

«Industry 4.0»: a new look at the management of economic security at the meso-level

Julia A. Romanova, Dr. of Sci (Econ.), Associate Professor
e-mail: *Ryulia1@yandex.ru*

Andrey S. Tamakchi, Applicant MEI RAS
e-mail: *tas.75@mail.ru*

Abstract

Subject/topic. The modern world is a fundamentally new architecture of socio-economic reality, where the virtual and real worlds are combined with many nonlinear interactions. As never before, the individual is close to a partner dialogue with the machine, things in the virtual world are physically embodied using the Internet of things. However, any point of no return in the development of the socio-economic system has many poorly controlled, and in some cases - generally unpredictable outbreak effects, which makes the issue of revising security paradigms at all levels of social management, and especially at the level of infrastructural objects of the meso-level – of communications of all groups of stakeholders relevant. **Goals/objectives.** The purpose of the article is to address the need to develop a flexible digital system for managing economic security at the meso-level in the context of Industry 4.0. **Methodology.** When analyzing the sources, the authors used the 2019-2020 research devoted to the analysis of Industry 4.0 and modern views on the management of economic security at the meso-level. **Results.** As part of the study, in order to understand the problem of economic security of the meso-level stakeholders, which is generated by the Industry 4.0 paradigm, its key characteristics are considered and potential points of challenges and threats for society and regulatory institutions are identified. The main business models of ensuring economic security used at the meso-level in world practice are analyzed. Opportunities and threats for business at the meso-level are considered on the example of the banking ecosystem of Sberbank – Bank without Borders. Based on the analysis of the structure of the Sberbank Without Borders ecosystem, a set of critical infrastructure and transactional risks was identified. The inclusion of independent market agents with their own vision of business development in the orbit of the ecosystem's influence irreversibly leads to contradictions in the development of a development strategy. To resolve possible conflicts between the stakeholders of the Managing Partner and potential partners of the studied business model, it is proposed to introduce organizational, financial and economic restrictions for the parties. **Conclusions/Relevance.** The study concluded that in the context of the transition to Industry 4.0, digitalization and automation of business processes at all levels of production organization is necessary to minimize emerging threats at the meso-level in order to form a digital management ecosystem. **Practical value.** The conclusions obtained in the course of the study can be used by public authorities and heads of business entities of various forms of ownership to improve the system of economic security management at the meso-level.

Keywords: «Industry 4.0», economic security, meso-level, institutions of civil control, proactive strategies, foresight management, business model, challenges and threats, dialogue between machines and individuals, cybersecurity

References

1. Banking ecosystem – fashion trend or strategic necessity: analytical review of PJSC Ros-Bank. [Electronic resource]. – URL: <https://www.rosbank.ru/o-banke/press-sluzhba/bankovskaya-ekosistema-modnyi-trend-ili-strategicheskaya-neobkhodimost/> (Access date: 28.10.2020, In Russian).
2. Dyachenko O. Financial ecosystem: all in one // National Banking Journal. – 2018. – No. 3. – Pp. 25-30. (In Russian).

3. «Industry 4.0»: creating a digital enterprise. [Electronic resource]. / Information and analytical report Pricewaterhouse Coopers Consulting – URL: www.pwc.com/industry40 (Access date: 29.10.2020, In Russian).
4. Industry 4.0 in 4.0 figures and facts. [Electronic resource]. / RBC information and analytical report – URL: <https://trends.rbc.ru/trends/industry/5daef6429a7947c1bfe43006> (Access date: 28.10.2020, In Russian).
5. Industry 4.0 – from the Internet of things to the revolution of everything. [Electronic resource]. // Information and analytical report VC – URL: <https://vc.ru/flood/34748-industriya-4-0-ot-interneta-veshchey-k-revolyu-cii-vsego> (Access date: 24.10.2020, In Russian).
6. Panferov A. Ecosystem vs traditional banking: analytical note. [Electronic resource]. – URL: <https://www.banki.ru/news/columnists/?Id=10905618> (Access date: 27.10.2020, In Russian).
7. Forecast of the banking sector development – 2020. Six factors determining the development trends of the banking sector. [Electronic resource]. Inform.-analyt. materials of the Deloitte Academy. – M., 2018. – URL: <https://www2.deloitte.com/ru/ru/pages/financial-services/articles/gx-banking-industry-outlook.html> (Access date: 30.10.2020, In Russian).
8. What is the Sberbank ecosystem and the current directions: analytical review of Sberbank. [Electronic resource]. – URL: <https://fin-banks.com/chto-takoe-ekosistema-sberbanka.html> (Access date: 26.10.2020, In Russian).
9. Bernstein P. Against the Gods – The remarkable story of risk / P. Bernstein. – N.Y.: New York John Wiley & Sons, Inc., 1998. – 386 p. (In English).
10. Brigham E. Financial management / E. Brigham. – London: South-Western College Pub, 2011. – 1186 p. (In English).
11. Gitman L. Corporate Finance / L. Gitman. – London: Thompson, 2008. – 118 p. (In English).
12. Holton G. Value at Risk: Theory and Practice / G. Holton. – London: Academic press, 2003. – 405 p. (In English).
13. The Factory of the Future. Industry 4.0 – The challenges of tomorrow (2016) [Electronic resource]. // KPMG. – URL: <https://assets.kpmg.com> (Access date: 01.10.2020, In English).

About authors

Julia A. Romanova, Doctor of Sci (Econ.), Associate Professor, Principal Researcher, Market Economy Institute of RAS, Moscow.

Andrey S. Tamakchi, Applicant, Market Economy Institute of RAS, Moscow.

For citation

Romanova J.A., Tamakchi A.S. «Industry 4.0»: a new look at the management of economic security at the meso-level // Market economy problems. – 2020. – No. 4. – Pp. 90-99 (In Russian).

DOI: <https://doi.org/10.33051/2500-2325-2020-4-90-99>