

Abstract

Features and Prospects of Industry 4.0 in the Agrarian Sector of Ukraine in Wartime: Economic and Accounting Aspects [†]

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[†] Presented at the International Conference on Industry 4.0 for Agri-food Supply Chains: Addressing Socio-economic and Environmental Challenges in Ukraine, Leicester, UK and Online, 24–25 July 2023.

Keywords: Industry 4.0; agricultural technology; food security; agri-food supply chains; databases; accounting

The agrarian sector of Ukraine is an integral part of the country's economy. As a result of the war with the Russian Federation, the country's economic situation is characterized by a decrease in the production output, shutdowns of some industries, and a significant drop in consumption. The main challenges faced by the enterprises are the gaps in logistics supplies, loss of personnel, falling effective demand, loss of significant areas of agricultural land due to temporary occupation, decrease in soil fertility as a result of hostilities, lack of necessary capital and the difficulties in predicting the situation in general. These factors negatively affected the food supply chains and led to their disruption. In wartime, the solution to the problem of the country's food security is extremely important. Maintaining the sustainability of agribusiness and its competitiveness is a priority task for the state in ensuring food security, supported by the innovative technologies of the Industry 4.0 concept [1,2].

At the present time, there is an urgent task to determine and assess the consequences and possibilities of further development of agribusiness at the local and global levels using the innovative nature of agricultural production and the economy on the whole. The use of modern systems of automation of agricultural production management, digitalization of large volumes of data, and use of other modern technologies will allow to increase the efficiency of production and planning of economic growth in territories that have not experienced the destruction of the system [3]. Obtaining objective and operational data will make it possible to apply AI algorithms to make an informed decision in the management of technological processes in the agricultural sector. At the same time, the introduction of innovative technologies will allow to return the level of technological production of agricultural products to the pre-war period in the de-occupied territories [4]. Such development is based on the principles of caring for the environment and at the same time achieving the maximum economic effect from agricultural activity [5]. An important condition for attaining food security is the stability of its provision, which gives the possibility for groups of the population of households and individuals to have access to sufficient amounts of food at any time and not be under the pressure of losing access to food as a result of supply and demand shocks.

Thus, Industry 4.0 should become the state priority, which determines whether the country will be able to demonstrate the sustainable development of agribusiness and achieve high rates of social and economic development. Therefore, in order to remain competitive in domestic and foreign markets, even in wartime, agribusiness approves solutions in the context of the development of Industry 4.0. The approach, which illustrates



Citation: Chip, L.; Kantsedal, N.; Kopishynska, O.; Utkin, Y.; Taran-Lala, O. Features and Prospects of Industry 4.0 in the Agrarian Sector of Ukraine in Wartime: Economic and Accounting Aspects. *Eng. Proc.* **2023**, *40*, 20. <https://doi.org/10.3390/engproc2023040020>

Academic Editor: Hana Trollman

Published: 20 July 2023



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the synergy of Agriculture 4.0 and Economy 4.0 technologies, will ensure the growth of economic, environmental, and social efficiency as a progressive direction of the local and global economic system, can be applied in wartime. In conditions of uncertainty and growing threats, the general model of a new informational paradigm for the activity of agricultural organizations, which developed on the basis of knowledge mobility and the transfer of analytical data into valuable information, is of particular importance. The methodology for evaluating the interaction of information agents in agricultural production is based on the model of previous studies [5].

The prospect of further research involves a further in-depth and comprehensive analysis of the ability of the information system to accumulate and interpret data on activities in agricultural production, determination of chains of interaction, methods of interpretation, and analysis of information flows at both local and global levels.

Author Contributions: Conceptualization, L.C., N.K., O.K., Y.U. and O.T.-L.; methodology, L.C., N.K., O.K., Y.U. and O.T.-L.; software, O.K., Y.U., L.C., N.K. and O.T.-L.; validation, L.C., N.K., O.K., Y.U. and O.T.-L.; formal analysis, O.K., Y.U., L.C. and N.K.; investigation, L.C., N.K., O.K., Y.U. and O.T.-L.; resources, L.C., N.K., O.K., Y.U. and O.T.-L.; data curation, L.C., N.K., O.K. and Y.U.; writing—original draft preparation, L.C., N.K., O.K. and Y.U.; writing—review and editing, L.C.; supervision, L.C., N.K., O.K. and Y.U.; project administration, L.C. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data on the results of the real state of the agricultural sector of Ukraine are taken from official websites: Ministry of Agrarian Policy and Food of Ukraine <https://minagro.gov.ua/> (accessed on 1 June 2023), State Statistics Service of Ukraine <https://ukrstat.gov.ua/> (accessed on 1 June 2023), UCAB <https://www.ucab.ua/en/> (accessed on 1 June 2023). The work contains references to the previous studies of the authors, which are the basis for continuation in this research. The composition of the frameworks of Industry 4.0 technologies and their characteristics are publicly available, in particular in scientific publications.

Conflicts of Interest: The authors declare no conflict of interest.

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