

COST and CONTRACT ADMINISTRATION in CONSTRUCTION

Divine Perspectives

Edited by
**MOHD FAIRULLAZI AYOB
MOHD SHARIFFUDDIN IBRAHIM**



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Chapter 5

Current Status of Life Cycle Cost Practice in Malaysian Construction Industry

Mohd Fairullazi Ayob and Khairuddin Abdul Rashid

Introduction

The Life Cycle Cost (LCC) assessment can be divided into three categories which are data inputs, conversion and outputs (BS ISO 15686, 2008; Kelly and Hunter, 2009; RTO-SAS-069, 2009). Nevertheless, it was observed from the literature review the main focus on the LCC practice in Malaysia is considerably on the conversion of LCC analysis. Most of the literatures written on LCC give emphasis to conversion, but less focus is given to the data input and outputs of LCC analysis. Indeed, there is no research that has been carried out to identify of how the data inputs are utilized for conversion in producing accurate and reliable outputs of the LCC analysis. Besides, there is no research has been performed to ascertain whether the local data inputs are appropriate to be used in monitoring the outputs of LCC analysis.

The objective of the study is to review the practice of LCC related to Malaysian construction industry.

The Definition and Concept of Life Cycle Cost (LCC)

There are many different expressions¹ used to refer to the ultimate cost or total cost of a building ownership (Schade, 2007; Khairani, 2009; Kirk and Dell'Isola, 1995; Brandon, 1995; Mohammed Kishk et al., 2003a, 2003b; Boussabaine and Kirkham, 2006; Levander, E., Schade, J., Stehn, L., 2009; Nor Azizah and Zainal Abidin., 2010). The difference in wordings and expressions to symbolize total cost of building ownership have caused ambiguity and confusion to the practitioners to select an appropriate technique to compute total cost of building ownership in the industry. Although the expressions used are interchangeable, the Life Cycle Cost (LCC) is preferred as it is widely used in the practice and better known to represent the total cost related to the building ownership throughout the study life.

There are many different² definitions of Life Cycle Cost (LCC) found in the literature. The most basic definition is the total discounted cost of building ownership throughout the study life. It represents an economic assessment of an asset, expressed in terms of total costs related to the building ownership which connects the initial capital cost with operating and maintenance costs, replacement costs, financing costs, and the cost or benefit of the building at the end of the study life.

The LCC studies are performed to provide major cost factors and potential cost saving. The outputs of LCC studies are used to advise the clients or building owners in determining the most optimum cost of asset ownership, and comparing cost-effectiveness of mutually exclusive alternatives (Mohammed Kishk et al., 2003a, 2003b; RTO-SAS-069).

¹ There are several different expressions which include "terotechnology", "costs in use" (CIU), "life cycle cost (LCC)", and "whole life costing" (WLC).

² Various definition of LCC advocate by Flanagan et al., 1983 cited in Seeley, 1996; Khairani, 2009; Hoar et al., 1995; Barringer, 2003; Dale, 1993 cited in Bull, 1993; British Standard BS3843, 1992 cited in Boussabaine et al., 2006; Kirkham, 2007)