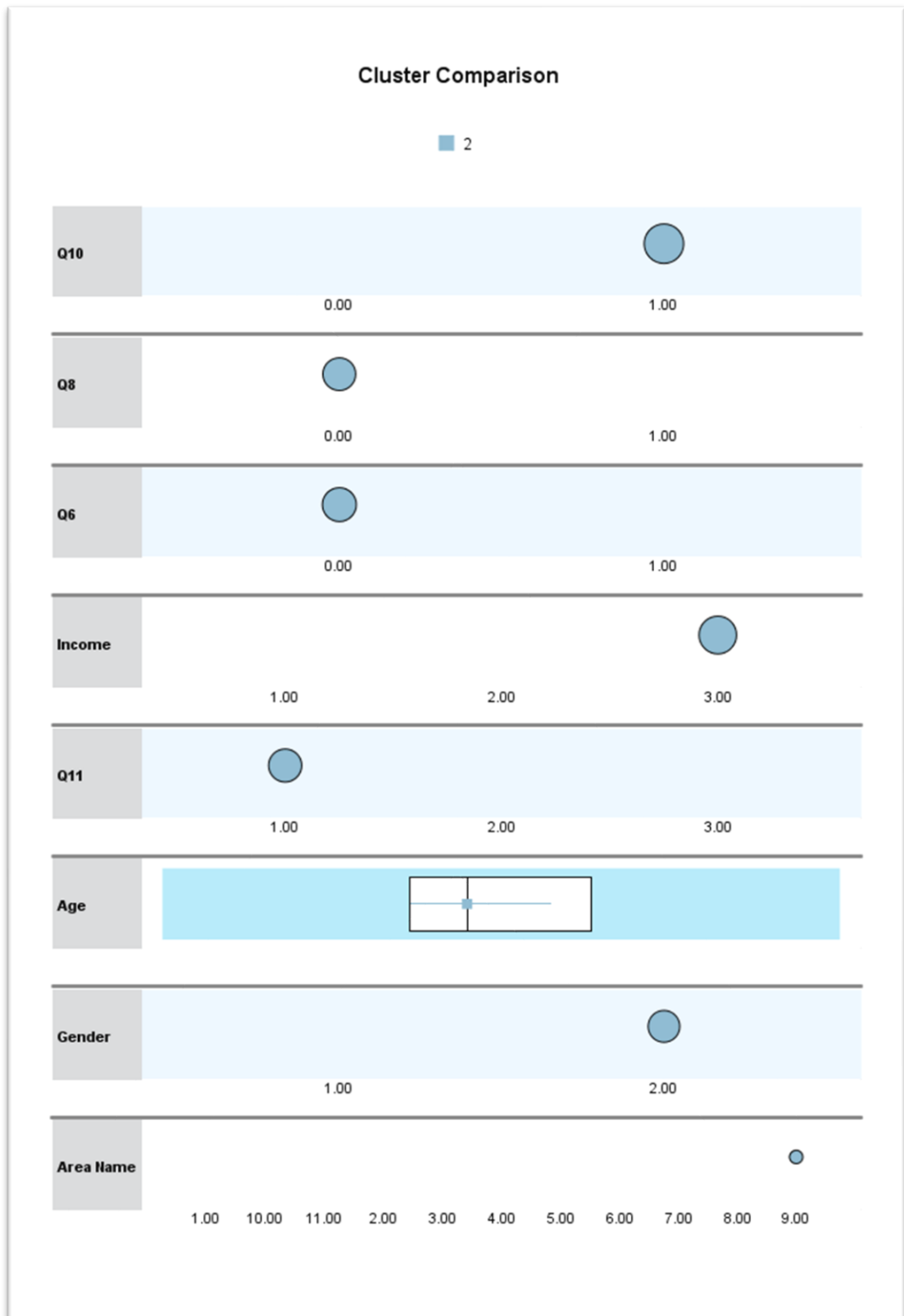
Clusters

Input (Predictor) Importance



Cluster	2	1																
Label																		
Description																		
Size	64.1% (282)	35.9% (158)																
Inputs	<table border="1"> <tr> <td>Q10 1.00 (100.0%)</td> <td>Q10 0.00 (83.5%)</td> </tr> <tr> <td>Q8 0.00 (68.8%)</td> <td>Q8 1.00 (97.5%)</td> </tr> <tr> <td>Q6 0.00 (73.4%)</td> <td>Q6 1.00 (60.8%)</td> </tr> <tr> <td>Income 3.00 (91.1%)</td> <td>Income 3.00 (74.1%)</td> </tr> <tr> <td>Q11 1.00 (69.9%)</td> <td>Q11 1.00 (58.9%)</td> </tr> <tr> <td>Age 44.80</td> <td>Age 46.66</td> </tr> <tr> <td>Gender 2.00 (64.9%)</td> <td>Gender 2.00 (71.5%)</td> </tr> <tr> <td>Area Name 9.00 (11.3%)</td> <td>Area Name 2.00 (17.1%)</td> </tr> </table>	Q10 1.00 (100.0%)	Q10 0.00 (83.5%)	Q8 0.00 (68.8%)	Q8 1.00 (97.5%)	Q6 0.00 (73.4%)	Q6 1.00 (60.8%)	Income 3.00 (91.1%)	Income 3.00 (74.1%)	Q11 1.00 (69.9%)	Q11 1.00 (58.9%)	Age 44.80	Age 46.66	Gender 2.00 (64.9%)	Gender 2.00 (71.5%)	Area Name 9.00 (11.3%)	Area Name 2.00 (17.1%)	
Q10 1.00 (100.0%)	Q10 0.00 (83.5%)																	
Q8 0.00 (68.8%)	Q8 1.00 (97.5%)																	
Q6 0.00 (73.4%)	Q6 1.00 (60.8%)																	
Income 3.00 (91.1%)	Income 3.00 (74.1%)																	
Q11 1.00 (69.9%)	Q11 1.00 (58.9%)																	
Age 44.80	Age 46.66																	
Gender 2.00 (64.9%)	Gender 2.00 (71.5%)																	
Area Name 9.00 (11.3%)	Area Name 2.00 (17.1%)																	

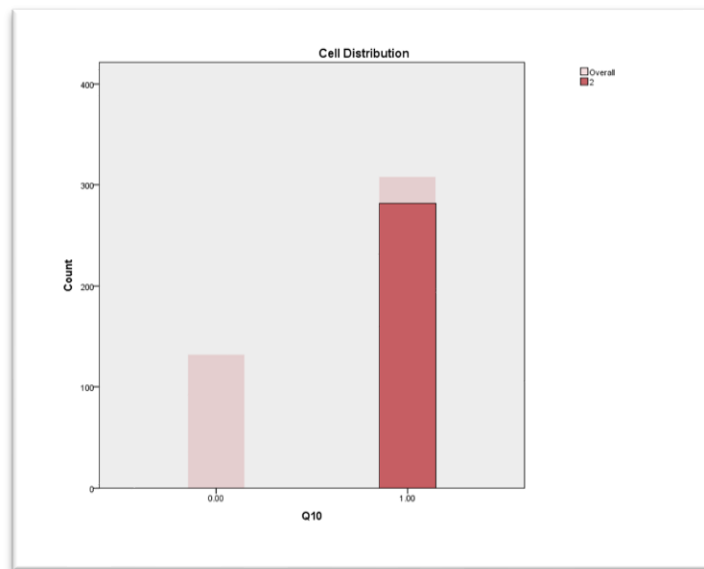
The following table of Cluster Comparison helps in identifying the characteristics of the respective cluster for all the variables under consideration. The table below is reflecting question wise attributes for Cluster 2.



Cluster 2 Characteristics (64.1%, 282) – CLUSTER MEANING:

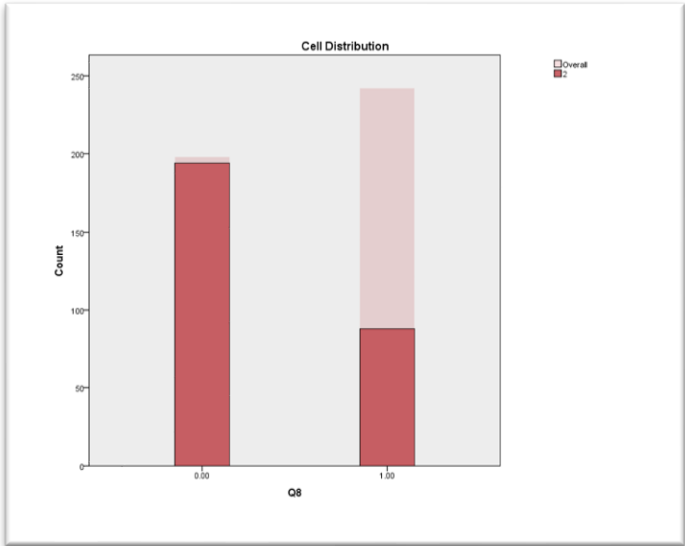
After analysing the cluster comparison table for cluster 2, the following characteristics can be concluded:

- If availability is ensured, then there is a strong preference shown for regular buying
- The respondents in this cluster are not regular buyers of recycled and upcycled products
- The recycled and upcycled products are not easily available as per this cluster, hence we can consider that there is less awareness about the product among this group of respondents
- The respondents are majorly from high income group (Above 25K)
- Preference for buying at less than Rs 500
- Mean age of the respondents is 45 years
- The respondents are majorly from the following areas: Tathawade, Karve Nagar & Wakad



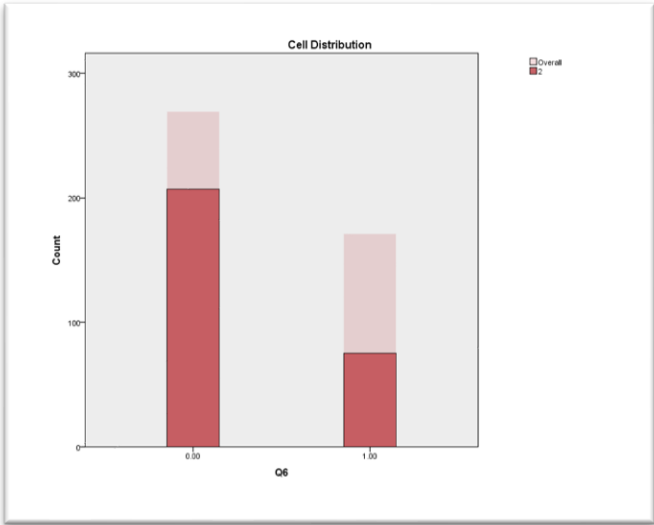
Cluster 2 respondent distribution for Q10

(All the respondents in cluster 2 have responded "1" for Q10)



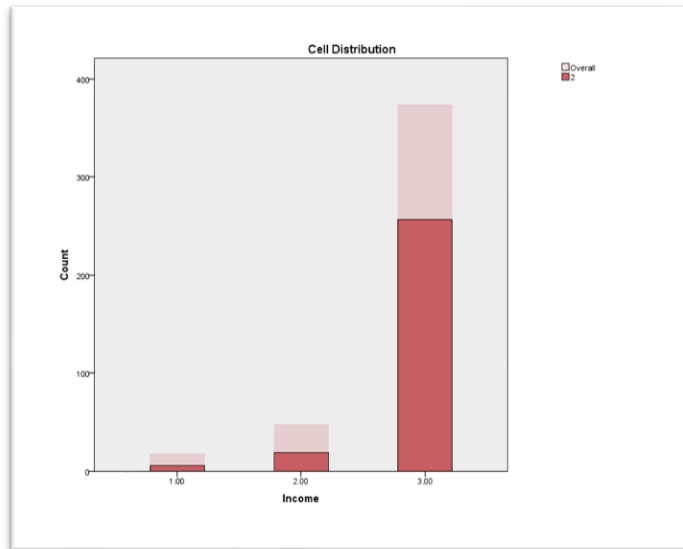
Cluster 2 respondent distribution for Q8

(Majority of the respondents in cluster 2 have responded “0” for Q8)



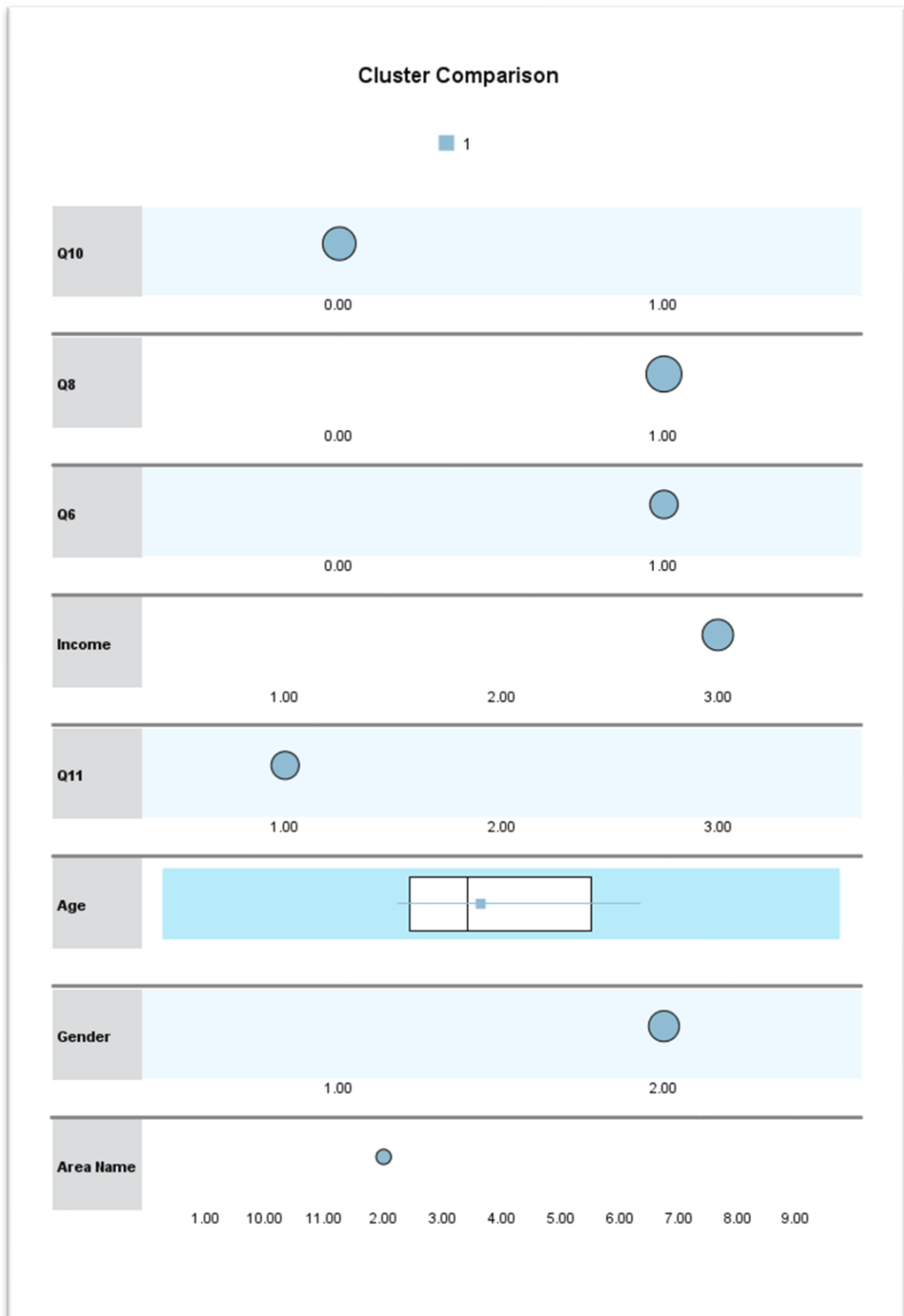
Cluster 2 respondent distribution for Q6

(Majority of the respondents in cluster 2 have responded “0” for Q6)



Cluster 2 respondent distribution for income variable

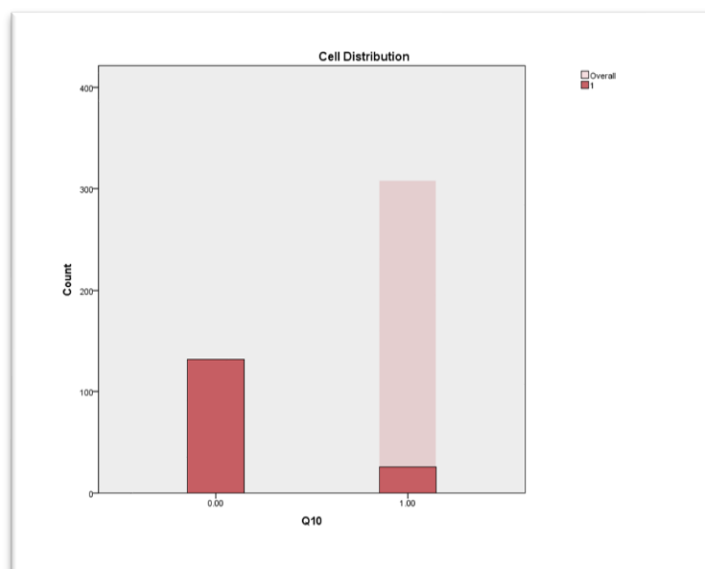
(Majority of the respondents in cluster 2 are from income level “3”) The following table of Cluster Comparison helps in identifying the characteristics of the respective cluster for all the variables under consideration. The table below is reflecting question wise attributes for Cluster 1.



Cluster 1 Characteristic (35.9%, 158) – CLUSTER MEANING:

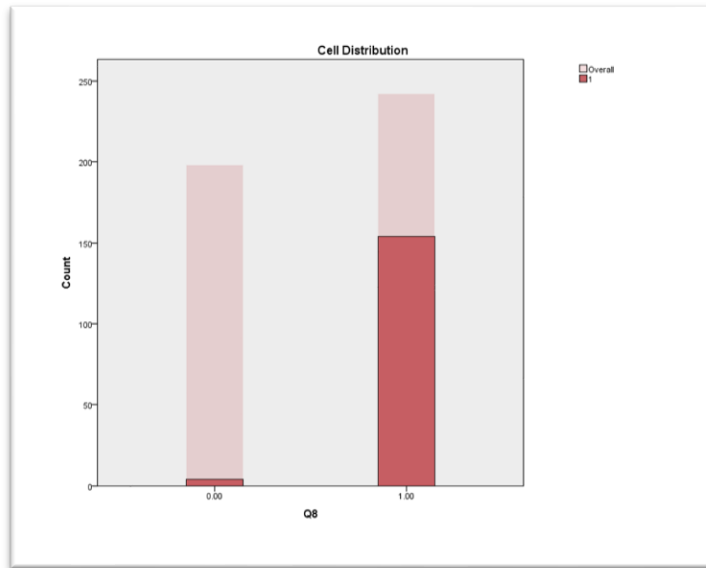
After analysing the cluster comparison table for cluster 1, the following characteristics can be concluded:

- Even if the availability is ensured, there is a negative preference shown for regular buying
- The respondents in this cluster are regular buyers of recycled and upcycled products
- The recycled and upcycled products are easily available as per this cluster, hence we can consider that there is significant awareness about the product among this group of respondents
- The respondents are from mixed income brackets in this cluster (no specific income group can be stated)
- Preference for buying at less than Rs 500
- Mean age of the respondents is 47 years
- The respondents are majorly from the following areas: Vishrantwadi, Viman Nagar & Wadgaon Sheri

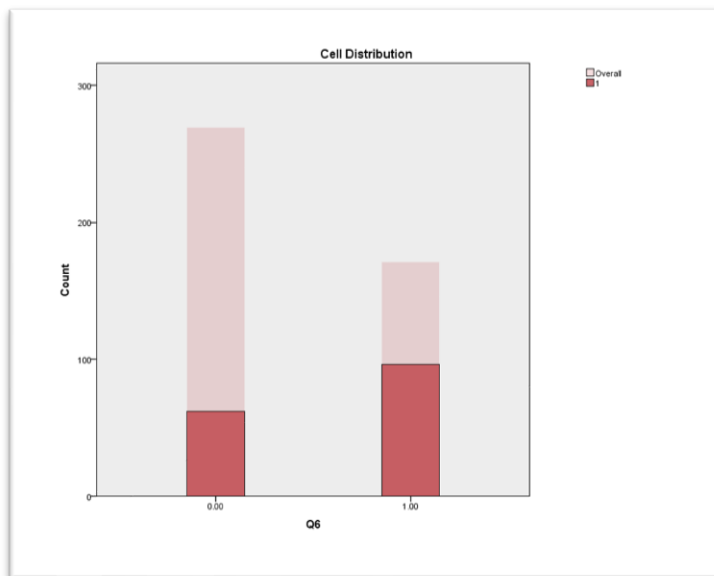


Cluster 1 respondent distribution for Q10

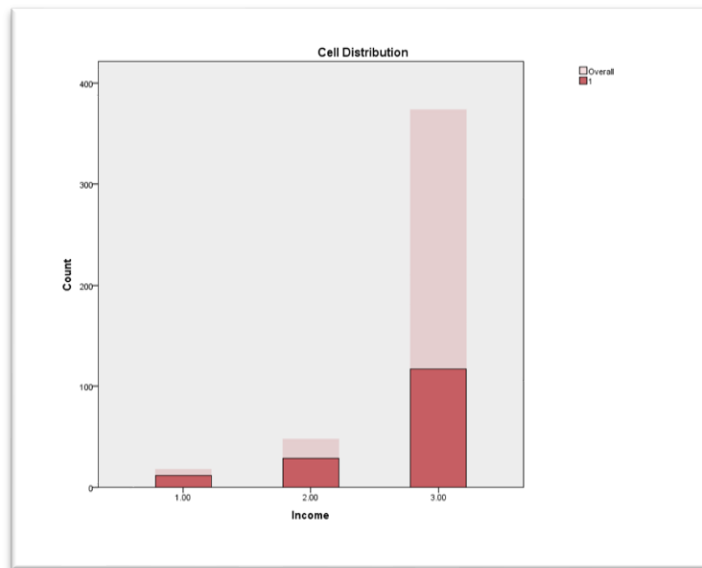
(Majority of the respondents in cluster 1 have responded "0" for Q10)



Cluster 1 respondent distribution for Q8
(Majority of the respondents in cluster 1 have responded "1" for Q8)



Cluster 1 respondent distribution for Q6
(Majority of the respondents in cluster 1 have responded "1" for Q6)



Cluster 1 respondent distribution for income variable

(Majority of the respondents in cluster 1 are from income level “1” & “2”)

Conclusion drawn: The major distinction between the clusters is with respect to the willingness/preference to become a regular buyer (Q10), current regularity of buying the recycled and upcycled products (Q8), awareness about the availability of the products (Q6) and income bracket of the respondents.

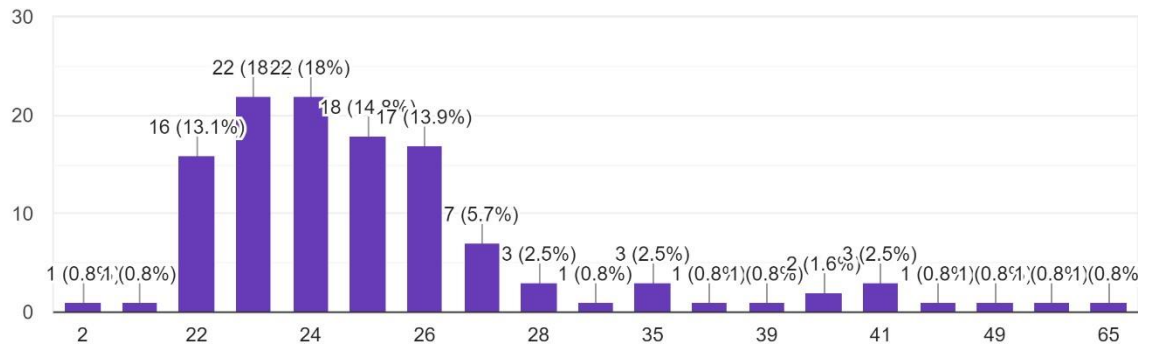
ADDITIONAL ANALYSIS

In addition to the 440 respondents who have answered the Questionnaire at various Exhibitions; the research scholar has also collected 122 responses from the selected 11 areas of Urban Pune to get the real overall picture to know the awareness and their keenness to buy these products. This was done by online questionnaire:

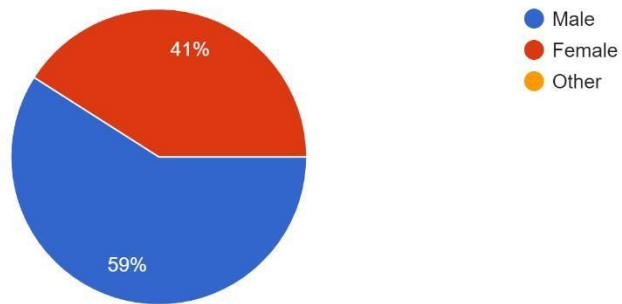
Following is the Analysis of what the research scholar received as responses:

Age:

122 responses

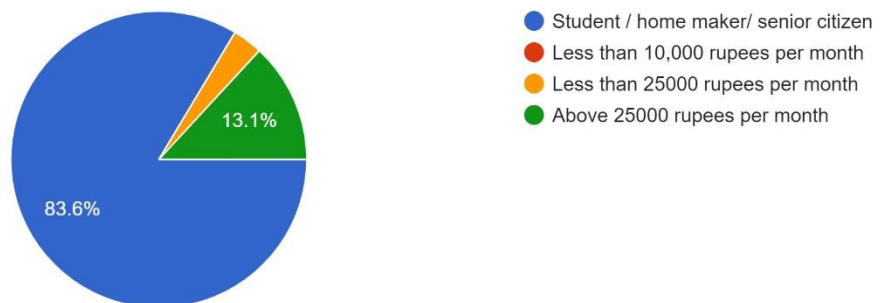


Gender
122 responses

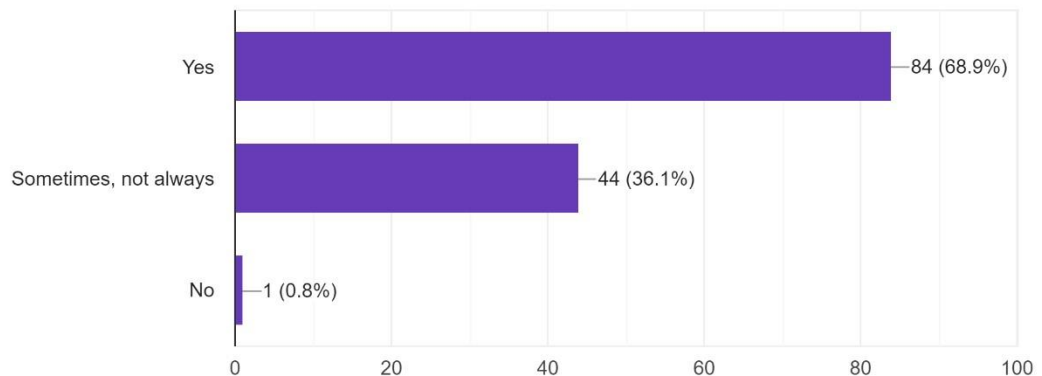


INCOME

Income
122 responses

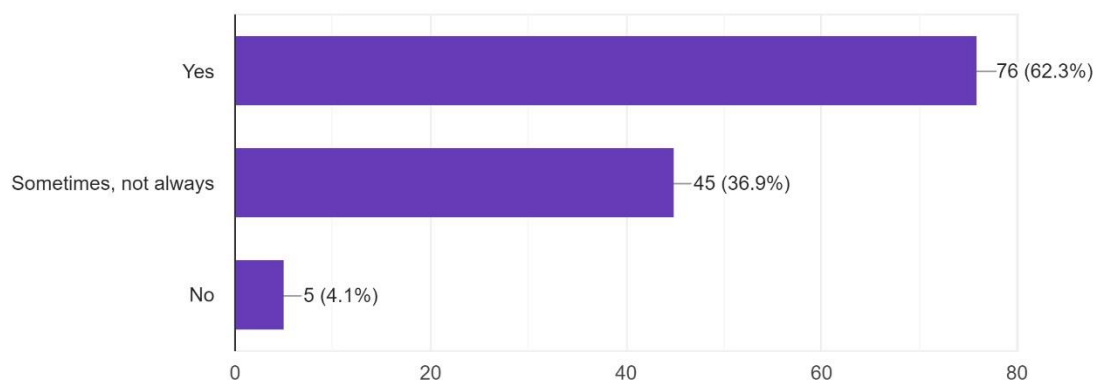


QUESTIONS: Q1) Do you like buying environmentally friendly products for your home?
122 responses



- Most of the respondents have answered in a strong Yes about liking to buy environmentally friendly products.
- 38% of the respondents have supported to buying these set of products sometimes and not always
- Less than 1% is only naysayers

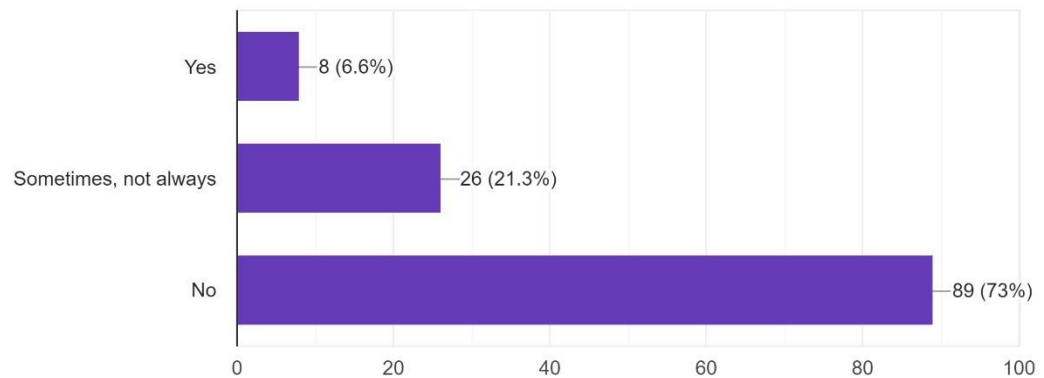
Q2) Do you like to gift these environmentally friendly products?
122 responses



Although 5% of the respondents have responded in not interested in gifting these environmentally friendly products; it would be interesting to know the reasons for their saying so.

Q3) Do you think your culture stops you from buying these environmentally friendly products?

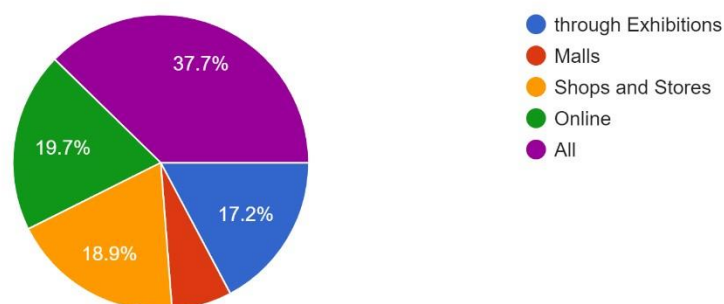
122 responses



This question intended to see if there are any inhibitions in mind due to their respective culture stopping them from purchasing these eco-friendly products. And although 89% of them do not see their “culture” as a hindrance for buying, a good 11% of them have replied in culture concerning them to buy. Finding out this also has been interesting and further adds meaningful value to the study

Q4) If yes and sometimes to any/all of the above questions, where do you buy these products from?

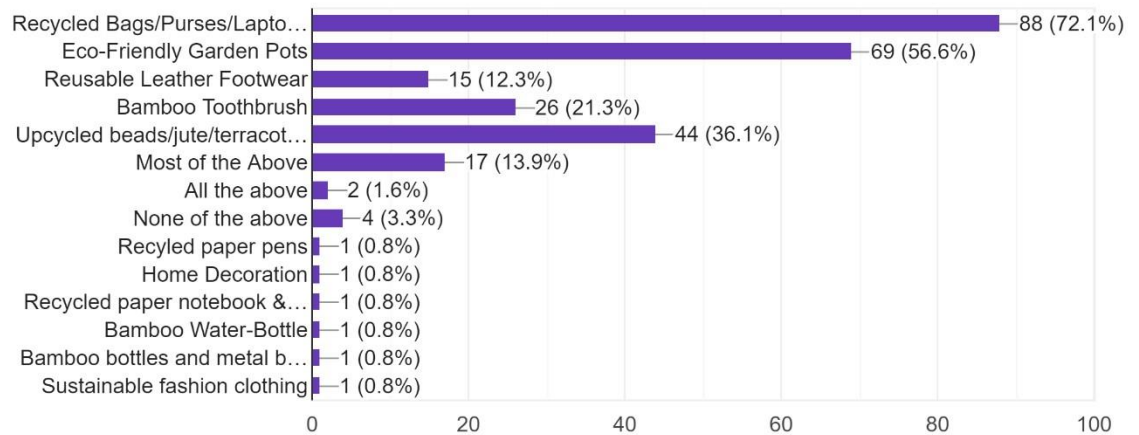
122 responses



○ Buying preferences is a nice mix of responses, received for this question. A combination of all options provided is preferred by almost 38% of the respondents.

Q5) Which eco-friendly products have you bought?

122 responses



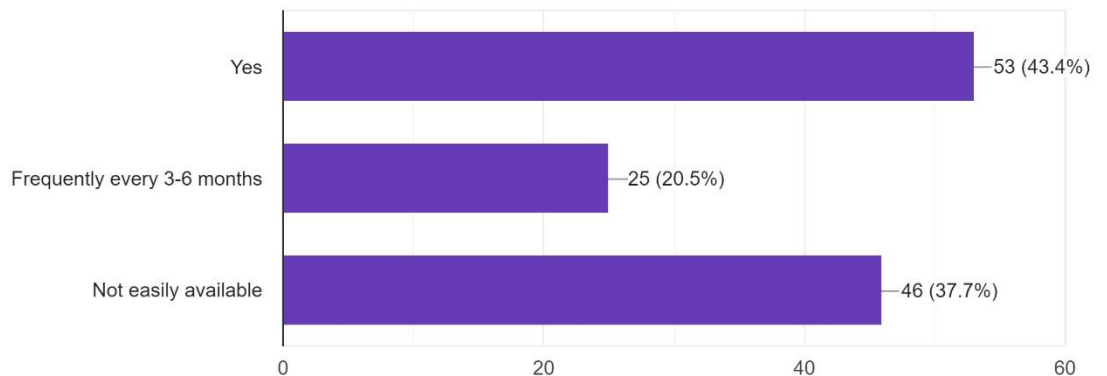
○ While those who find these eco-friendly products only at Exhibitions is true for 17% of respondents ○ People preferring to buy online is close to 20% and are those who are young in age, especially the students' community ○ Shops and Stores buyers are close to 19% of the respondents ○ While those who find these goods available at the malls is just 6%

○ Under 'other' option provided, people have added six more recyclable products that they use but the percentage of these users is almost negligible (less than 1%). This goes to show clearly that people aren't aware much about recycling options and not at all about upcycling.

○ A big chunk of people (almost 72%) buy and use recycled bags/purses/laptop bags ○ Eco-friendly garden pots is the next bought item that is close to 57% ○ Eco-friendly accessories made from jute, terracotta etc is also good which has 36% respondents preferring this. And this gives out a good scope for sellers dealing in these line of products ○ A good 21% of them are aware about products made from bamboo like bamboo toothbrush ○ And almost

Q6) Are these products easily available?

122 responses

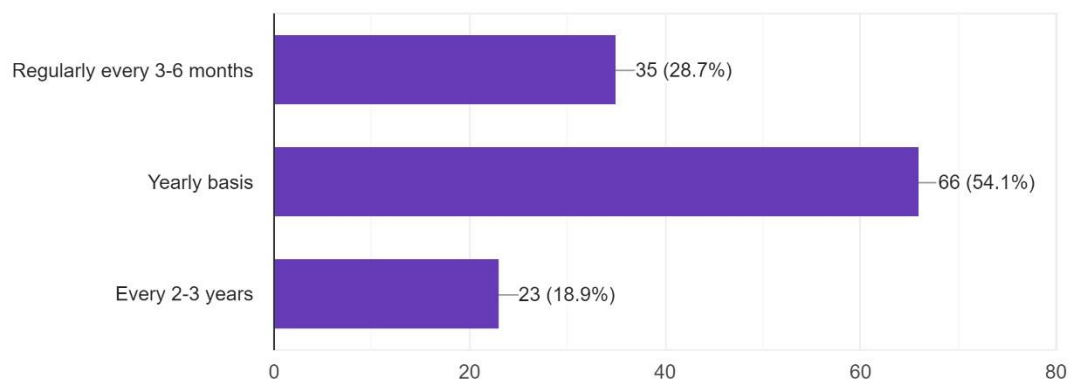


12% of them are aware about and use leather recycled products

- 43% of the respondents agree that these eco-friendly products are easily available whereas almost 21.5% of them claim it to be available frequently every 3-6 months
- And close to 38% respondents claim of not getting these

Q7) How regularly you need or buy these products?

122 responses



products easily

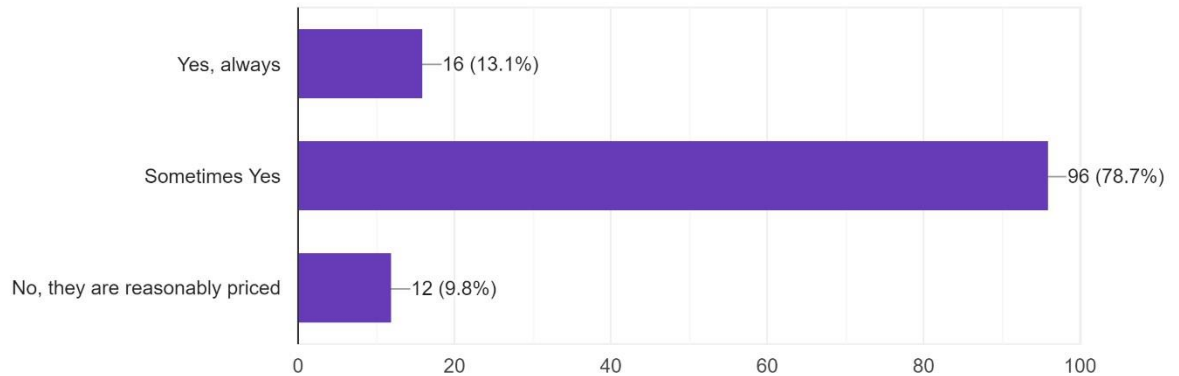
- More than half the respondents (54.1%) are buyers of these eco-friendly products on a yearly basis.

- And 29% of these respondents are regular buyers who take these eco-friendly products for their households or for gifting needs every 3-6months
- Sellers of these products must target the remaining close to 19% of the lot, who currently is buying every 2-3years as converting them into frequent buyers too, shall result in increase in sales of these products

- These environmentally friendly products are perceived as expensive by 13% of the respondents
- And a high percentage of people feel that sometimes these products are expensive, close to 79%
- For ten percent of the people are respondents who feel these products are

Q8) Do you find these "eco-friendly" products expensive?

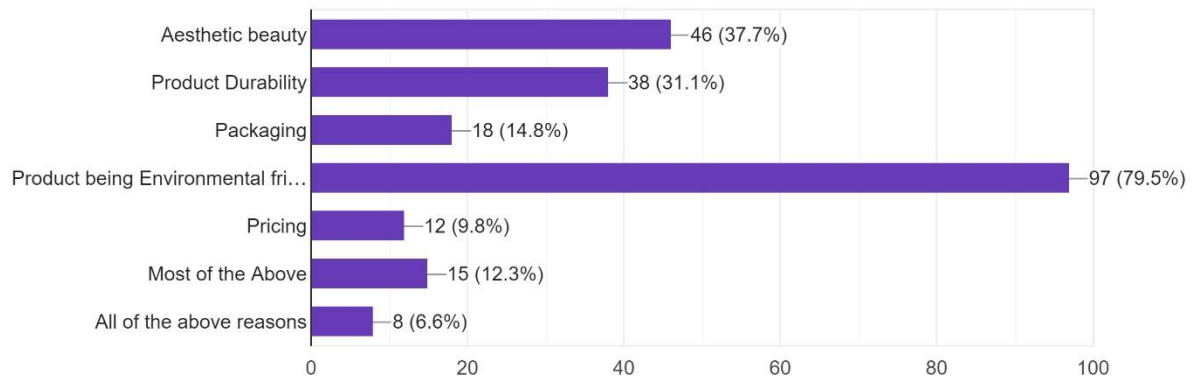
122 responses



reasonably priced

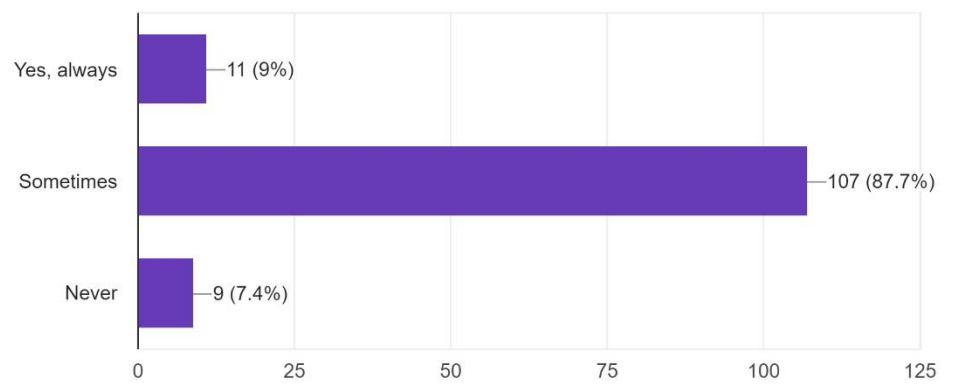
Q9) What factors make you buy these products?

122 responses



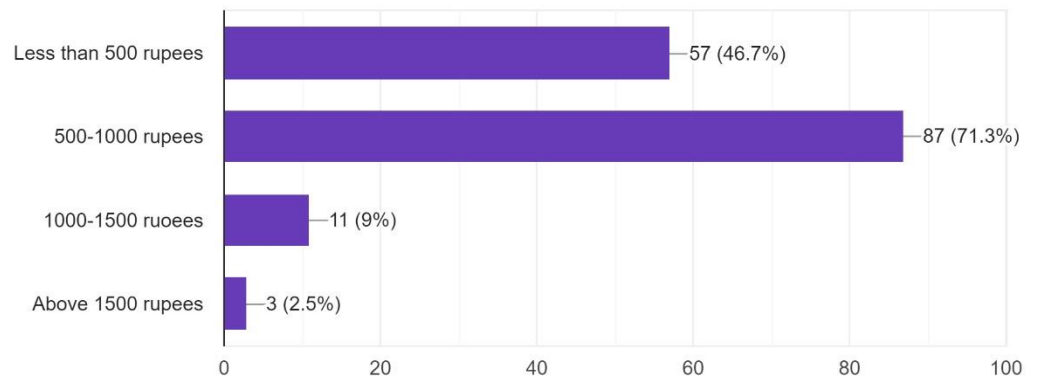
Q10) Do the sellers of these eco-friendly products have a wide range of variety and choices for you?

122 responses



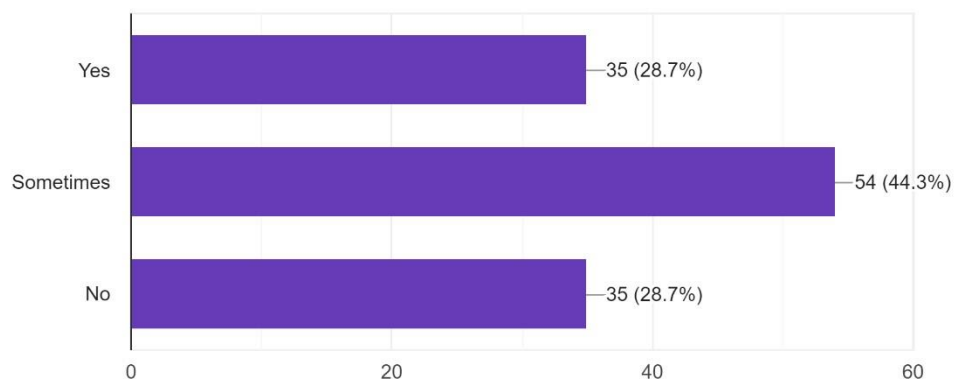
Q11) What price will you prefer to buy at?

122 responses



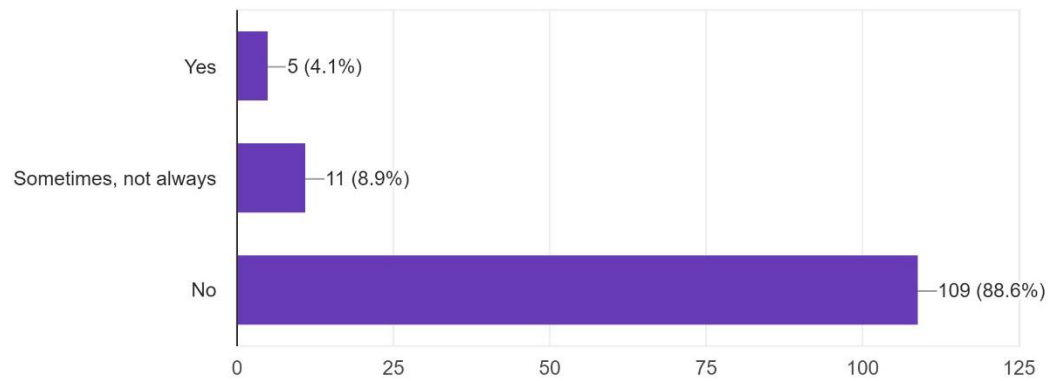
Q12) Have you bought on a repetitive basis from the same seller/s?

122 responses



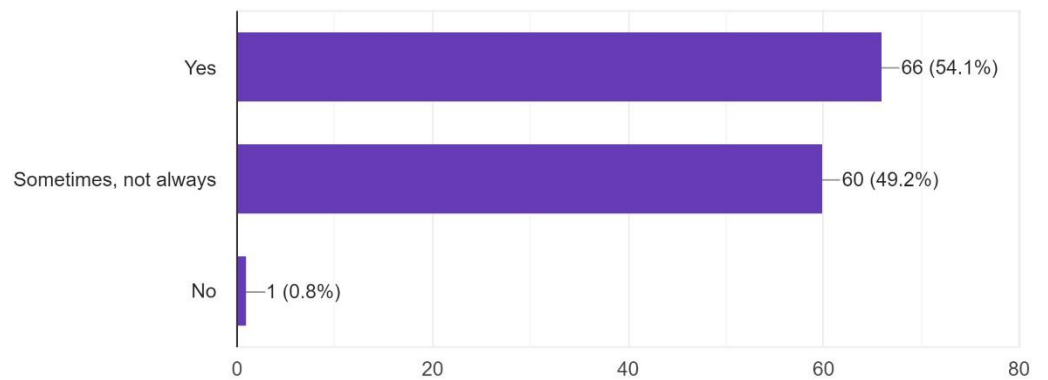
Q13) Have you ever faced any health issues like allergies, any body harm etc. while using these environmentally friendly products?

123 responses



Q14) Over the Original product, will you prefer buying these recycled/upcycled eco-friendly products?

122 responses



4.2) Findings:

A researcher's quest for research actually sees the success because of the findings that emerge out.

And in this case of research study, as this type of topic has never been studied in the past anywhere in the world and especially in the urban setting of India, findings of this study truly become unique, one of its first kind and highly relevant for future studies.

The findings that came out from this in-depth research, is a converging one that is seen from both the stakeholders as per the below Table, that perfectly proves the common parameters that emerged as the major findings from this research

Table 4.2- The Convergent Pointers under Findings

SELLERS	RESPONSES	CONNECTING PARAMETER	BUYERS	RESPONSES
Q8) Are your customers usually aware of meaning of Recyclingrecycled products? a) Majorly Yes b) Majorly Not c) Rarely Aware	22 4 1	AWAR ENESS	Q1) Are you aware of the term "Recycling?" a) Yes b) No	506 56
Q9) Are your customers usually aware of meaning of Upcyclingupcycled products? a) Majority of them Yes b) Majority of them Not c) Rarely Aware	2 20 5	AWAR ENESS	Q2) Are you aware of the term "Upcycling?" a) Yes b) No	68 494
Q7) Where do you advertise/promote your products? a) Online b) Offline Campaigns/Hoardings in Exhibitions/Mall displays c) Both Online and Offline	4 15 8	VISIBIL ITY & AVAIL ALIBIT Y	Q6) Are these recycled and upcycled products easily available to you? a) Yes b) No	219 343
Q5) What is your medium of Selling? a) Online b) Offline through Shops/Retail malls c) Both Online and Offline modes	6 18 3	ACCES SIBIL ITY	Q5) If yes to the above answer, where do you buy these from? a) Exhibitions E b) Malls(M) c) Online(O)	434 64 64
Q10) What is the percentage of your repeat orders? a) Less than 10% b) 11%-50% c) More than 50%	12 9 6	SELLIN G POTEN TIAL	Q10) If made easily available, will you prefer regular buying? a) Yes b) No	393 169

As seen from the above table, exactly the key search with which the researcher started her work has come out in the form of her findings from the research. These four parameters of importance are:

Awareness: Whether the urban Pune consumer is aware of the recycled more than the upcycled household goods

Accessibility: If the awareness exists as seen for recycled products majorly, then are these eco-friendly commodities easily accessible by the pune consumers. And findings reveal that they are majorly available through the exhibition's mode only (more than 80% respondents confirmed this)

Availability: Is there a wide array of choices available to the buyers of these environmentally friendly goods and are these easily available to them. These are critical findings that the sellers must pay heed to in order to increase their sales.

Willingness to Buy: Selling scope exists- The answer from the findings to this is that the urban pune is willing to purchase these goods provided they are made available to them through both the modes-online and offline.

Findings References:

1) Sellers' Responses (Number of Responses & % based on Seller's responses)

2) Customers Findings

AGE GROUP %:	frequency
18-35 Years: 11% 48	
35-60 Years: 76% 335	
Above 60: 13% 57	
GENDER:	
Males: 33% 145	
Females: 67% 295	
MONTHLY INCOME LEVEL:	
Less than 10,000: 4% 18	
10k-25k: 11% 48 Above 25k: 85%	374

Following is the Major Findings from the Research Study:

- 1) Awareness: about Recycled household products is much higher than the Upcycled products; amongst the targeted Urban Pune Consumers
- 2) Access and Availability: Urban Pune has the access and availability to buy Recycled household products
- 3) Willingness: Urban Pune is willing to buy Recycled household products at prices up to 500 per unit
- 4) Culture and Health Factors: Culture and Health factors does not impact buying of Recycled household products
- 5) Sellers of recycled and upcycled products: They majorly sell Recycled products than upcycled. And have a large offline presence than online
- 6) Majority of buyers preferring to buy recycled household products is the female gender with 67% of the respondents
- 7) The maximum age group of buyers fall in between 35yrs of age-60 yrs
- 8) 85% of the respondents are in the category of income earnings of above 25k per month
- 9) The major buyers fall in the areas of Karve Nagar, Tathawade and Wakad and the areas with low buyers are Vishrantwadi, Viman Nagar and Wadgaon Sheri
- 10) Interestingly, the responses of both sellers and buyers are in sync and converges

Chapter 5: Conclusion and Suggestions

5.1) Conclusion

The Research Journey: Right from the stage of deciding which topic to research upon; the researcher has been of the opinion that her work should be able to contribute to the ocean of research.

With this intention in mind, the researcher undertook an environment friendly focus and decided to work on the selling potential of recycled and upcycled household products in urban Pune. This was taken to see if there can be a good scope of selling these eco-friendly products.

The researcher then sampled this with a set of 50 residents of various urban areas in Pune to find out if there is a sufficient awareness amongst the residents about both recycling and upcycling.

Along with the awareness, acceptance for such products was also gauged by the researcher through her questionnaire. After the pilot study came out to be successful, she then moved ahead with her population study with 562 respondents through visiting 40 exhibitions across and covering 11 urban areas of Pune.

Along with these 562 respondents, the researcher also interviewed 27 firms from Pune dealing in selling of recycled and upcycled household products about their challenges, supply chain issues if any and about their buyers' awareness and loyalty to these kind of eco-friendly products.

Table 5

Serial Number	Theme	Null Hypothesis	Test Result
Hypothesis 1	Awareness	Urban Pune is aware of Recycled household products	Failed to reject
Hypothesis 2	Awareness	Urban Pune is aware of Upcycled household products	Failed to accept
Hypothesis 3	Access and Availability	Urban Pune has the access and availability to buy Recycled household products	Failed to reject
Hypothesis 4	Willingness	Urban Pune is willing to buy	Failed to reject
		Recycled household products	

The Analysis Phase- This was interesting for the researcher as she was excited to find out a lot of intriguing insights into what customers felt about buying such set of eco-friendly products. It was equally interesting to find out the consumers' concern with pricing and how these products are not easily available and if they are; it is majorly through exhibition mode.

If consumers are aware of the recycled products, a majority on the other hand are not aware about upcycled products. As high as 90% of the respondents. Therefore, it is an interesting finding that the sellers can bank upon as a huge opportunity and should work on making the customers aware about upcycling.

Similarly, for each question asked to the respondents, the researcher has been able to link it to findings through her analysis. There are primarily two major stakeholders to this study namely the customers of urban pune who either are or look forward to buying recycled and upcycled household goods. And the other stakeholder is the sellers of recycled and upcycled household goods. These were also interviewed by the researcher.

The findings that came out from this in-depth research, is a converging one that is seen from both the stakeholders as per the below Table, that perfectly proves the common parameters that emerged as the major findings from this research

Table 5.1- The Convergent Pointers under Findings

SELLERS	RESPONSES	CONNECTING PARAMETER	BUYERS	RESPONSES
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Q9) Are your customers usually aware of meaning of Upcyclingupcycled products? a) Majority of them Yes b) Majority of them Not c) Rarely Aware	2 20 5	AWAR ENESS	Q2) Are you aware of the term "Upcycling?" a) Yes b) No	68 494
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Q5) What is your medium of Selling? a) Online b) Offline through Shops/Retail malls c) Both Online and Offline modes	6 18 3	ACCES SIBIL ITY	Q5) If yes to the above answer, where do you buy these from? a) Exhibitions E b) Malls(M) c) Online(O)	434 64 64
Q10) What is the percentage of your repeat orders? a) Less than 10% b) 11%-50% c) More than 50%	12 9 6	SELLIN G POTEN TIAL	Q10) If made easily available, will you prefer regular buying? a) Yes b) No	393 169

The table above clearly states how these responses to the questions exactly derive the core objectives set by the researcher to meet through her study. Core like Awareness, Accessibility, Availability and Willingness to buy gets convergent thoughts and viewpoints from both these stakeholders. And for other set of questions asked to the

respondents (Q3, Q4 , Q7, Q8, Q9 and Q11) and the other set of questions asked to the sellers (Q1, Q2, Q3, Q4 and Q6) they all are concluding with proving itself in hypothesis testing and the analysis stage. These Questions are added in the Annexures (page number 200)

The researcher on the basis of all analysis and findings has successfully been able to contribute new to this research body by way of suggesting a series of four new sales strategies for the sellers of recycled and upcycled household goods and the outcome of these strategies have resulted into a sales model also that is suggested by the researcher. She has included these in detail in the below segment of Suggestions.

Also, the researcher has come up with contributing two new important words like the below:

“Emotional Upcycling” & “ECQ-Environmental Consciousness Quotient” (on the lines of IQ and EQ that already exists).

Emotional Upcycling: Upcycling emerging out of sentiments like uplifting of impoverished society or malnourished children.

Example: Beggars diverting to upcycling of alcohol bottles thrown on streets, for selling and earning from this. They upcycle these bottles into a coloured and a decorative art bottle for household decoration purpose. Another example is that of a Syrian carpenter upcycling his tools into toys for the kids to play in a war-torn region.

Environmental Consciousness Quotient (ECQ): This means to see if people have a level of consciousness towards their environment or not. A person with a high level of awareness and action-oriented person towards preserving environment around him/her can be called a person of a high ECQ and vice versa person, has a low ECQ and must be trained on this factor.

For a healthy planet to sustain us- the human beings, this is an urgent calling for all to adhere by, is the researcher’s strong opinion. And therefore, this new quotient is extremely needed.

The researcher wishes to take separate research in depth on these newly coined words to get them their due importance.

The Scope for Future Researchers: Each researcher is bind by certain limitations and so is the case with this research also. This research is confined to urban Pune and therefore others have the future scope to study other cities and centers. In fact, it will be great to see if the other urban cities also generate similar findings like this research or otherwise.

Pandemic has created the necessary awareness about these eco-friendly products but how many have picked buying these will also be an interesting study.

Finally, the researcher feels satisfied and convinced that these products do have a larger selling scope and the onus lies on the sellers and the government to take this up on a larger scale.

5.2) Suggestions:

On the basis of the earlier chapter of Findings and Analysis and the Conclusion drawn, following important suggestions are emerging out that the researcher has to provide.

These suggestions are (A) primarily for the sellers' community dealing with both recycled as well as upcycled household products in urban Pune.

And a few also (B) for the State Government as well as the Central Government.

(A) Following points are a must to implement-Suggestions for the Sellers of Recycled and Upcycled household products:

- a) As per the detailed research findings by the research scholar; she can conclude that though the urban Pune people are aware about 'recycling'; majority of them have never heard the word 'upcycling.'

Therefore, this is a challenge that the sellers of upcycled household products must try to solve and **work on creating and spreading awareness on 'upcycling' through both online and offline channels.**

Here are the action points, that the sellers can implement to create awareness about 'Upcycling and Upcycled household products; amongst the residents of Urban Pune:

- (i) They must regularly and rigorously advertise about their upcycled household products through all possible channels like the print media, television, OTT platform, hoardings at various major shopping centers, urban retail malls, must have a Facebook page dedicated to this, other social media marketing on the Instagram, LinkedIn etc.
- (ii) They need to engage with their targeted audience through quality and engaging posts on twitter and LinkedIn.
This is also a great way to connect with the millennials which might turn out to be loyal customers in the future.
- (iii) In addition to the above, live demos and online sessions can be taken on how these upcycled products are made.
- (iv) You tube videos can be made on a variety of upcycled products making, the process and their utility.
- (v) They can provide a few free samples of an upcycled vegetable bag or fridge veggie bags for customers visiting the retail malls to spread awareness.

- (vi) These freebies must mention the logo or the upcycling firm's name and contact details on it for people to get back to them for placing orders.
 - (vii) They can initiate a dedicated networking club of urban societies to spread awareness.
 - (viii) Can run 'Green Campaigns' in densely populated urban areas and can suitably title it as 'Urban Upcycling' campaign to create interest amongst the urban Pune consumers.
 - (ix) They can partner with or sponsor a few events that are focused on sustainable, environmentally friendly or sports events in urban areas.
This is important not just to create awareness but also to be able to connect with the like-minded audience who feel strongly towards such products.
 - (x) Any other awareness spreading idea that these sellers can think of and implement well because execution is the key element.
- b) Secondly, the **sellers of both Recycled and Upcycled household products must have a robust presence both in the online as well as the offline space.** This is required for better reach and wide coverage of their targeted audience.

Through this research; the author has seen a major gap between these firms having either just an online presence (24 percent of them) and many others are following only the offline way of selling (66 percent of them; that is quite large segment of sellers) and so the **sellers must have both online and offline presence for wider access to be able to reach a large pool of customers.**

In case the sellers face budgetary constraints; they can implement the following ideas to get started initially Online:

- (i) Reach online through creating a free Facebook page to advertise and sell.
- (ii) they can run just a one-page website flashing out all important details about their firm or company- like name, contact details of the firm, product portfolio in details and a few captivating pictures added to the website page. These pictures must be close to the actual ones to exhibit it's ethical and honest practices.
- (iii) Can provide a compelling sales pitch to all their online network of connections through very attractive and intriguing posts on twitter and LinkedIn.
- (iv) A Picture is a visual treat that speaks for itself. Therefore, sellers can hit their Instagram account with attractive pictures of their recycled and upcycled products and can give out a brief discount coupon of offers
- (v) Online offer of discounts or add a freebie to every purchase made above a certain fixed amount

And below suggestions for budget constrained firms to begin with their offline operations:

- (i) Running through exhibiting modes like participating in exhibitions
- (ii) Seeking for rented stalls in malls on a weekend basis that runs 'bazaar haats' on weekends to attract crowds
- (iii) Rent sharing basis space out with some other allied products seller

- c) It is evident from the research analysis by the researcher that a **majority of the sellers of recycled and upcycled household products are selling mostly through the 'Exhibitions'** mode that also gets validated from the customers' responses.

Although, exhibitions is a great way to sell and should remain a priority for these sellers; but not must be restricted to 'Only priority' of selling.

They must try and increase their offline selling options other than just exhibitions. This can be achieved through:

- (i) opening a store (self-funded or rented)
- (ii) renting out space in large retail malls
- (iii) can arrange garage sales in huge societies
- (iv) can initiate running a "green goods" network both online through WhatsApp or through a Facebook page and offline through a group meet every month
- (v) Can run 'mission green campaign' through which they will definitely get access to a like-minded audience that will prefer buying such products
- (vi) Provide home delivery option
- (vii) Join Entrepreneurial forums to get more ideas through mutual collaborations to sell

- d) It emerged out from the informal discussions with the customers with the researcher that the sellers of recycled products are not able to give a wide choice to consumers.

Either the products lack in variety of colors, sizes, shapes, etc. Or at times the demanded quantity by the buyer is not available with the sellers.

Also, on their website (those who have one) there is not a variety or range of products often available for the buyers to choose from. This is obviously and must be an integral part of their sales.

Consumers these days are spoiled for choices through both online and offline selling pitches bombarded at them and is truly a king. If they do not get to see

a wide array of products on offer; they tend to lose out interest in the particular brand.

Thus, the researcher suggests the sellers of recycled and upcycled household products to pay deep attention to these product variety.

- e) **On Pricing:** Researcher finds that a majority of the consumers feel that the recycled and upcycled household products are highly priced, in majority of cases.

If the sellers wish to increase their sales; then they will have to pay heed to this concern of the buyers. This pricing pain point can be tackled by the sellers by way of following few ideas:

- (i) Collaborating with local suppliers of raw materials at a discounted rate
- (ii) Reducing their operational costs in simple ways that the researcher suggests in the coming segment
- (iii) Reducing sellers dependency on only offline way of selling and moving online to save advertising costs
- (iv) Doing away with packaging or switching over to simple newspaper wrapping the goods will save cost
- (v) Not to run after a super high profit as this will not gain in large consumers

- f) And finally, the Sellers are suggested to undertake following steps to increase their sales potential:

- (i) **Have a Unique Selling Proposition (USP):** Decide their Unique reason for existence and knowing how are they better than their competitors.

As, this will then accordingly lead them to designing a well selling plan.

For example: If a recycling firm's unique selling proposition is going to be how they empower women, then the thrust of selling must become that.

They need to advocate this at their sales pitch that they are selling recycled products that are made by women and therefore generates employment avenues for women.

Another example would be, if a company's unique selling proposition is that they want to sell on the basis of the product being cent percent environmentally friendly; then that has to be their selling strategy.

Such a firm will have to promote the benefits that the said product has on the environment and the customers must be made to realize

that they are undertaking a noble cause by buying such recycled or/and upcycled products.

- (ii) **Reduce cost of Operations:** This is one of the most integral to any business and plays a key role in establishing one's business. Not only does it help in bringing down the overall costs of operation but would leave sellers with a little extra cash reserves if they can achieve the scale of operations.

Following are 11 different ways in which sellers of recycled and upcycled household goods can achieve a reduction in their operational costs:

- 1) Preparing a checklist- Sellers need to begin with a carefully crafted checklist on how do they plan to reduce their operational costs.

This can be made by referring to the last quarter or year's checklist and learnings thereby from them.

- 2) Smart Inventory Management- Higher the inventory is directly proportional to a higher operating cost because of the associated carrying costs like warehouse rent, running the warehouse staff and administration, material handling equipment, raw materials lying idle etc.
- 3) Adopting Automation- Many online systems and software programs are available that can streamline and automate a lot of business functions. These include accounting and payroll, marketing communications, documentation filing like the GST (Goods and Service Tax), website hosting etc.

Technology is useful because it reduces costs of hiring additional workforce and is efficient and error prone. Use of AI (Artificial Intelligence), Machine learning etc. makes the work errorless and at a greater speed.

- 4) Hiring Freelancers- For a few activities that will work out to be the best when hired a freelancer. They can be hired for tasks like website management and maintenance, accounting and bookkeeping, social media marketing etc. This helps in saving costs as well as sellers can expect quality work to happen, and the time deadline also gets adhered to strictly by them.
- 5) Reducing Infrastructural costs- This is about saving your costs on running an office and rather shift to coworking/co-sharing space outs for work. Employees can be asked to work out from home and must be provided with flexible hours of working.
- 6) Saving in Transportation Costs- Besides commuting time of the employees, asking them to work from home is also saving transportation costs. And in addition to this, when they maintain an effective inventory, repeated movement of

goods is not needed. And if certain consumers do not mind in picking up their own goods themselves, the sellers must encourage this move with a little price discount to encourage more.

- 7) Including Green Activities- Promoting use of cycling to commute to work, paying all the bills online through digitization payment methods, replacing regular lights with energy efficient LED and wherever possible transform to solar energy for their electricity requirement, reducing their carbon footprint with more green activities
- 8) Having a Dashboard- A common dashboard placed at a noticeable corner of the office space will be working out all sorts of Internal Communication. This will be assisting in lesser use of paper and printing. As these sellers are already dealing in environmentally friendly products; undertaking activities like these will not only save their costs but also reiterate the fact that they focus on 'being green'
- 9) Cancelling their Unused Services- This might sound obvious and simple but not many organizations realize this as it is easy to get avoidance on this point. The researcher's suggestion to the sellers of recycled and upcycled household products is to cancel such unused services with immediate effect, and they will get to see the difference. For example: At times there are online subscriptions that are undertaken, and the sellers fully forget about this, that can be cancelled as they are not using this at all. Other examples of unused services are extra unneeded offers on credit cards like redemption points or a few not utilized offers etc.

10)Paying the bills timely- Many times the sellers do not pay much attention to the billing dates and thereby end up paying their bills beyond the last date. Examples are their office electricity bill, mobile bills, online service bills etc.

This might be looking to be less but over a collective time period, this can save a lot of costs. Therefore, timely paying of bills and online paying them is the way suggested for sellers as in business every little drop saved, matters.

11) Employees' Mindset Training- Sellers mostly have a highly talented employees, even if very less are hired as seen by the researcher for almost all the recycling and upcycling firms that she studied.

Even if these employees are talented in their work front, sellers must get them trained in the mindset also that works on correcting inefficiencies if any at the fastest level possible, fine tuning themselves on the same page as is expected by their management head.

Sellers must reward such employee/s who are solution providers to business problems.

Rewarding such employees publicly with a few incentives, small gifts will result in encouraging the rest of the staff.

- (iii) **Knowing their competitors:** Often sellers get deeply immersed with their own business to such an extent that they do not know what is up with their competitors. This is a crucial factor for sellers to know so as to remain and retain their spot in the niche that they provide in terms of products, pricing, promotion and delivery. For assisting sellers in knowing their competitors well; Researcher's suggestion to them is that they can hire a few smart MBA (Masters in Business Administration) perusing students as interns who would get this done for them. Interns are available for free or at a minimum stipend and are smart communicators with good marketing skills and so can be entrusted activities with finding out what actions and strategies the competitors are working upon. This is received by the interns by way of doing a market survey and data analysis.
- (iv) **Build to last:** This means the sellers must know their product, production capacity and the scalability extremely well. This and other factors will help them in identifying their Competitive Advantage: Find out the Competitive edge that the seller has in his/her own business and strategies through which the seller needs to highlight this competitive strength and edge each time he/she interacts with customers.
- (v) **Understanding their Customers:** These environmentally friendly sellers must 'understand' their consumers rather than just simply knowing them.

And for this to happen, the sellers to be in with; will have to really dedicate quality time to their loyal consumers.

This can be done through following ways:

- 1) Rather than just talking to them to know them, listen to them more in order to understand them. This will make consumers open up to the sellers about their issues, problems and challenges
- 2) If sellers are able to provide a solution to their concerns raised above in a customized way; they will already start winning hearts of their consumers
- 3) Focus on 'customers insights' that emerge out while having detailed conversations with them. At times, sellers might be stuck at something while looking at the problem with just the sales lens but the moment they hear out their customers in great details, is when they might simply hit at the solution.

For example: the researcher while communicating informally with the consumers found out that those sellers who take great interest in knowing from them about their take on the products, opinion about how to better the products; are the most genuine sellers according to the customers.

If one can notice the consumers are hinting much more at by this than the regular surveys and feedback that companies normally take carelessly.

So, we can see how there is a clear cut validation when the researcher is suggesting sellers to focus on consumers insights and take them seriously for their own businesses to flourish.

- 4) Think from customers' perspective rather than from a seller's mindset. This is very apt because a seller is also a consumer in his or her life and what all does he/she undertake in to consideration while making his/her own purchases will assist in understanding how his/her customers might be thinking.
- 5) Feedback mechanism or Testimonials of Customers must be a robust one, on a highly regular basis and conducted at great lengths. The feedback should be designed in such a manner that it provides a lot of choice to customers to pen down both their actual experiences as well as those expected.

And for this to happen successfully; feedback along with the regular closed ended questions must also have a few other types.

Examples are open ended questions, descriptive type questions and if possible, an informal corner too for them to vent out all that they genuinely feel about the company and their product/s. As by providing such a mixed type of Questions, customers get to experience sellers' genuinity and intent of seeking feedback. Table 1 below exhibits a few sample ideas for the sellers to implement and customize them as per the suitability to their respective business.

Table 1: Sample Feedback Questions for Consumers of Recycled and or Upcycled household Products:

Feedback Questions	Type of Answering Option- (Open ended, Closed, Descriptive or Informal)
Q9) Do you like purchasing our products (Yes/No)	Closed ended

Q10) If you replied no to the above, where are we lacking?	Open Ended
Q15) What more can we do better in, to improve your buying experience? ()	Descriptive
Q25) Suggest if you want us to start offering any new product range and Recommend if any product of ours you want to see going off the shelf of selling	Informal

- (vi) **Follow your customers** to follow you: To know your target customers online, an easy way is to track by asking them through a pop-up Question.

This question appears as soon as they land up in your website, Facebook page or any other social medium.

The Question can be: How did you come to know about us? And then provide them the options to click upon:

- You tube
- Web search
- Friends/ family/Office Colleagues
- Online ads
- Television
- Print medium
- Social Media
- News, Articles or Blogs
- Others

This would help them to know which areas from the above should they be spending more budget, time and resources upon.

This practice will let the sellers be informed about the shifts in preferences of the customers. So, the sellers can then diversify and invest in their plan of visibility accordingly.

- (vii) **Consumer Loyalty Program:** Sellers need to concentrate on building a loyalty program for their repeat consumers.

These are those consumers who remain during the ‘thick and thin’ times of the sellers.

They are the ones who are repeat purchasers and must be therefore reciprocated back with respect, affinity and a few nice laid out plans like:

- (1) Can offer great discounts to these elite customers of yours while selling through live video on Facebook or through YouTube wherein products displayed are bought within an hour or two, after the live session ends
- (2) After every purchase not only should they be rewarded with points, but must be told the categories that they can scale up with their increase in points.
Also, associate the benefits that each category will bring in for them needs to be explained to customers.

For example: In the table 2 below; is an exhibit of how loyalty points earned by consumers are categorized. And what each category will entitle their customers to get as soon as they reach those many targeted points.

Table 2: Suggested Customer Loyalty Program

Member Category	Points	Special Offerings
Premium Platinum	1,00,000	Access to each offer by the company and a free assured gift with every purchase
Glorious Golden	50,000	Assured gift with every purchase
Smart Silver	25,000	Assured gift with every purchase of 500 rupees and above
Bold Bronze	Below 25,000	Entry to all Loyalty programs run by the firm

- (viii) **Delight your Customers:** Above table provides the things that the customers are provided with and are aware. However, much more needs to be done for this “Loyal Consumers Community” beyond just these loyalty program.

Few suggestions in this line for the sellers of recycled and upcycled household products can be:

- 1) Calling such loyal consumers on their birthdays, anniversaries and their respective celebration calendar like Eid, Diwali, Christmas etc.
Usually, the practice followed by companies is wishing them through emails or WhatsApp today. However, a phone call gives the best possible surprise and the expected connect.
- 2) Along with wishing them on their special occasions, a home delivered gift too should reach them. This could be a simple bouquet along with one of the recycled or upcycled product from sellers' best-selling segment.
- 3) One dedicated employee of sellers must be regularly engaging in detailed conversations with these set of consumers. This communication must be very frequently done and need to be informal most of the times.
- 4) Put perspectives in place. This means that after scooping out opinions, suggestions, critical insights and constructive feedback from the consumers; immediate acting on the same is needed. This is done by discussing with the owners about their take on this and accordingly strive to make changes as per the customers' feedback
- 5) Having done the implementation above, sellers' must delight their such consumers with either a 'thank you' mail or send them a greeting card.

(ix) **Collaborate with Loyal Consumers:** This can be done in various ways:

- 1) One of the most rewarding for the firm can be to make them as your Brand Ambassadors. Make the loyal customers feel so important rightly, that the sellers can make them speak for their firm. It is in turn these few elite customers that will get a whole set of new customers for the sellers.
- 2) Secondly, these set of customers must be given a mention on sellers' respective website to make them feel special. This can be captured as "Our Elite Customers" and put their names wherein they shall be visible to every person checking out the website.
- 3) If the sellers get good and new leads from these set of existing customers, thank them.
- 4) And if any of these new leads, get converted by way of purchasing your items; then thank these loyal customers by way of appreciation certificates online.
These certificate templates are available free of cost but yields great satisfaction to your loyal consumers
- 5) Sellers can collaborate with their customers by asking if they can visit their societies and sell through display stalls every weekend for a few hours. Sellers' loyal customers would happily do this.
- 6) Invite such consumers to sellers' fun occasions like picnics, new year celebrations, foundation day celebrations etc. as this provides a better connect with consumers.

(x) **Sellers' Selling Strategy:** Under this, the researcher wants to make

sellers understand that selling is a 'skill' that changes per customer wise and therefore they will be requiring smart selling models, framework and systems to crack their deals. Increase in sales is possible with the sellers adopting and adapting certain sales scoops.

The researcher has designed her own sales model that shall be working perfectly for these special sellers dealing in unique and niche recycled and upcycled household goods.

These suggestions are enlisted below:

B) Suggestions for the State Government of Maharashtra:

1) **Formation of a Common Center:** There must be either a body, an association or a common center planned exclusively for sellers of recycled and upcycled household goods. This is required for getting a 'common contact center' to know the total database of such companies/firms existing from the state; dealing in environmentallyfriendly products.

This center will also be acting as the common center for database collection.

All start-ups, entrepreneurs, firms, companies etc. who are sellers from Maharashtra can register with this state's common center.

This is required for getting to know the total number of such companies/firms existing from the state, dealing exclusively in recycled and upcycled household goods

A formation of such a center by the state of Maharashtra will assist in finding sellers of eco-friendly products under one umbrella and thereby save time.

Suitably Naming this Center: A very appropriate name needs to be given to this center that must go in sync with the kind of products the member sellers deal in. Few examples can be: (a) Centre for Entrepreneurs of Eco-Friendly Products Or (b) Center for Conscious Sellers or (c) Center for Sustainable Sellers etc.

Chartering Vision and Mission: Integral part of any entity is to have a proper vision or goal predefined for the existence of this center. Mission/s to be enlisted accordingly as per the vision.

One essential need for chartering these is for sellers of various eco-friendly products to know the aim of the center, rules and regulations of it to be able to strictly follow the decorum.

Registration Process through a proper dedicated website: The registration process must be mandatorily made online.

This should be a very simple process and must be through a proper dedicated website, exclusively presenting details about all recycling and upcycling projects in the state along with the

This is not only just for digitization but also since the main aim of this center will be to promote environmentally friendly products and so they will be promoting to be doing this themselves by way of asking the sellers to register online.

This will significantly reduce the paperwork and result in saving time too.

Key Committee Members: Apart from having government representatives on committee board of this center, experts of recycling and upcycling and sustainable practitioners should also be made board members.

2) State government must host 'Eco-friendly Exhibitions' regularly for helping in connecting both the sustainable products' sellers to conscious consumers. Further, such fairs will be more creditable and trusted due to state government's onus to it.

Such exhibitions can run parallelly in all major urban cities of Maharashtra and parallelly can run online too for maximum reach. And will also result in job opportunities for Exhibition ground owners, transport people, packaging firms etc.

3) Declare Incentives- For all those entrepreneurs who excel at selling recycled and upcycled household products. And along with a high sales record, if they are also managing to get good feedback from their customers; such sellers must be provided with some incentives by the state government.

This will definitely be motivating for the other sellers too. And in turn will result in healthy competition.

C) Suggestions for the Central Government:

1) Frame a Policy: Researcher requests the center to frame an independent policy on Recycling and Upcycling. In this they can document a sustainable vision, lay down various missions in line with this to achieve the goal stated as a vision.

This policy must work out exclusively for all those who are taking pains to sell environmentally friendly products and yet not reaching out to the major population of the country.

2) Make committees in every state that will coordinate with the center and update them regularly about the extent of growth of such eco-friendly companies to have a central database available with the center. This also will boost in climate change initiatives of the government.

3) Reward System- Arrange a yearly award function to promote bright sellers of recycled and upcycled household products so that they stay motivated

4) Host green exhibitions-Promote such sellers through making them exhibit their products in national and international exhibitions by running unique eco-friendly or green exhibitions.

5) Tax free- If possible, the government must set a lesser or no tax policy for such eco-friendly products so that they can sell at a lesser cost

Conclusion

- Every journey ends with concluding. This research began with the problem statement of finding out if there is a selling potential for recycled and upcycled household goods and ended with solutions for it

- The Scope for Future Researchers: Each researcher is bind by certain limitations and so is the case with this research also. This research is confined to urban Pune and therefore others have the future scope to study other cities and centres. In fact, it will be great to see if the other urban cities also generate similar findings like this research or otherwise

- Pandemic has created the necessary awareness about these eco-friendly products but how many have picked buying these can also be an interesting study

- Finally, the researcher feels satisfied and convinced that these products do have a larger selling scope and the onus lies on the sellers and the government to take this up on a larger scale

SUGGESTIONS

Findings have helped in laying out Suggestions for not just the sellers of eco-friendly products, but to the state as well as the central government too:

A) Suggestions for Sellers of Eco-friendly household goods:

- 1) They need to work on creating and spreading awareness on “Upcycling and Upcycled products” through both online and offline modes
- 2) They must work towards ensuring a robust presence in both online and offline space for a wider access to consumers
- 3) Sellers majorly sell through exhibitions only and should work on other offline ways like opening a retail store, providing home delivery, mutual collaborations

B) Suggestions for the State and the Central Government

- 1) Formation of a common centre- There must be either a body, an association or a common centre planned exclusively for sellers of recycled and upcycled household goods. This is required for getting a ‘common contact centre’ to know the total database of such companies/firms existing from the state; dealing in environmentally-friendly products
- 2) The state and central government must host “eco-friendly exhibitions” on a regular basis and can be in both online and offline mode at the same time for wider reach
- 3) Frame an independent common policy on rules, regulations, mandatory certifications needed for recycled and upcycled products of household goods

Provide rewards and tax rebates to all sellers of eco-friendly products to boost sustainability

ADDITIONAL LEARNINGS

Findings that led to Creating something New by the Researcher: Organically Original:

Therefore, the findings have resulted into a few novel things that the researcher could create originally like the below:

Sales Strategy (1)

S: Select- This means finding out those set of potential customers that may be seriously looking at buying environmentally friendly products.

A: Attract- This is making the selling pitch to above such selected customers

L: Leads- The task is to highlight on these leads to convert them into purchasers

E: Engage- This is a part and parcel of sales. Engage them with offers, discounts and healthy negotiations

S: Sale- Accomplish your mission of Selling

Sales Strategy (2)

C: Conscious- Sellers must not just make their customers aware of their products but must try to make their customers conscious about buying such environmentally friendly products

U: Understand- Simply knowing your customers is not enough and one must get to understand them in terms of their needs, specificities, and challenges. If sellers understand their customers problems in great depth; then only can they provide apt solutions

S: Select- Trying to assist customers in being able to select the right kind of stuff they need; is indeed a great service by sellers. However, at no point of time should it be done in an interfering manner and care must be taken by sellers in not over-crossing the line of comfort and privacy of the buyers

T: Trust- This is the underlying principle of any business. Businesses would not thrive even an inch ahead without 'trust' and sellers must make conscious efforts to maintain and retain this all the time

O: Offers- Offers are Opportunities to sell more. Consumers these days are well read, researched and know what they exactly want to buy. So, if sellers can provide them exactly what they are looking for with an interesting offer (always customize the offers) then this is surely a key to selling success

M: Master- Sellers must master the art of negotiating. Whether this is for selling, pricing, packaging whatever; but the essence is in mastering their negotiating skills

E: Excite- There is nothing in life worth doing if it doesn't excite you. Passion is the key to any success and it starts with excitement. So, sellers will have to remain excited throughout the process of selling and until they collect the feedback also from customers

R: Reliable- Customers return for repeated buying only if the product they buy is reliable in terms of quality, usage and durability. Therefore, utmost care and focus on making their products robust and reliable, must be at the top of the sellers' mind

S: Sustainable- Sellers of recycled and upcycled household products are already selling environmentally-friendly products and so naturally be looked up to; to see if they are following sustainable practices too.

Sales Strategy (3)

The Focus Five As' Formula:

FOCUS FIVE	
Awareness	Sellers must make the identified potential customers; fully aware of their offerings in great details
Acceptance	Sellers must have a quick metric scale survey run on the spot to see if these potential customers are accepting these eco-friendly products offered
Attitude	Once these set of targeted customers are good on awareness and acceptance of the green products; sellers need to know whether then the customers are showing the right attitude to buy
Accessibility	If the above 3 As are in favor of sellers, major job of the sellers must be then to make such goods easily accessible to the buyer, both through the online as well as the offline mode
Availability	There should not be a single moment's lull for buyers in getting the products. They must be made available to the buyers at any given point in time

Sales Strategy (4)

The Smart DART Principle: Sellers must have a very Smart Dart ready for reference with them at all point of time. It is this basis on which their future strategies also can be mapped on. This Smart DART is as follows:

D: Data Dashboard

A: Assortment

R: Reliable

T: Testimonials

Data Dashboard: This means a visual representation of the current position of sales, number of current customers, growth rate, stock available etc.

There are a lot of easy online tools available for sellers to get this dashboard made and can be updated easily as well, The more the visual this dashboard is,

This Dashboard will be acting not only as a reference for sellers to see their current ‘state of standing’ but will also provide them with ideas for planning out what needs to be done next.

Assortment: In the fiercely facing cut-throat competition of today, if the sellers are not able to offer a wide range of choices to the customers to choose from, the sellers will find it very difficult to sustain in the business.

Therefore, sellers need to be creative and continuously innovate and increase their ‘basket of offerings’ on a highly regular basis.

And for doing this product assortments attractively and as per the market demand; they will need to undertake regular research activities that will require a dedicated team or sellers can outsource this crucial activity. Sellers also need to remember that there will be both online and offline research required at all times.

Reliable: This is the making or breaking point of relation between buyers and sellers across the globe. If the product being offered by the sellers is not durable and reliable; no plan in the universe will work.

The researcher is suggesting the sellers not just to ensure that the product is reliable but it must be worth it’s price to the consumer.

If this happens, then only further repeat sales and loyal consumers is possible.

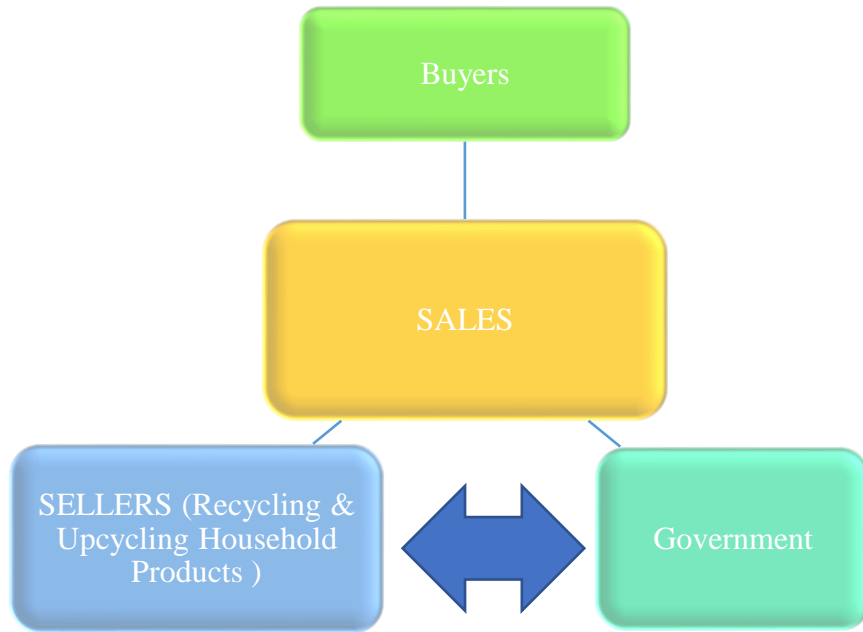
Testimonials: How does one know if we are making progress or declining? This is possible only with continuous feedback mechanism in place.

But apart from having a regular feedback conducting mechanism for collecting this from buyers; the sellers should also seek for getting ‘testimonials written’ from their loyal consumers and should flash it out on their website.

Testimonials help sellers hugely to promote and advertise themselves to a whole new bunch of potential customers. Sellers therefore must lay a great thrust on getting testimonials done on a regular basis.

This above Smart DART can also be called as **E-DART where ‘E’ stands for Eco-Friendly.**

Thus, on the basis of all strategies above, the researcher has derived a ‘Sales Model’ for Sellers of recycled and upcycled household goods below:



Sales Model is named by the researcher as ‘GURUS’:

Where G stands for Government, U stands for Upcyclers, R stands for Recyclers, U stands for Ubiquitous and S stands for Sales. Therefore, the sales model suggested for B2C (Business to Customers) by the researcher is:

Government + Upcyclers + Recyclers = Ubiquitous Sales

It will with government’s active support that the sellers of recycling and upcycling products can reach a larger segment of people.

It is with government’s motivation that the buyers will feel trust in such set of products. Therefore, with this relevance and as the researcher has been researching throughout her entire phase of studying and finding sales potential for recycled and upcycled household goods; there are few strong suggestions that emerged for both the State and the Central Government of India also. The same has been provided under the Suggestions Chapter in details.

Registration of Recycling Process:

In India, only applicable to Plastic Recyclers and E-Waste Management.

Every producer, manufacturer and recycler of plastic carry bags or recycled plastic bags or multi-layered packaging must obtain a certificate of registration from the State Pollution Control Board or the Pollution Control Committee of the Union Territory concerned, as the case may be, prior to the commencement of production.

Every application for renewal of registration must be made at least 120 days before the expiry of the validity of the registration certificate.

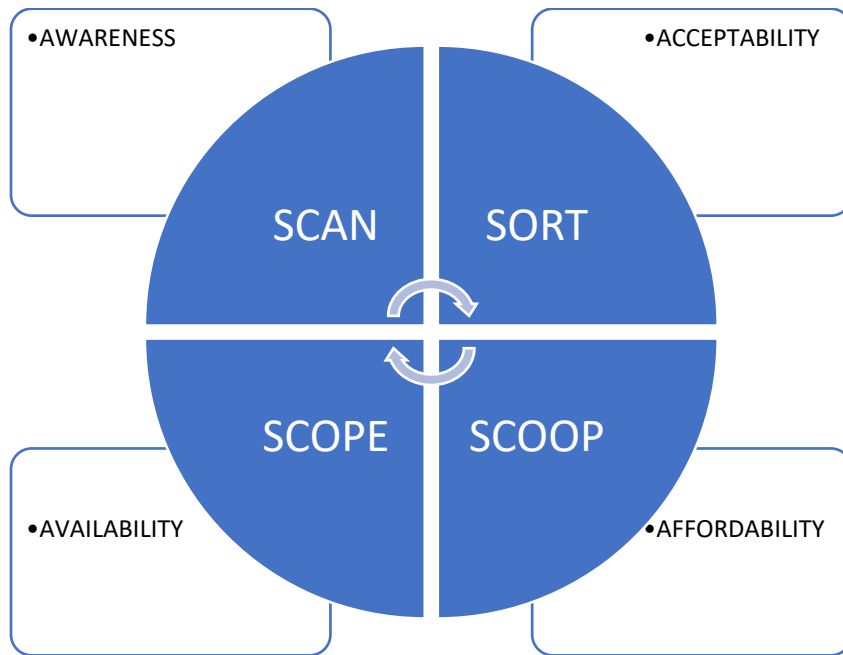
Whereas for E-Waste Managing companies, they must obtain the Certificate of Registration from the District Industries Centre (DIC)

However, nothing is yet there in India for other recycling units like paper, jute, leather, glass have no such registration norms fixed.

2) Recycling creates employment: Approx 1,00,000 lakh people directly or indirectly in India

The Octagon of Optimum Sales





This too is researcher's original work that has emerged from the findings and the researcher on that basis, gives out this model called as the "Octagon of Optimum Scale" which encompasses eight factors in total responsible for optimum sales.

Two of the factors are clubbed together as seen from the diagram above like:

Awareness & Scan

Acceptability & Sort

Availability & Scope

Affordability & Scoop

The researcher intends to further the scope of this research finding

And the **researcher has attempted at coining new words like** “Emotional Upcycling” & “ECQ-Environmental Consciousness Quotient” (on the lines of IQ and EQ that already exists).

Emotional Upcycling: Upcycling emerging out of sentiments like uplifting of impoverished society or malnourished children.

Example: Beggars diverting to upcycling of alcohol bottles thrown on streets, for selling and earning from this. They upcycle these bottles into a coloured and a decorative art bottle for household decoration purpose. Another example is that of a Syrian carpenter upcycling his tools into toys for the kids to play in a war-torn region.

Environmental Consciousness Quotient (ECQ): This means to see if people have a level of consciousness towards their environment or not. A person with a high level of awareness and action-oriented person towards preserving environment around him/her can be called a person of a high ECQ and vice versa person, has a low ECQ and must be trained on this factor.

For a healthy planet to sustain us- the human beings, this is an urgent calling for all to adhere by, is the researcher’s strong opinion. And therefore, this new quotient is extremely needed.

The researcher wishes to take separate research in depth on these newly coined words to get them their due importance.

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ANNEXURES

I) Questionnaire for Pilot Study

PILOT STUDY QUESTIONNAIRE

Questions were asked to 50 people representing 10 Areas of Urban Pune (March 2018)

Name:

Gender:

Area you belong to:

QUESTIONS:

Q1a) Have you ever used a pencil made with newspaper? a) Yes

b) No

Q1b) Have you ever seen a bag made out of used clothes?

a) Yes

b) No

Q1c) Have you ever used a file folder made out of bamboo/jute?

a) Yes

b) No

Q2) Do you regularly get to see these recycled products for sale?

a) Yes

b) No

Q3) Are these products better than the conventional counterparts are?

a) Yes

b) No

Q4) How do you rate the quality of recycled/upcycled products to the conventional one? a) Good
b) Moderate
c) Average
d) Poor
e) No difference

Q5) Do you buy or willing to buy these environmentally friendly and sustainable products? a) Yes
b) No

Q6) Where do you buy these products from?

a) Online
b) Stores/Malls
c) Exhibitions

Q7) How frequently do you visit a green exhibition?

a) Every 3-6 months
b) Every Year
c) Never

Q8) Do you find these products expensive?

a) Yes
b) No

Q9) Do you find these products worth its price?

a) Yes
b) No

Q10) Do you feel these products have limited choice?

a) Yes
b) No

Q11) Do you see buying these products as charity?

- a) Yes
- b) No

Q12) Where do you see such products being advertised?

- a) Hoardings
- b) Print
- c) Television
- d) Social Media

Q13) Does our culture prevail you from buying recycled products?

- a) Yes
- b) No

Q14) Are these products durable?

- a) Yes
- b) No

Q15) Do you recommend these products to family/friends?

- a) Yes
- b) No

Q16) Are these products easy to dispose?

- a) Yes
- b) No

Q17) Do you feel the packaging of such products is attractive and better than their conventional counter parts?

- a) Yes
- b) No

II) MAIN STUDY QUESTIONNAIRE:

QUESTIONNAIRE FOR POTENTIAL/ ACTIVE CUSTOMERS OF RECYCLED &/OR UPCYCLED HOUSEHOLD PRODUCTS

Questions asked to respondents across 40 Exhibitions in and around Pune
These were asked to the respondents who visited these exhibitions
between September 2018- January 2020
Researcher has personally visited and conducted this Survey through
the below set of Questions:

Name:

Age:

Gender:

Monthly Income:

Area you belong to:

Questions:

Q1) Are you aware of the term "Recycling?"

a) Yes

b) No

Q2) Are you aware of the term "Upcycling?"

- a) Yes
- b) No

Q3) Are you aware about the products made out of discarded clothes, flower vases, glass and other household items waste?

- a) Yes
- b) No

Q4) Do you prefer buying these from outside?

- a) Yes
- b) No

Q5) If yes to the above answer, where do you buy these from?

- a) Exhibitions
- b) Malls
- c) Online

Q6) Are these recycled and upcycled products easily available to you?

- a) Yes
- b) No

Q7) If yes to the above question, where do you get to see these or buy?

- a) Stores/Malls
- b) Only Exhibitions
- c) Online through Social Media

Q8) Do you regularly buy these recycled/upcycled products

- a) Yes
- b) No

Q9) If No to the question above, what is the reason?

- a) Lack of easy availability
- b) Highly priced
- c) Both the above

Q10) If made easily available, will you prefer regular buying?

- a) Yes
- b) No

Q11) How much price will you be willing to buy at?

- a) Less than 500 rupees
- b) More than 500 rupees and up to 1500 rupees
- c) More than 1500 rupees

III) Questionnaire for Urban Pune Sellers of Recycled and Upcycled Household Products Name

of the firm:

Owner's name:

Location:

QUESTIONS

Q1) How old is your venture

- a) 1-3 yrs
- b) 3-5 yrs
- c) more than 5 yrs

Q2) What is the type of Products you Sell?

- a) Recycled Products
- b) Upcycled Products
- c) Both Recycled & Upcycled Products

Q3) Do you provide environment friendly packing?

- a) Always
- b) Occasionally on availability
- c) Never

Q4) What's your Average Price Range?

- a) Less than 500 Rupees
- b) Ranges between 500-1000 Rupees
- c) More than 1000 Rupees

Q5) What is your medium of Selling?

- a) Online
- b) Offline through Shops/Retail malls
- c) Both Online and Offline modes

Q5 A) If the above answer for you is both mediums; then
Where do you get more sales from?

- a) Online
- b) Offline through Exhibitions/Shops/Retail malls
- c) Both Online and Offline modes

Q6) Do you regularly sell through Exhibitions?

- a) Always
- b) Occasionally
- c) Never

Q7) Where do you advertise/promote your products?

- a) Online
- b) Offline Campaigns/Hoardings in Exhibitions/Mall displays
- c) Both Online and Offline

Q8) Are your customers usually aware of meaning of Recycling-recycled products?

- a) Majorly Yes
- b) Majorly Not
- c) Rarely Aware

Q9) Are your customers usually aware of meaning of Upcycling-upcycled products?

- a) Majority of them Yes
- b) Majority of them Not
- c) Rarely Aware

Q10) What is the percentage of your repeat orders?

- a) Less than 10%
- b) 11%-50%
- c) More than 50%

Q11) Are Supply Chains a Challenge?

- a) Always
- b) Never
- c) Sometimes

Q12) If the answer above is Always/Sometimes; what are the challenges?

- a) Transportation
- b) Venue identifying/infra rents
- c) Both the above

IV) LITERATURE REVIEW (2000-2018)

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Sr. No	Research Paper Title	Journal published in	Indexed in	Date, Month and Year of Pu
1	Does recycling improve information usefulness of income? The case of Japan	Asian Review of Accounting	Scopus	11-Sep-17
2	Closing the loop: An exploratory study of reverse ready-made garment supply chains in Delhi NCR	The International Journal of Logistics Management	Scopus	08-Aug-16
3	Reverse logistics in household recycling and waste systems: a symbiosis perspective	Supply Chain Management	Scopus	14-Mar-16
4	Nudging waste diversion at Western State Colorado University: application of behavioral insights	International Journal of Sustainability in Higher Education	EBSCO	09-Jan-18
5	A community-based social marketing campaign at Pacific University Oregon: Recycling, paper reduction, and environmentally preferable purchasing	International Journal of Sustainability in Higher Education	EBSCO	05-Apr-13
6	An analysis of barriers for plastic recycling in the Indian plastic industry	Benchmarking: An International Journal	Inspec/Web of Science/Scopus	06-Mar-17
7	Effective strategies for enhancing waste management at university campuses	International Journal of Sustainability in Higher Education	EBSCO	06-Nov-17
8	Recycling as a result of "cultural greening"?	International Journal of Sustainability in Higher Education	EBSCO	04-Jul-16
9	Source separation and recycling potential of municipal solid waste in Ghana	Management of Environmental Quality	EBSCO/Inspec	14-Mar-16
10	What makes manufacturing companies more desirous of recycling?	Management of Environmental Quality	EBSCO/Inspec	01-Jan-13
11	Investigating the determinants of recycling behaviour in Malta	Management of Environmental Quality	EBSCO/Inspec	14-Jun-11
12	Greening the environment through recycling: an empirical study	Management of Environmental Quality	EBSCO/Inspec	20-Sep-13
13	Environmental management accounting in local government: A case of waste management	Accounting, Auditing & Accountability Journal	EBSCO/Scopus/ProQuest/SSCI	04-Jan-11
14	Application of agent technology for recycling-oriented product assessment	Industrial Management & Data Systems	ProQuest	21-Jun-13
15	Understanding pro-environmental behavior: A comparison of sustainable consumers and apathetic consumers	International Journal of Retail & Distribution Management	EBSCO	20-Apr-12
16	Exploring the role of anticipated guilt on pro-environmental behavior – a suggested typology of residents in France based on their recycling patterns	Journal of Consumer Marketing	Inspec	27-Jul-12
17	Fast-fashion consumers' post-purchase behaviours	International Journal of Retail & Distribution Management	EBSCO	05-Aug-14
18	Innovative systemic approach for promoting sustainable innovation for zero construction waste	Kybernetes	Inspec/Scopus	15-Mar-11
19	Multimodal network design for sustainable household plastic recycling	International Journal of Physical Distribution & Logistics Management	Scopus	07-Jun-13
20	Evolutions in the ecologically conscious consumer behaviour in Greece	EuroMed Journal of Business	Scopus	26-Apr-13
21	Innovation in cleaner production through waste recycling in composites	Management of Environmental Quality	EBSCO/Inspec	01-Jan-13

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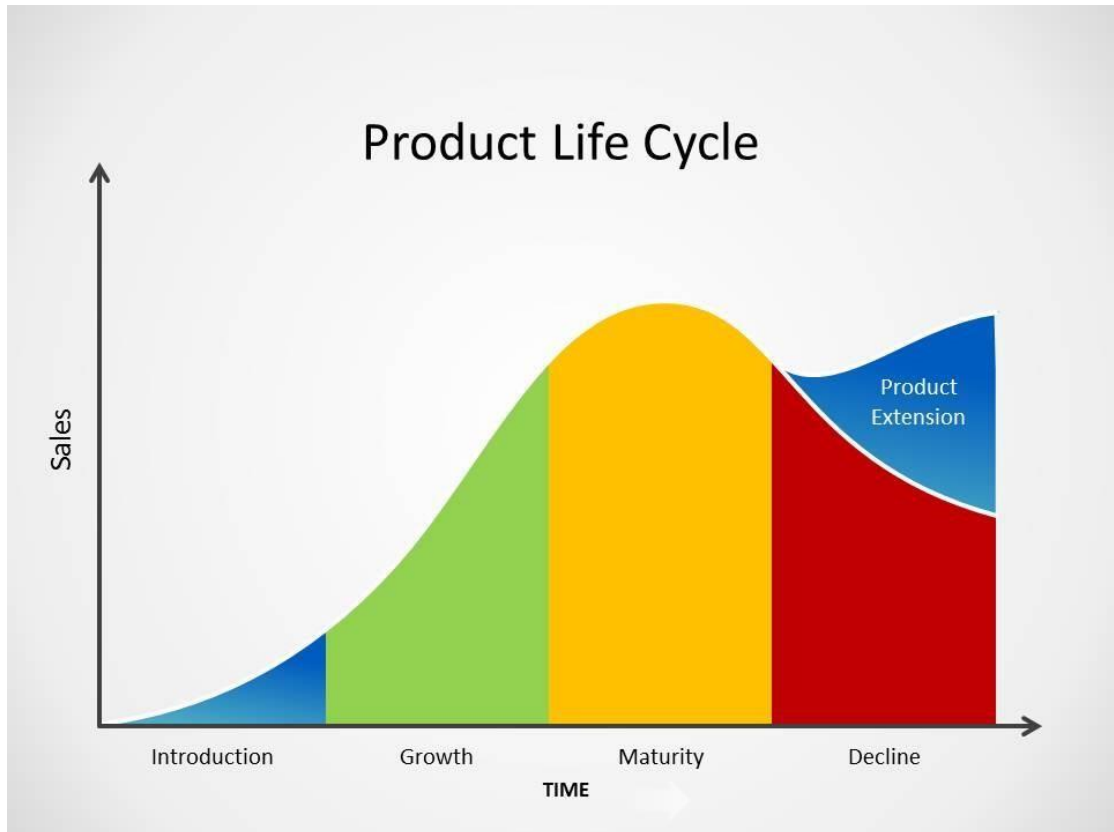
	C	D	E	F
1	Journal published in	Indexed in	Date, Month and Year of Publication	Found on Link
2	Asian Review of Accounting	Scopus	11-Sep-17	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/ARA-11-2015-0111/full.htm
3	The International Journal of Logistics Management	Scopus	08-Aug-16	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/IJLM-03-2015-0050/full.htm
4	Supply Chain Management	Scopus	14-Mar-16	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/SCM-02-2015-0056/full.htm
5	International Journal of Sustainability in Higher Education	EBSCO	09-Jan-18	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/IJSH-05-2017-0063/full.html
6	International Journal of Sustainability in Higher Education	EBSCO	05-Apr-13	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/14676371311312888/full.htm
7	Benchmarking: An International Journal	Inspec/Web of Science/Scopus	06-Mar-17	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/BIJ-11-2014-0103/full.html
8	International Journal of Sustainability in Higher Education	EBSCO	06-Nov-17	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/IJSH-01-2016-0017/full.htm
9	International Journal of Sustainability in Higher Education	EBSCO	04-Jul-16	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/IJSH-02-2015-0021/full.htm
10	Management of Environmental Quality	EBSCO/Inspec	14-Mar-16	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/MEQ-03-2015-0038/full.htm
11	Management of Environmental Quality	EBSCO/Inspec	01-Jan-13	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/1477783111291177/full.htm
12	Management of Environmental Quality	EBSCO/Inspec	14-Jun-11	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/1477783111136072/full.htm
13	Management of Environmental Quality	EBSCO/Inspec	20-Sep-13	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/MEQ-07-2012-0054/full.htm
14	Accounting, Auditing & Accountability Journal	EBSCO/Scopus/ProQuest/SSCI	04-Jan-11	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/MEQ-07-2012-0054/full.htm
15	Industrial Management & Data Systems	ProQuest	21-Jun-13	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/IJMD-02-2013-0062/full.htm
16	International Journal of Retail & Distribution Management	EBSCO	20-Apr-12	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/IJRD-02-2013-0062/full.htm
17	Journal of Consumer Marketing	Inspec	27-Jul-12	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/07363761211247488/full.htm
18	International Journal of Retail & Distribution Management	EBSCO	05-Aug-14	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/IJRD-03-2013-0055/full.htm
19	Kybernetes	Inspec/Scopus	15-Mar-11	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/03684921111118040/full.htm
20	International Journal of Physical Distribution & Logistics Management	Scopus	07-Jun-13	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/IJPD-04-2012-01134/full.htm
21	EuroMed Journal of Business	Scopus	26-Apr-13	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/EJMB-05-2013-0022/full.htm
22	Management of Environmental Quality	EBSCO/Inspec	01-Jan-13	Emerald Insight https://www.emerald.com/insight/content/doi/10.1108/1477783111291104/full.htm

Ready Accessibility: Good to go

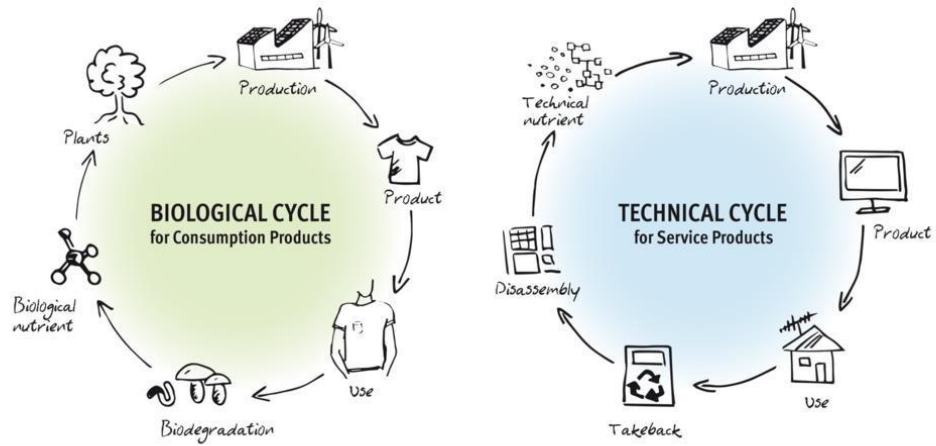
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26°C Rain showers 11:50 PM 19-09-2022

V) **DIAGRAMS / IMAGES**

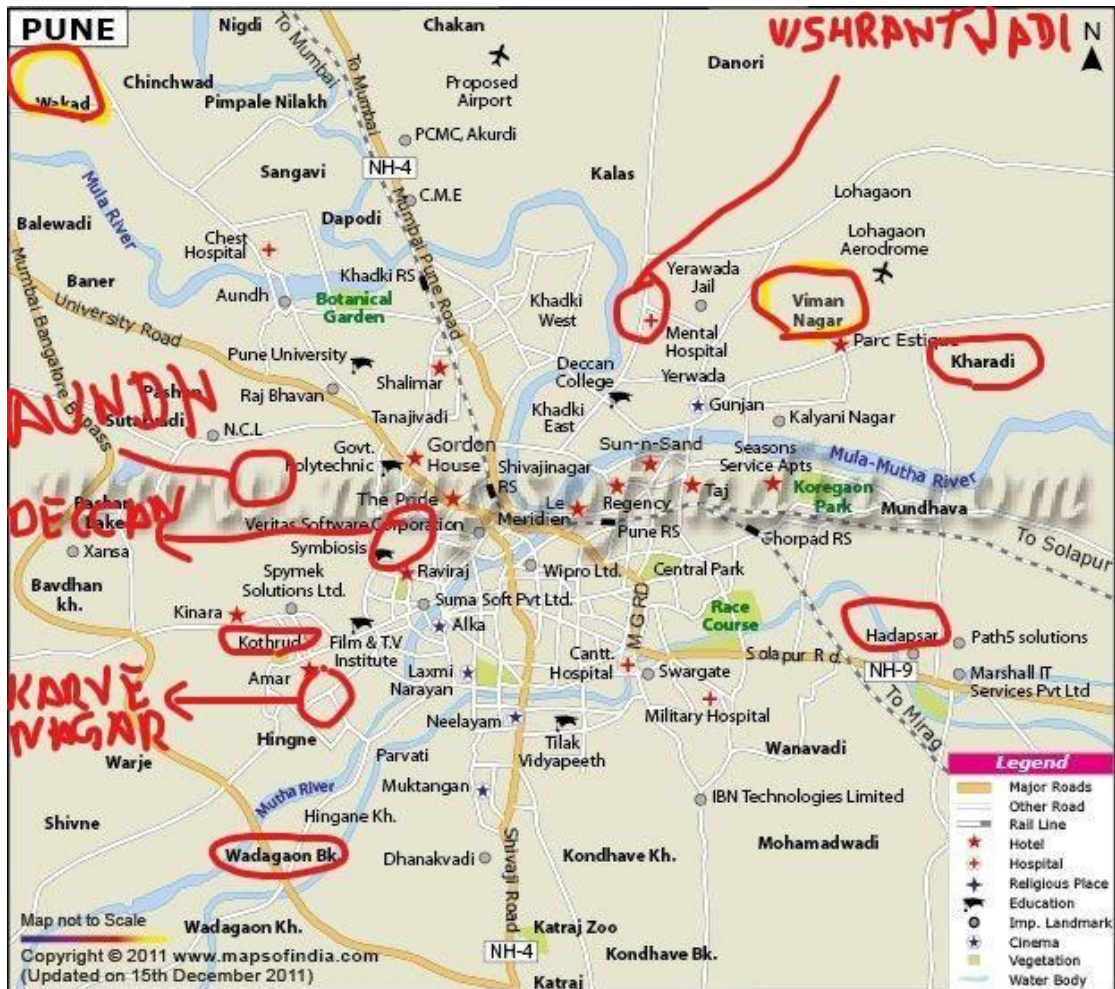


Source: www.toolsgroup.com



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Source: <https://epea.com/en/about-us/cradle-to-cradle>



PUNE MAP (2019)



Recycled & Upcycled Household Products

VI) TABLES & CHARTS

Table1.2: Understanding the Recycling and Upcycling Differentiation

Recycling Examples	Upcycling Examples
1) Newspapers recycled to make more papers	1) Newspapers upcycled to pencils made from newspapers
2) Glossy Magazines and Advertisements into fresh colourful pages	2) Upcycled as the inside covers of a eco-friendly bag from the glossy magazines and advertisement brochures
3) Breaking the worn-out floor tiles to create mirror art	3) Worn tiles shaped up and hand painted for walls
4) Adult socks recycled to fresh cloth for reuse	4) Adult socks turned into a kids leggings
5) Gift wraps, packs recycled into paper	5) Gift paper and wraps converted into a fancy bag
6) Dried flowers recycled for fresh Incense Sticks	6) Dried flowers infused in papers and made diaries or greeting cards
7) Natural Bamboo cutlery recycled to reusable bamboo cutlery sets	7) Natural Bamboo upcycled to make Bamboo Fabric, toothbrushes, and straws
8) Banana fibre can be recycled to make compost	8) Banana fibre upcycled in fancy ecofriendly bags
9) Glass bangles recycled to make new glass	9) Glass bangles upcycled to make a wall hanging and other decorative items
10) Old sarees are recycled to make fresh fabric	10) Old sarees are upcycled into soft quilts

Table 1.3: Timeline of Recycling Events in History

Timeline of Recycling: Source Hintons, United Kingdom

(<https://www.hintonswaste.co.uk/news/history-of-recycling-timeline/>)

Time	Title	Brief Info
1301	Japan: The first ever proof of paper recycling	This process of reusing wastepaper became a norm to conserve materials and output maximisation
1690	Philadelphia-The Rittenhouse Mill	America's first ever paper mill built by a German took old clothes, cotton, linen and fabrics to produce recycled paper that was used for printing and publication
1776	New York- The first Metal Recycling	Statue of King George III was torn down, melted, and converted into bullets; post the America's Independence from the Britishers
1813	Batley, West Yorkshire-The Shoddy Process	Benjamin Law invented the 'shoddy' process that means the creation of recycled wool from old clothes and rags. He collected, grinded the gathered rags to respun into yarn.

1891	London- William Booth	Booth devised the ‘darkest England’ scheme to help the poor by asking his employees to get discarded items to a spot rented by him where these items were given to these poor, for reusing
1897	New York City- Material Recovery Centre	Heading to the residents, first ever materials recovery facility started. This centre allowed discarded materials to be sorted and separated into various categories, so recyclable materials such

		as papers, fabrics, metals etc. could be reused
1904	Chicago- First American Aluminium Can Recycling Plant	Due to a large scale production of Aluminium in 1886, led to the first can recycling plant
1942	Recycling in Wartime	Both the first and the second World Wars forced both the Britishers and the Americans to have recycling approaches to manage their resources well. They seeked help from the public by asking them to take waste cooking oil fats to local meat dealers, that would be then recycled into fuels for explosives
1955	United States- ‘Throwaway Living’	Recycling wasn’t on the upswing as this year, the Life Magazine published a story titled ‘Throwback Living’ that encouraged single use items and showcased a lesser responsible way to thinking, drawing a bad and a guilty PR for them

1970	United States- The Recycling 'Mobius Loop' Logo	23 year old engineering student Gary Anderson won a competition by designing a logo for the recycled paper
1977	Barnsley, South Yorkshire- UK's first 'Bottle Bank'	6 th June 1977 with Stanley Race dropping an empty jar into the very first recycling bank in the country; became a pivotal moment that made glass recycling easy for everyone in this bottle bank
1983	Canada- The Blue Box Recycling System	In Ontario, the blue box recycling system was introduced as a way of sorting and collecting efficiently of household waste. This system made it simple for the public to

		recycle aluminium, steel, plastic, glass, paper and other materials. The system was modified and adopted across the globe and remains prevalent today too
1991	Switzerland-The first Electronic Recycling Program	In Switzerland, the IT and the electronics importers met together to tackle the issue of electronic waste disposal through which this Swico recycling system emerged out wherein they collected electronic items from the public and recycled free for customers. What started off with the old refrigerators, expanded to include the other electronic waste items too

2003	The EU- The WEEE Directive	The EU set the Waste Electrical and Electronic Equipment Directive (WEEE) as per the European Law. This was formulated to improve electronic recycling rates.
2003	England- The Household Waste Recycling Act	With the launch of this initiative, it became a law that local authorities in England provide every household with the collection of at least 2 types of recyclable materials by 2010
2006	United States- Dell develops Free Recycling Program	This year, Dell became the first company to provide free recycling for its products, that showed clearly a larger focus on the manufacturer's part to make sustainable products and owning responsibility for its disposal. Soon Sony and Apple followed suit
2015	England- 5P Single-Use Plastic Bag Charge	To curb the use, 5 pence charge was levied across all shops in England for
		using a plastic bag. This resulted in an 80% drop of the plastic bag usage

Table 1.4: Questions for Studying the Selling Scope

Questions to Sellers for finding out the "Selling Scope"	Questions to Consumers for finding out the "Purchase Intention"
1) Which medium you sell through? Online/Offline/Both	1) Do you prefer buying recycled or upcycled products from outside? Yes/No
2) Is supply chain a concern?	2) Where do you buy from? Exhibitions/Malls/Online

3) Where do you promote your firm? Offline ads/Online/ Both online and offline	3) Are you a regular buyer? Yes/No
4) What's your price range? <500rs/>500rs-1500rs/>1500rs	4) Are these products easily available to you?
5) What's your percentage of repeat orders? Less than 10%/11%-50% or more than 50%	5) What price will you be willing to buy these at? <500rs/>500rs-1500rs/>1500rs

Table 1.7 List of Urban Areas in Pune undertaken for study for their population density:

Source- <https://worldpopulationreview.com/world-cities/pune-population>
<https://geoiq.io/places/Kothrud/ktUqNctkxH>

Serial Number	Urban Area Name	Population (2019)
1	Aundh	90264
2	Deccan	34465
3	Hadapsar	339931
4	Karve Nagar	84762
5	Kharadi	132336
6	Kothrud	226935
7	Tathawade	16230
8	Viman Nagar	72871
9	Vishrantwadi	16842
10	Wadgaon Sheri	117050
11	Wakad	32729

Table 1.8 Operational Key Definitions:

Serial Number	Keywords	Keywords Meaning
1	Urban	Connected to a city/town
2	Household Goods	Products used within Households
3	Recycling	The reprocessing of discarded waste materials for reuse
4	Upcycling	Used items put to some other better use
5	Culture	Customs and beliefs
6	Selling potential	Possibility of selling

Table 1.9 Synopsis:

Serial Number	Sub-Topic	Content
A	Research Problem Statement	a) Do recycled and upcycled household products have selling potential?
B	Research Objectives	a) Finding out if the people of urban Pune city are aware about recycled and upcycled products for household use (Awareness) b) Finding out if there is willingness to buy these recycled and upcycled household goods (Acceptance) c) Finding out if the recycled and upcycled household goods are easily made available to the Pune customers (Accessibility) d) Finding out the firms dealing in recycled and upcycled household goods in Pune (Existence) e) Finding out if there is a demand for recycled and upcycled household goods from Urban Pune (Salability)
C	Research Questions	i) Are customers aware about recycling and upcycling terms

		ii) Are these recycled household goods easily available to them iii) Do consumers feel that their culture affects their buying decisions for such goods iv) Will consumers prefer buying these eco-friendly products regularly
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D	Research Study Hypotheses	<p>Hypothesis 1 Urban Pune is aware of Recycled household products Ho: Urban Pune is not aware of Recycled household products</p> <p>Hypothesis 2 Urban Pune is aware of Upcycled household products Ho: Urban Pune is not aware of Upcycled household products</p> <p>Hypothesis 3 Urban Pune has the access and availability to buy Recycled household products Ho: Urban Pune does not have the access and availability to buy Recycled household products</p> <p>Hypothesis 4 Culture and health concerns impact customers buying decision of recycled products Ho: There is no cultural and health related impact on buying recycled products</p> <p>Hypothesis 5 Urban Pune is willing to buy Recycled household products Ho: Urban Pune is not willing to buy Recycled household products</p>
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E	Significance of the Research Study	This research study is of paramount importance as it highlights the significance of recycled and upcycled products for household use; thereby reiterating the theory of cradle-cradle that suits both business and our environment around. This research also has suggestions for the state and the central government that pioneers further actions to be taken by them for a robust plan and implementation of recycled and upcycled data centre collectively at a central place
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F	Scope and Limitations of Research Study	<p>The scope of this research is a multi-folded one as this study encompasses all related stakeholders in the process of buying selling of recycled and upcycled products as well as took into consideration the scope that lies for the state and the central government in pushing the importance of these ecofriendly products and introduce useful policies for the same. Sellers exclusively selling these recycled and upcycled household goods also have been covered through indepth interviews.</p> <p>Limitations always pave the road for other researchers to progress and so the limitation in this research study is the study has been done primarily on Pune city and therefore the future researchers can take this study for other</p>
		<p>metropolitan urban cities of India. Other researchers outside India can imply the research on their respective region. Also, not much has been done in the “Upcycling” in research domain yet so this topic must be further explored by global researchers of environment, social sciences and those from circular economy.</p>

Table 3.5 Demographic Profile of SET 1-Green Exhibition Respondents

VARIABLE DESCRIPTION	FREQUENCY	PERCENTAGE
Gender		
Male	145	33%
Female	295	67%
Age Group		
18yrs-35yrs	48	11%
36yrs-60yrs	335	76%
Above 60yrs	57	13%
Monthly Income Level		
Less than 10,000 rupees	18	4%
Between 10k-25k	48	11%
Above 25k	374	85%
Areas in Urban Pune		
Vishrantwadi	47	10.6%
Viman Nagar	52	11.8%
Wakad	43	9.7%
Kothrud	33	7.5%
Wadgaon Sheri	41	9.3%
Kharadi	39	8.8%
Karve Nagar	46	10.4%
Deccan	38	8.6%
Tathawade	46	10.4%
Aundh	24	5.4%
Hadapsar	31	7.0%

Table 3.5 Demographic Profile of Respondents

VARIABLE DESCRIPTION	FREQUENCY	PERCENTAGE
Gender		
Male	72	59%
Female	50	41%
Age Group		
Below 36 yrs	111	91%
36yrs-60yrs	10	8%
Above 60yrs	1	1%
Monthly Income Level		

Student/ Home Maker / Senior Citizen	102	84%
Less than or equal to 25k per month	4	3%
Above 25k per month	16	13%
Areas in Urban Pune		
Vishrantwadi	2	2%
Viman Nagar	19	16%
Wakad	31	25%
Kothrud	14	11%
Wadgaon Sheri	3	2%
Kharadi	1	1%
Karve Nagar	1	1%
Deccan	15	12%
Tathawade	1	1%
Aundh	10	8%
Hadapsar	9	7%
Others	16	13%

Total of 562 respondents

All four-hypothesis testing done by the researcher is mentioned below in the chart for a quick glance of reference:

Serial Number	Theme	Null Hypothesis	Test Result
Hypothesis 1	Recycled products Awareness	Urban Pune is aware of Recycled household products	Failed to reject

Hypothesis 2	Upcycle products Awareness	Urban Pune is aware of Upcycled household products	Failed to accept
Hypothesis 3	Access and Availability	Urban Pune has the access and availability to buy Recycled household products	Failed to reject
Hypothesis 4	Willingness to buy	Urban Pune is willing to buy Recycled household products	Failed to reject

Table 5.1- The Convergent Pointers under Findings

SELLERS	RESPONSES	CONNECTING PARAMETER	BUYERS	RESPONSES
Q8) Are your customers usually aware of meaning of Recycling/recycled products? a) Majorly Yes b) Majorly Not c) Rarely Aware	22 4 1	AWAWARENESS	Q1) Are you aware of the term "Recycling?" a) Yes b) No	396 44
Q9) Are your customers usually aware of meaning of Upcycling/upcycled products? a) Majority of them Yes b) Majority of them Not c) Rarely Aware	2 20 5	AWAWARENESS	Q2) Are you aware of the term "Upcycling?" a) Yes b) No	53 387
Q7) Where do you advertise/promote your products? a) Online b) Offline Campaigns/Hoardings in Exhibitions/Mall displays c) Both Online and Offline	4 15 8	VISIBILITY & AVAILABILITY	Q6) Are these recycled and upcycled products easily available to you? a) Yes b) No	171 269
Q5) What is your medium of Selling? a) Online b) Offline through Shops/Retail malls c) Both Online and Offline modes	6 18 3	ACCESSIBILITY	Q5) If yes to the above answer, where do you buy these from? a) Exhibitions E b) Malls(M) c) Online(O)	340 43 43
Q10) What is the percentage of your repeat orders? a) Less than 10% b) 11%-50% c) More than 50%	12 9 6	SELLING POTENTIAL	Q10) If made easily available, will you prefer regular buying? a) Yes b) No	308 132

Exhibitions Visited for Data Collection: A Sample

Serial Number	Name of the Exhibition Venue	Address	Contact Number
1	Utsav Sabhagruha	Kothrud	7947196356
2	Harshal Hall	Kothrud	7947458798
3	Sonal Hall	Karve Road	9822331478
4	Fusion Art Gallery	Narayan Peth	989076769
5	Total Events	Aundh	9373722111