A pragmatic approach to product costing based on standard time estimation

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Abstract
Proposes a pragmatic approach to product costing. The approach involves two stages, namely the preparatory stage and the production stage. In the preparatory stage, standard routings are first extracted from existing products. A generic activity hierarchy is established according to the analysis of standard routings, where cost drivers for each activity are identified and summarized by appropriate Cost-related Design Features (CDFs). Then the Maynard Operation Sequence Technique (MOST) is employed to analyze each operation of standard routings to determine the associated standard time. Historical cost data are analyzed to induce the relationships between the CDFs and standard time, namely Time-Estimating Relationships (TERs). By allocating plant-wide overhead costs to standard routings, the unit price of standard time is established to indicate Cost-Estimating Relationships (CERs). A library of material costs is also summarized from existing products. In the production stage, CDFs are first induced from the schematic of a new design. Then a “dummy process plan” for this design can be inferred and used to retrieve the associated TERs to determine its time estimate. Once a standard time has been estimated, CERs can be applied to compile the total product cost by adding the estimated material costs. A case study conducted in an electronics enterprise is also reported.

Keywords
Product costs  Cost estimating  Activity-based costing  Time

Citation

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