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# INFORMATION SYSTEM FOR COST EFFECTIVE CONSTRUCTION METHODS AND MATERIALS

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This thesis was submitted to the Department of Civil Engineering of the University of Moratuwa in partial fulfilment of the requirements for the Degree of Master of Science in Construction Project Management



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## ABSTRACT

There are considerable number of construction technologies, methods and materials available in the building construction industry. They can be broadly categorized in to two main groups, namely Conventional Construction Techniques (CCT) and relatively new Cost Effective Construction Technologies (CECT). The professionals involved in the construction industry are familiar with extensively used conventional construction technologies. However they are generally not familiar with CECT which have been developed and are practiced by numerous organizations, professionals and/or individuals in the construction industry. A key issue that is highlighted is the lack of a single source to collect the information on such CECT and relevant experts (and/or organizations).

The objective of the research is to develop and test an information system to select appropriate cost effective construction methods for design and/or construction application in buildings. To achieve the stated objectives, this research was carried out fewer than three categories; namely, collecting information related to CECT and CCT; collecting information with respect to developed information systems and Development of an information system to be used by the stakeholders in building construction industry.



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Under the literature survey, it was found that several CECT was developed and introduced by various organizations both private and public sectors. But CECT are being applied by the persons only who are confident with the technologies. As the CECT was more economical than the CCT, it was developed an information system for “Cost Effective Construction Methods and Materials” which was named as **CECMM- Information System** that can be used as single source to collect more information related to the CECT. CECMM- Information system has been developed by using Visual Basic 6.0, Microsoft Excel and Microsoft Word.

User will obtain different types of methods and materials related to the CECT and CCT for the elements of building such as foundation, wall, column, slab, doors and windows, plaster, and roof. In addition, the system provides the details relevant to the expertise, literatures, leaflets, presentations of technologies, advantages and disadvantages of technologies. Therefore, the system will guide the professionals, contractors and other stakeholders to find the most appropriate CECT to apply for design and/or construction of their buildings.

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