

E-waste: Current Research and Future Perspective on Developing Countries

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Introduction

The electronic waste, called "e-waste" or "Waste of Electronic and Electrical Equipment (WEEE)", is "all components, sub-assemblies, and consumables, which are part of the product at the time of discarding" (EU WEEE Directive 2012/19/EU Article 3e, 2012). E-waste is considered the most rapidly growing waste in the past decade (3-4% per year) while only 15% of them are recycled (Sahajwalla and Gaiward, 2018).

This research aims to describe the research development on e-waste since 2004-2020 in various countries and state the perspective of future research. The study based on a literature survey in open access articles using 'e-waste' as the keyword in several academic publishers.

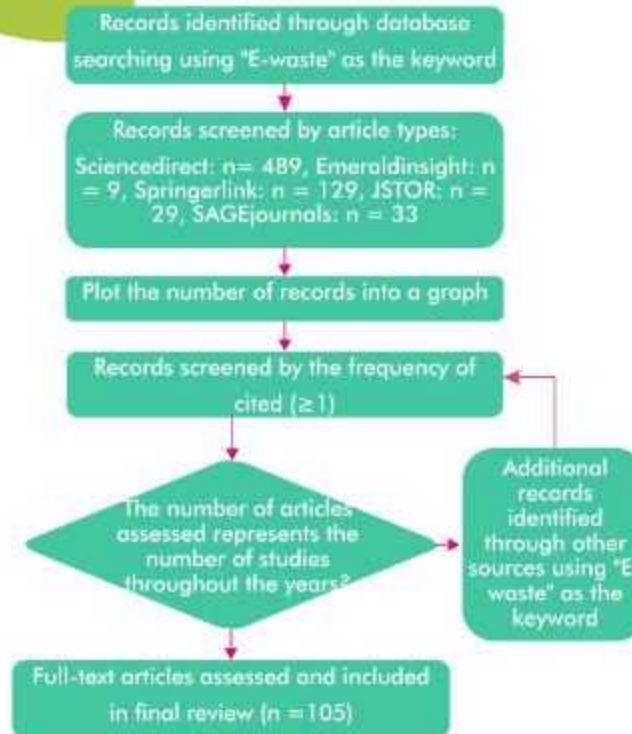
Online Review Aggregator

The surveyed researches may be classified based on the geographical and topic distribution.

Geographical Distribution

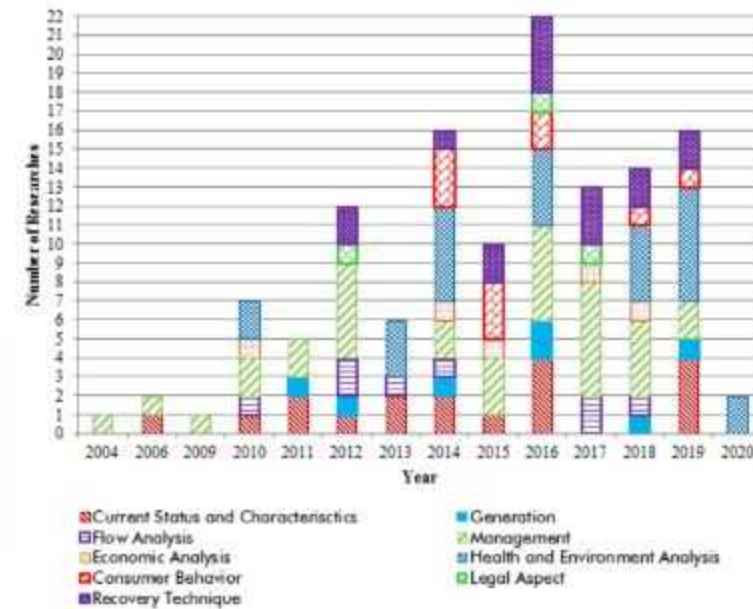
Most of the researches discussed or conducted in the Asia region (64.2%) and mainly focused on China (22.4%) and

Article Selection



Topic Distribution

The researches on e-waste are classified into nine major topics, shown by the graph below.



Conclusion and Perspective on Further E-waste Research

The trend of research topic was shifted to using cyber-physical system (CPS) to promote symbiosis among the stakeholders. Another emerged topic is finding environment-friendly recovery technique which can promote e-waste as resources for production. Economic analysis on e-waste potential recovery while concerning the cost has not been conducted.

References

References and full article are provided on <https://ojs.uajy.ac.id/index.php/IJIEEM/article/view/3214>