RESEARCH PROJECT REPORT

On

"STUDY ON ELECTRONIC WASTE"

Project Report submitted in partial fulfillment for the award of the degree of

BACHELOR OF BUSINESS ADMINISTRATION

Submitted by

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IN

BACHELOR OF BUSINESS ADMINISTRATION

SCHOOL OF BUSINESS

Under the Supervision of

Ms. Amrita

GALGOTIAS UNIVERSITY

(Established under Galgotias University Uttar Pradesh Act No. 14 of 2011)

YEAR (2019-2022)

SCHOOL OF BUSINESS

DECLARATION

We hereby declare that the project report on "E-waste" was submitted by us under the supervision and guidance. The procedure in the report is based on standard data, and no data is generated from the previously submitted reports.

SCHOOL OF BUSINESS

BONAFIDE CERTIFICATE

It is certified that the project report titled "***E-WASTE*** " being submitted by Vaibhav Krishna Dixit, Utsav Kumar and Utkarsh Yadav student of BBA (2019 to 2022) is genuine work carried out by them under my supervision and guidelines.
This project work is the partially fulfillment of the requirement for the degree of Bachelor of Business Administration from Galgotias University.

Signature of Dean

Signature of Supervisor

ACKNOWLEDGEMENT

Words are indeed inadequate to convey my deep sense of gratitude to all those who have helped me in completing this project to the best of my ability. Being a part of this project has certainly been a unique and a very productive experience on my part.

Amongst the wide panorama of people who provided us the inspiration, guidance and encouragement, we take this opportunity to thank those who gave me indebted assistance and constant encouragement for completing this project.

We would like to thank **Ms. AMRITA** for her continuous help in completion of this project. She motivated us and was available whenever her assistance was sought. She was actively involved throughout the project and was also kind enough to tell us the strengths and weaknesses and how we could improve ourselves to face the corporate world. Without her support the completion of this project would be impossible.

ABSTRACT

This project is based on the study of **E-WASTE** material. An insight view of the project will encompass – what it is all about, what it aims to achieve, what is its purpose and scope, the various methods used for collecting data and their sources, including literature survey done, further specifying the limitations of our study and in the last, drawing inferences from the learning so far.

Electronic waste or e-waste consists of broken or unwanted electrical or electronic parts or equipment as a whole. The rapid obsolescence of electronics goods, compounded by dumping of electronic goods by the developed countries, has brought the e-waste problem in India into an acute crisis.

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INTRODUCTION:

Global business scenario.

Of the various green initiatives, waste recycling creates the highest positive impact on the environment. Of all the different types of waste, electronic waste has the characteristics of

- the fastest growing segment of waste
- most valuable due to its basic composition
- very hazardous if not handled carefully.

However, the sector is very new with only a few corporate players in India and globally.

Most of the electronic waste management sector is currently handled by the unorganized / informal sector in India. However due to lack of skills, knowledge, awareness, etc., the sector has remained highly labour intensive, environmentally unfriendly and unhealthy. If done in the right way, and in an organized fashion, e-waste management can become a dominant economic sector.

As per various numbers published by various research agencies, about 20 to 50 million tonnes of e-waste are generated worldwide every year. E-waste comprises of more than 5 % of all solid waste generated and the volume is expected to increase at a rate of 300% per annum in developing countries.

In India, the total e-waste generated is expected to cross 800,000 tons in 2012. This figure is expected to grow at a rate of 30 – 50 % year on year.

Fundamental Understanding of e-Waste and Handling Practices

What is e-Waste?

Old electronic equipment that have outlived their useful life are categorized as e-waste.

On an average, in India, in case of mobile phones the useful life goes upto 2 years. In case of PCs, it may go upto 5 years. The life of these equipment is extended due to reasons such as upgrade,
repair and reuse, donation to charity, etc.

E-Waste Categories and Classification

E-Waste is categorized by the government of India under the broad class of hazardous waste. Within e-Waste, there are several categories such as Large and small household appliances,

electrical and electronic toys and sporting equipment, tools, computers and related equipment etc.

Composition of e-waste

Electrical and Electronic equipment contains metallic and non metallic elements, alloys and compounds such as Copper, Aluminium, Gold, Silver, Palladium, Platinum, Nickel, Tin, Lead, Iron, Sulphur, Phosphorous, Arsenic etc. If discarded in the open, these metals can cause a severe environmental and health hazard.

E-Waste components and its health hazards if done manually in an uncontrolled and informal method.

1Antimony - Irritation of the eyes, Skin, Lungs, Heart.
2Bismuth - Inhalation problems, Skin reactions, Sleeplessness, Depression, Rheumatic pain.
3Cadmium- Damage the lungs. Bone fracture, Damage to central nervous system, Possibly DNA damage, Cancer.
4Chromium - Allergic reactions, Lung cancer Nose irritations and nosebleeds. Upset stomachs and ulcers, Kidney and liver damage Cause of Death.
5Cobalt - Lung effects, Hair loss, Vomiting and nausea, Vision problems, Heart problems, Thyroid damage, cause of Asthma & Pneumonia
6Gallium - Cause throat irritation, Difficulty breathing, Chest pain, Partial paralysis.
7Germanium - Harmful for Skin, Eyes & Blood 8 Molybdenum Joint pains in the knees, hands, feet It is Highly toxic
9Nickel - Lung cancer, Nose cancer, Larynx cancer and Prostate cancer, Heart disorders
10 Selenium - Collection of fluid in the lungs, Abdominal pain, Fever, Heart and muscle problems, Bronchial asthma, Diarrhoea, Enlarged liver, Burning, Bronchitis, Sore throat, Cause of death
11Silver - Kidney, Eye, Lung, Liver, Brain damage, Anaemia **12 Lead** - Rise in blood pressure, Kidney damage, Miscarriages and subtle abortions, Brain damage, Effects fertility of men through sperm damage, Diminished learning abilities of children
13 Tin - Eye and skin irritations, Headaches, Stomachaches.

E-waste is generated in households and corporates (including private and government companies). As per one study 68% of WEEE is stockpiled in USA (HP, 2005). In India, the number is likely to be much higher.

The collection of this waste happens in different ways. The chains start from ragpickers, and move up to local scrap dealers, area aggregators and finally recyclers. Corporate business houses sell their old EEE to second-hand buyers through various means such as auction, scrap sale or open
bidding.

Once e-waste is collected from its generators, it is resold or rented or donated or dismantled for parts or sold on basis of weight to scrap dealers. Most of the recycling community works in the informal sector. The aggregate WEEE is taken by a larger scrap dealer who sorts the material as per his own convenience. The non usable equipment is dismantled manually. The easily separable parts such as plastics, glass, metal cabinets etc are directly sold in various markets. The more complicated parts such as mother boards, assemblies, fused parts etc are usually sold to an informal recycler. These metals are sold to smelters. In most cases, the extraction techniques are so crude that the output is also contaminated. Also the efficiency of such techniques is only about 30%.

From the usable part of the collected WEEE, some is sold directly in second hand sale, some is refurbished and sold as a refurbished product, some is donated to charity and some is rented.

E-waste and Africa

In Africa, the total e-waste generation was 1.9 Mt in 2014.

E-waste and America

In the Americas, the total e-waste generation was 11.7 Mt in 2014.

E-waste and Asia

In Asia, the total e-waste generation was 16.0 Mt in 2014.

E-waste and Europe

In Europe, the total e-waste generation was 11.6 Mt in 2014.

E-waste and oceania

In Oceania, the total e-waste generation was 0.6 Mt in 2014.

Research on E-Waste Management

Many more environmental epidemiological studies are required to assess the present status of e-waste management system in India, to assess the e-waste quantities and exact amplitude of the problem in Indian cities, and to establish relationships with the informal recycling sectors. The valuable data will be generated by these studies that would help in drafting an action plan for e-waste management. India should start a surveillance system for diseases and health consequences of e-waste. The sustainability of e-waste management systems has to be ensured by improving the collection and recycling systems. It would be desirable to establish public-private partnerships in setting up buy-back or drop-off centers. Levying advance recycling fees is another approach to ensure waste management sustainability. To identify best e-waste management technologies across the globe and adopt them successfully can be key to a sustainable futuristic growth. The reduction of the hazardous substances in the electronic and electrical equipments and the promotion of use of their safer substitutes many countries have adopted the Restriction of Hazardous Substances (RoHS) Regulations in the manufacture of these items. More and more such less hazardous substitutes should be identified which can be used in electronic equipments.

E-Waste Management Initiative

In Environmental (Protection) Act 1986, the "polluter pays principle" is enacted to make the party responsible for producing pollution responsible for paying for the damage done to the natural environment. In international environmental law, it is mentioned in principle 16 of the Rio Declaration on Environment and Development. Polluter pays is also known as extended producer responsibility (EPR). Under the Environment (Protection) Act 1986, central and state governments can enact legislations to safeguard the environment and people from exposure to toxic and hazardous nature of waste. Any violation of the provision of this act or notified rules

is liable for punishment. Such penalty can be imposed on the violator if specific rules and regulations on e-waste are violated.

CPCB India is finalizing the set of rules and most recently issued a formal set of guidelines for proper and eco-friendly handling and disposal of the electronic waste. The Ministry of Environment and Forests is now processing the rules framed by electronics equipment manufacturers with the help of NGOs. According to the new guidelines issued by CPCB in 2007, e-waste is included in schedules 1, 2, and 3 of the "Hazardous Waste (Management and Handling) Rules 2003" and Municipal Solid Waste Management Rule, 2000. Each manufacturer of a computer, music system, mobile phone, or any other electronic gadget will be "personally" responsible for the final safe disposal of the product when it becomes a piece of e-waste. Department of Information Technology (DIT), Ministry of Communication and Information Technology, has also published and circulated a comprehensive technical guide on "Environmental Management for Information Technology Industry in India." Demonstration projects have also been set-up by the DIT at the Indian Telephone Industries for the recovery of copper from Printed Circuit Boards.

As an effort to make the users aware of the recycling of e-waste, many electronic companies such as Apple, Dell, and HP have started various recycling schemes. Nokia India announced its "recycling campaign" for the Indian region. The program encouraged mobile phone users to dispose of their used handsets and accessories, irrespective of the brand, at any of the 1,300 green recycling bins put up across the priority dealers and care centers. Nokia is also planning to launch an electronic waste management program.

The Department of Environment, Delhi government, has also decided to involve ragpickers in general waste management in the capital. These ragpickers will be trained, given uniforms, ID cards, and hired to clean waste. The department also intends to involve eco-clubs, now running in over 1,600 government and private schools in the Capital, in this initiative since it is these eco-clubs that will be interacting with ragpickers of that particular area.

RESEARCH METHODOLOGY

- This project requires a detailed understanding of the concept – "E-Waste management". Therefore, firstly we need to have a clear idea of what is E-Waste, what are its effects , sample size , sampling unit .

SAMPLE SIZE – research includes the survey report of 60 people.
Users of electronics – Students , self employed , salary based , govt. and private employers e.t.c .

Analysis And Interpretation Of E-WASTE

AWARENESS AND ATTITUDES TOWARDS E -WASTE: A study of university students and their families

Name:
Age:
Location (city):
Area:

1. Rural
2. Urban

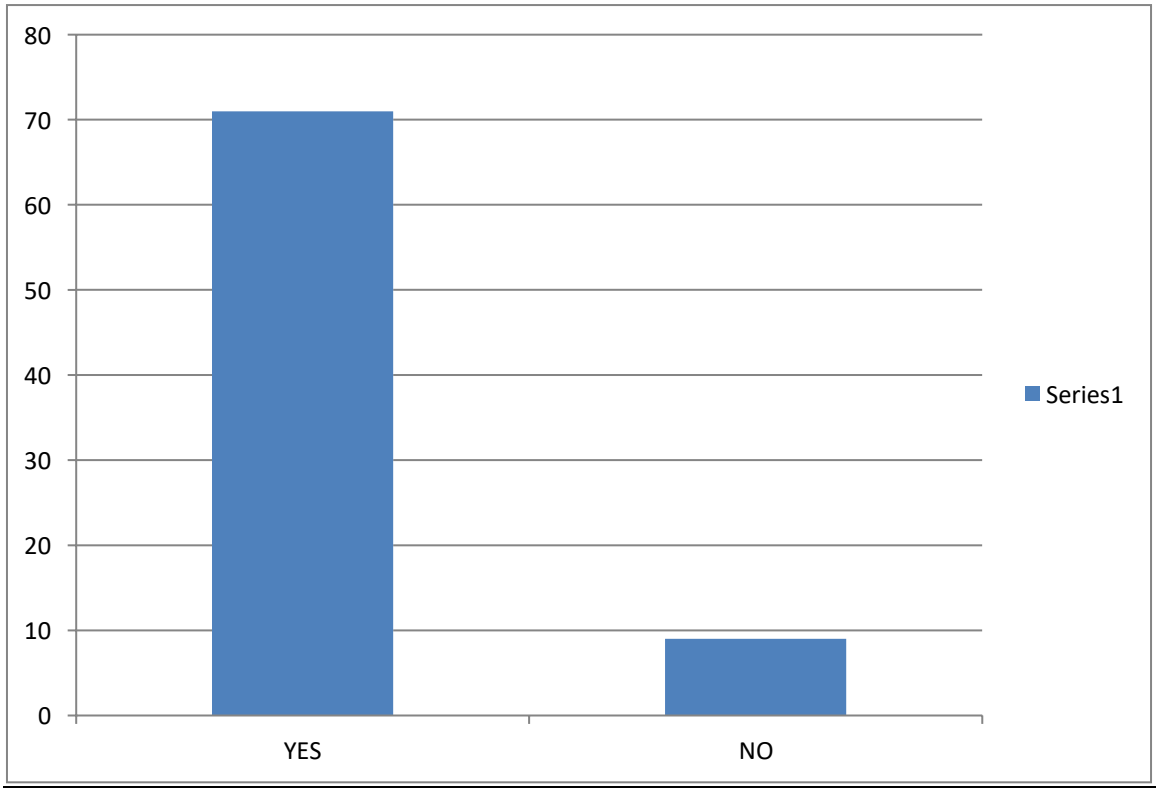
Family income:

1. Below 10,000
2. 10,000-25,000
3. 25,000-50,000
4. 50,000-1 lakh
5. 1-1.5 Lakh
6. >1.5 lakh per month

How many members are there in your family?

_____

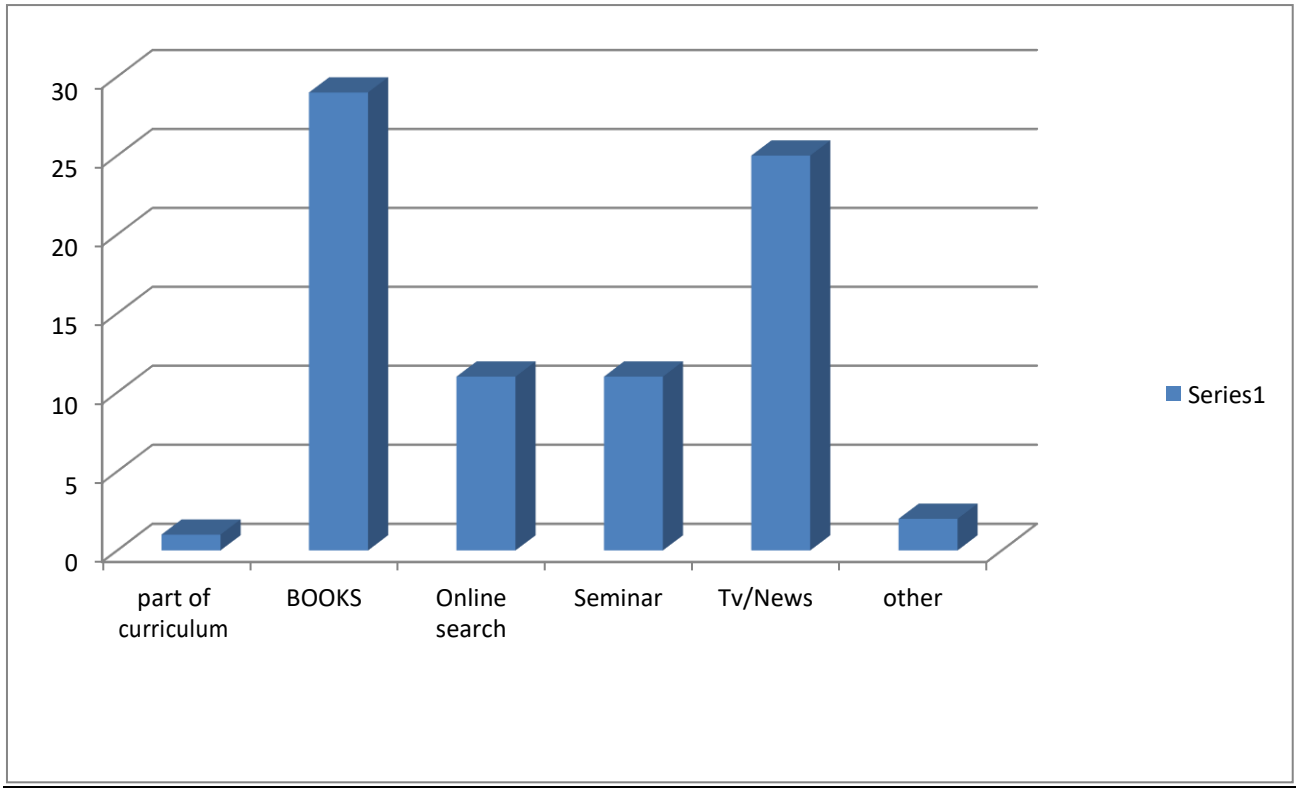
1. Are you aware of the e- waste?
   a) Yes b) No
   Answer : 72 people said yes, while 9 peolpe are not aware of e-waste.



IF NO-THANKYOU ---YOU HAVE REACHED THE END OF THE QUESTIONNAIRE

2. How did you come to know regarding e- waste?(*tick all that apply*)
   a) Part of curriculum b) Books c) Online search
   d) Seminar/workshop/ conference e) TV/News
   f) Other_____

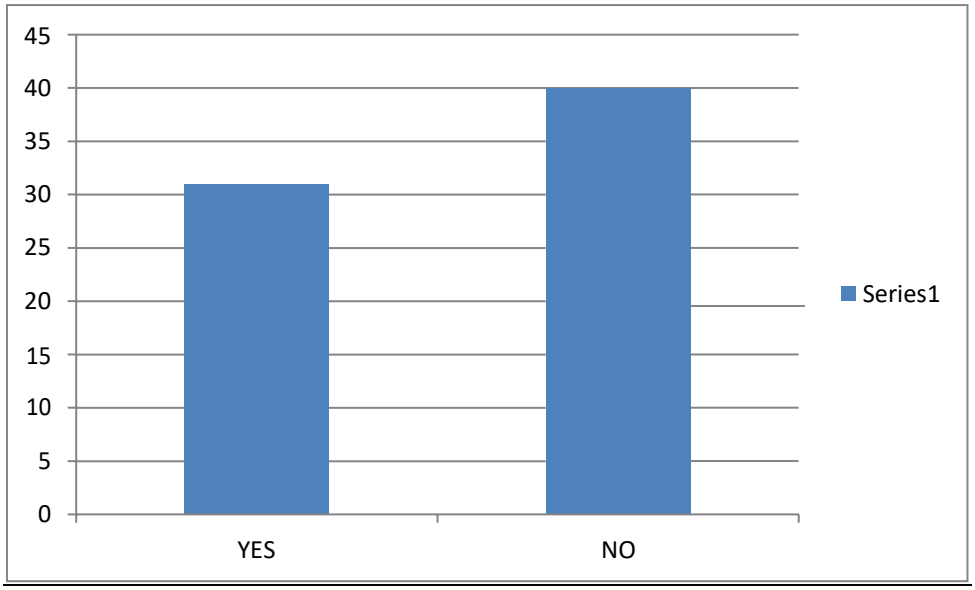
   Answer : 1 person is a part of curriculum activities, 29 people are aware from Books , 11 people are aware from online search , 11 people have attended the seminar , 25 people aware from Tv/News , 2 people from other resources.



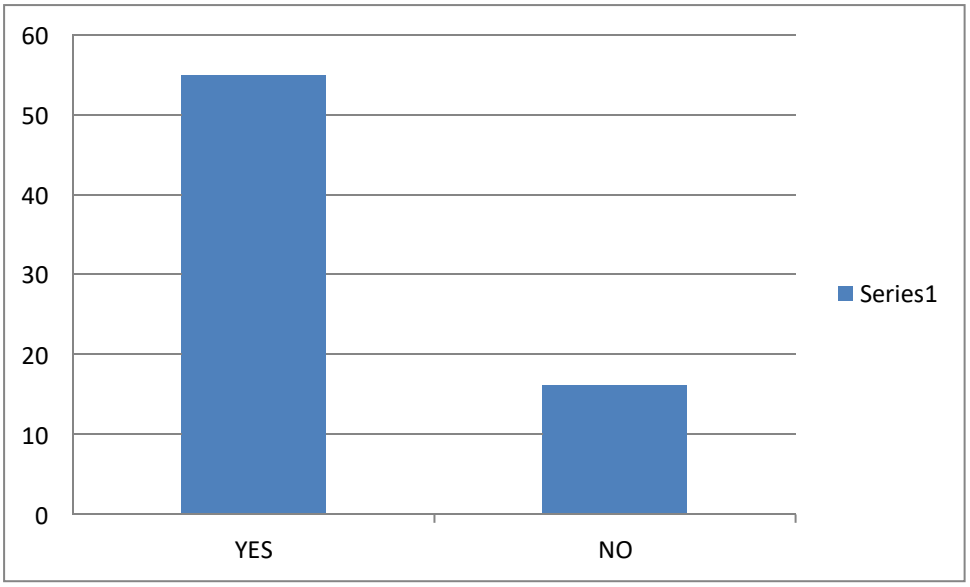
3. Are you aware of the amount of E-waste that you generate?

a) Yes b) No

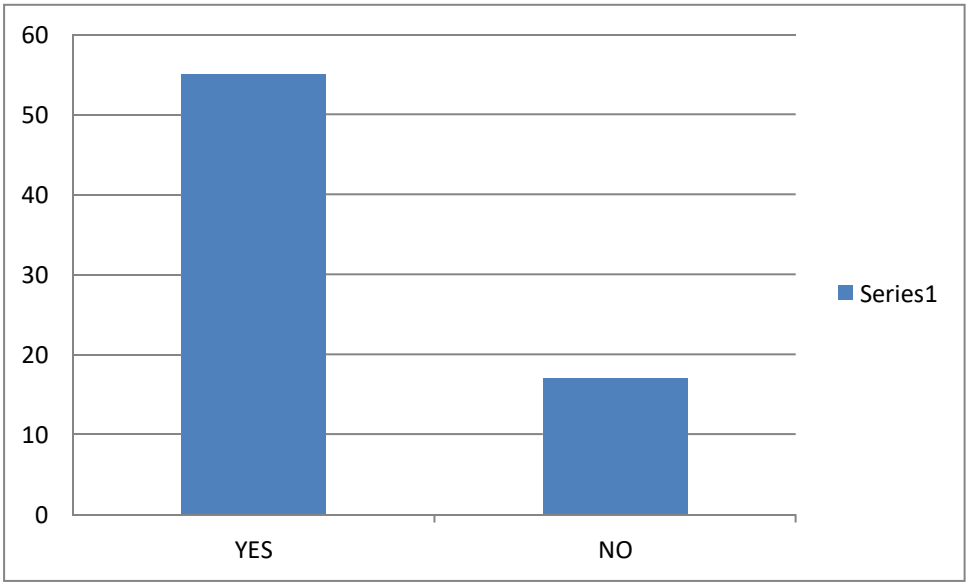
Answer : 31 know how much e-waste they have generated , while 41 peoople don't know.



4. Do you think that E-waste can affect our health?
   a) Yes b) No
   Answer : 56 people think it can affect , 16 people don't know



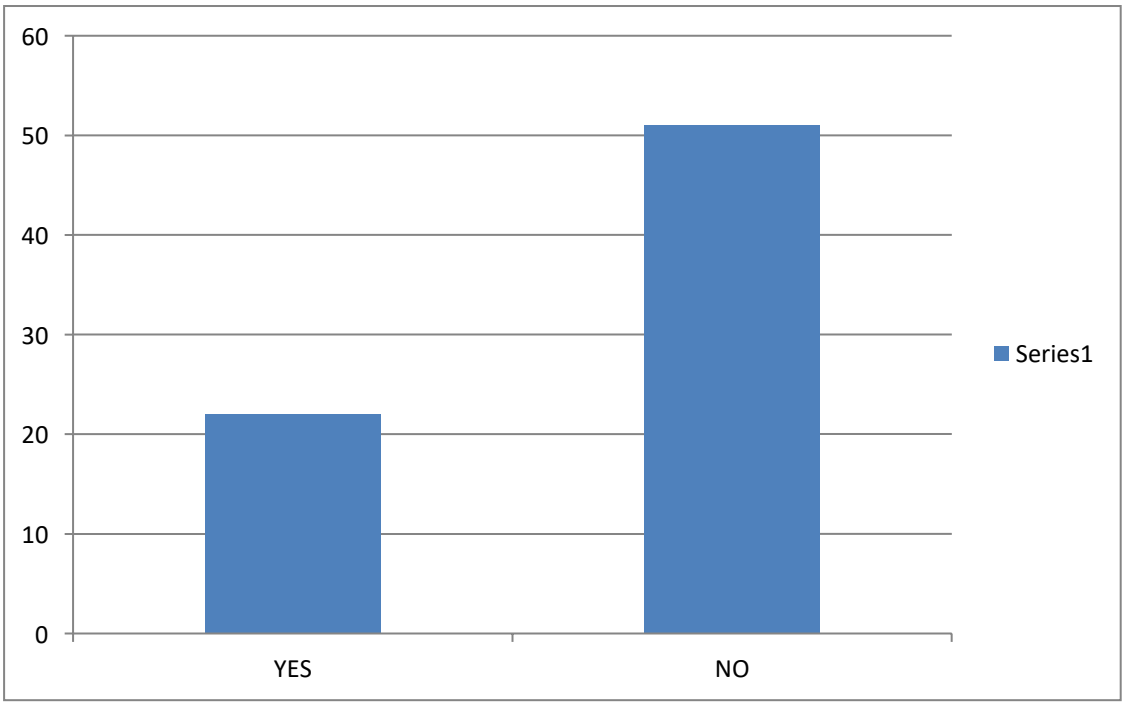
5. Are you aware of the environmental impact of E-waste?
   a) Yes b) No
   Answer : 55 people know the impact , 17 people don't



6. Are you aware of the government rules and policies regarding E-waste in India?

a) Yes b) No

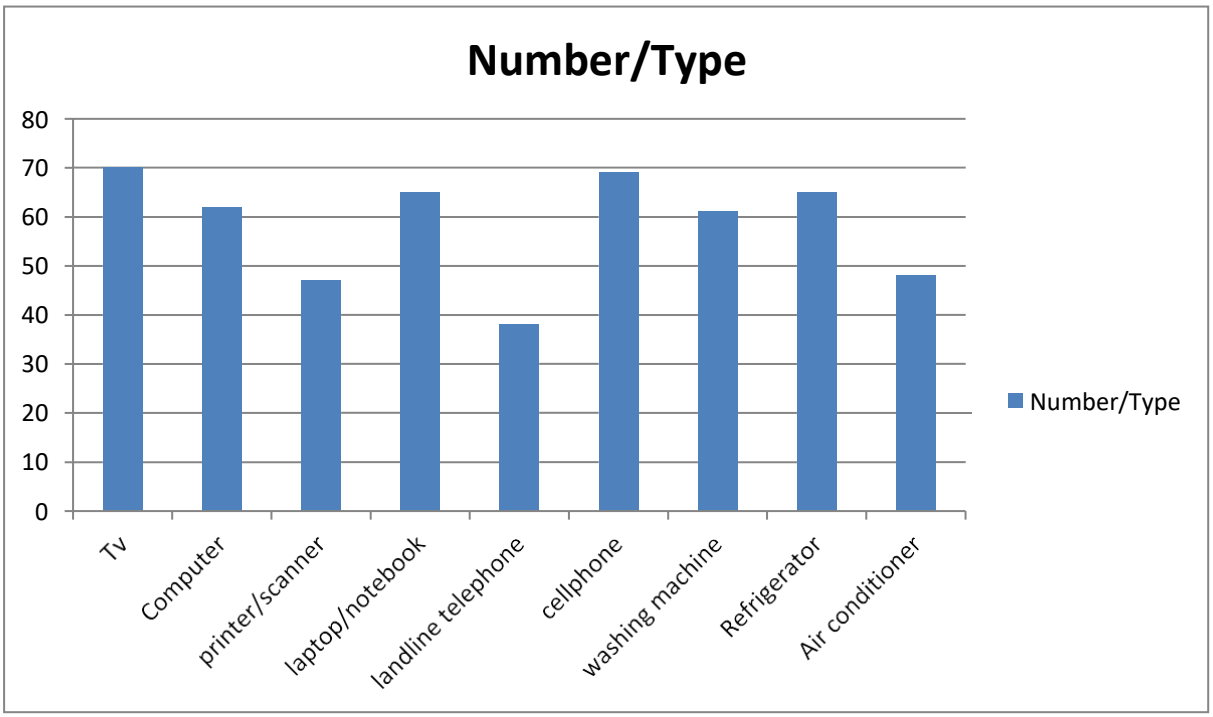
Answer : 22 people are aware of policies, 51 don't



7. Out of the following how many do you (and your family) CURRENTLY own?

Also mention if they were new purchase (N) or second hand purchase (O)?

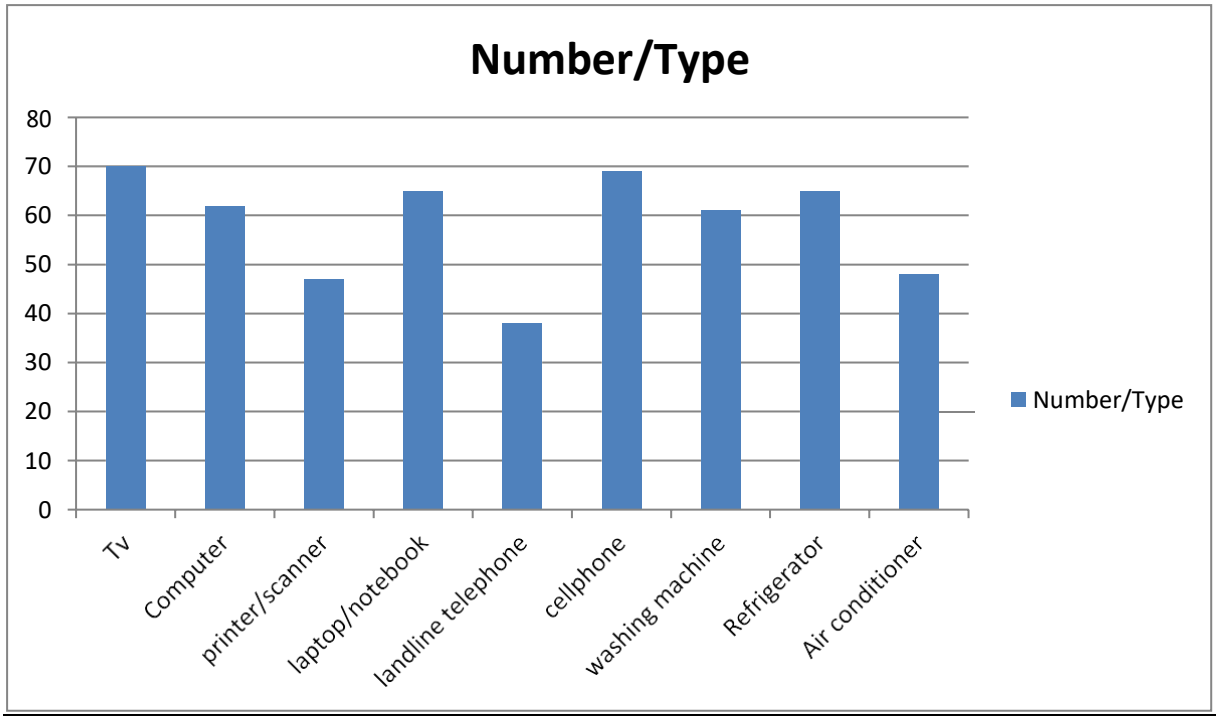
	Gadget	Number/Type of purchase
1	TV	
2	Personal Computer/ Desktop	
3	Printers/Photocopier/Scanner	
4	Laptop/Notebooks/Ipads	
5	Landline Telephone	
6	Cellphone	
7	Washing machine	
8	Refrigerator	
9	Air Conditioner	



8. In past 10 years, how many of the following gadgets (owned by you and family) have you sold off/ disposed off?

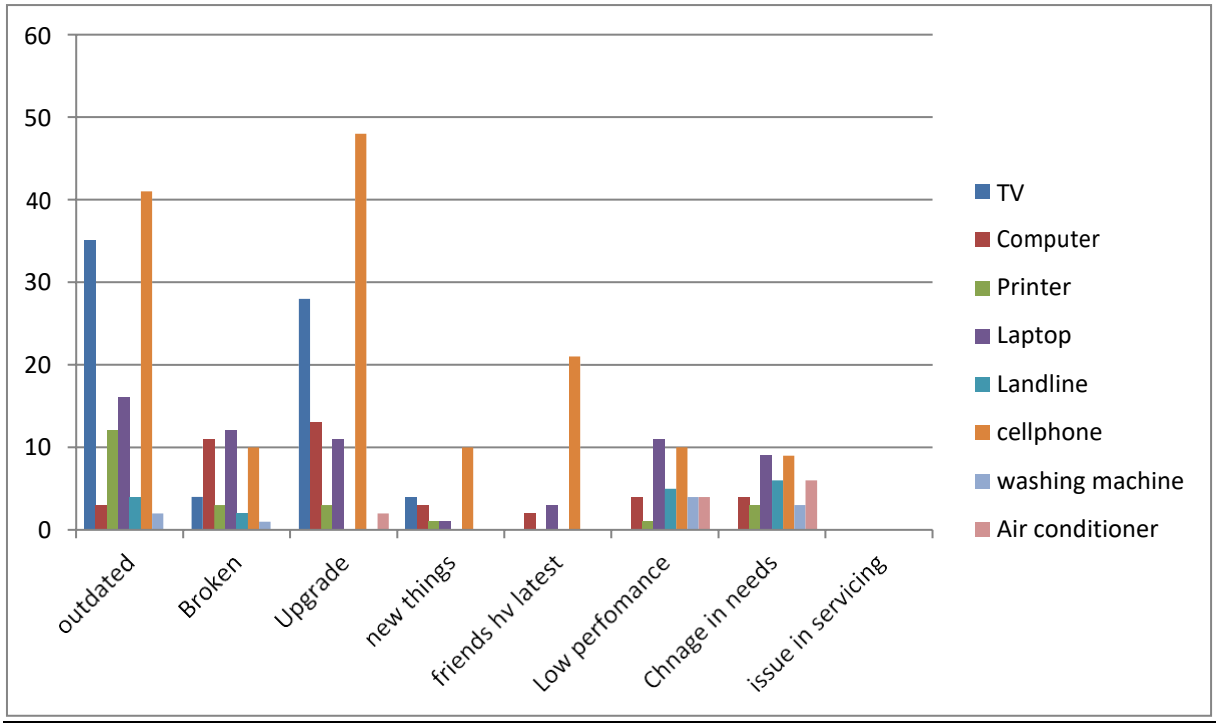
	Gadget	Number of items							
		None	1	2	3	4	5	6	7 or more
1	TV								
2	Personal Computer/ Desktop								
3	Printers/Photocopier/Scanner								
4	Laptop/Notebooks/Ipads								
5	Landline Telephone								
6	Cellphone								
7	Washing machine								
8	Refrigerator								
9	Air Conditioner								

Answer :



9. What was the reason for you to change your electric or electronic equipment? (*check all that apply)*

	Gadget	Too old/ outdated	Broken/ not working	To upgrade to latest technology	Interested in buying new things	friends/peers have the latest ones.	Performance below expectations	Change in your needs (Personal or work related)	Issues servici g /spare parts/a ter sale suppor
1	TV								
2	Personal Computer/ Desktop								
3	Printers/Photocopier/Scanner								
4	Laptop/Notebooks/Ipads								
5	Landline Telephone								
6	Cellphone								



10. In past 10 years how have you disposed off the electrical / electronic items in your possession?

	Gadget	Sell online	Sell to others (offline)	Sell to kabadiwala /scrap dealer	Donate to a person/ charity	Give to recycling agency	Throw away with household waste	other-pl mention
1	TV							
2	Personal Computer/ Desktop							
3	Printers/Photocopier/ Scanner							
4	Laptop/Notebooks/ Ipads							
5	Landline Telephone							
6	Cellphone							
7	Washing Machine							
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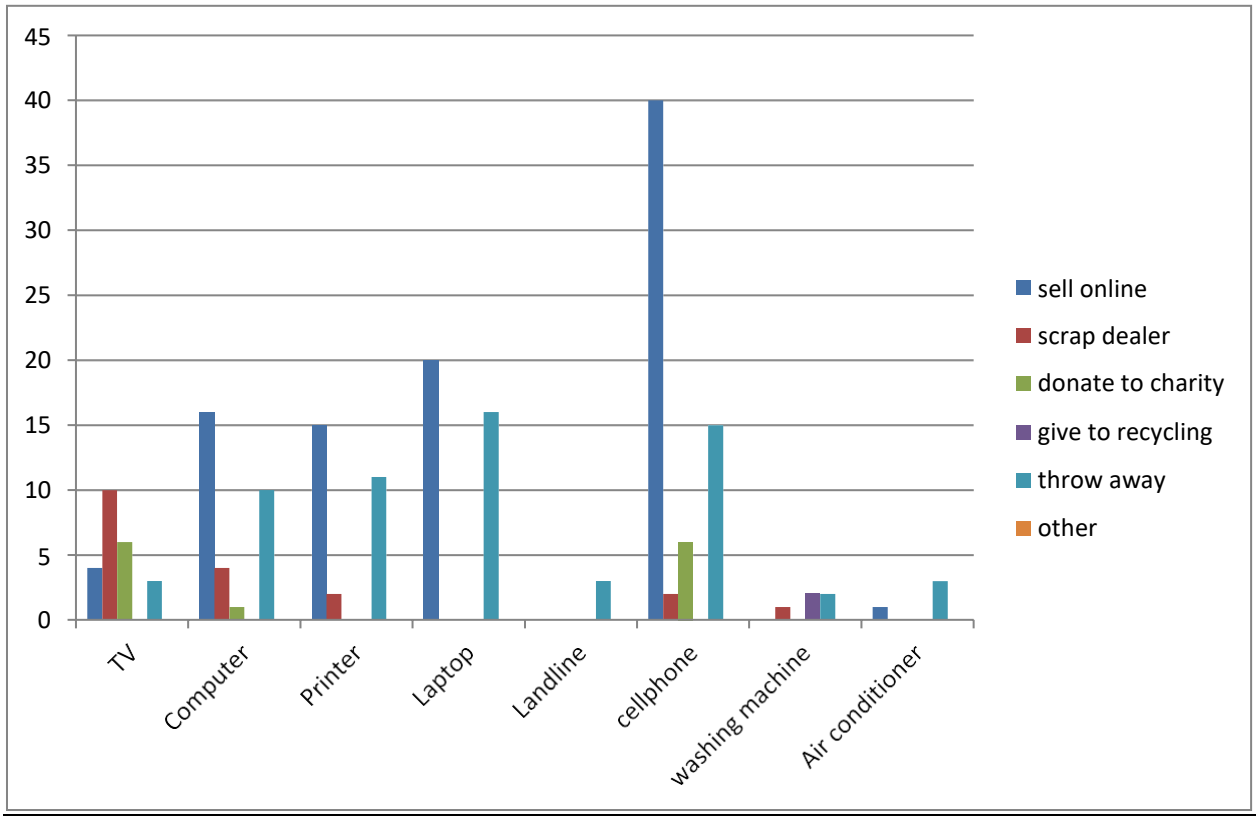
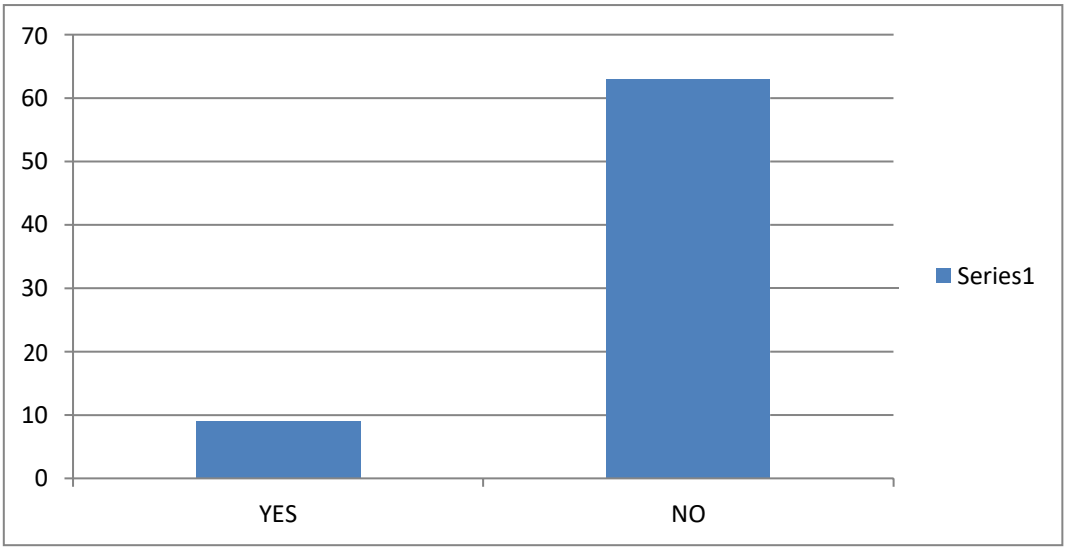
Answer :



11. Have you ever faced problems in disposal of E waste?
    a) Yes b) No

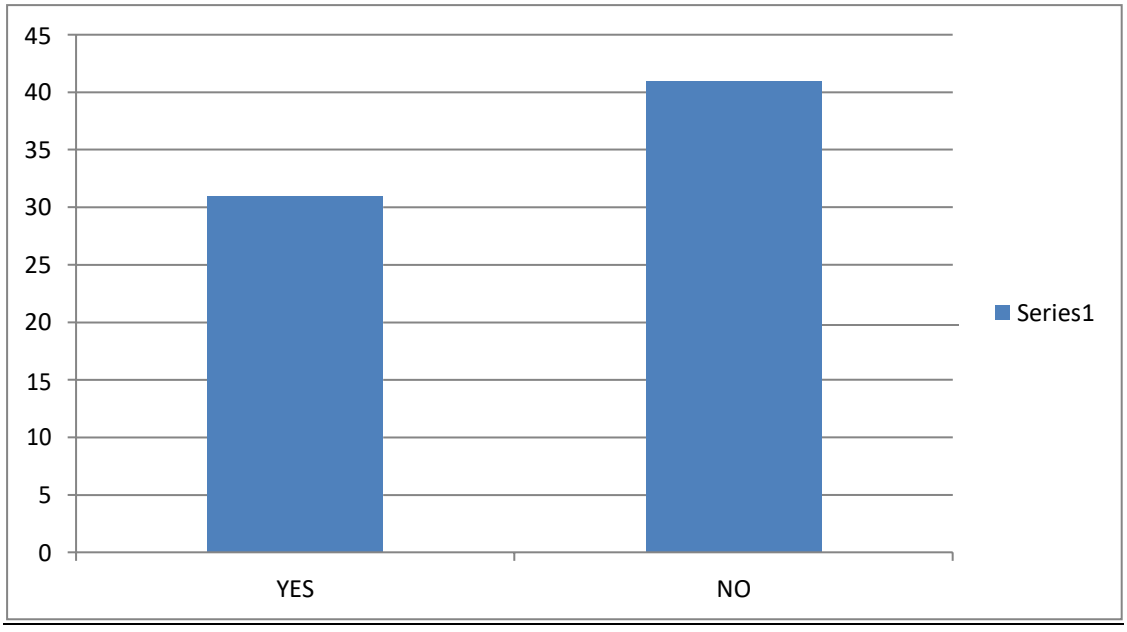
    If yes what kind_____(elaborate)

    Answer:



12. Are you aware of the recycling and reuse options of electronic or electrical items you use?

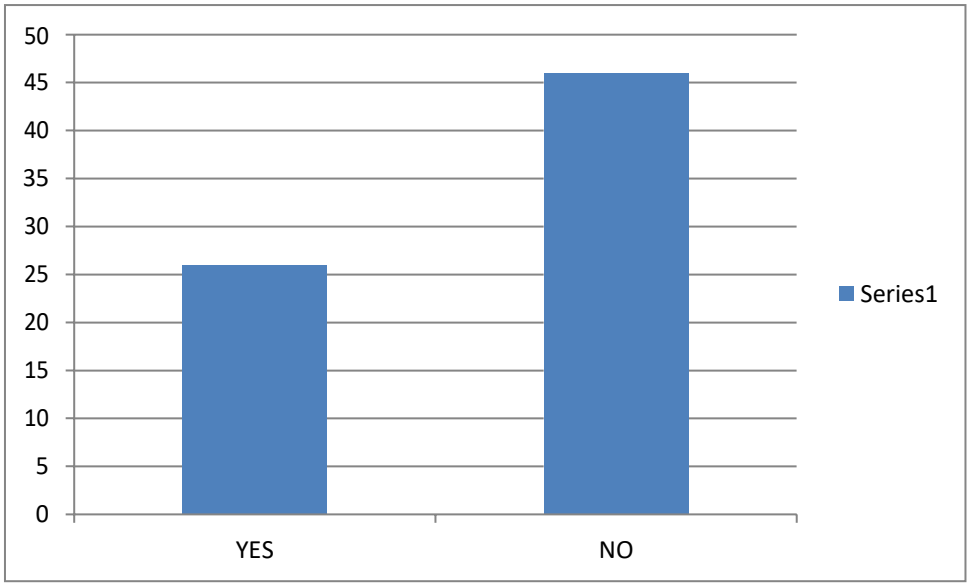
a) Yes b) No



13. Are you aware about the E-waste collection centres in Punjab?

a) Yes b) No

Answer : 26 yes , 46 no



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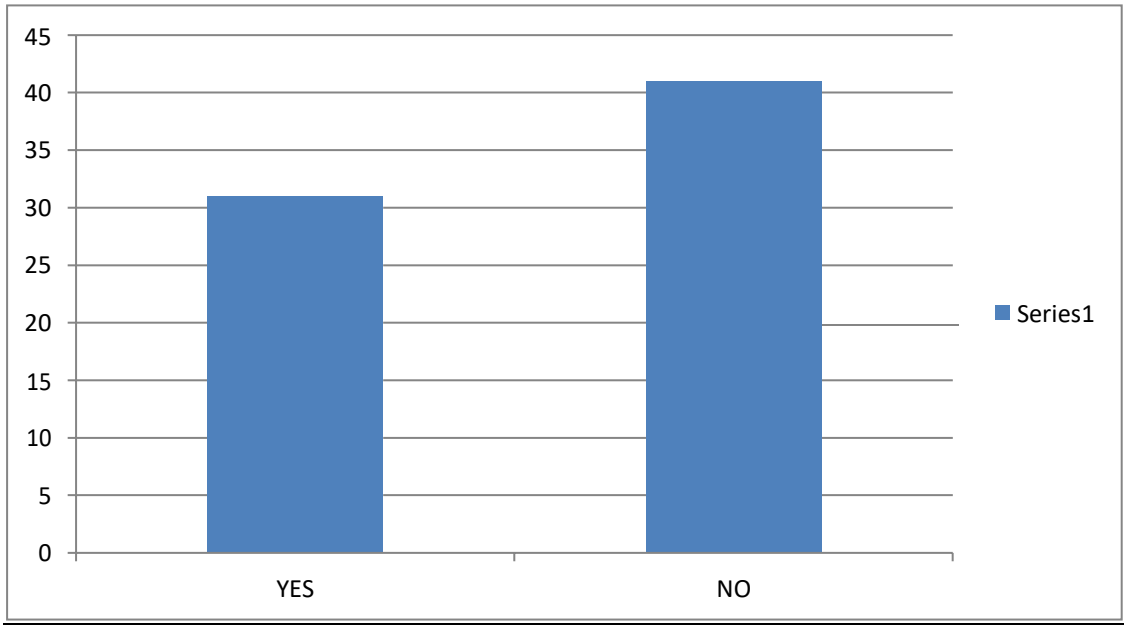
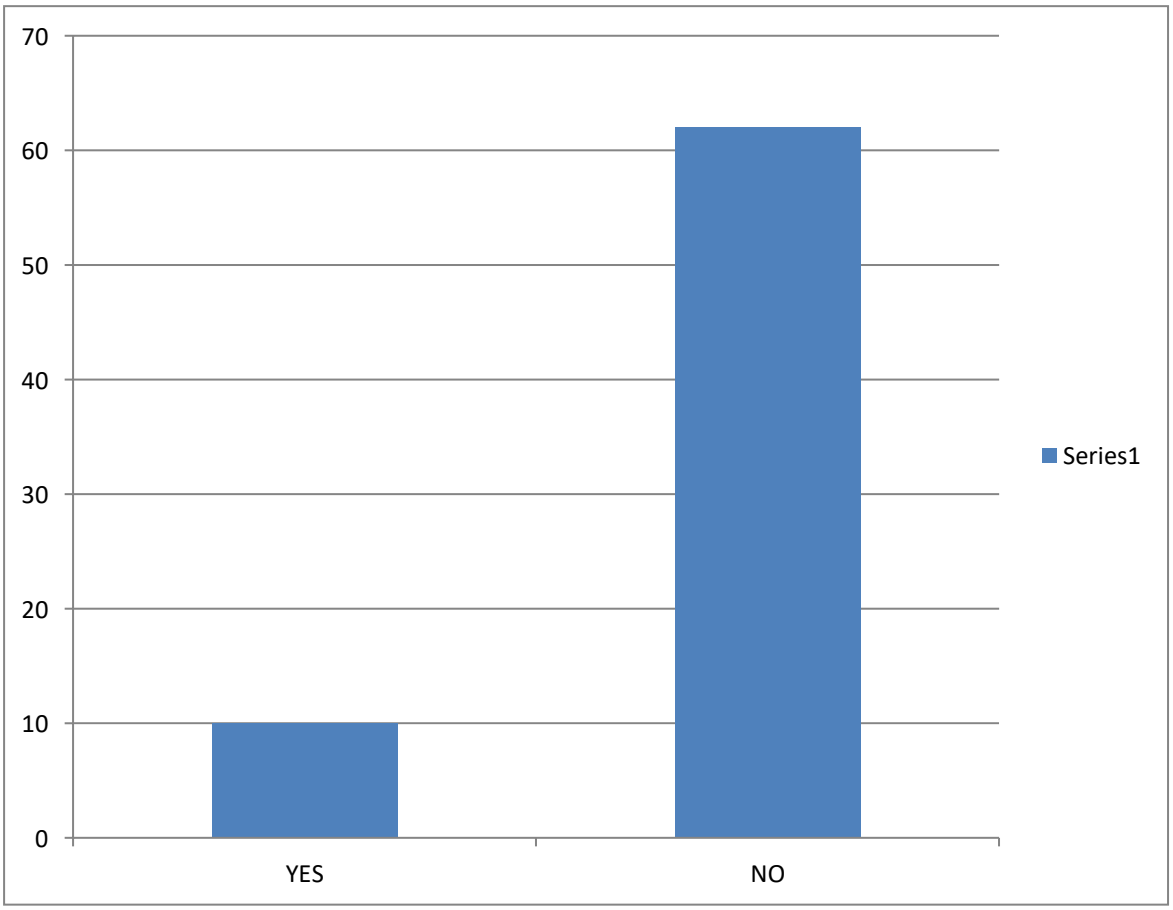


15. Are you part of any program /campaign or organization associate with recycling of e-waste?

a) Yes b) No

If yes please elaborate_____



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Following sources have been sought for the preparation of this report:
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Survey (retrieved on 3,4,5 april , 2016)

Direct intraction with people (on 4,5 april 2016)
Health magazines (retrived on 6 april,2016)
Online resources like :

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- www.study.com
- www.encyclopedia.com.
- www.seminarsonely.com.
- www.newsweek.com.
- www.cities.indiaexpress.com
- www.tec.gov.in.
- **e-watemanaging.weebly.com**
- **http://www.ide.go.jp/**

www.prb.org

DATA SOURCES:

The following sources have been sought for the preparation report:

- Primary sources such as Surveys, business magazines, current annual reports, book on E-WASTE by various authors and internet websites the imp amongst them being :
- www.Wikipedia.com.
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- www.encyclopedia.com.
- www.seminarsonely.com.
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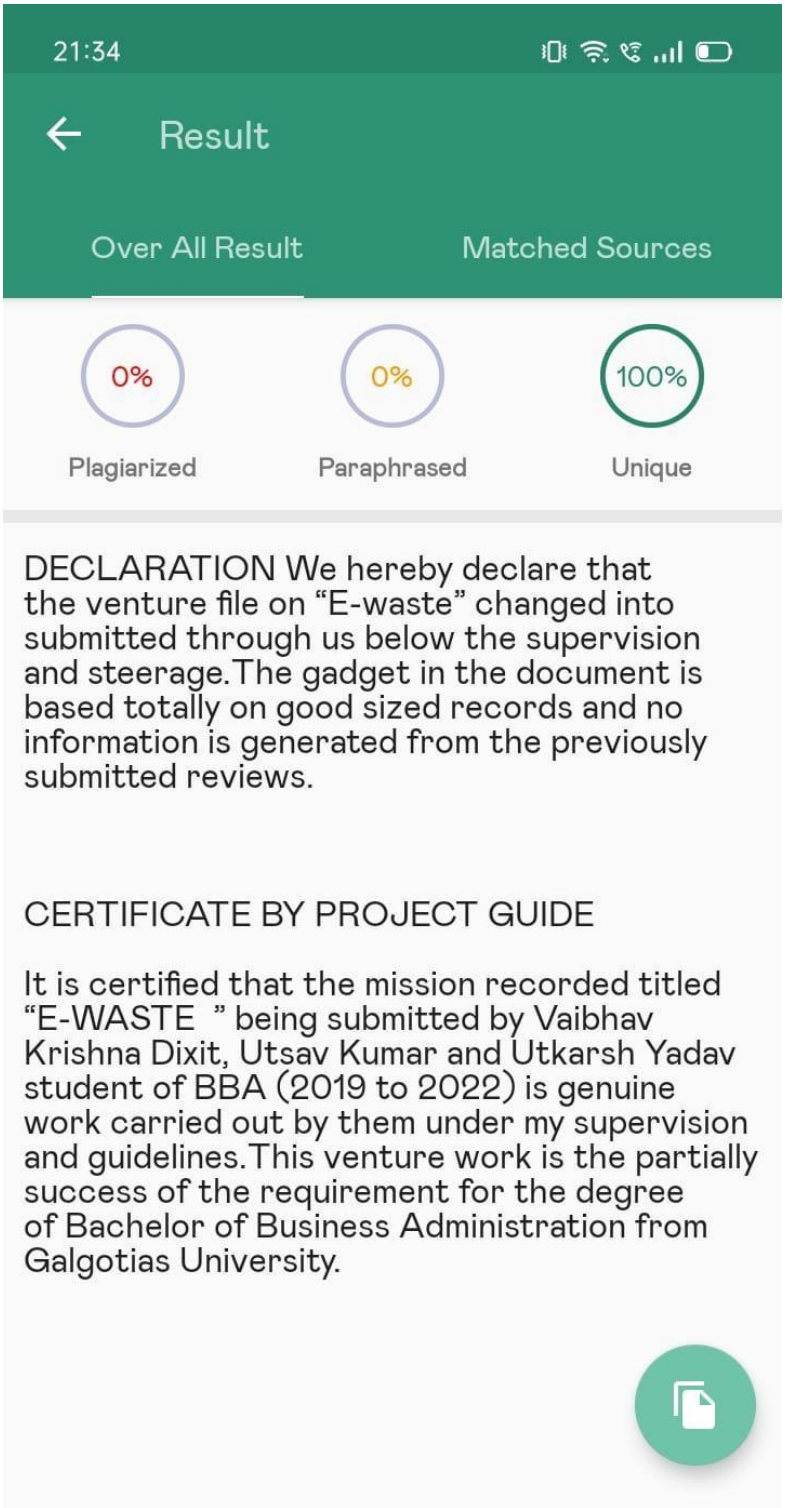
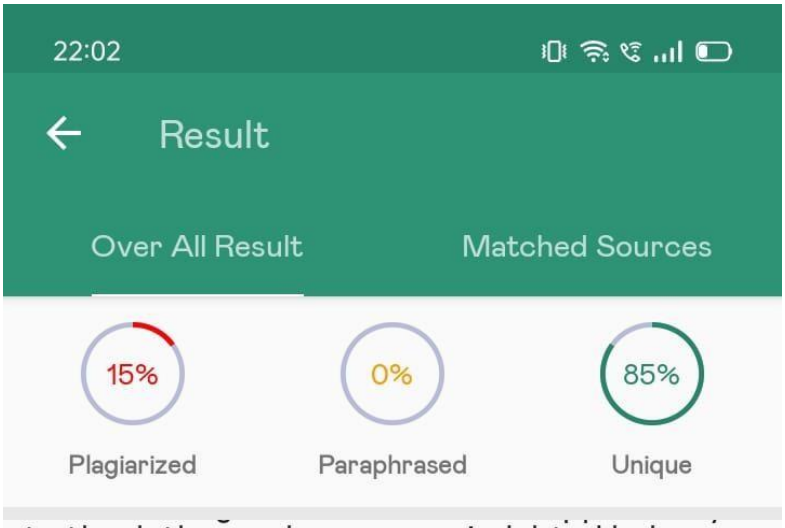
- www.ncbi.nlm.nih.gov

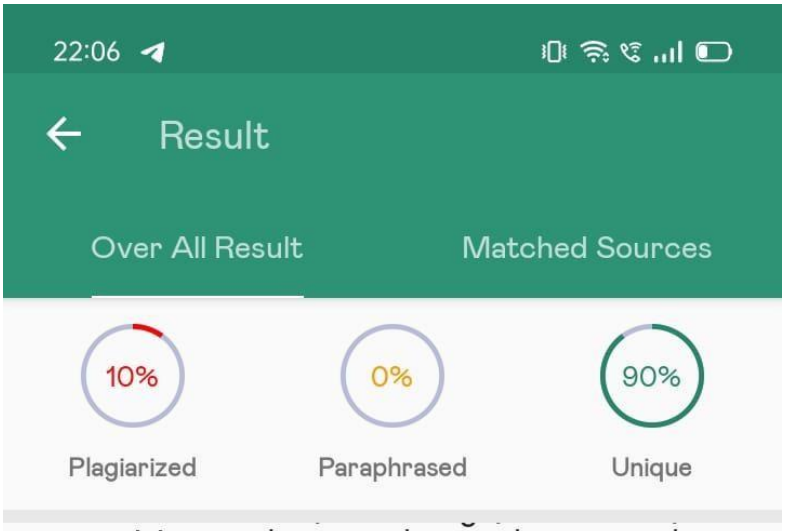

E-WASTE

PLAGIARISM REPORT





to thank those who gave me indebted help and steady encouragement for completing this project. We would really like to thank Ms.AMRITA MISHRA for her continuous assist in crowning glory of this project.She promoted us and turned into available each time her assistance was sought.She turned into actively worried at some stage in the project and become additionally kindsufficient to inform us the strengths and weaknesses and the way we could enhance ourselves to face the company. Without her help the finishing touch of this project would be impossible.. An insight view of undertaking will encompass – what it far all about, what it pursuits to obtain, what is its purpose and scope, the diverse strategies used for accumulating statistics and their resources, which includes literature survey accomplished, in addition specifying the limitations of our examine and insider the last, drawing inferences from the getting to know up . Electronic waste or e-waste consists of broken or unwanted electrical or digital elements or gadget as an entire.. The rapid obsolescence of electronics goods, compounded by dumping of elect items through the advanced internation location, has delivered the e-waste hassl India into an acute crisis.



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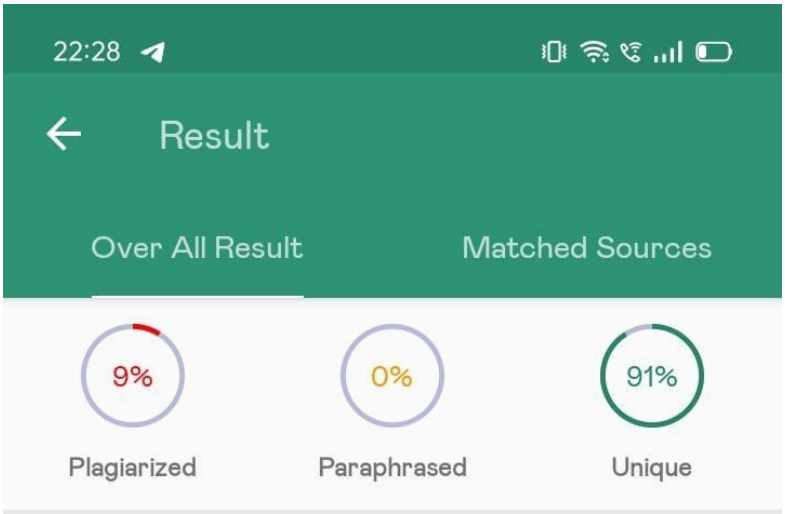

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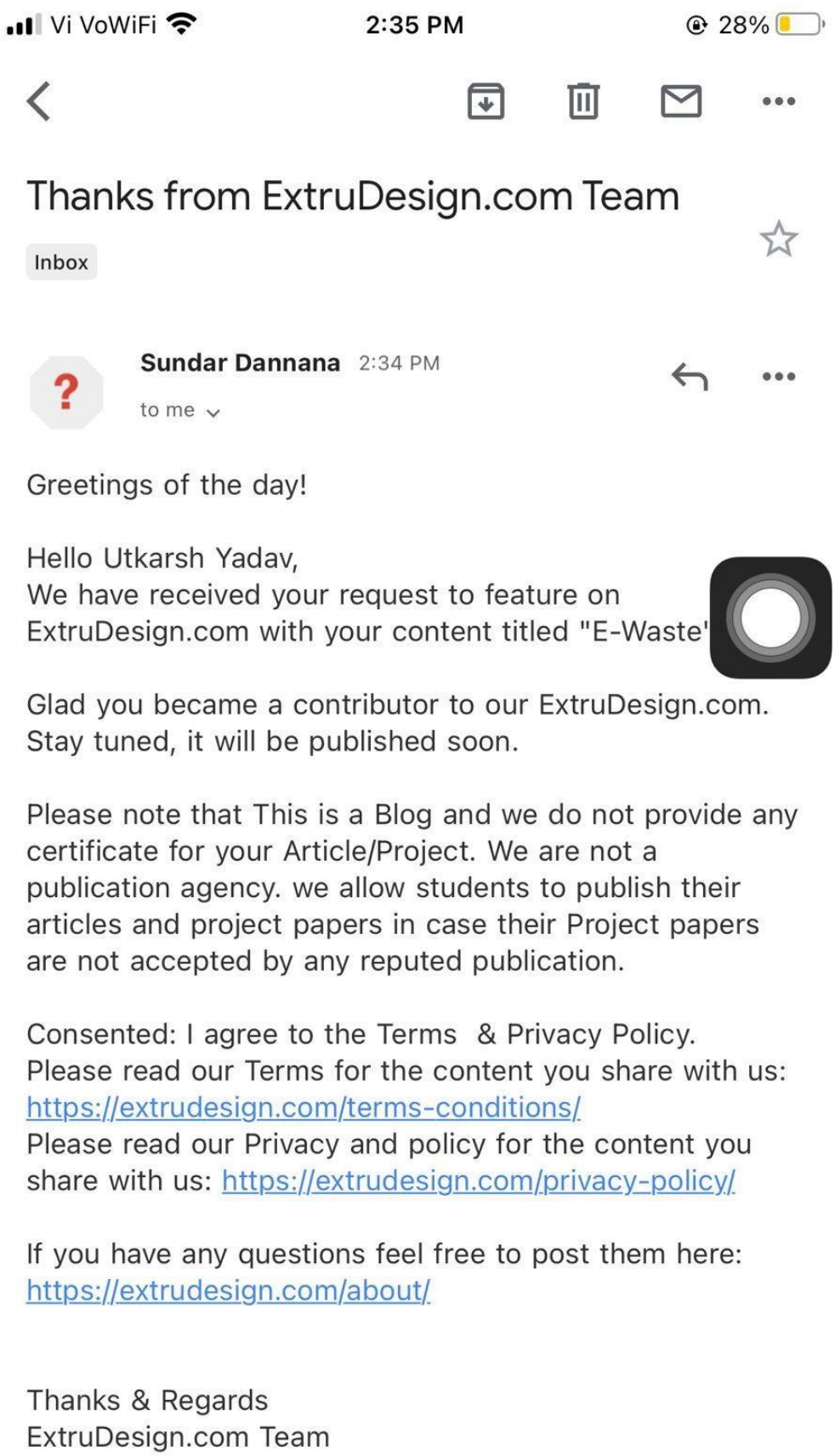
PUBLISH REPORT



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