System Dynamics Modeling of Pricing of Innovative Products in Defense Industrial Complex.

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- **Abstract:** The article deals with the problem of increasing the competitiveness of technological products of the enterprise of the defense industrial complex. The researchers propose to consider the application of system dynamics in the pricing process for high-tech products of a military-industrial enterprise. To build a simulation model, financial indicators and average prices for the last 2 years of the enterprise's activity, sales data, including data on volumes and price factors affecting the change in sales volume were studied, and a factor analysis of sales decline by the chain substitution method was carried out. Studying among the major factors of the decline in sales of defense industry enterprise, the most significant components of the system dynamics model involved in the pricing process were modeled, likewise the relationships between them were modeled and presented by way of a conceptual model. The system dynamics model of the defense industry enterprise is based on the example of "Petropavlovsk Heavy Engineering Plant' with an attention on the pricing process at the strategic level and a simulation of the model indicators for 10 years is carried out. As a prime result of the research, a system dynamics model was developed that allows modeling the Average Contract Price by adjusting input indicators, and a feature-value based approach to pricing innovative products of the defense industrial complex was proposed. The results of the study point to the main reason for using a pricing model based on the product's feature value. Modeling of these factors in dynamic loops showed a positive effect on the performance indicators of an enterprise, especially when combined with other factors.

- **Keywords:** technological products, Petropavlovsk Heavy, system dynamics