Mathematical modeling of information technology impact on profitability of banking operations

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The article deals with issues and features of information technology (IT) integration into credit institution activities. The impact of IT-infrastructure elements on the financial results of banking activities is shown through the construction of a service and resource model. As part of developing the economic and mathematical model for IT-services cost management to optimize the financial performance of a commercial bank, issues of choosing financial performance criteria are considered. The list of quantitative and qualitative restrictions to the model shows the influence of IT-infrastructure elements on bank financial performance. The cost of IT-infrastructure elements is calculated on the basis of the service and resource model for the lending to individuals service. The article gives qualitative evaluation of the efficiency of using the economic and mathematical model calculating IT-services cost for determining the profitability of banking operations, financial and IT-asset lifecycle management.

Keywords: *banking operations, cost, asset lifecycle, information technology, financial results.*

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