

CREATION OF THE APPLIED SOFTWARE FOR MULTICRITERIA OPTIMIZATION MODELS FOR OPERATION WITH WORKING CAPITAL FUNDS OF PHARMACEUTICAL ENTERPRISES

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The modern phase of economic development in the pharmaceutical market of Ukraine is characterized by scarcity of funds and temporary insolvency of some members. It requires improvement of the existing optimization models of management with working capital funds of the pharmaceutical enterprise. One-criteria or multi-criteria optimization models for management tasks of funds of the enterprise, considering the cost money over time can be used as such models. The goal of creating software is automatization of calculation of optimal (while ensuring the maximization of the intensity of the enterprises incomes flows) period of product supply and batch size of drugs by the pharmaceutical enterprise. These parameters objectively reflect the capabilities of the pharmaceutical enterprise. The input parameters for the calculation are representing in the picture 1.

The results of the modeling with established programs, graphically demonstrate that the use of multi-criteria models of working capital management leads to the

Input parameters of model			
Demand of year D_i	450	200	1000
Nomenclature of goods N	3		
Overhead costs for the delivery of one party Co	500		
Unit value C_{pi}	4.3	9	7.84
Gain on sale of unit price P_{pi}	4310	9000	7840
Delivery costs Item C_{opi}	8.5	18.59	142.59
Annual cost savings Item Ch_i	25.5	55.7	22.84
Lot size of the order q_i			
Total delivery period T			
Average annual credit rate of the financial market r_k	0.24		
Leverage Y	0.66667		
Annual interest increase rate r	0.2		

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significant changes in the optimal values of the periods of supply and size of drugs batches. In this case the defined parameters are adequately mapped with the real characteristics of practical activities of the pharmaceutical enterprise. This, in turn, can be used in the recommendation development to improve the management of working capital of the pharmaceutical enterprises.