

Review Paper

Modernization Processes Development in the Implementation of Intellectual Capital in a Crisis

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ABSTRACT

The urgency of the study was driven by the search for effective solutions for the intellectual capital activation and the modernization potential of economic systems formed by it in the economic crisis. The study aims to formalize the modernization process and transform the intelligence into the results of updating the economic system through the application of economic and mathematical modeling of the investing intellectual capital factor impact into the modernization potential. The main research methods are systems analysis, which allowed to formalize the transformation of intellectual capital into modernization potential, and correlation-regression analysis, which was used to design the enterprises' behavior modernization under the influence of intellectualization. The article constructs the economic system modernization process, which reflects the qualitative influence of the intellectual capital features on the sequence of modernization transformation of the economic system. The study has practical value for economic systems, as the proposed methodological and applied provisions, allow the use of available intellectual capital for modernization transformations provoked by global digitalization and the growing pace of innovation, limited material and energy resources in greening and increasing competition.

HIGHLIGHTS

- ① The study is driven by the search for effective solutions for activating intellectual capital and modernizing economic systems during economic crises.
- ① The aim of the study is to formalize the modernization process and transform intelligence into results by applying economic and mathematical modeling of investing intellectual capital factors.
- ① Systems analysis and correlation-regression analysis are the main research methods used to design the enterprises' behavior modernization under the influence of intellectualization.
- ① The study constructs an economic system modernization process that reflects the qualitative influence of intellectual capital features on the sequence of modernization transformation of the economic system.

Keywords: Enterprises' modernization, intellectualization, investment

In the context of the global economic crisis caused by the global pandemic, infrastructure companies, on the one hand, lost the tourist and international transportation markets (according to international organizations, only the aviation sector in 2020 lost about 40% of traffic) (Kniazieva *et al.* 2021).

On the other hand, intellectualization, accelerated

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