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Information Acquisition for Service Contract Quotations Made by Repair Shops

Component maintenance, repair and overhaul is often performed under long-term service agreements with service providers. After receiving a request for quotation, the provider can quote a price for the contract. When the contract is awarded, the profit depends on the quoted price. To gain such contracts and make profit, service providers have to make a right estimation of the value of the contract. Therefore, it is crucial to collect attributes from multiple sources that improve the knowledge about the specific contract. However, due to time and effort investment, it is preferred to collect this information in a smart and dynamic way, i.e., responsive to the available collected information. We introduce a model of optimal information acquisition for profit maximization that can be used for such situations. Moreover, we introduce a specific model refinement that can be used for quotation optimization. The model utilizes a function that includes the information attributes as variables and maximizes the profit. Each piece of information is modelled as an attribute for which the true value can be retrieved and where the corresponding retrieval effort is translated in a cost factor. We introduce three policies of different dynamism, for the order and the number of information attributes to be retrieved.