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Attitude On E-Waste Management Among Undergraduate Students In Thanjavur District

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Abstract

"E-waste" is a popular, informal name for electronic products nearing the end of their useful life. The present study was conducted to know the attitude of undergraduate students about E-waste management which is the rapidly growing problems of the world. To find out the attitude of undergraduate students regarding E-waste management, Survey method of research was used. A sample of 320 students was selected from different colleges of thanjavur district through Simple Random sampling technique. The self developed E-Waste Management attitude questionnaire was used to collect the data. It was found that all the students irrespective of their attitude of existence of e-waste.

Keywords: *Attitude, E-waste management*

I. Introduction

Electronic waste or e-waste is one of the rapidly growing problems of the world. Electronic waste, popularly known as 'E-waste' can be defined as electronic equipments / products connects with power plug, batteries which have become obsolete due to: Advancement in technology, Changes in fashion, style and status, Nearing the end of their useful life.

The old electronic appliances such as computers, laptops, TVs, DVD players, mobile phones and mp3 players etc which have disposed by their original users come in the category of E-waste. The electronic goods are classified under three major heads: White goods: Household appliances, Brown goods: TVs, camcorders, cameras, Grey goods: Computers, printers, fax machines, scanners etc.

All above electronic appliances when become useless, come in the category of E-waste. Waste from the white and brown goods is less toxic as compared with grey goods. This new kind of waste is posing a serious challenge in disposal and recycling in both developed and

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developing countries. E-wastes are considered dangerous, as certain components of some electronic products contain materials that are hazardous, depending on their condition and density. The hazardous content of these materials pose a threat to human health and environment. E-waste contains toxic substances like Lead, Mercury, Cadmium and Polycyclic Aromatic Hydrocarbons (PAH) that have an adverse impact on human health and the environment if not handled properly. Discarded computers, televisions, VCRs, stereos, copiers, fax machines, electric lamps, cell phones, audio equipment and batteries if improperly disposed can leach lead and other substances into soil and groundwater. Often these hazards arise due to improper recycling and disposal process used. Many of these products can be reused, refurbished, or recycled in an environmentally sound manner so that they are less harmful to the ecosystem. Therefore it is needed that people should have awareness of E-waste management.

II. Review of Literature

Md Tasbirul islam & Nazmul Huda (2018), a study on reverse logistics and closed-loop supply chain of waste electrical and electronic equipment (WEEE)/E-waste: A comprehensive literature review. The method involves four steps, the steps were followed and further main types of research in the field of RL and CLSC of E-waste, namely designing and planning of reverse, distribution, conceptual framework and qualitative studies were identified and reviewed.

Brijesh sivathanu (2016) a study on user's perspective: knowledge and attitude towards E-waste. This paper stuggests the various pathways to create awareness so that the attitude of the consumers towards disposal of e-waste can be changed which would be helpful to the society to handle E-waste properly and focus towards efficient and effective E-waste management.

De jager Thelma (2015) a study on a proposal to integrate the management of electronic waste into the curriculum of primary schools. The task is equip young learners with the values, attitudes, knowledge and skills needed on how to manage e-waste and secure a healthy and s sustainable future for all.

III. Methodology

Research Problem

The title of the present study is "Attitude on E-Waste Management among Undergraduate Students in Thanjavur District".

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Objectives of the study

- To find out whether there is any significant difference between Male and Female Undergraduate Students of e-waste management.
- To find out whether there is any significant difference between Rural and Urban Undergraduate Students of e-waste management.
- To find out whether there is any significant difference between Government and Government aided Undergraduate Students of e-waste management.
- To find out whether there is any significant difference between Arts and Science Undergraduate Students of e-waste management.

Hypothesis

- There is no significant difference between the mean e-waste management perception scores of Male and Female Undergraduate Students.
- There is no significant difference between the mean e-waste management perception scores of Rural and Urban Undergraduate Students.
- There is no significant difference between the mean e-waste management perception scores of Government and Government aided Undergraduate Students.
- There is no significant difference between the mean e-waste management perception scores of Arts and Science Undergraduate Students.

Research Methodology

Normative survey technique has been applied in present study.

Sample size

The sample contains of 320 undergraduate students from both Government and Aided colleges in Thanjavur District.

Tools

The E-Waste Management attitude questionnaire (EWMAI) was used to check the awareness of students regarding existence, danger and management of e-waste. The inventory contains 30 objective items. This was a self developed tool.

The Reliability of the tool was established through test-retest method. The reliability coefficient is 0.89 and hence the tool is reliable one. The validity of the test was assessed on the basis of the judgment of the experts.

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Variable of the study

The normal variables are used in this study. This study determines to explore this variable with respect to gender, locality, type of management and subject of undergraduate students.

Statistical techniques used

The data collected by the investigator from the sample were evaluated statistically. That the variables were examined by using Descriptive Analysis (Mean, SD) and Differential Analysis ('t' test) to be used

IV. Data Analysis and Interpretation

a) Descriptive Analysis

Table-1

Mean and standard deviation of attitude towards E-waste management among undergraduate students in Thanjavur district

Variables	No.	Mean	Standard deviation
Attitude in E-WM	320	131.52	5.66

Table-2

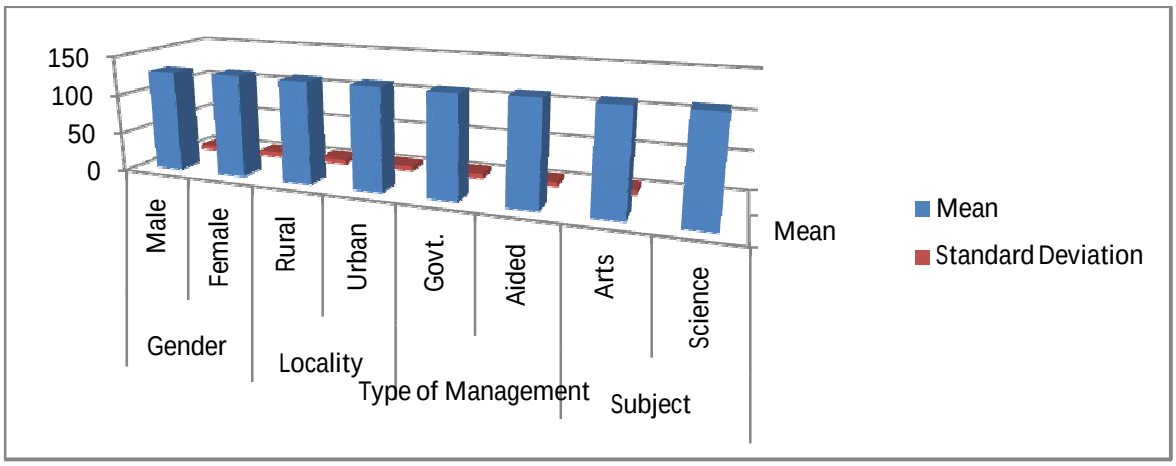
Mean and Standard Deviation of Attitude towards with respect to demographic variables E-waste management among undergraduate students in Thanjavur district

Variable	Sub Variables	N	Mean	Standard Deviation
Gender	Male	150	128.43	5.62
	Female	170	130.02	5.85
Locality	Rural	141	129.09	5.78
	Urban	179	129.62	5.81
Type of Management	Govt.	165	128.35	5.74
	Aided	155	130.26	5.69
Subject	Arts	155	129.07	6.37
	Science	165	129.47	5.21

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Figure shows the Mean and Standard Deviation of Attitude towards E-waste management among undergraduate students in Thanjavur district



b) Differential Analysis

Table-3

Shows Mean, SD and't' Value of Attitude towards E-waste management among undergraduate students in Thanjavur district

Variable	Sub Variables	N	Mean	Standard Deviation	't' test	Signification 5% Level
Gender	Male	150	128.43	5.62	0.132	NS
	Female	170	130.02	5.85		
Locality	Rural	141	129.09	5.78	0.762	NS
	Urban	179	129.62	5.81		
Type of Management	Govt.	165	128.35	5.74	0.071	NS
	Aided	155	130.26	5.69		
Subject	Arts	155	129.07	6.37	0.708	NS
	Science	165	129.47	5.21		

Since the calculate t-value 0.132 (Gender), 0.762 (Locality), 0.071 (Type of management) and 0.708 (Subject) are lesser than the standard table value 1.96 at 0.05 level. It is inferred that there is no significant difference between attitude of E-waste management among undergraduate students with respect to gender, locality, type of management and subject.

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Findings

- ✓ There is no significant difference in attitude of E-waste management on Undergraduate Students of gender.
- ✓ There is no significant difference in attitude of E-waste management on Undergraduate Students of Locality.
- ✓ There is no significant difference in attitude of E-waste management on Undergraduate Students of Type of management.
- ✓ There is no significant difference in attitude of E-waste management on Undergraduate Students of Subject.

Suggestions for further study

- This study can be extended to higher secondary school students and Engineering students.
- This study is limited only to the selected undergraduate students in thanjavur district only and it to be extended to all types of schools and colleges.
- The present study was carried out during the short period of time with limited samples.
- The findings and conclusion are needed to be verified larger group size of the samples.

Conclusion

While the world is marveling at the technological revolution, countries like India are facing an imminent danger. The magnitude of these problems is yet to be documented. However, groups like Toxic Links India are already working on collating data that could be a step towards controlling this hazardous trade. It is imperative that developing countries and India in particular wake up to the monopoly of the developed countries and set up appropriate management measures to prevent the hazards and mishaps due to mismanagement of e-wastes. Considering the severity of the problem, it is imperative that certain community based projects and management options are adopted to handle the bulk e-wastes. The result of the research is that there is no significance in attitude of E-waste management in undergraduate students of gender, locality, type of management and subject. Hence the hypothesis of research is accepted.

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