

Frugal Innovation: Definition, Factors, Examples for Military Needs in Ukraine

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Abstract

The war in Ukraine and the previously adopted Strategy for the Development of the Defence-Industrial Complex of Ukraine posed the problem of lean production and the development and implementation of innovations in conditions of limited resources. The successful experience of developing countries, which are in similar conditions of scarcity of resources, but were able to meet the needs of the population, including vulnerable categories, due to the introduction of frugal innovations, allows us to make assumptions about the possibility of introducing frugal innovations on the territory of Ukraine in war conditions. The purpose of the study is analysis of the definitions of frugal innovation behind several scientific approaches, consideration of their areas of application and examples of use in Ukraine during the war. About 100 literature sources were analysed, most of them publications in journals cited in the Scopus and Web of Science databases, data of websites and volunteer organizations that are in the public domain. Methods of scientific analysis and synthesis, comparison and grouping to highlight scientific approaches to defining frugal innovation in the academic literature were used. Literature review was carried out based on five approaches to the definition of frugal innovations: resource, process, sustainable, ecosystem and inclusive, which allow a better understanding of their essence from different angles. The main areas of application of frugal innovations are analysed with specific examples in each field. Based on publicly available information on the websites, examples of frugal innovations that were actively implemented in Ukraine during the war were analysed.

Keywords: frugal innovation, resource limitation, cost-effective innovation, lean production, military needs