

Design and framework for e-waste recycling and process management

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Abstract

Over the recent past, the requirement of electrical and electronic equipment (EEE) has grown exponentially, while the lifespan of these products has become shorter. The production of semiconductors, printed circuit boards, disk drives and monitors used in computer contains many hazardous chemicals. Printer inks and toners often contain toxic materials such as cadmium. Computer Central Processing Unit (CPU) contains heavy metals such as cadmium, lead and mercury, silver, chromium, zinc, lead, tin and copper. This report highlights the hazards of e-wastes, the existing strategies for its appropriate management and options that can be implemented. To learn about Electronic waste management system, a review process involving 3 stages approaches has been undertaken. The reviewed papers covered the analysis of various countries in the world like, India, China, USA, UK. Recycling, reuse, reduce and refurbish are the 4 strategies for successful management of e-waste. Primarily the research were based on development of reverse logistics model of supply chain and extended producer responsibility concept for electronic waste. Very few Researchers analyzed the treatment methods of recycling. Issue discussed in reverse logistics was not having enough electronic waste material for recycling. Very few researchers analyzed the impact on recycling by increasing awareness of electronic waste. In this report I have discussed the comparative study of different research papers, their findings and solution approaches.

Keywords: E-Waste, Recycling, Process Management

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