

[DOI: 10.20472/IAC.2018.039.034](https://doi.org/10.20472/IAC.2018.039.034)

**ZEYNEP OZSUT BOGAR**

Pamukkale University, Turkey

**ASKINER GUNGOR**

Pamukkale University, Turkey

## **ESTIMATION OF WASTE COMPUTER QUANTITY IN TURKEY BASED ON LOGISTIC MODEL**

### **Abstract:**

Electronic waste or e-waste is one of the fastest growing waste types all over the world due to technological developments, especially affecting the IT based products. When an electrical or electronic product is replaced with a new one at any stage in its life cycle it becomes a potential e-waste. Estimation of e-waste potential is important and valuable to manage e-waste related issues such as e-waste collection, recycling and recovery facility location and capacity decisions, reverse and/or closed-loop supply chain networks design, recycling based operational decisions, and etc. In this study, the effort is specifically dedicated to estimate the waste computers based on the sales data by proposing a logistic model for the case of Turkey. Since consumer behaviors and adoption levels keep on changing with the technological developments, the model provides different scenario based solutions based on various levels of lifespans (base, upper and lower) and carrying capacities (upper, lower). Boundaries of potential quantity of waste computers are determined and a general view is given for this valuable e-waste stream. The study may provide benefit to develop e-waste management systems and more effective practice for estimation of other e-waste types in Turkey.

### **Keywords:**

E-waste, WEEE, Logistic model, Estimation

**JEL Classification:** Q53