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SOFTWARE ENGINEERING AND TECHNOLOGIES OF INFORMATION SYSTEMS DESIGN: GOAL-SETTING TECHNOLOGY DESIGN

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Abstract

The relevance of this study is in the timely implementation of new solutions for the development of the organization. The implementation process is based on the use of software tools for finding system elements that cause the organization to fall into an unstable state. Such tools are based on the ROI methodology, which allows transforming a complex indicator for measuring the return on capital into a system of indicators configured to control growth potential.

Keywords: leverages, control, relations, algorithms, norms, independence, responsibility

1 Introduction

Goal-Setting Systems (GSS) play a critical role in ROI (Return on Investment) models and organizational system development. The study highlights the importance of addressing contradictions in existing models, particularly the lack of awareness about equity capital and capitalized profits, which often result in significant losses. By identifying weak links in computations and transforming them into strengths, organizations can leverage these insights for growth. The main problem identified is the challenge of achieving sustainable enterprise operations without effective SGR control. The object of this research focuses on the system of connections that supports organizational assessments, while the subject is the development of algorithms to calculate complex indicators effectively.

2 Tasks

The study aimed to establish a procedure for setting performance norms for ROI parameters and set the following tasks: identifying weak points in ROI algorithms, determining the ROI calculation formula (CALCULATION block), specifying input data (INPUT block), and developing a decision-making procedure (OUTPUT block). A structured design comprising Input,

Calculation, and Output ensures clarity and logical independence. Among the proposed improvements are introducing new input streams, ensuring physical and logical independence, and defining performance norms such as Turnover Rate and Capital Intensity.

3 Schemes

The developed procedure, which ensures the measurement of efficiency, includes 78 parameters.

Fig. 1 shows the structural diagram of the procedure.

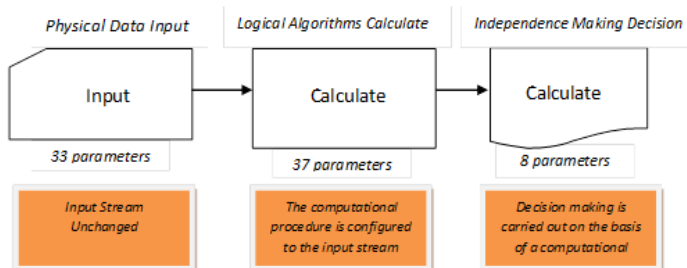


Figure 1. Structural diagram of the developed procedure

The procedure is based on two important conditions. Firstly, the principle of physical logical independence is ensured. Secondly, the property of emergence is fulfilled. Thus, a full-scale measurement of efficiency is carried out throughout the life cycle of the organization.

4 Results

Transitioning from capital turnover to ROE and SGR models exposed bottlenecks, increasing system elements from 32 to 78, thereby improving reliability. The study's novelty lies in achieving independence of results from computational composition, enabling precise responsibility allocation and systematic improvement.

By adopting advanced GSS models, organizations can align better with market demands, enhancing reliability and resolving contradictions in ROI calculations. These insights foster organizational growth while maintaining logical independence and system stability.