

## Selection of the best floor finish through value management

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Rapid growth of population and migration from rural to urban areas make high demand for shelter in developing countries. As a result considerable level of demand for luxury apartments was created within the last few decades, in the Sri Lankan economy. The technological advancement supported to fill this vacuum by moving single to multi storied building construction. Further clients are always focusing best value options for their investment. McElligott and Norton (1995) have identified Value Management (VM) as a systematic, multidisciplinary effort directed toward analyzing the functions of projects for the purpose of achieving the best value at the lowest overall life cycle cost. This research aims to find the best floor finish to luxury apartments, which maximize the best value for client's investment. The selected project is eleven (11) storied luxury apartment including basement floor with Fifty - Four (54) residential units located in Colombo metropolitan area. The formal job plan in Value Management is used to optimize the value criteria. Through the Functional Analysis System Technique the function of floor finishes was identified. The identical mandatory functions of a floor finish are high contributed to aesthetic; resist wear, noise, slip and vandalism, control acoustics and enclosed services. The generated alternatives through brain storming sessions are Ceramic tile matt finish, Ceramic tile polished finish, Marble polished finish, Homogenous tile matt finish, Homogenous tile polished finish, Granite matt finish, Granite polished finish and Parquet.

The Criteria Scoring Matrix is the key technique used to evaluate these alternatives through VM. The selected attributes were Life Cycle Cost (LCC), ability to resist cracks, durability, aesthetic and the time requirements per  $1m^2$  to paste the tiles in expected quality. The priority was given for the LCC of floor finishes rather focusing on initial cost of them. Through the industrial survey the replacement interval of that floor finishes and cost per  $10m^2$  of them was identified. The average inflation rate and interest rates were taken from the Annual Report of Central Bank of Sri Lanka (2003). By taking these data into account, the Average Discount Rate 7.53% was taken into the calculations.

The Value Management techniques are addressed to optimize multi attributes of floor finishes. Based on the outcome of the research the best value added floor finish was Homogenous Tile Polished Finish. It has been derived by sensitivity analysis that Homogenous Tile Polished Finish is the best economical solution for luxury apartments. The ranks that belong to alternative floor finishes according to their LCC and the Initial cost can be derived from the following chart.

