

SOCIO-ECONOMIC SECURITY MANAGEMENT – NEEDS, POSSIBILITIES AND APPLICATIONS

ZARZĄDZANIE BEZPIECZEŃSTWEM SPOŁECZNO-EKONOMICZNYM
– POTRZEBY, MOŻLIWOŚCI I APLIKACJA

<https://doi.org/10.34739/zn.2023.61.16>

Maciej Popławski

Poland, Gen. T. Kościuszko Military University of Land Forces,
Faculty of Management and Leadership Institute of Management
email: maciej.poplawski@awl.edu.pl, ORCID: 0000-0001-5690-8964

JEL Classification Codes: A12

Abstract: This paper presents theoretical considerations on the needs and possibilities of socio-economic security management and practical application of the model of the system for diagnosing and forecasting socio-economic security in the region. The first part of the paper presents the validity and possibility of managing safety in relation to the definition of management and safety. In that context, the thesis was justified that the task of the state, as an organization, is to properly direct and dispose of the resources it has an influence over in order to ensure the highest possible level of security and eliminate its threats. The second part presents arguments for the need to create a tool for managing socio-economic security at the regional level. The importance of such a tool for making decisions regarding socio-economic policy and management practice at both the strategic and operational level was emphasized. Then, a multi-factorial model of the system for diagnosing and forecasting socio-economic security of Polish regions was presented in terms of its contribution to the achievements of two scientific disciplines, and its practical application. Next, the possibilities and limitations in the construction of the model and its practical application as a management tool were presented.

Keywords: security management, management tool, socio-economic security, model of a system, strategic management, operational management

Abstrakt: W artykule zaprezentowano rozważania teoretyczne nad potrzebami i możliwością zarządzania bezpieczeństwem społeczno-ekonomicznym oraz praktyczną aplikacją modelu systemu diagnozowania i prognozowania bezpieczeństwa społeczno-ekonomicznego w regionie. W pierwszej części przedstawiono zasadność i możliwość zarządzania bezpieczeństwem w odniesieniu do definicji zarządzania i bezpieczeństwa. W tym kontekście uzasadniono tezę, że zadaniem państwa jako organizacji jest właściwe pokierowanie i dysponowanie zasobami, na jakie ma wpływ, w celu zapewnienia jak najwyższego poziomu bezpieczeństwa oraz eliminacji jego zagrożeń. Następnie podano argumenty przemawiające za koniecznością stworzenia narzędzia zarządzania bezpieczeństwem społeczno-ekonomicznym na poziomie regionalnym. Podkreślono znaczenie takiego narzędzia dla podejmowania decyzji odnośnie polityki społeczno-gospodarczej oraz praktyki zarządzania na poziomie strategicznym i operacyjnym. Przedstawiono także wieloczynnikowy model systemu diagnozowania i prognozowania bezpieczeństwa społeczno-ekonomicznego regionów Polski pod kątem wkładu do dorobku dwóch dyscyplin naukowych, oraz jego praktycznego zastosowania. Zaprezentowano możliwości i ograniczenia w konstrukcji modelu oraz jego praktycznej aplikacji, jako narzędzia zarządzania.

Słowa kluczowe: zarządzanie bezpieczeństwem, narzędzie zarządzania, bezpieczeństwo społeczno-ekonomiczne, model systemu, zarządzanie strategiczne, zarządzanie operacyjne

Introduction

The issue of socio-economic security as an area of research is very interesting due to its dynamics. It is also a very important issue, as it is an inseparable element of the general security of the state, as B. Balcerowicz has already pointed out (Balcerowicz, 1997, pp. 29-33); and continues to be relevant due to the ongoing conflict beyond our eastern border. Its dynamism is evidenced by the

constantly changing and evolving factors that affect it. For those reasons, it is both a fascinating and challenging area of research. The research team, established at the Gen. T. Kościuszko Military University of Land Forces, led by the author of this paper, created a tool for managing social and economic security as part of research projects financed by the Ministry of National Defense

(Projects: *Modelowanie bezpieczeństwa społeczno-ekonomicznego w regionach Polski* [Modeling of socio-economic security in Polish regions], (Project No: 119/WZA/72/DzS financed by the Ministry of National Defence), *Wieloczynnikowy model bezpieczeństwa społeczno-ekonomicznego* [A multi-factorial model of socio-economic security] (Project No: 108/WZA/61/DzS financed with the statutory means of WSOWL and partially by the Ministry of Education), as well as *Wieloczynnikowy system zarządzania bezpieczeństwem ekonomicznym Dolnego Śląska* [A multi-factorial economic security management system for Lower Silesia] (Project No: 69/WZA/45/DzS financed with the statutory means of WSOWL).

Literature review

However, before we move on to the project itself and its effects, i.e. the model as a tool for managing socio-economic security, the first question that needs to be answered is whether security can be managed at all. If we accept the classic definition of management by R.W. Griffin, this is a set of activities including planning and decision-making, organising, leading, i.e. managing people, and controlling), aimed at the organisation's resources (human, financial, material and information) and performed with the intention of achieving the organisation's goals in an efficient and effective (Griffin, 2005, p. 6). In that sense, it means managing the resources of a given organization in such a way that it is possible to achieve its goals. Goals are determined by the needs of that organisation. And what is security? The glossary of terms in the field of national security developed by the National Defense University defines it as a state that gives a sense of certainty and guarantees its preservation, as well as a chance to improve it. (*Słownik terminów z zakresu bezpieczeństwa narodowego* [A Glossary of National Security Terms], 2008, p. 14). Therefore, if we assume that the organisation is the state, then the need for security is to maintain it at the highest possible level. In practice, this means that the goal of the state will be to ensure the appropriate use of resources through their proper management. T. Pszczołowski points to management as an activity consisting in disposing of these resources (Pszczołowski, 1978, p. 288). This means that the state aims to dispose of the resources it has an influence on in such a way as to ensure the highest possible level of security. B. Gliński points out that management is to be an action aimed at causing things, organisations or subordinates to function in accordance with the goals of the manager (Gliński, 1974, p. 929). So

the task of the state, in this context, is to make these resources function properly in order to ensure the security of its citizens. In that context, the management of socio-economic security means managing resources by administrative authorities in such a way that, on the one hand, the state of security is improved as much as possible, and on the other hand, its depletion is prevented.

Methodology and theoretical basis

There is a need to create a socio-economic security management tool at the regional level. Regions in strategic planning are the main actors in socio-economic development. Decision makers, i.e. regional administrative authorities at various levels, have been reporting for years the need to develop a practical tool that would help them in making decisions regarding socio-economic policy. The generally understood contemporary social development, and the new threats related to the same, have created the need for changes in the strategic assessment of commonly accepted social and economic indicators. When talking about regional development and its measurement, it is not enough to consider only its classic determinants, i.e. GDP, employment or unemployment, but also more comprehensive indicators of social capital resources should be taken into account (the HDI does not include them either). Therefore, the practice of strategic management at the regional level forces the extension of works beyond HDI to include the diagnosis of socio-economic factors, factors of well-being or living conditions of the population.

Today, general security is determined by more and more factors that go beyond the classic pillars of military, political and economic security defined by Z. Stachowiak (Stachowiak, 2012), despite the fact that they have been defined by priorities resulting from the classic hierarchy of needs. Due to the increasingly higher level of socio-economic development, the so-called "soft factors", because they have a decisive influence on the needs of a higher order. Therefore, there is a need to direct the actions of decision-makers (administrative authorities) to make strategic decisions regarding social factors.

Implemented in projects led by Popławski's research is a response to the problem of the authorities at various levels of regional administration not taking preventive measures against threats arising in the area of broadly understood socio-economic security, and only eliminating the already existing effects (Regional level – poviats of the selected voivodship: Popławski, 2020c; regional level – selected voivodeships: Popławski, 2020a).

Hence the need to create a useful tool that would support the strategic decision-making process in order to prevent potential threats and mitigate the negative effects of those that have already occurred. The above research problem was solved by creating a theoretical, and therefore universal, multi-factor model of the system for diagnosing and forecasting socio-economic security in the region.

It is worth to note that in the national studies to date, few authors address the topic of socio-economic security in the strategic and operational dimension at the same time (Compare: Stachowiak, 2012; Jaźwiński, 2011; Kopania [in:] Stachowiak, Z., Płaczek, J., 2002; Księżopolski, 2004). Administrative authorities refer to it to an even lesser extent, often not seeing the relationship between general security and socio-economic security (For example in the project. *Polityka wspierania bezpieczeństwa w województwie dolnośląskim do 2020 r.* [Security support policy in the Lower Silesian Voivodeship until 2020] developed by the Department of Regional Development of the Marshal's Office of the Lower Silesian Voivodeship, no economic threats were even mentioned, and among other categorised social threats in Lower Silesia there were only crime and social pathologies. See: Project *Polityka wspierania...* [Security support policy...]. Meanwhile, in the project *Analiza zagrożeń społecznych dla Dolnego Śląska. Wykorzystanie wyników sondaży społecznych w różnych obszarach życia do prognozowania zagrożeń społecznych w regionie* [Analysis of social threats for Lower Silesia. Using the results of social surveys in various areas of life to forecast social threats in the region] (Compare the results of research carried out by: Moroń D., Makuch M., Mizera-Pietraszko J., *Analiza zagrożeń społecznych dla Dolnego Śląska...* [in Polish], Analysis co-financed by the EU under the ESF under the project *Analizy, badania i prognozy...* [Analysis of social threats for Lower Silesia...] [in Polish] [POKL. 08.01.04-02-003/08]) conducted by D. Moroń, M. Makuch and J. Mizera-Pietraszko, where the research area de facto included indicators of the level of economic development and the standard of living, the authors clearly indicated the emerging social threats of a socio-economic nature along with a proposal to level them and prevent them. In addition, most of the existing studies are highly static, with little regard to dynamic changes in social factors affecting general security. In fact, socio-economic security is a very important part of the general security of the state and is implemented on many levels, which – as already mentioned – is emphasised by, for example, B. Balcerowicz

(Balcerowicz, 1997). In the turbulent history of Europe, it was socio-economic factors that were decisive in the policy of ensuring security at the general level – e.g. ensuring peace and security by creating prosperity, as the main motive for the creation of the European Union, or the “New Deal” doctrine, created to that poverty and scarcity will never again be a source of conflict.

In view of the above considerations, there is a need to create a socio-economic security management tool in the form of a theoretical, dynamic multi-factor model of a system for diagnosing and forecasting socio-economic security in regions. The above thesis is supported by the fact that to date no such model has been developed in the country. It is worth emphasising that it is necessary to synthesise knowledge in the field of macroeconomics, economic geography, statistics, computer science and economic policy.

Results and discussion

The multi-factorial model of a system for diagnosing and forecasting socio-economic security of Polish regions has its original contribution to the achievements of the scientific discipline and/or practical application. The contribution consists in the development of a theoretical model, taking into account the dynamics of phenomena and supporting strategic decisions in the field of socio-economic policy. The creation of a multi-factor model of the system for diagnosing and forecasting socio-economic security has enriched the theoretical knowledge in the field of social sciences, both in the field of economic sciences, as well as in the field of social sciences; and this extends to the field of security sciences pertaining to the diagnosis and forecast of socio-economic security in regional terms (according to the classification of scientific fields and disciplines in 2011-2018 (Regulation of the Minister of Science and Education of August 8, 2011 on the areas of knowledge, fields of science and art, and scientific and artistic disciplines (Dz.U. z 2011 r. nr 179, poz. 1065)), being in force at the time when the project was started). In addition, the development of the model as a theoretical tool to support the management of socio-economic security may become useful for the authorities of local government units (LGUs) in supporting decisions in the field of risk management in the examined area and direct the activities of socio-economic policy as an element of the decision support system decision support system – DSS).

The methodology of the model creation, the detailed course of research and the conclusions have been described in detail in monographs and

scientific articles (Popławski, 2020 a, b, c; Popławski, Kuźnik, 2020, pp. 714-728; Popławski, Wojaczek, 2018, pp. 314-327; Popławski, Smal, 2017, pp. 41-58; Popławski, Kowacka, 2015, pp. 62-68).

A diagram of the model system for diagnosing and forecasting social and economic security of Polish regions is presented below.

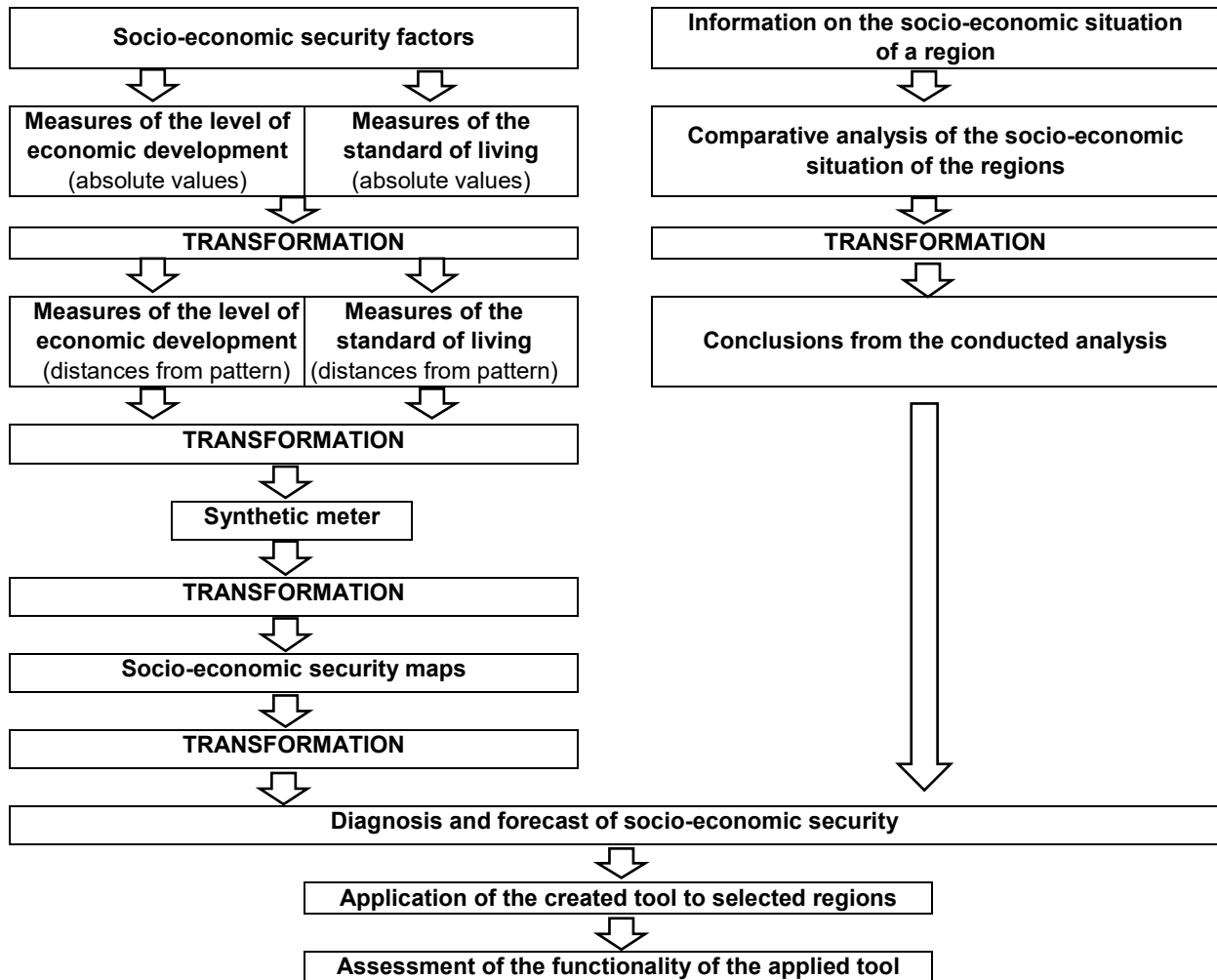


Figure 1. Model of the system for diagnosing and forecasting socio-economic security

Source: M. Popławski, *Wieloczynnikowy model systemu diagnozowania bezpieczeństwa społeczno-ekonomicznego regionów Polski* [in Polish], Ed. AWL, Wrocław 2020, p. 50.

For the construction of the model it was necessary to create a theoretical multi-factor model of a system for diagnosing and forecasting socio-economic security from scratch by developing a method of comparing changes in the level of economic development and living conditions of the population in dynamic and spatial terms. For this purpose, selected research methods were used, the first four of which belong to the group of pragmatic methods, and the last to the group of formal methods (according to the general classification adopted by Niemczyk [in:] Czakon, 2016, p. 21; Zdonek, Hysa, 2017, p. 394; Sułkowski [in:] Czakon, 2011, pp. 26-47: the method of studying the literature and source data, the method of

comparative and ratio analysis, statistical methods: the method of taxonomy in the type of grouping (based on the study of the distance from the pattern), classic methods of the average (arithmetic and weighted) and the method of linear regression. Statistical methods (taxonomy, arithmetic and weighted mean, and linear regression) were quantitative, while the method of studying the literature and source data and the method of comparative analysis were qualitative. The taxonomy method in the grouping type enabled the comparison of changes taking place in the level of economic development and living conditions of the population in terms of dynamic and spatial. The use of this method consisted in measuring the distance of

individual LGUs from the model for which the country was adopted in the project (Poland = 100). The weighted average method was used to construct a synthetic measure for individual voivodeships, and linear regression was used to prepare forecasts of the shape of individual measures. The method of in-depth study of the literature on the subject and source materials obtained from individual poviats was used for a comparative analysis of the collected and selected information on the socio-economic situation of the surveyed LGUs. A number of research techniques were used in the work: electronic data processing using spreadsheets and graphics programs to construct tables, charts and maps; a synthesis of the information obtained in a detailed analysis of the state of socio-economic security of individual poviats of the examined region; statistical and econometric processing of data for the construction of a synthetic table and forecasts; logical reasoning for conclusions from the analysis of socio-economic security factors.

On the other hand, during the construction of the model, a number of limitations were encountered, mainly related to the absence of input data, their limitation, obsolescence or incompatibility. It was also quite difficult to reach specific representatives of administrative authorities and convince them of the importance of the impact of the level of economic development and living conditions of the population on socio-economic security. The resistance probably stems from the reluctance to implement new DSS tools, or from the widespread lack of action in these areas, which stems from a failure to consider socio-economic security in the general security strategy.

5. Conclusions

As it was already mentioned, as a result of the work of the research team, a broad database of socio-economic security factors was created, as well as

a multi-factor model of the system for diagnosing and forecasting socio-economic security in the region. They can be an element of DSS for administrative authorities at the regional (and also local – e.g. county) level, i.e. the management tool defined in the first point (or at least part of it), which perfectly corresponds to the definition of DSS. The literature on the subject indicates three basic components of a classic DSS: a database (also known as a knowledge base), a model (e.g. decision-making or user criteria) and a user interface (Haettenschwiler, 1999, pp. 189-208; Power, 2002; 1982; Haag, et al., 2000, pp. 136-140; Marakas, 1999). The resulting model contains the first two of the above-mentioned elements: a database on socio-economic security factors, as well as the system itself. Adopting the classification of C.H. Holsapple and A.B. Whinston, the two above-mentioned elements could be part of a problem-solving DSS and be a practical decision support tool in the field of socio-economic policy (Holsapple, Whinston, 1996), because they indicate these problems and suggest ways for levelling up or eliminating them. In order to create a full DSS, a third element should be added: the so-called “user interface”, i.e. the software responsible for interacting with the user (Shneiderman, Plaisant, 2009). The system could then generate a diagnosis and forecast of the state of socio-economic security in regional terms in any of its areas. According to P. Gołoś (Gołoś, 2010, p. 236), the DSS implementation would require proper preparation and implementation of the entire process of related activities: choosing the right implementation methodology – e.g. through commercialisation of the created system, estimating the budget, planning and designing individual steps of the implementation process – from its patenting, through testing, to commercialisation. Such activities are already being carried out by the research team that created the discussed model.

References

- Balcerowicz, B. (1997). *Obrona państwa średniego* [Defense of the Middle State]. Warszawa: AON.
- Frei, D. (1977). *Grundfragen der Weltpolitik*, Stuttgart, Berlin, Köln, Mainz: Kohlhamme.
- Gliński, B. (1974). *Mała encyklopedia ekonomiczna* [A Small Economic Encyclopedia]. Warszawa: PWE.
- Gołoś, P. (2010). Wdrażanie systemu informatycznego [Implementation of an IT system], in: J. Zawila-Niedźwiecki, A. Gąsiorkiewicz, K. Rostek (eds.), *Informatyka gospodarcza* (p. 236) [The IT Business]. Warszawa: C.H. Beck.
- Griffin, R.W. (2005). *Podstawy zarządzania organizacjami* [Fundamentals of organization management]. Warszawa: PWN.
- Haag, S., Cummings, M., McCubbrey, D., Donovan, R., Pinsonneault, A. (2000). *Management Information Systems: For The Information Age*. Canada: McGraw-Hill Ryerson Limited.
- Haettenschwiler, P. (1999). *Neues anwenderfreundliches Konzept der Entscheidungsunterstützung. Gutes Entscheiden in Wirtschaft*. Politik und Gesellschaft. Zurich: Hochschulverlag AG.
- Holsapple, C.W., Whinston, A.B. (1996). *Decision Support Systems: A Knowledge-Based Approach*. St. Paul: West Publishing.
- Jaźwiński, I. (2011). Determinanty kształtowania polskiego bezpieczeństwa gospodarczego. Wybrane aspekty [Determinants of the shaping Polish

- Economic Security. Selected Aspects]. *Przeгляд strategiczny* (1), pp. 59-70.
- Kołodziński, E. (2023). *Wprowadzenie do zarządzania bezpieczeństwem* [Introduction to security management]. Olsztyn: UWM.
- Kopania K. (2002), O naturze bezpieczeństwa ekonomicznego [On the Nature of Economic Security], in: Stachowiak, Z., Płaczek, J. (eds.), *Wybrane problemy ekonomiki bezpieczeństwa* [Selected Problems of Security Economics]. Warszawa: AON.
- Księżopolski, K.M. (2004). *Ekonomiczne zagrożenia bezpieczeństwa państwa. Metody i środki przeciwdziałania* [Economic Threats to State Security. Countermeasures and Methods]. Warszawa: Elipsa.
- Marakas, G.M. (1999). *Decision support systems in the twenty-first century*. N.J. Upper Saddle River: Prentice Hall.
- Niemczyk, J. (2016), Metodologia nauk o zarządzaniu [Methodology of Management Sciences], in: Czakon, W. (ed.), *Podstawy metodologii w naukach o zarządzaniu* (p. 21) [Fundamentals of Methodology in Management Sciences]. Warszawa: PWN.
- Popławski, M. (2020a), *Wieloczynnikowy model systemu diagnozowania bezpieczeństwa społeczno-ekonomicznego regionów Polski* [A multi-factor model of the system for diagnosing socio-economic security of Polish regions]. Wrocław: AWL.
- Popławski, M. (2020b). Assessment of socio-economic policy in the field of socio-economic security based on an analysis of the state of security of Lower Silesia. *Journal of Decision Systems*, 29 (1), pp. 450-459.
- Popławski, M. (2020c). *Diagnosing and Forecasting of Socio-economic Security. The case of Lower Silesia*. Toruń: Adam Marszałek.
- Popławski, M., Kowacka, M. (2015). The multifactorial model of economic security management – methodological essentials. *Intercathedra*, 31 (2), pp. 62-68.
- Popławski, M., Kuźnik, A. (2020). Forecasting of socio-economic security in the region on the example of Lower Silesia. *Scientific Journal of the Military University of Land Forces*, 52/3(197), pp. 714-728.
- Popławski, M., Smal, T. (2017). Podstawy metodologiczne badań nad bezpieczeństwem ekonomicznym Dolnego Śląska [Methodological Fundamentals of Research on the Economic Security of Lower Silesia]. *Zeszyty Naukowe ASzWoj*, 2 (107), pp. 41-58.
- Popławski, M., Wojaczek, A. (2018). Prognozowanie bezpieczeństwa społeczno-ekonomicznego w Wieloczynnikowym Modelu Bezpieczeństwa Społeczno-ekonomicznego Dolnego Śląska [Forecasting Socio-Economic Security in the Multi-Factorial Model of Socio-Economic Security of Lower Silesia]. *Marketing i Rynek*, 12, pp. 314-327.
- Power, D.J. (2002). *Decision Support Systems: concepts and resources for managers*. Westport Conn.: Quorum Books.
- Pszczółowski, T. (1978), *Mała encyklopedia prakseologii i teorii organizacji* [A Small Encyclopedia of Pra-xeology and Organization Theory]. Wrocław – Warszawa – Kraków – Gdańsk: Ossolineum.
- Rozporządzenie Ministra Nauki i Szkolnictwa Wyższego z dnia 8 sierpnia 2011 r. w sprawie obszarów wiedzy, dziedzin nauki i sztuki oraz dyscyplin naukowych i artystycznych [Regulation of the Minister of Science and Higher Education of August 8, 2011 on the areas of knowledge, fields of science and art, and scientific and artistic disciplines] [Dz.U. z 2011 r. nr 179, poz. 1065].
- Shneiderman, B., Plaisant, C. (2009). *Designing the User Interface: Strategies for Effective Human-Computer Interaction*. Reading, MA: Addison-Wesley Publishing Co.
- Słownik terminów z zakresu bezpieczeństwa narodowego* (2008). [A Glossary of National Security Terms], Warszawa: AON.
- Sprague, R.H., Carlson, E.D. (1982). *Building Effective Decision Support Systems*. Englewood Cliffs, N.J.: Prentice Hall.
- Stachowiak, Z. (2012). *Teoria i praktyka mechanizmu bezpieczeństwa ekonomicznego państwa. Ujęcie instytucjonalne* [Theory and Practice of the State's Economic Security Mechanism. Institutional approach]. Warszawa: AON.
- Sułkowski, Ł. (2011). Metodologia zarządzania – od pluralizmu do fundamentalizmu [Management methodology – from pluralism to fundamentalism], in: Czakon, W. (ed.), *Podstawy metodologii badań w naukach o zarządzaniu* (pp. 26-47) [Fundamentals of research methodology in management sciences]. Warszawa: Wolters Kluwer.
- Zdonek, I., Hysa, B. (2017). Analiza publikacji z obszaru nauk o zarządzaniu pod względem stosowanych metod badawczych [Analysis of Publications in the Field of Management Science in Terms of the Research Methods Used]. *Zeszyty Naukowe Politechniki Śląskiej, serie: Organizacja i Zarządzanie*, 102, p. 394.