

## **The Role of University in E-Waste Recycling: Case of Universiti Kebangsaan Malaysia**

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**Abstract:** A total of 500 questionnaires were sent to 10 selected faculties and institutes to 300 staffs and 200 students within the university community. The survey response indicates relatively low level of WEEE recycling participation among the surveyed staffs and students at 35 and 19%, respectively. Although, the recycling practice is low, the study indicates that 85% of the staffs and 80% of students surveyed within the university community found it necessary for WEEE to be properly collected and recycled. Majority of them show good repair attitude at 55% for staffs and 53% for students but with poor disposal practices. However, the study reveals the need for increasing awareness of WEEE recycling, not only in the university but also at municipal levels. The study recommends that various offices, university hostels, departments, faculties, institutes and research centers should establish better WEEE recycling and disposal practices to reduce the impact on the ecosystem.

**Key words:** Role, university, campus, community, e-Waste, recycling, employees, students

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### **INTRODUCTION**

The idea of zero-waste going on in most university campuses and management of waste in an environmentally friendly manner is a step towards sustainable development. The use of Electrical and Electronic Equipment (EEE) has become an important part of university campus communities. With increase in the use of EEE also comes the challenge of their proper management and disposal. A good example of such management is the action of Indiana University Bloomington and Indiana University-Purdue University Indianapolis (IUPUI) Electronic Waste Collection Days at which a grand total of 832,000 pounds or 416 tons of electronic waste WEEE was amassed (Knudsen, 2009). Reports show that IUPUI had also organized and hosted an annual Tox Away Day event to collect hazardous waste in collaboration with groups of individuals, purchasing e-Waste specialists from IUPUI, IU Bloomington and Apple Inc. as well as generous support from University Information Technology Services (UITS). The Indiana University sustainability task force has enabled the project to emerge as an excellent example for other universities and communities who may desire to conduct similar e-Waste collection events in future (Knudsen, 2009).

Universiti Kebangsaan Malaysia (UKM) in the effort to achieve a zero waste campus, launched a research project in 2009 to examine the status of e-Waste

management within the campus community and to come up with a sustainable e-Waste framework for the university. The research aims to create awareness on recycling and determine proper e-Waste management practices. This output will not only benefit the campus but also the municipalities.

Davis and Wolski (2009) stated that there is no particular method that would effectively or totally eradicate the e-Waste generated within an organization. There are some factors that surround the timely disposal of equipment which may lead to the storage of the equipment for so long before disposal after they might have been written-off. This storage period can be a threat to the economic value of the equipment and pose health and safety problems. Per capita waste generation estimates can vary widely and depend a great deal on demographics and the state of the economy (Countryman, 2009).

In this regard, the action of reducing, re-using and recycling within the waste management hierarchy assumes particular importance (Oskamp, 1995; Hamburg *et al.*, 1997) especially when it comes to the e-Waste management system. Kelly *et al.* (2006) indicated that successful recycling programmes depend not only on technology but also on the involvement of people the development and maintenance of environmentally responsible behaviour is of considerable importance.

Considering the volume of Waste Electrical and Electronic (WEEE) university campus communities