

**MITIGATING MAINTENANCE COMPLICATIONS OF
PHYSICAL SYSTEMS OF COMMERCIAL BUILDINGS
IN SRI LANKA**

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August 2020

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ABSTRACT

Maintenance is a vital part of a building to keep the property in good condition for its lifetime. A minimum number of complications increases the effectiveness of building operation and maintenance; otherwise, a knowledgeable maintenance team should implement appropriate maintenance procedures, and follow the standards to keep the building in a proper condition. During the operation stage of a building, various maintenance complications are involved in building services, such as water, electricity, and air conditioning, which are costly maintenance items. Therefore, it is necessary to mitigate the complications of such physical systems of commercial buildings to ensure its smooth operation.

The present research study aimed to mitigate maintenance complications of physical systems of commercial buildings. A qualitative research approach was adopted following a case study strategy to realize the research aim. Semi-structured interviews were conducted with the staff in the maintenance division of selected five commercial buildings as the primary data collection technique. The collected qualitative data were analyzed using manual content analysis.

The investigation identified leading eleven complications, the main causes, and sub factors affecting each complexity associated with the physical systems and other maintenance work. Complaints of tenants about the system breakdowns and quality of the construction were identified as the most common complications of physical systems. Design errors and the administration matters during the operation of the buildings are recognized as leading causes. The study further revealed that well-designed buildings have a minimum number of complications during the maintenance and operation stages.

Finally, this research provided strategies to alleviate the identified complications of commercial buildings during the maintenance period.

Keywords: Buildings, Complications, Maintenance, Strategies

ACKNOWLEDGEMENT

It is with great appreciation and pleasure that I wish to convey my gratitude to so many persons who helped me generously to carry out this research.

I owe a special debt of gratitude to my supervisor Dr. (Mrs.) K.G.A.S. Waidyasekara, Senior Lecturer, Department of Building Economics, University of Moratuwa, for her guidance, encouragement and the freedom allowed doing my dissertation.

I am also thankful to Prof. (Mrs.)Yasangika Sandanayaka, Head of the Department of Building Economics and Ch. QS. Vijitha Disaratne, Course Director of this programme for their kind assistance.

I'm also appreciative of all officers who help me by providing data, information and their valuable opinions and lessons of experience.

Finally, remember with gratitude my family members and friends who were with me throughout my study giving valuable guidance.

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LIST OF ABBREVIATIONS

O&M - Operations and Maintenance

CEB – Ceylon Electricity Board