

example, return on knowledge or return on people. Sounds so strange, but employees now should be ready for new crazy tasks. There are no impossible things, there are only psychological barriers.

The world is a scene. But this scene reminds market more and more [3]. Both companies and people are playing roles. But instead of habitual costume drama, we are now participating in a constant improvisation. The director went, the play was canceled, and the scenario was lost. The audience climb onto the stage, joins the actors and demands their main roles. The borders are crushed. All roles are vacant. The villain and the hero are played by one person. We are building a new society that is developing right before our eyes. There is nothing more impossible. Any small-unknown company has a chance to become a leader. Business should adopt new rules, but only in order to break them and become a winner.

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MODELLING OF THE SUCCESS OF HIGH-TECH INNOVATIVE STARTUPS BY BAYESIAN NETWORKS

In the contemporary world, the development of innovative industries of the country and especially startups is the task of the highest priority. However, startup development requires significant financial investments from business angels, venture investors, international investment funds, crowdfunding platforms, etc. And startup-projects are always associated with high risks and low probability of success. Therefore, investors, startup incubators & accelerators and even startup teams need an effective tool to assess the success of the projects. Thus, the purpose of the study was to create a model for the startup success description that can be used for evaluation of the project viability.

For this purpose Bayesian networks (BNs) were chosen because today they are considered as a reliable tool for modelling and decision-making and are effectively used in various fields of science, including economics and business. For example, BNs are used in

credit risk scoring [1] and retail marketing [2]. As a result of the investigation, the Bayesian network represented by the directed acyclic graphs was obtained (Fig. 1). In order to create it and develop the model (1), R and R Studio with specialized packages were used. The methodology for the BNs creation that was used in the research is described in [3, 4].

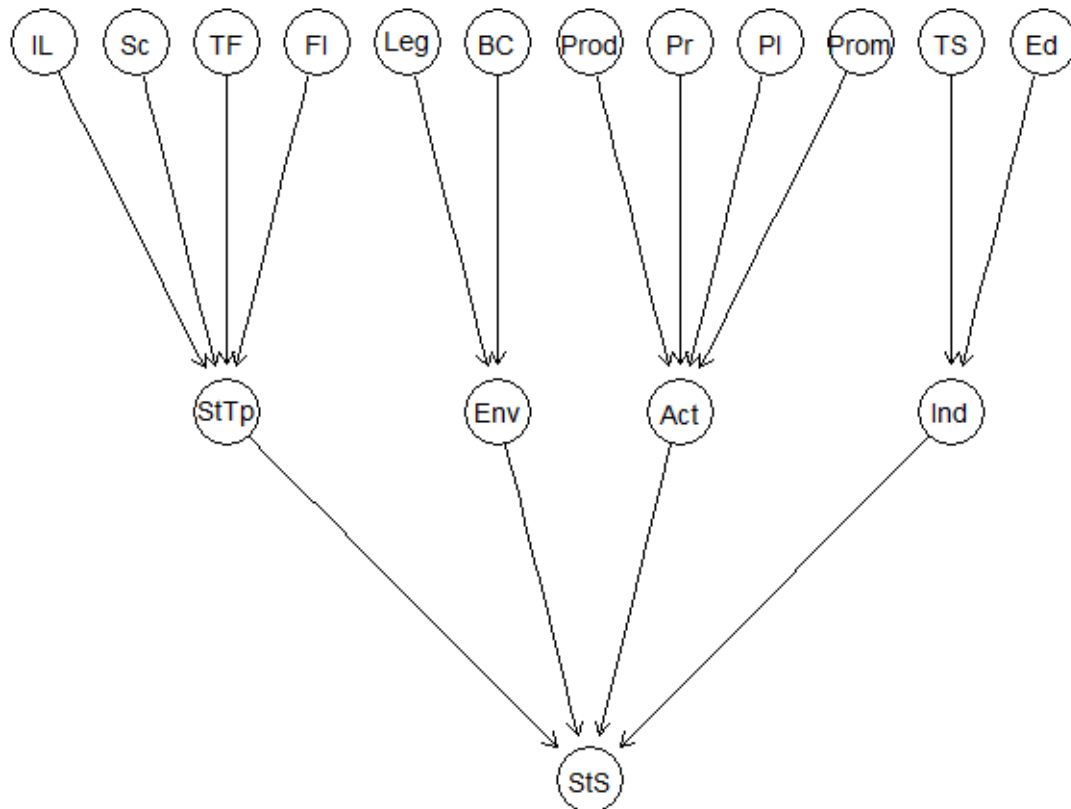


Fig. 1. – Bayesian network for startup success evaluation obtained in R Studio

For the study, factors that influence startup success were determined and divided into four groups – startup type (StTp), environment (Env), activities of the company (Act) and startup team (individuals, Ind). These groups were formed according to the modified framework which was proposed by Gartner W. B. [5, 6] that considers venture business as the phenomenon influenced by the factors based on organisation, environment, processes and individuals. According to the developed BN model, startup type is influenced by innovation level (IL), scalability (Sc), technical feasibility (TF) and current financial indicators of startup (FI).

Environment in the model is influenced by legislation (Leg) and business climate (BC) of the country while activities of the company are influenced by the startup strategy (based on the marketing mix 4P) in terms of the product (Prod), price (Pr), place (Pl) and promotion (Prom). At the same time, startup team is influenced by the team structure (TS) and education level of its members (Ed). As can be seen from the Fig. 1, all four groups influence startup success (StS).

Finally, the following model containing 17 nodes and 16 arcs and corresponding to the Fig. 1 was obtained:

[Prod][Pr][Pl][Prom][Leg][BC][IL][Sc][TF][FI][TS][Ed][Ind|TS:Ed][StTp|IL:Sc:TF:FI][Env|Leg:BC][Act|Prod:Pr:Pl:Prom][StS|Ind:StTp:Env:Act] (1)

So, it was determined that BNs represented by the directed acyclic graphs can be effectively used to create models which describe the startup development process and can be used for project evaluation by startup teams, investors and various innovative organizations. As a result of the study, Bayesian network for startup success evaluation was developed.

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MODERN TRENDS OF THE DEVELOPMENT OF THE WORLD ECONOMY

Everyone knows that the world economy is developing rapidly. The current trends in the development of the world economy have brought it to a very high level. The