

Section №3
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THE MOST SIGNIFICANT ECONOMIC OPPORTUNITIES AND ECONOMIC RISKS OF INDUSTRY 4.0¹

Countries' readiness to Industry 4.0 is burning problem scientists and practicals try to solve. First, the report of «Readiness for the Future of Production Report 2018» was made by the World Economic Forum. According to this report, leading positions have Germany, the United States of America, the United Kingdom, China, Japan, South Korea, and some other countries [1]. Ukraine is far behind the leading countries.

Additionally, in «Industrie 4.0 in a Global Context: Strategies for Cooperating with International Partners» such countries as Germany, China, Japan, South Korea, the United Kingdom, and the United States were analyzed [2].

Consequently, the most significant economic opportunities for Industry 4.0 were identified (Figure 1).

Therefore, as can be seen from Figure 1, for all analyzed countries the most significant economic opportunity of Industry 4.0 is production optimization. For 5 out of 6 countries, besides the UK, it is an important opportunity to form new business models. For China, the United States and South Korea enhanced customer service is an important metric too.

However, the choice of specific options depends on the specifics of the countries. In Germany in particular, there is a focus on combining information, communication and manufacturing technologies in smart, self-organizing factories. In the US and China, meanwhile, there is also a strong emphasis on smart products [2, c. 19].

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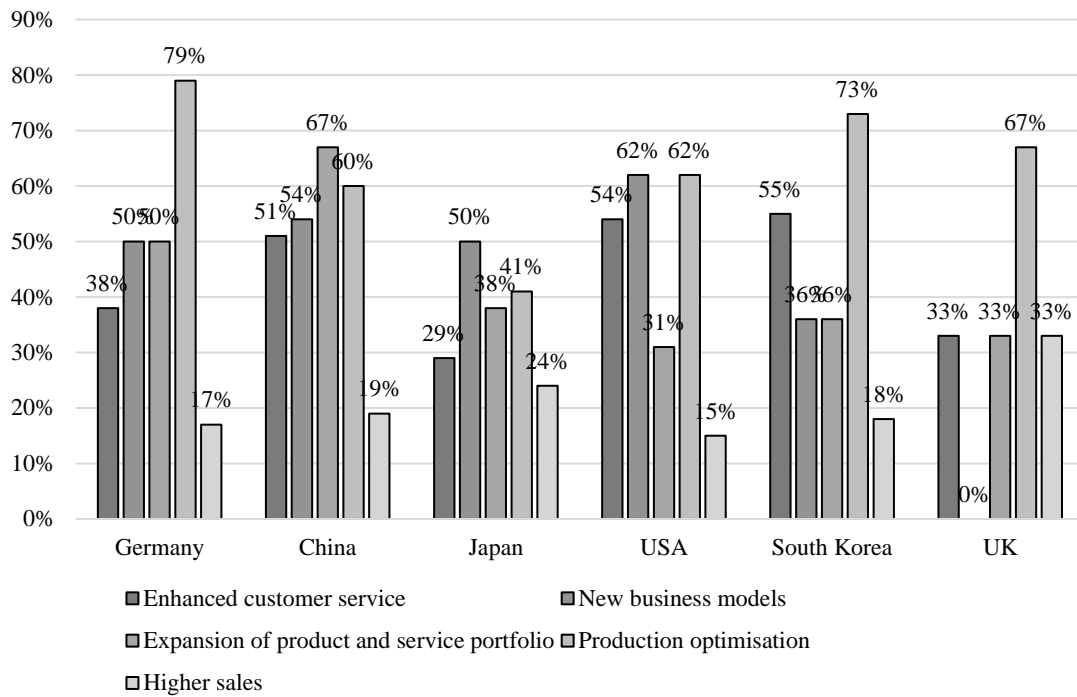


Figure 1 – The most significant economic opportunities of Industry 4.0 for analyzed countries (compiled based on [2, c. 20])

However, the transition to Industry has risks that can significantly affect the countries' performance (Figure 2).

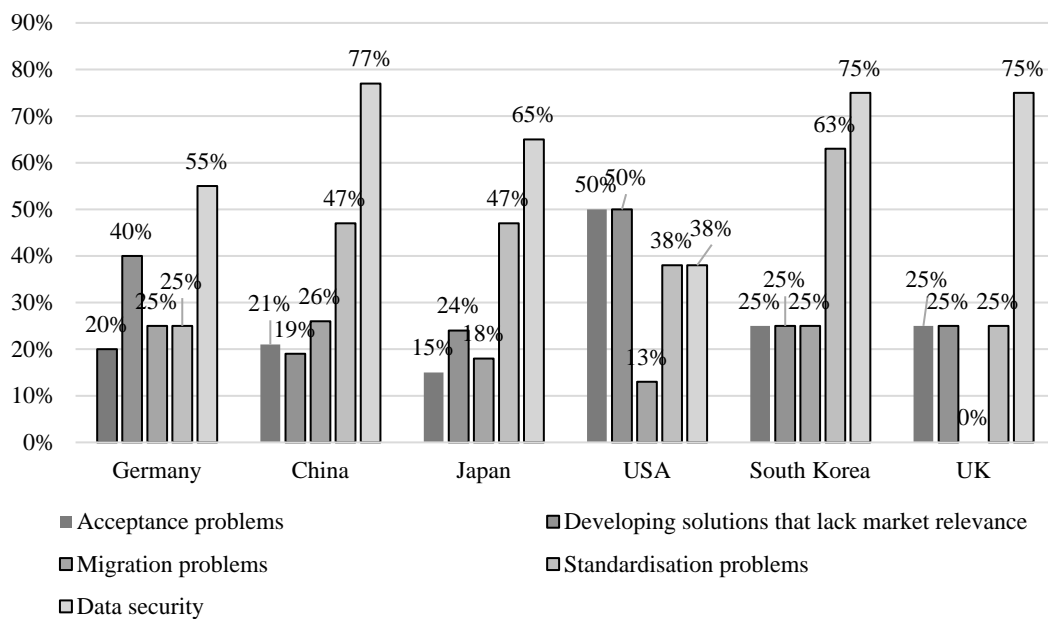


Figure 2 – The most significant economic risks of Industry 4.0 (compiled based on [1, c. 22])

According to Figure 2, common risks of all analyzed countries are developing solutions that lack market relevance and data security. Another risk is standardization problems, as most companies require open and global standards that are about to solve problems. More two risks identified include acceptance problems and migration problems. In order to understand in more detail, the specificities of the Industry 4.0, a study “Key lessons from national industry 4.0 policy initiatives in Europe” was conducted in the EU economy in 2017. Spain, the United Kingdom, France, Italy, Germany, Czech Republic, Sweden, and the Netherlands were investigated [3].

The results of this study determined that the policies of Industry 4.0 for most countries are the same and aim at strengthening the competitiveness and modernization of industry. Also, it's about ensuring the sustainable growth of the manufacturing industry. In addition, these countries combine their economic goals with social and environmental ones. Nevertheless, it should be noted that the achievement of similar economic goals in different countries is done in different ways. Among the leading tasks are: 1) delivering next-generation technologies (Italy, UK); 2) developing new products and improving industrial processes (Germany, Italy); 3) providing support to small and medium-sized enterprises for innovation and commercialization (UK, France, and Spain) [3, p. 3].

References

1. Readiness for the Future of Production Report 2018. Insight Report. (2018). In collaboration with A.T. Kearney. World Economic Forum. Retrieved from http://www3.weforum.org/docs/FOP_Readiness_Report_2018.pdf.
2. Kagermann, H., Anderl, R., Gausemeier, J., Schuh, G., & Wahlster, W. (Eds.). (2016). Industrie 4.0 in a Global Context Strategies for Cooperating with International Partners. acatech STUDY. Herbert Utz Verlag GmbH.
3. Digital Transformation Monitor Key lessons from national industry 4.0 policy initiatives in Europe. (May 2017). European Commission.

Сигида Л.О. The most significant economic opportunities and economic risks of Industry 4.0. Актуальні проблеми соціально-економічних систем в умовах трансформаційної економіки: Збірник наукових статей за матеріалами VI Всеукраїнської науково-практичної конференції (16 – 17 квітня 2020 р.). Ч. 1. – Дніпро : НМетАУ, 2020. – С. 10-13.