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A product cost model for selection of electrical accessories

Electrical installations are one of the essential elements in house construction in the Sri Lankan construction industry as it may account to 10% to 40% of the total cost of construction. Therefore selection of correct electrical accessories to incorporate in domestic electrical installations is very much important from the householder's point of view. Due to lack of proper information and due to the risk inherent with electrical installations, housing clients are into an uphill task when it comes to selection of appropriate electrical accessories. Thus, this research aims at developing a product-cost model for the selection of electrical accessories in order to eliminate this problem.

However, building a cost model is not an easy task, and as such a structured approach was used in developing the cost model. Identification of cost variables, collection and analysis of data, modeling and representation of data can be highlighted as the four main stages of building this cost model. A market survey was carried out in order to collect cost and product data pertaining to electrical accessories used in Sri Lankan domestic electrical installations. In

parallel, four unstructured interviews were held with electrical accessory manufacturers, two interviews held with industry experts and five interviews were held with householders to obtain their perception in this regard. All the accessories identified were classified into five main categories based on the product usage and ease of analyzing the data. On the other hand three different designs were selected to represent the collection of accessories in electrical installations in simple, moderate and complex electrical installation designs, as it has been identified as on of the major cost variables.

In the data analysis, three main cost categories were identified namely, Economical, Standard and Luxury. In order to ease the use of product-cost model developed, a simple Decision Support System was developed with the intention of assisting the decision maker in the selection process. As a method of dissemination of product and cost data a Website were created by the authors.

One of the major findings of this research was that, the use of "Economical" electrical accessories in any design was found to give only a marginal saving of over the use of "Standard" electrical accessories. This was evident by the fact that percentage cost increase between the "Economical" and "Standard" cost categories was 23% in the "Simple" design. Whereas the cost increase between the "Standard" and "Luxury" cost categories in the same design was 41%.