

STRATEGIC MANAGEMENT IN CONDITIONS OF UNCERTAINTY

Henryk DŹWIGOŁ^{1*}, Mariola DŹWIGOŁ-BAROSZ²

¹ Silesian University of Technology; henryk.dzwigol@poczta.fm, ORCID: 0000-0002-2005-0078

² Silesian University of Technology; mariola.dzwigol-barosz@poczta.fm, ORCID: 0000-0002-5306-3836

* Correspondence author

Purpose: to analyse the variables influencing the construction of a new approach in the strategic management process of an enterprise operating under uncertainty. As a theoretical background for the research, the 'valued' concepts related to business management occurring in the global economy were used, i.e. the concepts of knowledge economy, network organisation, sustainable development, time management and social participation.

Design/methodology/approach: it is necessary to use methods in practice for research in management science based on observation of facts and the classification used in the methodology of inductive sciences such as:

- observation carried out under natural conditions and interaction with the companies under investigation,
- observation-intervention which takes place within the framework of transformation activities in companies, and the researcher has a direct influence on the decisions made in this respect. This implies the need to combine scientific and practical objectives.

Findings: The market has forced a move away from the traditional business management approach to task-focused teams, where today's boss may be his subordinate's subordinate tomorrow, because that is better for the objectives of a particular project. These groups will be interdisciplinary, according to the nature of the task, and their participants will gain a pretty good knowledge of what the other partners are up to and will be prepared enough to replace them with dignity in forced situations. This approach offers an opportunity for the company to adapt more quickly to dynamic changes in the environment.

Research limitations/implications: The research should address the development of a tool to support the selection of methods and approaches for the strategic management process under uncertainty.

Practical implications: The authors have identified only some of the determinants of strategic management under uncertainty, such as the knowledge economy, sustainable development, network structure in the enterprise, time management, soft factors in the management process under uncertainty - emotional intelligence. The research should not only develop new approaches in the process of strategic management, but also identify management methods that should primarily be applied under conditions of uncertainty.

Originality/value: In the conditions of pandemics and wars, it is necessary to develop a flexible approach to the process of strategic corporate management. It is also necessary to develop or modify existing management methods for these difficult times of dynamic change in the environment.

Keywords: strategic management, knowledge economy, sustainability, network structure, emotional intelligence

Category of the paper: The paper is analytical in nature.

1. Introduction

The progressive process of globalisation and permanent changes in the market necessitate companies to develop a different approach to the management process. Today's companies need to open up to new solutions, learn to see problems from different perspectives, become more flexible and responsive to market signals and show a willingness to make changes in the management process. This is related to the fact that nowadays, under conditions of considerable uncertainty, we are more than ever confronted with increasingly complex corporate goals, the evolution of work organisation towards its autonomisation and the creation of flexible forms of work, the reduction of the possibility of achieving results in the company through the use of hierarchical control, greater emphasis on improving the skills of employees and new patterns of so-called 'careers without borders'. These processes include modern managers, whose style of operation should take into account the interests of the enterprise through dynamic management of its resources, i.e.: marketing and sales, production, human resources, financial, organisational, physical and information resources.

In addition, companies are operating in the era of the 4th Industrial Revolution, which is seen as the beginning of a new era in which industry is becoming increasingly 'smart' through intensive data sharing and predictive analytics and the use of Internet of Things technologies (Porter, Heppelmann, 2015; Lenka, Parida, Wincent, 2017). This is forcing companies across industries to develop a new way of doing business, which affects the entire industrial value chain (Iansiti, Lakhani, 2014; Cenamor, Sjödin, Parida, 2017) and which is directly related to their performance (Imran, Waseem, Adnan, 2018; Waschneck et al., 2016). In this context, J. Pieriegud (2019) points out that the digitalisation of the economy and society is one of the most dynamic changes that can be observed in the current environment, which, on the one hand, opens up new opportunities in the creation of business models, while, on the other hand, brings with it uncertainty and various risks related to, inter alia, security in the broadest sense and the social impact of the automation of manufacturing processes. The author sees digitalisation as a continuous process of convergence of the real and virtual worlds, which is becoming a driver of innovation and change in most sectors of the economy.

Taking the above into account, one can conclude that the changes taking place in our environment necessitate the construction of a contemporary strategic management model. However, in order to build such a model, it is first necessary to prepare the assumptions for its construction. Hence, the purpose of this paper is to identify the variables that may influence the construction of a contemporary strategic management model under conditions of uncertainty.

The paper consists of two parts: the first part characterises the variables that can have a key influence on the contemporary market economy model, while the second part of the paper attempts to identify the assumptions for the construction of the contemporary market economy model.

2. Selected variables of the modern market economy model

2.1. Knowledge economy

When analysing the variables of the contemporary market economy model, it is necessary to refer directly to the 'valued' concepts present in the global economy related to business management, which may include:

- knowledge economy,
- sustainability and sustainable organisation,
- network structures,
- public participation,
- time management.

One of the key variables of the contemporary market economy model should be its knowledge-based nature. The essence of a knowledge-based economy is that long-term growth is determined mainly by investment in human capital and innovation (Welfe, 2009). Knowledge here becomes the driving force of the economy and is a resource used in economic transactions. It is the result of specific social, economic and political processes (Krätke, 2012; Ernst, Kim, 2002). As K. Kucznik (2019) points out, the knowledge-based economy comprises four pillars: (1) the institutional-legal environment - factors that may allow the elimination or reduction of legal-administrative-economic market barriers, as well as stimulating entrepreneurship, in other words a system of economic incentives, (2) innovation systems, taking into account the number of people employed in research and development, the number of scientific and technical publications and patents per million inhabitants, (3) education and training, which takes into account the state and effectiveness of lifelong education, and (4) information infrastructure per 10,000 inhabitants.

K.B. Matusiak (2010) points out that the transition from an industrial economy to a knowledge-based economy is evidenced by: (1) dematerialisation (knowledge as a source of competitive advantage), (2) dynamisation (concerning, for example, the technological race and the growing demand for innovation), (3) decentralisation (management by networks and the introduction of flexible business models), (4) uncertainty (corresponding to a turbulent economy), and (5) globalisation (the increase in the reach of markets, while being embedded in local and regional specificities).

Despite the fact that the Knowledge-based Economy has many advantages, one can also point to the risks associated with it, namely: (1) the possibility of a widening of the gap between less-developed countries and the most technologically advanced ones as a result of dynamic technological progress, (2) the additional marginalisation of developing countries as a result of the failure of other countries to absorb dawning technological advances, (3) the widening of inequalities in the level of productivity and the rate of economic development of different countries through variations in the quality of organisation, (4) monopolisation of the market through homogenisation of products and services, (5) increasing disparities in the level of technology use, (6) widening of the gap between highly developed countries supporting themselves in the implementation of modern technology and other countries, and (7) stratification of countries into regions equipped and not equipped with modern infrastructure and adequately qualified human capital (Makulska, 2012).

2.2. Sustainable development

Corporate sustainability is one of the key elements determining the level of competitiveness of an organisation (Koszel, Weinert, 2013). J. Adamczyk (2018) points out that managing an enterprise according to the principles of sustainable development requires balancing economic, social and environmental goals. It involves the process of efficient production of desired products and services, while limiting the consumption of nature's resources and respecting environmental protection, at the same time ensuring that the expectations of stakeholders are met. In accordance with the principles of sustainable development, a company takes into account the interests of customers, employees, suppliers, the local community and other stakeholder groups. A. Misztal (2018a), on the other hand, emphasises that sustainable development in relation to an enterprise is a process of quantitative and qualitative changes aimed at the simultaneous realisation of economic, social and environmental objectives.

Sustainability should be the basis for a long-term approach to organisational management (Misztal, 2018b). The realisation of sustainable development by companies is linked to the need to adapt to the changing environment, to continuously learn and to reorient the company's goals towards increasing value for counterparties (Grudzewski et al., 2010, p. 27).

As emphasised by A. Misztal (2018b), the sustainable development of an enterprise is tantamount to improving the financial and asset situation of the entity, while at the same time improving the conditions and quality of functioning of its employees and taking care to improve standards related to environmental protection. However, the harmonisation of actions towards the implementation of predetermined strategic objectives must take into account not only the current operating conditions, but also expresses the need to take care of the future of the economic entity.

2.3. Network structure in the modern enterprise

The network structure is the structure used in modern organisations that break-up with traditional organisational arrangements and introduce new ways of management. Thus, it can be concluded that this structure is used in such enterprises that base their functioning on network work and management. Furthermore, as Glückler (2012) points out, the concept of network formation and operation is related to guaranteeing and strengthening a competitive position, which is created by means of various forms of interaction between organisations in order to gain access to strategic resources.

A network is a form of organisation that functions to build competitive advantage. Therefore, its element is a kind of relationship between separate entities that is characterised largely by interaction rather than competition (Zentes, Swoboda, Morschett, 2005).

Contemporary network organisations are shaped on the basis of a new approach to competition, which is here identified not only with the individual capabilities of companies, but with the skills resulting from cooperation in a network of shared values. At their core is the shared control of specialised and interconnected resources, which are generally intangible in nature. Network organisations are created when there is a strategic potential among the organisation's partners that creates added value, which at the same time is a factor conditioning the competitiveness of entities creating the network (Mikołajek-Gocejna, 2011).

Working in a networked structure requires managers to have "a high ability to synthesise dispersed information material". Today's managers need to know how to share their expert knowledge with others, how to update this knowledge so that it allows them to shorten the duration of projects, to create informal connections and to control the flow of information within the company and to create and guard the boundaries of the activities of teams or individual employees. Managers operating in a network structure need to make changes in terms of the demands placed on ranks, leadership style, organisational culture and the motivation system.

The advantages of a network organisation include the possibility to achieve high efficiency of operations by eliminating redundant operations, increasing flexibility in operations, introducing new and faster methods of information exchange and fostering competitiveness and learning. In addition, the 'network of relationships' between entities fosters the exchange of resources, facilitates work control and redirection of employee duties (Mikołajek-Gocejna, 2011). Moreover, it allows for the possibility of synergies, the occurrence of a multilateral cooperation effect and a high degree of independence of the partners in the arrangement, which fosters innovation and learning (Sułkowski, Sikorski, 2014). Of course, like any concept, this one too is not free of flaws. The possibility of exploitation by the main organisation, the requirements for professionalism and education of employees, problems when managing the interconnectedness of enterprises, the increase in the number of participants and problems with information management and control are indicated as the main solutions to this approach (Mikołajek-Gocejna, 2011).

2.4. Public participation in the governance process

Participation is understood as the inclusion of employees in the decision-making process concerning the functioning of the organisation and their participation in its management. Participation in the management process enables employees to feel responsible for the fate of the company and for its results, their behaviour and involvement increases their creativity and thus enhances the development potential of the entire organisation. In this context, E. Poutsma (2017) emphasises that in the employee sense, however, participation is not limited to being a member of a team, for the essence of participation is taking an active role in the team, participating in decisions and taking responsibility for joint actions.

As H. Kisilowska (1998) points out, the meaning of employee participation in management is motivational in nature and boils down to activities aimed at triggering bottom-up initiatives and arousing a willingness to assume at least some responsibility in the workplace. Participation implies the empowerment of the employee with all the positive consequences for the formation of desirable attitudes on the part of the employee.

In participatory activities, it is particularly important to involve as diverse a workforce as possible in the decision-making process, as they bring with them unique knowledge of different areas of the company (Przywojska, 2019). At the same time, as I. Rącka and B. Wenerska (2018) it is necessary to conduct the participation process well. This will help to strengthen employees' sense of empowerment (Denhardt, Denhardt, 2007) and increase their confidence. It is also important that social participation allows for real participation in planning and decision-making, as it is unsatisfactory for employees to be listened to, it is necessary to take their opinions into account in company policy (Przywojska, 2019).

2.5. Time management as a new approach to business development

Management in modern companies is most often time-based and focused on innovation (Dźwigoł, Dźwigoł-Barosz, 2018, p. 61).

Temporary management is a concept that has many interpretations and definitions, e.g.: it is the temporary handing over of a company or part of it to management by a selected manager for special tasks in order to make changes in particular or all areas of its business.

Determinants of the emergence of this approach include (Rytka, 2011): (1) increasing competitive pressures resulting from the globalisation of markets while at the same time removing barriers to access - for example in the European Union, (2) the growing influence and role of consumers - access to information through the use of the Internet, (3) the growing uncertainty of tomorrow as a result of increased risks: operational, financial, political, etc. The loss of economic security in business, (4) the growing role of innovation and flexibility in economic processes, and (5) the dynamic changes taking place in the economic and business environment of enterprises.

The new reality requires a highly qualified manager to be hired for a specific purpose and for a specific period of time to solve a complex problem in the company, i.e. the interim manager (Dźwigoł, Dźwigoł, 2018, p. 66).

A manager involved in temporary management should be characterised by a specific approach and achievements (Rytka, 2011), i.e.: (1) have experience, which allows the application of proven methods to the client, (2) boast professional successes, (3) be a person who is stable in life, thus less prone to various types of behaviour, (4) seek challenges, as a temporary manager is hired where the competences of a full-time manager are no longer sufficient, (5) be open to new tasks and goals, which allows for increased effectiveness in their implementation, and (6) feel satisfaction with the result, not only to perform the function for power.

Summarising this concept, it can be pointed out that it focuses on core competences, the increasing demand for efficiency and effectiveness of actions taken, the desire to reduce the risk of profit earned and innovation.

As can be concluded from the analysis, the construction of a new model of market economy (NMME) should be done taking into account such aspects as sustainable development, knowledge-based economy, the use of network structures, social participation in the management process and the use of time management (employment of managers for special tasks). The survival of an enterprise in changing conditions is determined by the ability to anticipate changes and manage them effectively, adapt management methods to new implementation conditions, focus on building effective processes and create effective attitudes and behaviours of employees (Nogalski, Rutka, 2007). It is also becoming necessary to move from a linear approach to process building (so-called linearity) to the creation of processes characterised by a high degree of decision-making autonomy, speed, higher product quality and more effective management (so-called networking).

3. Soft factors in the management process under uncertainty

Emotional quotient or EQ (Mikołajewska, Mikołajewski, 2013, p. 3) (*emotional quotient*, EQ; *emotional intelligence*, EI) - a person's personal competence in terms of the ability to recognise one's own emotional states and those of others, as well as the ability to use one's own emotions and deal with the emotional states of others.

The development of a competence model for managers in a knowledge-based economy is an important element both theoretically and practically (Dźwigoł, Dźwigoł-Barosz, Miśkiewicz, Kwiliński, 2020, p. 2630).

Competences included in emotional intelligence are complementary to general intelligence, understood as purely intellectual, analytical and abstract abilities, measured by the intelligence quotient and expressed by the IQ (*Intelligence Quotient*).

3.1. Three main models of emotional intelligence

According to Daniel Goleman, emotional intelligence includes the ability to understand oneself and one's emotions, to manage and control them, the ability to self-motivate, empathy and skills of a social nature (Matthews, Zeinder, Roberts, 2004).

Jack Mayer and Peter Salovey speak of four areas that make up emotional intelligence: perceiving emotions, supporting thinking with emotions, understanding emotions and managing emotions (Goleman, 1997a).

According to Reuven Bar-On, emotional intelligence consists of five components: intrapersonal intelligence, interpersonal intelligence, stress coping, adaptability and general mood (Goleman, 1997b).

3.2. Typology of emotional competence

Emotional intelligence includes three main groups of competences (Goleman, 1997b; Krokowski, Rydzewski, 2004; Conversation..., 2009):

Psychological competence (relationship with self)

- *Self-awareness*: the ability to recognise one's own emotional states, knowledge of one's own feelings, values, preferences, capacities and intuitive judgements, i.e. emotional awareness.
- *Self-esteem*: self-confidence, awareness of one's abilities, skills and one's limitations; ability to experience oneself independently of other people's judgements.
- *Self-control* or *Self-regulation*: the ability to react consciously to external stimuli and to control one's own emotional states; the ability to cope with stress, to shape one's own emotions in accordance with oneself, one's own norms, principles and professed values.

Social competence (relations with others)

- *Empathy*: the ability to experience the emotional states of others, to be aware of the feelings, needs and values of others, i.e. to understand others, to be sensitive to the feelings of others; an attitude geared to helping and supporting others; the ability to feel and understand social relationships.
- *Assertiveness*: having and expressing one's own opinion and directly, openly expressing emotions, attitudes and professed values within limits that do not violate the rights and psychological territory of others; the ability to defend one's own rights in social situations without violating the rights of others to defend them.
- *Persuasion*: the ability to elicit desired behaviours and reactions in others, i.e. to influence others; the ability to get others to agree, the ability to mitigate conflict.

- *Leadership*: the ability to create a vision and stimulate human motivation to realise it; the ability to win over followers.
- *Collaboration*: the ability to bond and interact with others, the ability to work as a group towards common goals, the ability to perform tasks as a team and solve problems together.

Praxeological competence (a.k.a. action competence - our attitude to tasks, challenges and activities)

- *Motivation*: one's own commitment, the emotional inclinations that lead to or facilitate the achievement of new goals, i.e. the drive for achievement, initiative and optimism.
- *Adaptability*: ability to control one's internal states; ability to cope with a changing environment, flexibility to adapt to changes in the environment, ability to act and make decisions under stress.
- *Conscientiousness*: the ability to take responsibility for tasks and to carry them out; the ability to derive satisfaction from one's duties; consistency in action, in accordance with the standards one has adopted.

3.3. Measuring methods

One of the more popular tools in Anglo-American practice for measuring emotional intelligence is the *Multifactor Emotional Intelligence Scale* (MEIS), on which the *Mayer-Salovey-Caruso Emotional Intelligence Test* (MSCEIT) was based. Jack Mayer, Peter Salovey and David R. Caruso created a tool that examines four levels of emotional intelligence: perceiving emotions, using emotions in cognitive processes, understanding emotions and managing emotions (Conversation..., 2009). In Poland, the *Test of Emotional Intelligence* (TEI) was developed (Śmieja, Orzechowski, Asanowicz, 2013), which is also embedded in Mayer, Salovey and Caruso's theoretical model.

Scholars have raised concerns about the extent to which emotional intelligence measures of self-esteem correlate with personality dimensions that are well established in psychometrics. The predominant view in the scientific literature is that emotional intelligence understood as a trait EI is a reinterpretation of a set of personality traits (Petrides, Pita, Kokkinaki, 2007, pp. 273-289; Mikolajczak et al., 2007, pp. 338-353; Austin, 2009, pp. 381-383).

Ashkanasy et al. also points out that there is currently not enough strong evidence that emotional intelligence predicts leadership competence after excluding personality traits and IQ (Antonakis, Ashkanasy, Dasborough, 2009, pp. 247-261).

Other critical voices argue that tests of emotional intelligence do not measure cognitive ability, only knowledge of and conformity to social norms (APA PsycNet).

Locke argues that the concept of EI is itself a misinterpretation of the construct of intelligence, and proposes an alternative interpretation: it is not another form or type of intelligence, but intelligence - the ability to grasp abstractions - applied to a specific domain of life: the emotions (Locke, 2005, pp. 425-431).

Emotional intelligence also has a moral aspect. Often seen as a moral virtue, it is in fact a skill that can be used instrumentally as a tool to achieve goals by manipulating other people (Wichura, 2017; Grant, 2014).

4. Summary

At present, the key problem of strategic management is to perceive, value and master the growing uncertainty accompanying the activities of enterprises (Koźmiński, 2004). The complexity and dynamics of the environment often create strategic dilemmas as to making sustainable choices of concepts and methods in management processes in the face of this uncertainty.

This paper is an attempt to search for a possible solution to the dilemma between the difficulty of anticipating the future and the choice of concepts related to business management in order to build a contemporary strategic management model. Concepts such as the knowledge economy, network organisation, sustainable development, time management or social participation can significantly influence the construction of an optimal strategic management model under conditions of uncertainty.

5. References

1. Adamczyk, J. (2018). Zrównoważony rozwój jako paradygmat współczesnego zarządzania przedsiębiorstwem. *Przegląd Organizacji*, nr 12.
2. Antonakis, J., Ashkanasy, N.M., Dasborough, M.T. (2009). Does leadership need emotional intelligence? *The Leadership Quarterly*, 20(2), pp. 247-261, DOI: 10.1016/j.leaqua.2009.01.006, 22.10.2022.
3. APA PsycNet, doi.apa.org, DOI: 10.1037/1528-3542.1.3.196, 22.10.2022.
4. Austin, E.J. (2009). A reaction time study of responses to trait and ability emotional intelligence test items. *Personality and Individual Differences*, 46(3), pp. 381-383, DOI: 10.1016/j.paid.2008.10.025, 2020.10.22.
5. Cenamor, J., Sjödin, D.R., Parida, V. (2017). Adopting a platform approach in servitization: Leveraging the value of digitalization. *International Journal of Production Economics*, Vol. 192.
6. Denhardt, J.V., Denhardt, R.B. (2007). *The New Public Service. Serving, Not Steering*. Routledge.

7. Dźwigoł, H., Dźwigoł-Barosz, M., Miśkiewicz, R., Kwiliński, A. (2020). Manager Competency Assessment Model in the Conditions of Industry 4.0, *Entrepreneurship And Sustainability Issues, Vol. 7, No. 4(June)*.
8. Dźwigoł, H., Dźwigoł, D. (2018). Interim manager: identyfikacja kompetencji kierowników do zadań specjalnych. *Zeszyty Naukowe Politechniki Śląskiej Organizacja i Zarządzanie, z. 120*. Gliwice, pp. 65-72.
9. Dźwigoł, H., Dźwigoł-Barosz, M. (2018). Menedżer we współczesnych innowacyjnych przedsiębiorstwach. In: K. Pająk (ed.), *Nowe zarządzanie publiczne. Aspekty teoretyczne i praktyczne*. Warszawa: PWN.
10. Ernst, D., Kim, L. (2002). Global production networks, knowledge diffusion, and local capability formation. *Research Policy, Vol. 31, Iss. 8-9*.
11. Glückler, J. (2012). *Handbook of Research on Entrepreneurship in Professional Services*. Edward Elgar Publishing.
12. Goleman, D. (1997a). *Inteligencja emocjonalna*. Poznań: Media Rodzina. ISBN 978-83-7278-217-5.
13. Goleman, D. (1997b). *Inteligencja emocjonalna w praktyce*. Poznań: Media Rodzina. ISBN 978-83-8559-481-9.
14. Grant, A. (2014). *The Dark Side of Emotional Intelligence*, 2 stycznia 2014, 22.10.2022.
15. Grudzewski, W.M., Hejduk, I.K., Sankowska, A., Wańtuchowicz, M. (2010). W kierunku zarządzania drugiej generacji – model diamentu czterech paradygmatów współczesnego przedsiębiorstwa. *e-mentor, nr 1*.
16. Imran, M., Waseem, H., Adnan, H. (2018). Influence of Industry 4.0 on the Production and Service Sectors in Pakistan: Evidence from Textile and Logistics Industries. *Social Sciences, 7(12)*.
17. Kisilowska, H. (2008). *Partycypacja pracownicza w polskim przedsiębiorstwie w aspekcie integracji europejskiej: zagadnienia prawne*. Oficyna Wydawnicza Politechniki Warszawskiej.
18. Koszel, M., Weinert, A. (2013). Wykorzystanie koncepcji społecznej odpowiedzialności przedsiębiorstw i zrównoważonego rozwoju w kreowaniu innowacyjnego produktu: studia przypadków. *Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania, 32/2*. Uniwersytet Ekonomiczny w Poznaniu.
19. Koźmiński, A. (2004). *Zarządzanie w warunkach niepewności*. PWE.
20. Krätke, S. (2012). *Cities for people, not for profit*. Routledge.
21. Krokowski, M., Rydzewski, P. (2004). *Inteligencja emocjonalna*. Łódź: Imperia S.C.
22. Kucznik, K. (2019). *Gospodarka oparta na wiedzy jako trend stymulujący zarządzanie talentami*. II Konferencja Naukowa "Współczesne problemy ekonomiczne w badaniach młodych naukowców", 24 maja 2018. Polskie Towarzystwo Ekonomiczne.
23. Lansiti, M., Lakhani, K.R. (2014). Digital Ubiquity: How Connections, Sensors, and Data Are Revolutionizing Business. *Harvard Business Review, 92*.

24. Lenka, S., Parida, V., Wincent, J. (2017). Digitalization Capabilities as Enablers of Value Co-Creation in Servitizing Firms: Digitalization Capabilities. *Psychology and Marketing*, 34(1).
25. Locke, E.A. (2005). Why emotional intelligence is an invalid concept. *Journal of Organizational Behavior*, 26(4), pp. 425-431, DOI: 10.1002/job.318, 22.10.2022.
26. Makulska, D. (2012). Kluczowe czynniki rozwoju w gospodarce opartej na wiedzy. *Prace i Materiały Instytutu Rozwoju Gospodarczego, nr 88. Pomiędzy polityką stabilizacyjną i polityką rozwoju*. Szkoła Główna Handlowa.
27. Matthews, G., Zeider, M., Roberts, R.D. (2004). *Emotional Intelligence: Science and Myth*. Cambridge: MIT Press.
28. Matusiak, K.B. (2010). *Budowa powiązań nauki z biznesem w gospodarce opartej na wiedzy. Rola i miejsce uniwersytetu w procesach innowacyjnych*. Warszawa: Oficyna Wydawnicza SGH.
29. Mikołajczak, M. et al. (2007). Psychometric Properties of the Trait Emotional Intelligence Questionnaire: Factor Structure, Reliability, Construct, and Incremental Validity in a French-Speaking Population. *Journal of Personality Assessment*, 88(3), pp. 338-353; DOI: 10.1080/00223890701333431, PMID: 17518555.
30. Mikołajek-Gocejna, M. (2011). Wybrane teorie wyjaśniające powstawanie i funkcjonowanie organizacji sieciowych. *Zeszyty Naukowe Szkoły Głównej Handlowej. Kolegium Gospodarki Światowej, nr 32*.
31. Mikołajewska, E., Mikołajewski, D. (2013). Informatyka afektywna w zastosowaniach cywilnych i wojskowych. *Zeszyty Naukowe WSOWL, Nr 2(168)*, p. 3.
32. Misztal, A. (2018a). IT jako element strategii zrównoważonego rozwoju przedsiębiorstwa. *Zeszyty Naukowe Politechniki Śląskiej, Seria: Organizacja i Zarządzanie z. 131*.
33. Misztal, A. (2018b). Zrównoważony rozwój polskich przedsiębiorstw – ewaluacja. *Handel Wewnętrzny, 2(373)*.
34. Nogalski, B., Rutka, R. (2007). *Kluczowe kwestie współczesnego rozwoju nauk o zarządzaniu w Polsce. Współczesne kierunki nauk o zarządzaniu*. Księga jubileuszowa z okazji 50-lecia pracy naukowej i dydaktycznej profesora Jerzego Rokity. Katowice: Górnośląska Wyższa Szkoła Handlowa.
35. Petrides, K.V., Pita, R., Kokkinaki, F. (2007). The location of trait emotional intelligence in personality factor space. *British Journal of Psychology*, 98(2), pp. 273-289, DOI: 10.1348/000712606X120618, 22.10.2020.
36. Pieriegud, J. (2019). The development of digital distribution channels in Poland's retail pharmaceutical market. *Exploring Omnichannel Retailing*.
37. Porter, M.E., Heppelmann, J.E. (2015). How Smart, Connected Products Are Transforming Companies. *Harvard Business Review*, 93.
38. Poutsma, E., Kaarsemaker, E. (2017). *Sharing in the Company: Determinants, Processes and Outcomes of Employee Participation*. Emerald Group Publishing.

39. Przywojska, J. (2019). Współzarządzanie i partycypacja społeczna w rewitalizacji. *Rocznik Lubuski*, 45(2).
40. Rącka, I., Wenerska, B. (2018). Partycypacja społeczna w procesie rewitalizacji. *Przesiębiorczość i Zarządzanie*, 3.
41. Rozmowa Agnieszki Chrzanowskiej z Geraldem Matthews (2009). *Magazyn Psychologiczny Charaktery*, nr 1(144), styczeń.
42. Rytka, E., Buchajska-Wróbel, M., Wendt, R., Gasparski, J., Gajda, K. (2011). *Menedżer do zadań specjalnych. Czasowe zarządzanie przedsiębiorstwem*. Gliwice: Helion.
43. Sułkowski, Ł., Sikorski, C. (eds.) (2014). *Metody zarządzania kultura organizacyjna*. Difin.
44. Śmieja, M., Orzechowski, J., Asanowicz, D. (2013). *Test Inteligencji Emocjonalnej (TIE)*. Podręcznik. Kraków: Wszechnica UJ.
45. Waschneck, B., Bauernhansl, T., Altenmüller, T., Kyek, A. (2016). *Production Scheduling in Complex Job Shops from an Industrie 4.0 Perspective: A Review and Challenges in the Semiconductor Industry*. SamI40 workshop at i-KNOW '16 October 18-19, 2016, Graz, Austria.
46. Wichura, A.J. (2017). Czy inteligencja emocjonalna to pseudo nauka? *Psychologia Racjonalizmu*, 24 września 2017, 22.10.2022.
47. Zentes, J., Swoboda, B., Morschett, D. (2005). *Kooperationen, Allianzen, Netzwerke. Grundlagen Ansätze-Perspektiven*. Wiesbaden: Gabler Verlag.