Project Dissertation Report On

E-WASTE – AWARENESS, ISSUES & MANAGEMENT

Submitted By

Ankit Singhal

2K20/EMBA/06

Under the Guidance of

Dr. Shikha N Khera

Associate Professor

DELHI SCHOOL OF MANAGEMENT

Delhi Technological University

Bawana Road Delhi 110042

CERTIFICATE

This is to certify that the term project titled **"E-WASTE – AWARENESS, ISSUES & MANAGEMENT"** is a bona-fide work carried by **Ankit Singhal,** student **EMBA batch of 2020-22** and submitted to Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-42 as a requirement of major project in his fourth semester.

Signature of Guide
(Dr. Shikha N Khera)

Signature of HOD (DSM)
(Dr. Archana Singh)

Place: New Delhi
Dated: 05-05-2022

Seal of HOD

DECLARATION

I, **Ankit Singhal**, student of **EMBA (batch of 2020-22)** of Delhi School of Management, Delhi Technological University, Bawana Road, Delhi – 42, hereby declare that the work titled **"E-WASTE – AWARENESS, ISSUES & MANAGEMENT"** submitted as a requirement of major project in the fourth semester in the degree of Executive Masters of Business Administration is the original work.

The information and the data given in this report are authenticated to the best of my knowledge.

I also declare that this report is not being submitted to any other University, for award of any other Degree, Diploma or Fellowship.

Place: New Delhi
Ankit Singhal

Dated: 05-05-2022

ACKNOWLEDGEMENT

I would like to express my sincere gratitude and thanks towards my guide and the facilitator, **Dr. Shikha N Khera** (Associate Professor, Delhi School of Management, Delhi Technological University) for her kind support and valuable guidance throughout the duration of the project. I thank her for the constant encouragement and support at every stage. Her support is indispensible.

Ankit Singhal
(2K20/EMBA/06)

EXECUTIVE SUMMARY

Electronic waste or e-waste is known as the discarded electrical and/or electronic devices. Used electronics which are meant for replacement or reuse or resale or recycling by material recovery, or disposal are also considered as e-waste. The informal processing of the e-waste in the developing countries may lead to the injurious human health effects and environmental pollution.

The main aims of this project is related to the e-waste material, what is e-waste all about, what is the scope of the project, the purpose to know about the e-waste, identify the issues related to the e-waste, usage of the e-waste & awareness amongst the society about the e-waste.

With the study we want to identify the ways by which e-waste can be dumped properly without impacting the human health or making minimum damages to the society and the environment.

To understand the awareness amongst the people, I have conducted a survey, and collect primary data. With the aim of to collect the facts from the different people in the society, how people are disposing their e-waste, how much the people are aware about the hazardous impact of e-waste if not handled by a proper channel, we also aims to know about the platforms available in our neighborhood, what are the action government is taking to make people aware about the issue.

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1. Introduction

Electronic waste, or E-waste as it is more often called, is a growing problem across the world. When an electronic device is no longer useful to its owner, it is discarded, although not necessarily in the appropriate location. Desktops, PDAs, consoles, TVs, mobile phones, and many more electronic goods are some of its examples. The majority of individuals possess desktops or PCs, and nearly 3 out of every 10 people replace them within a year or two. As per a report published in the year 2018, around 50 million kg of E-waste was created, the majority of which is comprised of personal gadgets such as computers (desktops & laptops) and the smart-phones whereas a portion of that consists of the heavy house-hold appliances and other electronic goods.

Figure 1.1 – Some un-used desktop contributing e-waste

(Source: https://en.wikipedia.org/wiki/Electronic_waste#/media/File:Ewaste-pile.jpg)

Figure 1.2 –e-waste in Ghana

(Source: Electronic waste - Wikipedia)

1.1 Background

There is another factor to consider the e-waste seriously i.e. only 20% of e-waste garbage is recycled every-year, with the remainder being thrown in the lands-fill or burnt or may be illegally trafficked. It is very critical for us to consider the repercussions of large-scale E-waste production every-year and to try to act on solutions that are to recycle and reuse electronic equipment.

Amongst the numerous green projects, trash recycling has the most positive influence on the environment. Among all the different forms of garbage, electronic waste is the fastest increasing section of waste and the most valuable due to its fundamental makeup. And if not handled correctly, it may be quite dangerous.

Composition of the e-waste: e-waste contains metallic and non- metallic elements, compounds and alloys such as – Copper, Aluminum, Nickel, Lead, Tin, Iron, Sulphur, Phosphorous, Arsenic and many more hazardous elements.

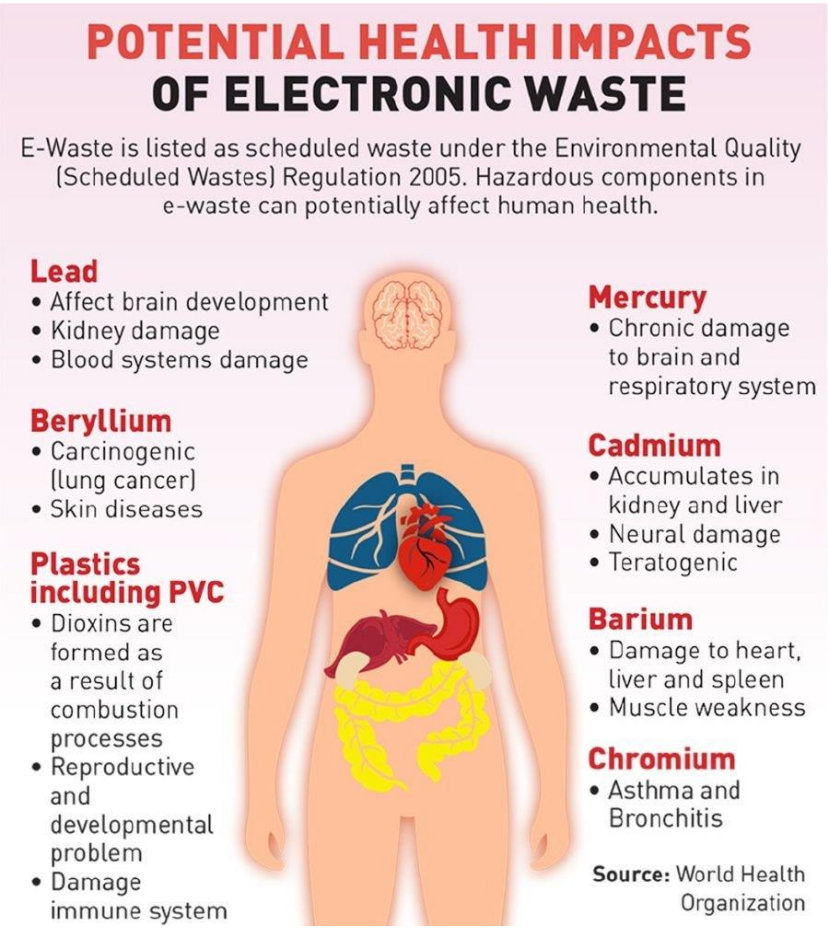

Figure 1.3 –Impact of e-waste on human body

(Source: https://www.nst.com.my/news/nation)

Such elements have very hazardous to the human health if not handled by systematic or controlled process, there are many ill impacts of such the alloys/elements, some of the impact on the human health may include severe issue such as –

a) **Antimony** creates Irritation into the eyes or skin.

b) **Bismuth** causes Inhalation problems causing ill effect on the lungs, sleeplessness, skin problems/reactions, depression.

c) If **Cadmium** is exposed for longer run, it may cause the Permanent damages to the lungs, kidneys, nervous system, or possibly the cancer.

d) **Chromium** has severe impact on the human body and it may cause - Allergic reactions, internal ulcers may be in stomach, sore throat, bad impact on the thyroid glands, Asthma & Pneumonia.

e) Impact of **Cobalt** may cause Hair Loss, Vomiting.

f) **Nickel** may cause Lungs or Nose cancer.

g) **Lead** – It is very harmful which causes most common problems of present times i.e. – the high BP, kidney stones, brain issues and can also affect the fertility of the males.

h) Exposure of **Gallium** for long run may cause severe chest pain, cardiac issues or even the partial paralysis.

Not only to the human body, the e-waste also very harmful for the environment as well as some toxic waste releases from the appliances and gets mixed into the environment causing air pollution, global warming, and mix with water in rain causes acid rain which ultimately degrades the soil, making plants and trees weaker.

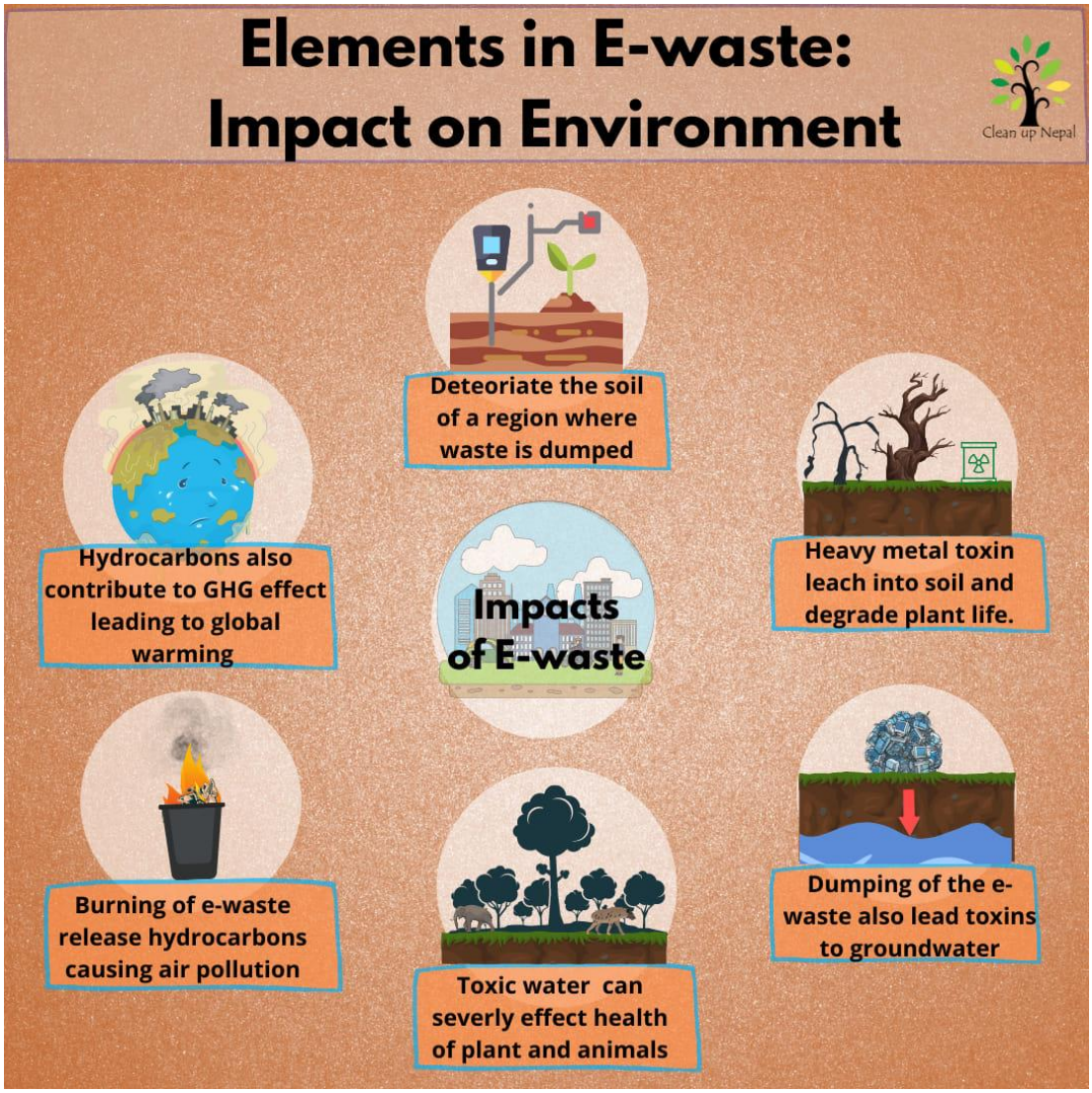

Figure 1.4 –Impact of e-waste on enviornment

(Source: cleanupnepal/photos)

1.2 Problem Statement

However, the industry is still in its infancy, with only a few corporate participants in India and across the globe. Most of the electronic waste management sector in India is currently handled by the unorganized and informal sectors. Owing to a lack of knowledge, awareness, and other factors, the industry has remained labor demanding, ecologically unfriendly, and unhealthy. If done correctly and in an organized manner, e-waste management has the potential to become a major economic sector.

According to several research groups, around 20 to 50 million tons of such trash has been generated worldwide every-year. E-waste accounts for more

than 5% of all solid trash created, and the volume is expected to grow at a pace of 300% per year in emerging nations.

When we talk about the majority of the issue or the reasons why the e-waste is getting increasing every-year, there are multiple reasons for this issue, some of the reasons for increase in the e-waste are classified as below:

a. Electronic manufacturing businesses saturate the market with new products almost every-year. Whenever newer or improved versions are released in the market, many e-devices are discarded & are getting replaced.

b. With the advancement of technology and the rise in consumer demand, the production of e-waste began to rise as well.

c. If we talk about Indian market demand on the e-goods, then the market size of key electronic products in India from financial year 2019 to 2020, with forecasts up to financial year 2026, the major demand is of the mobile phones.

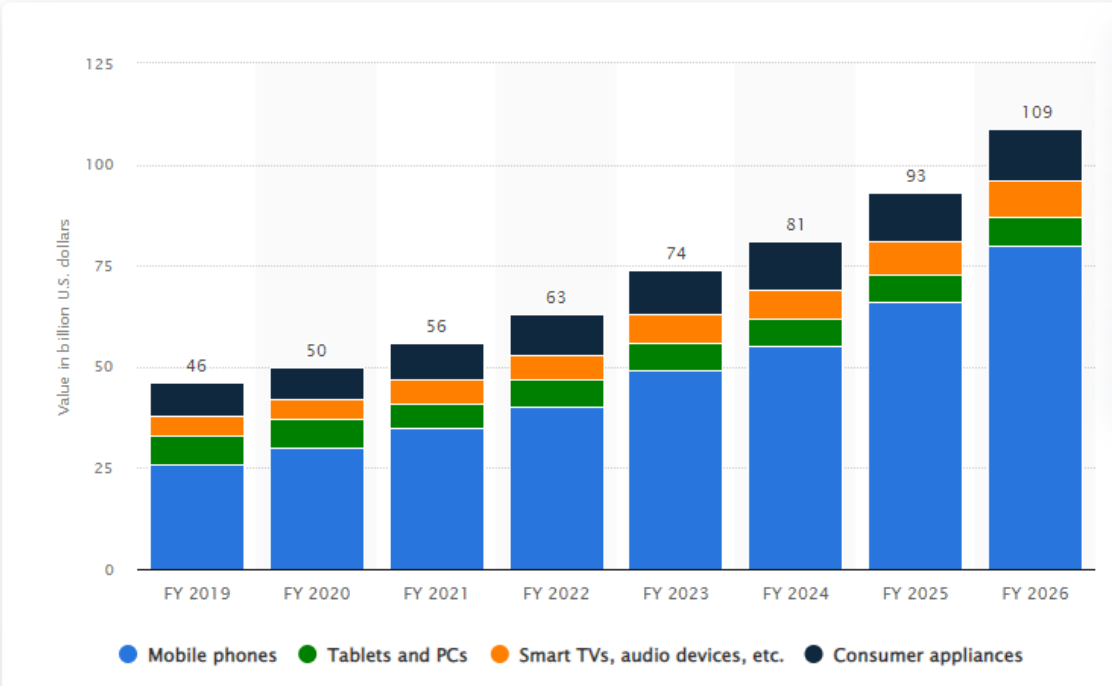

Figure 1.5: Indian electronic market size

(Source: statista.com - india-market-size-of-key-electronic-products)

1.3 Objectives of the Study

The primary objective of this study are:

- To assess people's awareness on e-waste, its generation, and primary treatment techniques.
- To expose the actual procedures used for e-waste management.
- To identify problems and obstacles in the management of waste generated by e-goods.
- To identify the methods those are being followed in some developed countries to manage the e-waste and the techniques on how people in such countries been made aware about the e-waste management through various measures.
- To identify the formal and informal sectors involved in the management of the e-waste.

2. Literature Review

As of now a lot research has already been conducted by various industries, educational institutions, research centers, government's studies or by NGOs, there are many research has been conducted on individual levels as well.

In this section, we shall be discussing and review few such literatures.

Mohammed, S., & Vaardini, U. S. (2021, October) [1] paper has talked about the increase in the e-waste due the advancement of the technology, specially how the recent improvement in the automation techniques has evolved a dramatic increase in the electronic waste, demand of the people to upgrade to the new technology as fast as possible is generating a huge amount of the e-waste. The rate at which waste is generated is significantly higher than that the rate at which the re-cycling of such waste done. This demand caused e-waste as the highest and the fastest growing waste on the planet. The main analysis of the growing problems of E-waste and the implementation of the circular economics approach to manage the same was conducted by the authors. They have also explained the situation – how the emergence of the 5G technology is creating a severe amount of the e-wastes. They focus on the new and innovative visions to handle the electronic trash & explained how the waste is treated properly it can be the greater sources of energy in the coming days.

Rajput, R., & Nigam, N. A. (2021) [2] is discussing about the management of the e-waste in the Indian context especially in the current scenario. They have identified the number of factors contributing towards the increase in e-waste in India. The various factors include – rapid increase in the population in India, more and more industries getting setting up in India, improved economic activities due to urbanization. The higher economic growth in the last decade increases the purchasing power of the consumers, lifestyle which has been tremendously changed in the last 10 years is one of the major factors which causes people to change their electronic equipment more frequently than before, as per the study conducted in the paper they have identified that the population living in urban areas was 27% in 2000, which

increases to 38% in 2018 and also is expected to be further increased to 42% by 2025.

Shittu, O. S., Williams, I. D., & Shaw, P. J. (2021) [3] literature is more towards the study of the legislation, contemporary issues and the upcoming challenges we are facing the management of e-waste. They have identified the 4 future WEEE management cases. Major concerns identified in the literature are – reuse standards, stock-piling, IoT, space electronic waste. They recommend to create data standardization needs to be created which should be independent of the political factors. WEEE stands for Waste Electrical and Electronics Equipment, as per their research WEEE increases every year by 3-5%. The effective measures of WEEE will help to achieve many objectives – UN sustainable development goals, a circular economy and the efficiency of the resources. Some measures would be to increase global trade, update reuse standards.

3. Research Methodology

This project requires the deep understanding about the behavior, knowledge of the people in terms of handling the e-waste. Thus we first need to know about the awareness of people about e-waste, their awareness on the ill effects of the e-waste on humans, how people are discarding their e-waste, how frequently they are changing the electronics products in a year.

Also, we tried to identify the facilities available to the people in there nearby for disposing the e-waste; any kind of rewards people getting for disposing e-waste by proper channels, what people generally do with their old electronic devices which they are not using.

During our research we have gathered information about a few authorized vendors which helps people to systematically discard or recycle their e-waste, such vendors also provide some monetary benefits as well in exchange of such e-wastes, so we have also tried to understand about awareness of such vendors amongst common people, how many people are using such facilities from any of these vendors.

We have also researched about some of the government initiatives in India, and studied some of the practices used in the other part of globes specially in the developed country like – Japan, Switzerland, Greece and some other European countries.

So we have collected the primary data by conducting surveys, some of the key aspects of the research methodology utilized are as follows:

Sample size: 49 respondents of different age groups and gender.

Sampling Technique: Convenience Sampling

Instruments used: Structured Questions

Methodology: e-Survey (Google forms)

4. Analysis, Discussion and Recommendation

4.1 Case Study

In the case study, we have identified the mechanisms through which some of the other countries are managing the e-waste [4].

Greece

In order to deal with the e-waste recycling, Greece has started an e-waste management system in 2004. This was done aftermaths of the year 2003 when the annual e-waste production for them was 170Kt approx. which is nearly 4% of the total waste produced in the country. Approx. 90% of the waste (solid) mixed with another waste from urban areas or have been recycled together, this process they called as “grey recycling”.

The main objective of new program is to collect, transport and process the e-waste into the special facilities, by the end of 2009 the system had over-balanced the national goal as defined by Greek and Europe legislation.

Switzerland

It was the first country on the globe where the official e-waste management system was developed & implemented by the government officials. This was started in the year 1998 through a law – ORDEA (Ordinance on the Return, the Taking Back and the Disposal of Electrical and Electronics Appliances). The law has created 2 different systems – one of which was ran by SWICO recycling guarantee which manages the e-devices like: computers, radios, TVs etc., whereas the other system S.E.N.S that manages the equipment like: Microwave-Ovens, Fridge, washing machines etc.

They have opened the specific collection points of many retail companies in the city where the consumers can return their e-wastes, waste then moved from the collection points to the facility where they can be dis-mental and dis-infect, this process helps them to remove the toxics factors present in the equipment. After which the wastes sends to another assembly where they can be further dismantled, shredded to more granule level. This finally results in the collection of copper, steel, plastics, glass and aluminum.

In this process, it was the producers who are fully responsible for the complete management of such e-waste processing facilities. There manufacturers, retailers or importers are authorized to take their goods back with-out any charge & can process those in more eco-friendly way.

Japan

Similar to Swiss system, Japan has also developed an e-waste management system back in 1998, wherein the consumers pay an amount of money to return used devices to the retailers. They have developed the system for 4 types of e-devices i.e. washing-machines, ACs, Fridges, TV sets. They have very strict laws to make sure targets rates are fixed; other-wise huge penalty was imposed.

By the year 2004, there were in total 41 e-waste recycling facilities exists in Japan which were mainly run by collaboration of the government, municipalities and the producers. Similar to the Swiss system, they had collection points where the e-waste collected from residents gathered & further transported to the facilities for processing. Japanese companies always try to make product lighter in weight so that they can be easily re-cycled at cheaper price.

From the year 2003, Japan has introduced certain laws for the collection & recycling of the e-products; in this they have divided the e-goods in 2 categories – 1 those bought before 2001, recycling is financed with the amount of Euros 20-30, wherein the other category is for those items bought after the year 2001, in second category the recycling costs are also included in the price of the product as recycling tax.

E-waste management system in Japan is success because of many factors – environment sensitivity, social responsibility & government initiatives and most importantly the disciplined behavior of the Japanese people.

4.2 Data Collection

As part of data collection, we have conducted an e-survey which includes a set of questionnaire in the structured format to collect the age of the responders, gender, awareness about the e-waste, various platforms available in the market, platforms used by the responders, their awareness about the international e-waste day is observed.

Participants of this survey lie in the age range between 15 – 60 years, and are involved in the various different professions like – private job employees, government employees, self-employed or students or home-makers.

4.3 Data Analysis

1. Responder's Gender

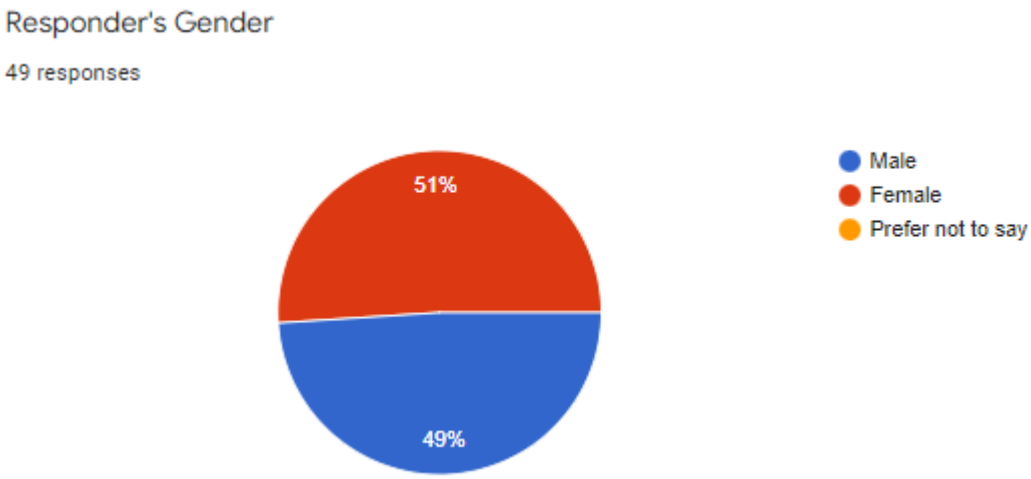

Figure 4.1: Gender's ratio amongst participants
(Source: Own Analysis)

Key Findings:

- 51% of the responders were females
- 49% participants were males.

2. Age Groups

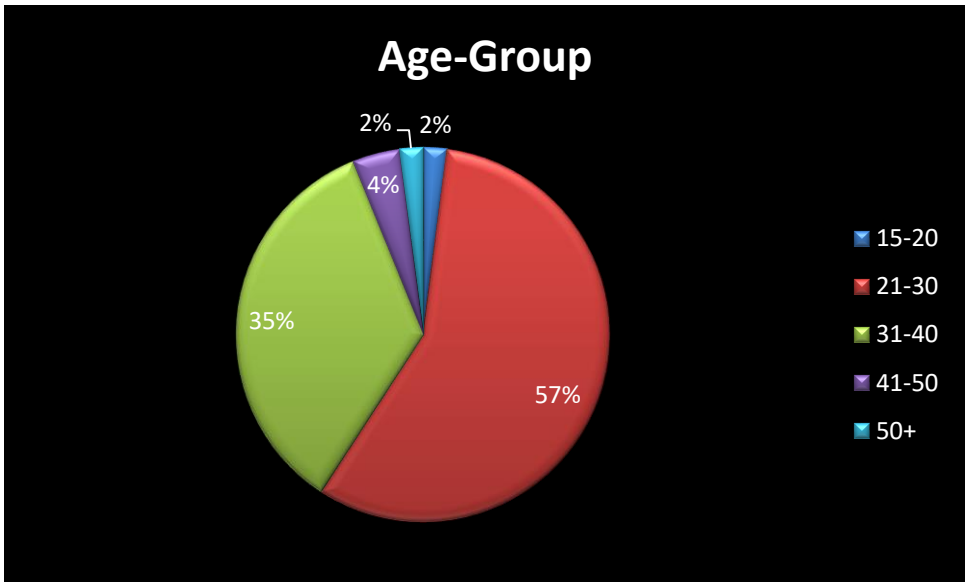

Figure 4.2: Age groups amongst participants
(Source: Own Analysis)

Key Findings:

- 57% of the responders were lies in the age group of 21-30.
- 35% participants were from the group of 31-40.
- 4% responders were aged between 41-50 years.
- 2% participants lies in the 15-20 years range
- And the last 2% participants were aged more than 50 years.

3. Awareness about the e-waste

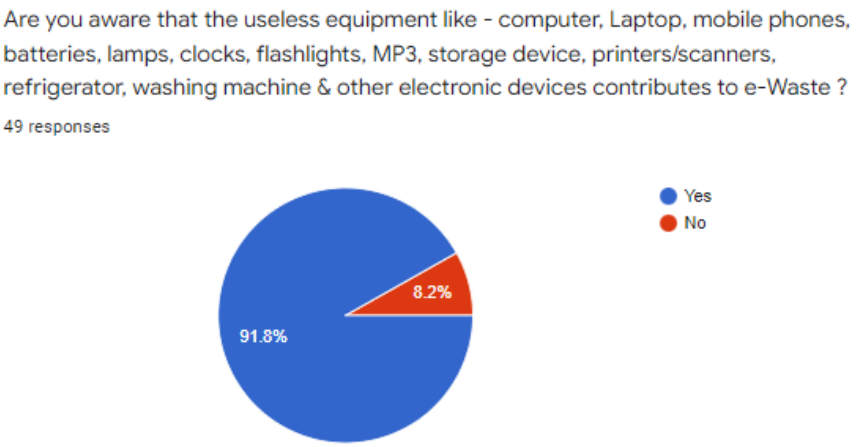

Figure 4.3: Distribution about awareness about e-waste
(Source: Own Analysis)

Key Findings:

- 91.8% responders were aware and they have clarity about what does e-waste comprised of.
- Only a few 8.2% participants don't have the clarity about e-waste.

4. Replacement of the e-devices in a year

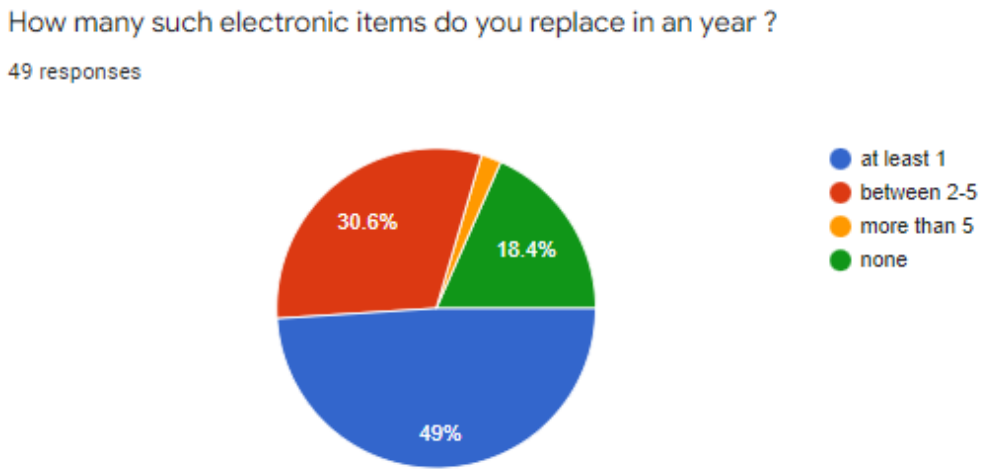

Figure 4.4: Replacement of e-devices in a year
(Source: Own Analysis)

Key Findings:

- 49% responders replace at least 1 electronic device every year.
- 30.6% participants replace about 2-5 electronic devices in a year.
- 2% responders confirm that they replace more than 5 e-gadgets every-year.
- 18.4% participants don't replace any electronic device in 1 year.

5. After replacing any e-device

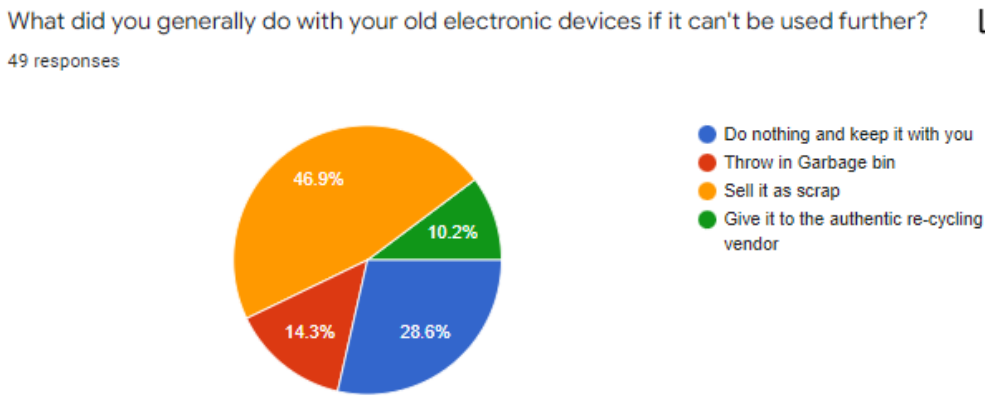

Figure 4.5: What users does with discarded devices
(Source: Own Analysis)

Key Findings:

- 46.9% responders sell their discarded electronic devices as scrap.
- 28.6% participants do nothing with their old and unused e-devices & just keep with them.
- 14.3% responders through the unused e-devices into garbage.
- Only 10.2% participants get the proper re-cycling of their unused electronic devices by authentic channels.

6. Near-by e-waste management facility

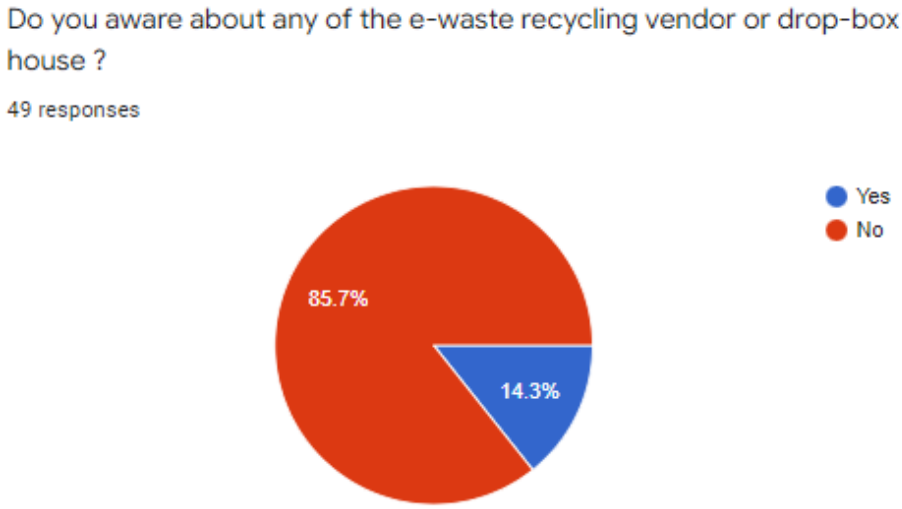

Figure 4.6: Data on near-by drop-box for e-waste
(Source: Own Analysis)

Key Findings:

- Nearly 86 i.e. 85.7% responders were not aware about any of the e-waste management facility or vendors in their neighborhood.
- Whereas just 14.3% participants were aware about any such facility near to their residing area.

7. Awareness about the e-waste management vendors

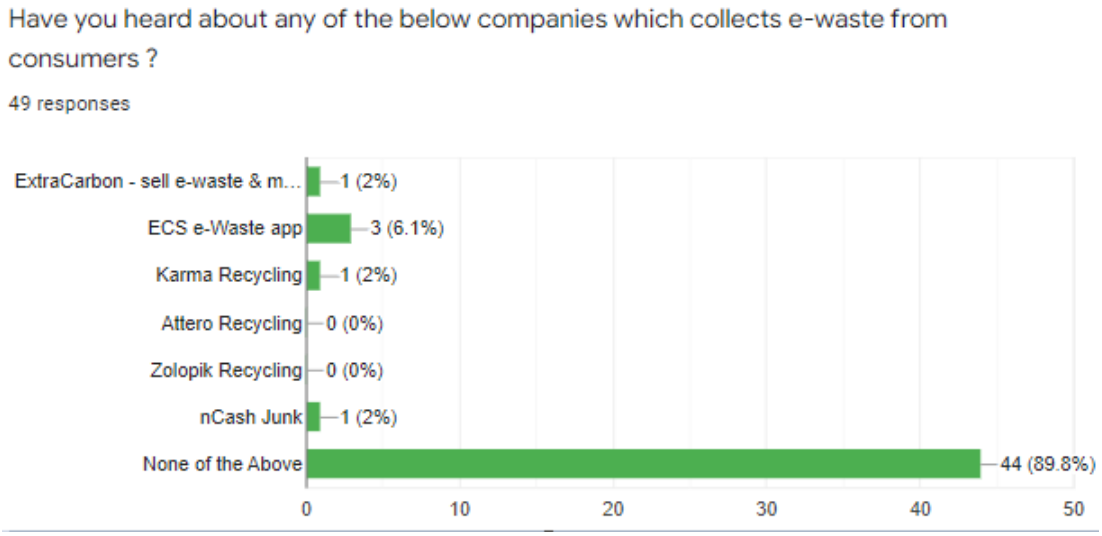

Figure 4.7: Data on awareness about e-waste management vendors
(Source: Own Analysis)

Key Findings:

- Approx. 90% exactly 89.8% responders were not aware about any of the e-waste management vendors in the markets.
- Only 6.1% participants were about 1 of the vendors – 'ECS e-waste app'.
- 2% participants have heard about 'nCash Junk' platform.
- 2% participants have heard about 'Karma Recycling' company.
- Only 2% participants have heard about 'ExtraCarbon –sell e-waste and make money' company.
- None of the responders were aware about another vendor like – 'Altero Recycling' & 'Zolopik Recycling' companies.

8. Recycle e-waste

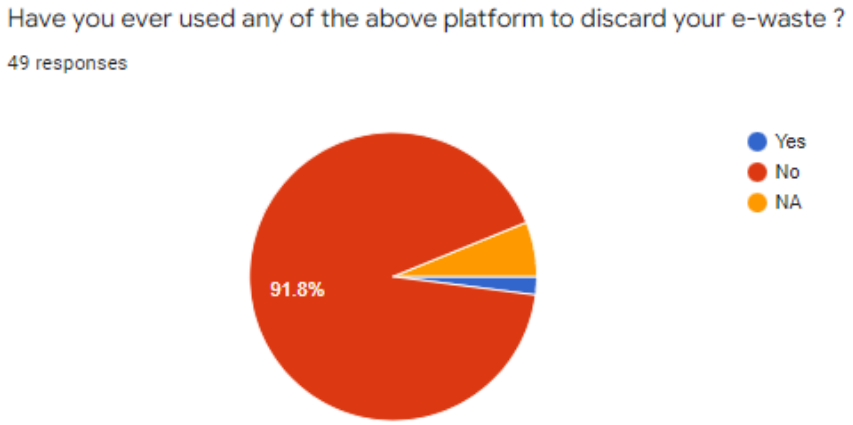

Figure 4.8: Data on people using proper channel for e-waste management
(Source: Own Analysis)

Key Findings:

- Only 2% responders have utilized any of the e-waste recycling services available in the market.
- Rest of the 98% respondents either hasn't used any such service or doesn't know.

9. Awareness about ill-effects of e-waste

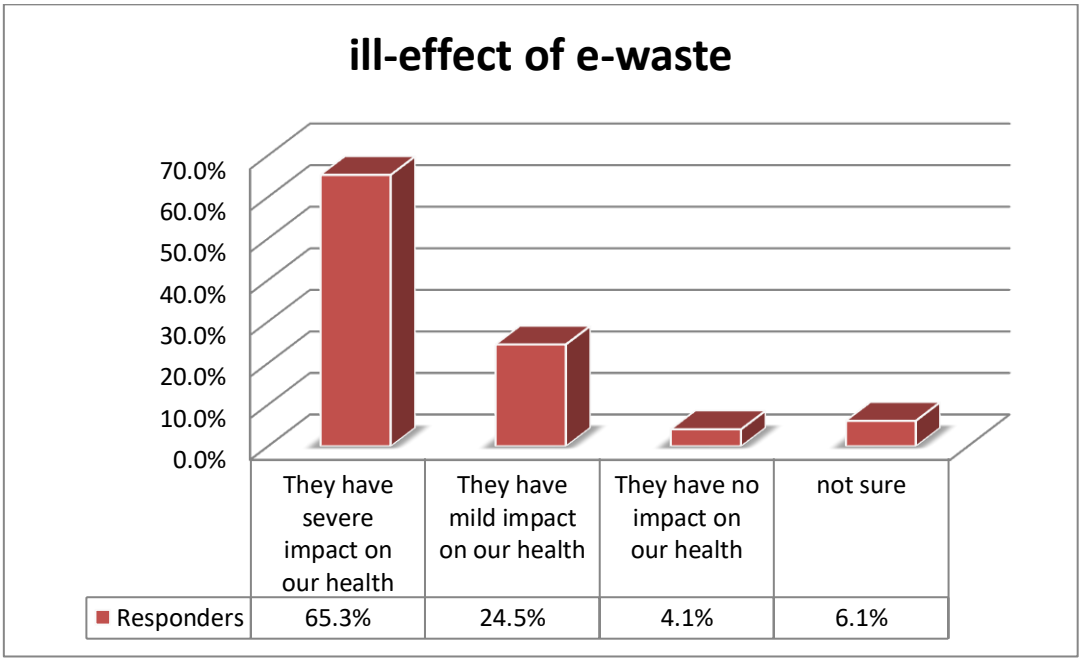

Figure 4.9: Data on people's awareness on impact of e-waste on us
(Source: Own Analysis)

Key Findings:

- 65.3% responders have clear awareness that the e-waste has severe effects on humans.
- 24.5% respondents think e-wastes has mild effect on our body and no severe impact.
- 4.1% responders were there who believe there is no impact on our health.
- And approx. 6.1% responders were not sure about the effect of e-wastes on us.

10. Awareness about international e-waste day

Figure 4.10: Data on people's awareness on international e-waste day
(Source: Own Analysis)

Key Findings:

- Only 4.1% of the respondents have heard about the international e-waste day.
- While 57.1% respondents were not aware when the international e-waste does day is observed.
- Whereas 38.8% responders have never heard about any such day is also exists.

4.4 Findings and Recommendation

4.4.1 Findings

- Based on the overall research and survey we have identified that although most of the people aware about the ill-effect of the e-waste on the human health, but majority of those people don't follow the best practice in terms of handling that waste.
- The issue doesn't only restrict with the developed or underdeveloped or developing countries, instead it is the most prominent issue across the globe, amongst all the continents.
- Most of the people do get the new electronic products every year, and the number sometimes goes beyond 5+ products in a year.
- However, when the question asked what generally people do with their old electronic devices, it seems most of the people follow unstructured practices to get rid of the old devices.
- Some people just keep the discarded products with themselves for long time, some of the people even considered unused devices as garbage & throw the same into the trash.
- This is the reason why the global e-waste data is increasing day by day, year by year even after implementing or starting the new initiatives by various platforms may be at country level or global level.
- As per the latest data collected by statista across the globe, China seems to be largest producers of the e-waste world-wide which has produced more than 10Million metric tons e-waste in the year 2019.
- China being the largest manufacturer hub and highest population are the 2 most prominent reasons for generation of such huge e-waste every year.
- The US being the 2nd largest manufacturer, using most advance technological devices, involved in the most numbers of the R&D contributes as 2nd largest producers of e-waste as well, producing approx. 7 Million metric ton of the e-waste.

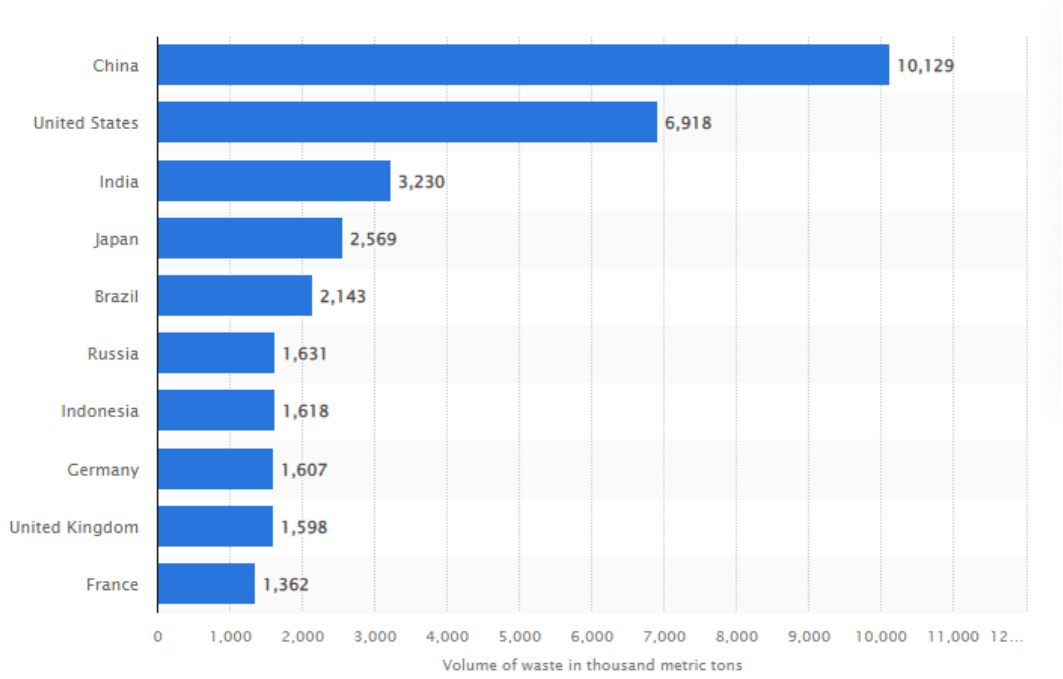

Figure 4.11: World wide e-waste producers
(Source: statista_ewaste-generation-worldwide-by-major-country)

- India is being the 3rd most e-waste producer in the world.
- Total global e-waste is nearly equals to the 54 Million metric tons of the waste in the year 2019, and it has been increasing year – by – year.
- Not only the bigger countries who are the biggest contributors of the e-waste, but a lot of the smaller and less populated countries do contribute into the global e-waste every year.
- As we have already seen the e-waste in the year of 2019 was somewhat around 54Million metric ton, this was increased by more than 21% in the last 5 years (retrieved from the source - https://www.statista.com/chart/24291/e-waste-by-country/).
- This makes e-waste as the 1 of the fastest growing waste across the globe.
- Since China produced most of the e-waste annual, but if we calculate the per capita e-waste of China and compare it with another countries, China seems to produced much less e-waste per-capita.

- Especially if we compare the data with the European countries – mostly the developed countries, full equipped with the modern technology, having better resources, ways to handle the e-waste.

- As per the calculation, China is producing approx. 7.2kg per capita e-waste each year, while this amount is significantly huge in the European countries – where the per capita e-waste generation is nearly 20Kgs per annum.

- If we talk about some of the Nordic countries, they contribute maximum in e-waste, eg. Norway contributes nearly 26Kgs per capita e-waste per year, mostly due to the number of electric cars used in the countries whose batteries contribute to e-waste.

- The UK is the 2nd most e-waste populating country per capita with a total of 24kg per capita contribution per year.

- Australia contributes nearly 22kg per capita per year while The US contributes approx. 21kg e-waste per capita annually.

- Apart from the increase used of electric vehicles, another reason for producing the highest number of e-waste in most of the developing countries are – with advancement of technology, the electronic appliances are easily available at comparatively cheaper rates.

- As per the survey conducted by UN University – the increase in the e-waste volume signifies increase in the living standards around the world, as more number of people can afford more products or afford frequent replacement of the products (retrieved from link/url - https://theconversation.com/global-electronic-waste-up-21-in-five-years-and-recycling-isnt-keeping-up-141997).

Figure 4.12: Countries producing e-waste per-capita per year
(Source: https://www.statista.com/chart/24291/e-waste-by-country/)

- This might be further expected to be rise to 74.7 Million metric tons of the e-waste by the year 2030 approx. which means the amount of e-waste will be getting doubled in the 16 years.

- As per another data captured, only 17.4% of the e-waste was recycled through proper channel in the year 2019.

Figure 4.13: Global e-waste generation - 2019
(Source: global-electronic-waste)

4.4.2 Recommendation

- As seen the case study of Japan, if there are awareness, facilities, government regulations imposed on the people, society, appliances manufacturer, then there are chances to effectively manage the e-waste.

- There should be strict rules and regulations imposed on the society level to follow the practice of e-waste recycling, re-use.

- The harmful substances like mercury, CFCs, hydro-choloro-floro-carbon should not be release into the environment as e-waste not only affects the human health, but it also contributes to the global warming.

- As the growth of the e-waste can't be stopped, thus it is advisable for the manufacture long lasting products, recycling facilities and a streamlined process to be developed at all levels.

- We need to maintain the pace of recycling and safely disposal of the e-waste at least as equals as that of the e-waste is increased every year so that we can control the increment effect of e-waste.

- Thankfully the world is waking in terms of managing the e-waste, though at very slow pace as by the end of the 2019, there are 78 countries which covers almost 71% of the total global population had either created some policies to manage e-waste or they have put some sort of some regulations, which is an increase of 5% from 2017.

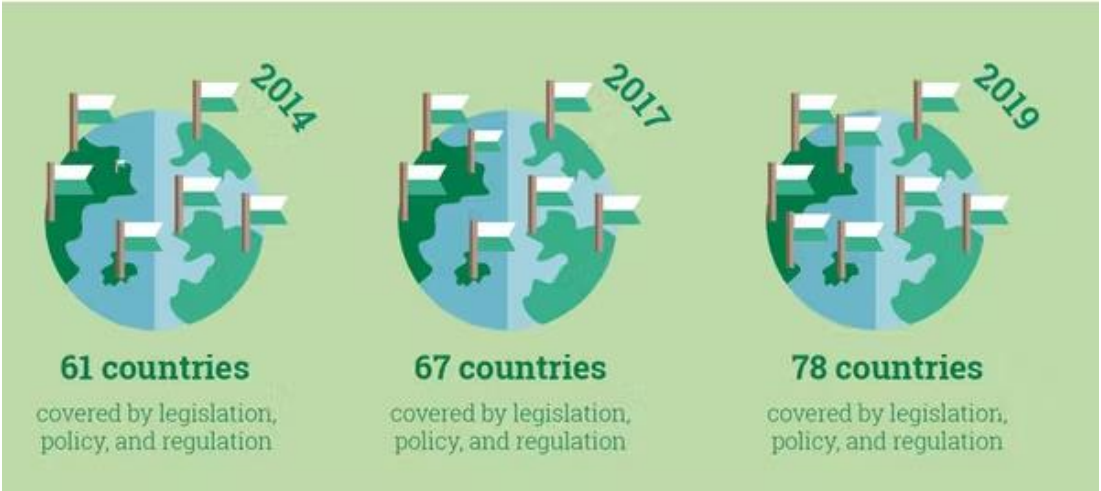

Figure 4.14: Countries following e-waste regulations and polices
(Source: https://theconversation.com/)

5. Conclusion

As per the analysis, case studies, survey & research we are sure on the part that the e-waste is available all around us and across the globe, they includes hazardous chemical, elements, alloys which have a very bad impact on the society, health of the individuals and environment.

E-waste debris is most prominent solid waste in all the waste; we need to make sure that the proper re-cycling system, re-usability of the electronic appliances is developed. Apart from the system and process, since it is the people who are responsible to get the discarded items handled properly, we need to make sure that the awareness amongst the people must be increased.

Government, organizations involved in the manufacturing, recycling process should also focuses on the long lasting appliances, should take care the proper dumping yards for the people which should be easily accessible to the common people.

Government must encourage more organization into the research & development of the e-waste management/re-cycling process.

We should distribute the responsibilities amongst the various groups – like for manufacturers to mandatorily collect the e-waste which has been produced by them during development, sort and recycle those e-wastes, they should make sure no harm to be done on the environment and society while moving their goods, mandatorily keep records of the e-waste collected & e-waste processed.

For the government to encourage more about the re-furbished products, create streamlined system, providing financial aids to the involved organizations.

For users to not replace any gadget frequently, to understand the importance of re-use, re-cycle (Source: https://www.studocu.com)

6. References

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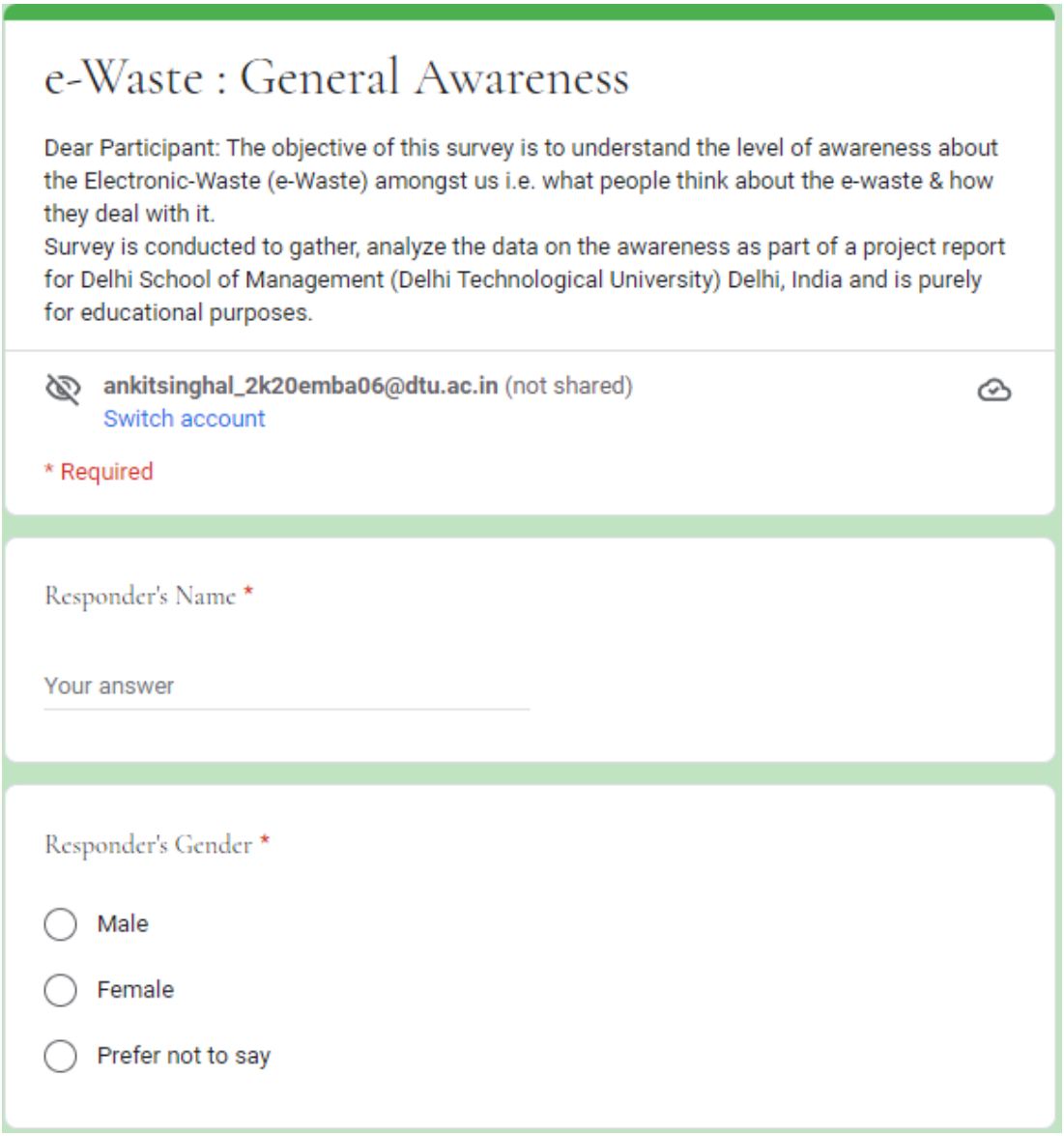
7. Annexure

7.1 Survey Questionnaire

In this section, we shall be looking into source of the survey, questions being asked with the user.

URL → https://forms.gle/wZDjPYpsS3sVTusU6 (at present the survey link is not accepting the response).



e-Waste : General Awareness

Dear Participant: The objective of this survey is to understand the level of awareness about the Electronic-Waste (e-Waste) amongst us i.e. what people think about the e-waste & how they deal with it.
Survey is conducted to gather, analyze the data on the awareness as part of a project report for Delhi School of Management (Delhi Technological University) Delhi, India and is purely for educational purposes.

ankitsinghal_2k20emba06@dtu.ac.in (not shared)
Switch account

* Required

Responder's Name *

Your answer

Responder's Gender *

- Male
- Female
- Prefer not to say

Responder's age group *

- ◯ 15-20
- ◯ 21-30
- ◯ 31-40
- ◯ 41-50
- ◯ 50+

Are you aware that the useless equipment like - computer, Laptop, mobile phones, batteries, lamps, clocks, flashlights, MP3, storage device, printers/scanners, refrigerator, washing machine & other electronic devices contributes to e-Waste ? *

- ◯ Yes
- ◯ No

How many such electronic items do you replace in an year ? *

- ◯ at least 1
- ◯ between 2-5
- ◯ more than 5
- ◯ none

What did you generally do with your old electronic devices if it can't be used further? *

- ◯ Do nothing and keep it with you
- ◯ Throw in Garbage bin
- ◯ Sell it as scrap
- ◯ Give it to the authentic re-cycling store/vendor

Do you aware about any of the e-waste recycling vendor or drop-box nearby your house ? *

- ◯ Yes
- ◯ No

Have you heard about any of the below companies which collects e-waste from consumers ? *

- [ ] ExtraCarbon - sell e-waste & make money
- [ ] ECS e-Waste app
- [ ] Karma Recycling
- [ ] Attero Recycling
- [ ] Zolopik Recycling
- [ ] nCash Junk
- [ ] None of the Above
- [ ] Other: _____

Have you ever used any of the above platform to discard your e-waste ? *

- ( ) Yes
- ( ) No
- ( ) Other: _____

Do you think if these e-waste are harmful for human being and other creatures if not recycled or dis-mental properly ? *

- ◯ They have severe impact on our health.
- ◯ They have mild impact on our health.
- ◯ No bad effect on our health
- ◯ Not Sure

Do you know when is the International e-Waste observed ? *

- ◯ Yes
- ◯ No
- ◯ Never heard of any such day

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Summary