

E-MANAGER: ELECTRICITY MANAGEMENT APPLICATION FOR SERVICE COMPANIES IN SRI LANKA

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A dissertation submitted in partial fulfilment of the requirement for Bachelor of Science
(Honours) degree in Business Information Systems

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in collaboration with
University of Westminster, UK

2020

Abstract

Energy conservation is the practice of minimizing amounts of energy by utilizing energy efficiently. Workplace electricity conservation results in increasing financial capital and promoting environmental sustainability. Numerous issues such as improper electricity usage monitoring, lack of control techniques and difficulties in setting control plans have led companies consuming excessive quantities of electricity, eventually resulting in financial losses through imprudent payments and reducing the environmental quality.

This project aims to identify difficulties currently faced by local service companies in managing electricity consumption to design, develop and evaluate an effectual IT solution for better energy conservation through continuous monitoring, controlling and planning. It focuses on bridging gaps and streamlining the electricity management process.

To deliver an effective IT solution, research was conducted with the aid of literature on topics related to over-utilization of electricity, usage in Sri Lankan firms, factors influencing workplace electricity management along with the importance of managing electricity. A questionnaire and interviews were conducted with company finance personnel and electricity related experts in the Ceylon Electricity Board to further assess current issues and electricity management processes researched through literature findings.

Research results show that employees are currently focusing extensively on their basic job-related assignments while giving less priority to reduce electricity usage, resulting in major reductions of their acquired financial capital. Further, it reflects the need of a system which assists in forecasting usage and calculating costs while keeping track of monthly consumption. Based on these results and in-depth requirements analysis, the requirements were identified and an IT solution was developed. The finalized prototype was evaluated by experts in which feedback was obtained on the effectiveness of the solution. The objective of developing 'E-Manager' is to support companies to conserve electricity and reduce the environmental impact while bridging the existing electricity management gap.

Keywords: Energy conservation, Electricity management, Local service companies, Environmental sustainability, Monitor, Control, Plan, Over-utilization, E-Manager.