

Green IT Strategy and Innovation for UC

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Abstract

The ICT industry accounts to 2% of the global Co2 emissions leading to global warming (Asadi and Dahlan, 2017). UC's IT sector is significant. Thus, green IT practices needs to be implemented in UC to reduce the harmful effects of usage of IT and implement sustainable environmental practices.



Objective

The project aims to propose a Green IT framework and strategies for UC that covers:

- Green procurement,
- E-waste disposal
- Reducing Co2 emissions
- Socio-economic attributes.

Methodology - Systematic literature review of journals, research reports, conference proceedings papers, university documents and government publications.

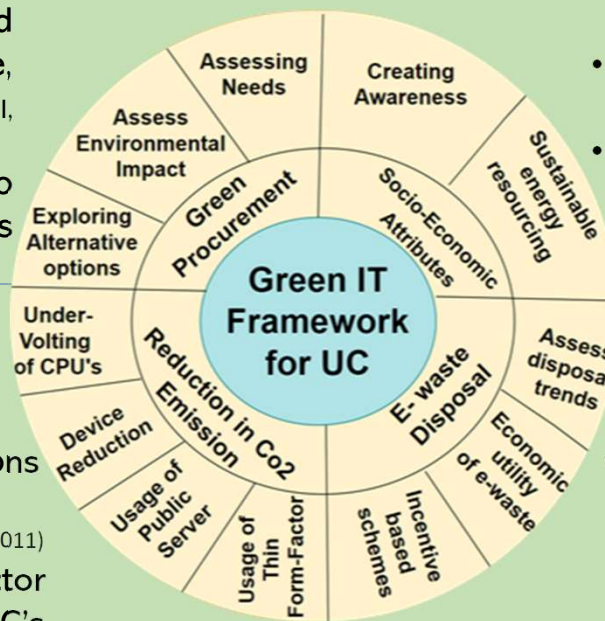
Procurement strategies

- Selection of products that are eco-friendly (Majid, et al., 2018).
- Product's life cycle should end with planned Recycle, Reuse, or safe disposal practices (Dell, 2019).
- User manual provided to maintain sustainable operations (Australian Government, 2020).

Co2 emission strategies

- Encourage BYOD as an alternative to library PC's – 30% reduction in CO2 emissions (Teehan and Kandlikar, 2013)
- Undervolting servers (Rao, et al., 2011)
- Switching to thin form factor rather than replacement of PC's (Dasilva, et al., 2012)
- Switching from in-house servers to public servers (Rich Garrison, et al., 2012)

Results



Socio-economic strategies

- Introduce mandatory green IT module for students as part of their course structure.
- Display posters of green IT practices.
- Implement renewable source of energy at UC (Deakin, 2021).

E-waste disposal strategies

- Provide e-waste collection bins (Islam, et al., 2020).
- Reward based student opportunities that motivate students to adopt green IT practices. e.g. coffee vouchers (Shevchenko, et al., 2019)
- Increase re-utilisation of IT equipment to minimise e-waste disposal (University of Illinois, 2020)

Conclusion - The proposed framework and strategies provides a guideline for UC to implement Green IT practices and raise awareness amongst students to adopt green strategies. Our framework is based on concrete and practical steps which requires commitments from students, lecturers, IT department and other staff at UC.

Key References

Islam, M.T., et.al., 2021. Young consumers'-waste awareness, consumption, disposal, and recycling behavior: A case study of university students in Sydney, Australia. *Journal of Cleaner Production*, 282, 124490.

Teehan et al., Comparing Embodied Greenhouse Gas Emissions of Modern Computing and Electronics Products. *Environmental Science & Technology*, 47((9), 3997-4003

Australian Government 2020, *Sustainable Procurement Guide A practical guide for Commonwealth entities*.

