

UDC: 519.8

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MODEL OF EVALUATION OF START-UP PROJECTS IN SECTORS OF FINANCES AND TRANSPORT

Introduction. Today, companies that generate technological ideas in such complex sectors as finance and transport are rapidly developing. Financial technology is very difficult to move to the market because of major obstacles to the trust of future customers in relation to the transfer of their personal financial data. For the start-up of transport sector projects, the situation is similar, but the issue of trust is the security of travel [1], either in the new mode of transport, or with the use of new integrated systems (technological innovations) in the existing transport. To increase confidence in such start-ups of projects can be people who implement it. Because any project has a developer team. From the professionalism of the developers, the start-up of the project depends on the success of its financing, as well as will increase the confidence of consumers of the final product. Therefore, people with professional experience and authority in the field of finance and transport should develop, implement and promote start-up projects in the finance and transport sectors [2].

In this regard, we will propose an information model for assessing the trust and safety of implementing project start-ups in the finance and transport sectors. The model will allow evaluating such projects, to determine the level of security of its funding, will eliminate the subjectivity of experts, will enable the impartial processing of information, operate in conditions of false input data and based on intelligent data analysis will increase the validity of decision-making.

Mathematical model. A model for assessing the trust and safety of implementing a start-up project can be presented in the form:

$$M(O_S, O_R, O_F) \rightarrow O_P, \quad (1)$$

where O_S – fuzzy evaluation of the start-up project [3], O_R – assessment of project financing risk [4], O_F – evaluation team of project start-up project team.

Fuzzy evaluation of project start-up O_S , is obtained using a built-in model that reduces the subjectivity of expert estimates by standardizing the input data of the grading scale of evaluation and introducing the "desired values" of the decision maker. A characteristic feature of the model is that it allows to reveal the essence and place of "ideas" among others. The model also establishes the level of the "idea" and its linguistic meaning.

The second indicator of the start-up evaluation – assessment of project financing risk O_R . If there are large risks in project implementation, the question of the appropriateness of its financing is raised. To do this, we use a two-tier fuzzy

mathematical model, obtaining an aggregate project risk assessment. This model uses the expert's reasoning for assessing the various risk criteria, the reliability of his reasoning and, based on this, the aggregation of opinions by group of criteria into the final assessment takes place.

Another important indicator O_F – evaluation team of project start-up project team. To do this, we developed an informative neuro-fuzzy model for the output of the ranking of start-up teams. This model enhances the objectivity of expert assessments in evaluating start-up project teams using inbound linguistic variables and the "confidence coefficient" of expert considerations. The model is based on a neuro-fuzzy network, which has the opportunity to learn by completing the knowledge base.

Thus, based on the input estimates O_S , O_R , O_F on the considered project we get an aggregate initial estimate O_P from the interval $[0; 1]$, for example, we use the average convolution by introducing weight coefficients. Based on this assessment, we determine the degree of trust and safety of the implementation of the start-up projects. For linguistic interpretation, the value obtained is comparable to one of the term sets $P = \{P_1, P_2, \dots, P_5\}$. The scale of estimates can be determined as follows: $O_P \in (0,77; 1]$ – P_5 (P_5 = "High degree of trust and security of project implementation"); $O_P \in (0,57; 0,77]$ – P_4 (P_4 = "Degree of trust and safety of project implementation above average"); ...; $O_P \in [0; 0,21]$ – P_1 (P_1 = "Very low degree of trust and safety of project implementation").

Conclusions. This approach provides an opportunity to assess the degree of trust in the teams of start-up developers and to determine the security of project financing, receiving an assessment of the project and the risks of its financing. The built-up model for starting a start-up project can successfully apply for start-ups from the finance and transport sector.

References

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