

## The Study of Intangible Assets at Various Firm States

**Authors :** Gulnara Galeeva, Yulia Kasperskaya

**Abstract :** The study deals with the relevant problem related to the formation of the efficient investment portfolio of an enterprise. The structure of the investment portfolio is connected to the degree of influence of intangible assets on the enterprise's income. This determines the importance of research on the content of intangible assets. However, intangible assets studies do not take into consideration how the enterprise state can affect the content and the importance of intangible assets for the enterprise's income. This affects accurateness of the calculations. In order to study this problem, the research was divided into several stages. In the first stage, intangible assets were classified based on their synergies as the underlying intangibles and the additional intangibles. In the second stage, this classification was applied. It showed that the lifecycle model and the theory of abrupt development of the enterprise, that are taken into account while designing investment projects, constitute limit cases of a more general theory of bifurcations. The research identified that the qualitative content of intangible assets significant depends on how close the enterprise is to being in crisis. In the third stage, the author developed and applied the Wide Pairwise Comparison Matrix method. This allowed to establish that using the ratio of the standard deviation to the mean value of the elements of the vector of priority of intangible assets makes it possible to estimate the probability of a full-blown crisis of the enterprise. The author has identified a criterion, which allows making fundamental decisions on investment feasibility. The study also developed an additional rapid method of assessing the enterprise overall status based on using the questionnaire survey with its Director. The questionnaire consists only of two questions. The research specifically focused on the fundamental role of stochastic resonance in the emergence of bifurcation (crisis) in the economic development of the enterprise. The synergetic approach made it possible to describe the mechanism of the crisis start in details and also to identify a range of universal ways of overcoming the crisis. It was outlined that the structure of intangible assets transforms into a more organized state with the strengthened synchronization of all processes as a result of the impact of the sporadic (white) noise. Obtained results offer managers and business owners a simple and an affordable method of investment portfolio optimization, which takes into account how close the enterprise is to a state of a full-blown crisis.

**Keywords :** analytic hierarchy process, bifurcation, investment portfolio, intangible assets, wide matrix

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