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A Study on E-Waste Management among Residents Coimbatore City

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Abstract

The present level of public knowledge of electronic trash (e-waste) management procedures is investigated in this systematic research. This review finds common themes, including awareness levels, knowledge gaps, and attitudes towards e-waste disposal and recycling, through the analysis of multiple studies. It also investigates the efficiency of policy measures and educational activities in raising awareness levels. The review's conclusions offer insightful information to researchers, environmentalists, and legislators who want to increase public involvement in sustainable e-waste management programme.

Keywords: Electronic waste, Awareness, Knowledge.

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Introduction

Electronic waste, commonly referred to as e-waste, presents a growing challenge worldwide due to its environmental and health hazards. With the rapid advancement of technology and the consequent increase in electronic device consumption, proper management of e- waste has become imperative. Coimbatore City, like many urban areas, faces the pressing need to address the issue of e-waste effectively.This study delves into the awareness levels among the public in Coimbatore City regarding e-waste management procedures. E- waste encompasses a wide array of electronic devices, from smartphones and laptops to household appliances and industrial machinery, all of which pose unique challenges in disposal and recycling.By conducting a systematic review of existing literature, this research aims to identify prevalent themes such as awareness levels, knowledge gaps, and

attitudes towards e-waste disposal and recycling. Understanding these aspects is crucial for formulating effective strategies to mitigate the adverse impactsof e-waste on the environment and human health.

OBJECTIVES OF STUDY

● To know the demographic profile of the respondents

● To study the level of usages of electronics items

● To know the level of awareness about the impact of E-Waste on environment, Among the respondents

● To study the E-Waste managementtechniques adopted by the respondents

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Scope of study

- The study will concentrate on the integration of Electronic Waste in the context of public.

- The study across different age group of public will be considered for a comprehensive analysis.

- The research was carried out in an extremely brief time frame.

LIMITATION OF THE STUDY

- Findings may be specific to the selected public, limiting broader applicability.

- The study's sample may not fully represent the diverse range of public, introducing potential bias.

- Limitations in time, or access may constrain the study's depth and scope.

- Accuracy and reliability of collected data may be influenced by respondent honesty and openness

- Rapid changes in E-Waste technology may outpace the study, impacting relevance.

- The number of respondents was limited to 150 only.

STATEMENT OF THE PROBLEM

The study Provide a solution to address the issue of e-waste that is being produced by house hold, businesses, and industries. The majority of e-waste currently ends up in the unorganized sector, which lacks an environmentally sound recycling system, meaning that no mechanisms are in place to recycle it in

an environmentally good way. Transferring e-waste from the unorganized to the official sectors is the main obstacle. The goal of the solution should be to encourage the recovery of important resources from abandoned electronic devices while simultaneously enhancing the role of the formal sector in the collection, safe management, and responsible disposal of e-waste. All facets of the population, especially those with fewer resources, should be able to utilize the solution, which should be scalable and reasonably priced. It should deal with the obstacles to e-waste that now exist, such as lack of awareness, behaviour modification, and infrastructure deficiencies.

Review of Literature

- **Sonal Thukral, Deep Shree, Shakshi Singhal(2023)**:With the rapid increase in the consumption of electrical and electronic innovations, responsible management and recycling of electronic waste (e-waste) or waste electrical and electronic equipment (WEEE) has been a significant concern for the governments, stakeholders, researchers and industry practitioners around the world. Consumer awareness, disposal behavior and perception are chief facets of designing sustainable management strategies. Although researchers have widely studied e- waste over many years, the research focusing on consumer awareness about e-waste recycling has gained momentum recently. This paper aims to systematic the existing literature and explore future research prospects on household e-waste sorting behavior

- **According to Norazli Othman (2015):** the quantity of electronic wastes can be controlled if there is a sustainable integrated technique in managing the electronic waste. Sustainable integrated technique should consider electronic wastes management from the production until its disposal point.

Implementation of new Legislation and Act should also be considered by the authority as to develop human capital in managing electronic waste. The combination of human capital with a sustainable

technique for manager.

Kuniko Mishima, Hidekazu NishimuraWaste Management & Research (2016) :The collection and recycling of small-sized waste electrical and electronic equipment is an emerging problem, since these products contain certain amounts of critical metals and rare earths. Even if the amount is not large, having a few supply routes for such recycled resources could be a good strategy to be competitive in a world of finite resources. The small-sized e-waste sometimes contains personal information, therefore, consumers are often reluctant to put them into recyclingbins. In order to promote the recycling of E-waste, collection of used products from the consumer becomes important. Effective methods involving incentives for consumers might be necessary.
Without such methods, it will be difficult to achieve the critical amounts necessary for an efficient recycling system.

Research Methodology

Research is a specific and systematic search for information on a specific topic. Research is an art of scientific investigation where research comprises defining and redefining problem formulation suggestion (or) solutions and evaluating data.

Method of Data Collection: The datacollected for this study is:

Primary Data: The primary data arecollected through structured questionnaires.

Secondary Data: Secondary data is adata collected from websites and published records.

Area of Study: This study wasconducted in Coimbatore city.

Sample size: 150 respondents residing in Coimbatore city were selected for thestudy.

Tools used for Analysis: Data analysistools are Simple percentage and Chi- square test.

Data Analysis and Interpretation

Percentage analysis

Table 1 : Age of the respondents

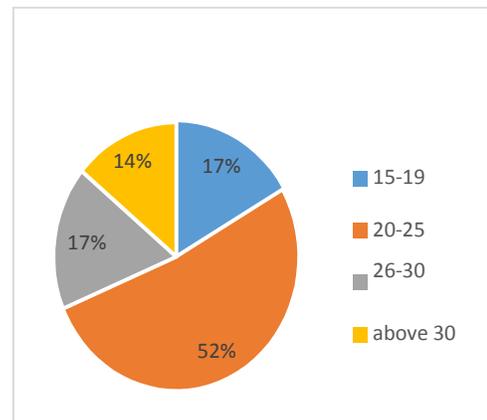| Age (Years)	**Respondents**	*%*
Below20	25	16.7%
20-25	78	52%
26-30	26	17.3%
Above30	21	14%

Fig 1: Age of the respondents

Interpretation

It is interpreted that majority (52%)of the respondents are in the age group of 20-25 years.

Table 2: mode of disposing e-waste by respondents

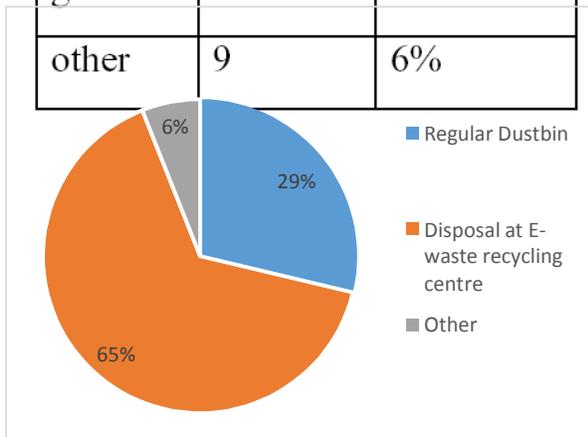| Disposable of e-waste	respondents	Percentage %
Regular dust bin	43	28.7%
Disposal at e-waste recycling centre	98	65.3%
other	9	6%

Fig2: mode of disposing e-waste byrespondents

Interpretation

It is interpreted that majority (65.3%) ofthe respondents dispose e-waste through recycling center

Chi-square analysis

Chi-square analysis formula:$\chi 2 =$

$\sum (Oi - Ei)2 / Ei$ **Degree of**

freedom: (r-1)(c-1)

H1: there is a significant relationship between age and awareness risk about effects of e- waste

Table 3 ; chi-square

Variable	Degree of freedom (r-1)(c-1)	Calculate value	Accepted / Rejected
Age and aware	6	1.253	Accepted

Result: Calculated chi-square value is(1.253) less than

(12.592) table value. Hence the hypothesis is accepted

Findings :

- The age of majority (52%) of the respondents are between 20-25 years

- The majority (51.3%) of the respondents are male

- The majority (47.3%) of the respondents are self-employedpersons

- The income level of majority(36.7%) of the respondents is between Rs15001-Rs.25000

- The majority (74.7%) of the respondents are aware about e-waste

- The majority (80%) of the respondents are aware about riskeffects of the e-waste, if not handled carefully

- The majority(32.7%) of the respondents handle their organization's e-waste through vendor buy and exchange

- The majority(65.3%) of the respondents dispose their e-wastethrough recycling centre

- The majority(38.7%) of the respondents are aware of the environmental impact of impropere-waste disposal.

- The majority (37.3%) of the respondents change their electronicdevices with in 1-2 years

- The majority (38%) of the respondents are having led TV intheir home.

- The majority (44%) of the respondents are use electronic recycling method for dispose of theold electronic devices

- The majority (45.3) of the respondent's organization replace their electronic devices between every 3-4 years

- The majority (80.7%) of the respondents have e-waste currently in their house

- The majority (45.3%) of the respondents know about separation of components.

- The majority (72%) of the respondents have public bins near their house

- The majority (38.7%) of the respondents emptied the containers of e-waste once in every two days

- The majority (41.3%) of the respondents opine that e-waste collection in near their area, is good.

Suggestions

Extensive awareness programs shall be provided to households, companies, and industries about the effects of e-waste on the environment and the significance of appropriate disposal and recycling practices.

Policy Implementation to guarantee that e-waste is appropriately collected, recycled, and disposed of in an ecologically friendly manner, advocate for the implementation and enforcement of strict e-waste management laws and regulations.

the infrastructure for e-waste collection and recycling, promote cooperation between the formal sector (official recycling facilities) and the informal sector (unorganized recycles). This may entail offering rewards for participation in the formal sector and educating unofficial recycles on adopting eco- friendly procedures.

Community Participation Provide access to collection services to involve communities, particularly those with limited resources, in e-waste management activities.

Conclusion

The systematic evaluation found substantial gaps in the public's understanding of the protocols for managing electronic trash, or "e-waste." Even though people are becoming moreconcerned about e-waste, they still don't fully grasp how it affects the environment or how important it is to recycle and dispose of it properly.

Although certain educational initiatives and policy measures have been put in place to increase awareness, their effectiveness in resolving the issue varies. In order to effectively educate the public and promote sustainable e-waste management techniques, more extensive and focused activities are required.

In conclusion, the systematic evaluation underscores the prevalent gaps in public understanding regarding e-waste management protocols.

Despite a growing awareness of e-waste issues, there persists a significant lack ofcomprehension regarding its environmental implications and the imperative of proper recycling and disposal methods.

Reference

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