

Developing a Green Information Technology Model in Australian Higher-Educational Institutions

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Abstract : The advancement in Information Technology (IT) has been an intrinsic element in the developments of the 21st century bringing benefits such as increased economic productivity. However, its widespread application has also been associated with inadvertent negative impacts on society and the environment necessitating selective interventions to mitigate these impacts. This study responded to this need by developing a Green IT Rating Tool (GIRT) for higher education institutions (HEI) in Australia to evaluate the sustainability of IT-related practices from an environmental, social, and economic perspective. Each dimension must be considered equally to achieve sustainability. The development of the GIRT was informed by the views of interviewed IT professionals whose opinions formed the basis of a framework listing Green IT initiatives in order of their importance as perceived by the interviewed professionals. This framework formed the base of the GIRT, which identified Green IT initiatives (such as videoconferencing as a substitute for long-distance travel) and the associated weighting of each practice. The proposed sustainable Green IT model could be integrated into existing IT systems, leading to significant reductions in carbon emissions and e-waste and improvements in energy efficiency. The development of the GIRT and the findings of this study have the potential to inspire other organizations to adopt sustainable IT practices, positively impact the environment, and be used as a reference by IT professionals and decision-makers to evaluate IT-related sustainability practices. The GIRT could also serve as a benchmark for HEIs to compare their performance with other institutions and to track their progress over time. Additionally, the study's results suggest that virtual and cloud-based technologies could reduce e-waste and energy consumption in the higher education sector. Overall, this study highlights the importance of incorporating Green IT practices into the IT systems of HEI to contribute to a more sustainable future.

Keywords : green information technology, international higher-educational institution, sustainable solutions, environmentally friendly IT systems

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