Grzegorz Kinelski
PhD (Economics),
Association for Energy Management of Poland, IAEE,
Member of Polish Committee of Electrical Energy
Warsaw, Poland
grzegorz.kinelski@gmail.com

POTENTIAL COMPETITIVE EDGE AND DETERMINING FACTORS SHAPING THE COMPETITIVE ENVIRONMENT IN THE ELECTRICAL POWER SUB-SECTOR

Abstract. Sources of competitive advantage of companies from the power sector involve primarily strategic material resources such as generation assets, accessibility of fuels and raw materials, distribution networks, staff's competencies as well as their expertise, innovation, entrepreneurship, and reputation. The traditional approach to competitiveness according to which a given enterprise's standing is determined by cost advantage does not apply in this case. An economy's high competitiveness is primarily shaped by guaranteed energy supplies at prices affordable to clients. In an environment of constant changes in legal regulations as well as customer preferences and expectations, instruments that enable enterprises to compete effectively are gaining in significance, as they support each other and lead to effects of synergy. Seeking sources of competitiveness in one advantage, be it cost or quality, does guarantee success.

Keywords: competitive environment, electrical power sub-sector, synergetic effect, cost advantage, innovation

Formulas: 3, fig.: 10, tabl.: 0, bibl.: 48

Introduction. All enterprises function in an environment in which they enter into various relationships. It consists of various elements. Over time they may become stronger or weaker, which brings about constant shifts, so the environment's basic feature is instability and turbulence. [Krupski 2005, p. 15].

Factors that affect an entity's competitiveness should be examined in a broad, comprehensive manner so as to take into account various connections and interrelations between them. Competitiveness may be considered on the level of six main economic systems i.e. micro-micro, micro, meso, macro, regional, global [Gorynia, Łaźniewska 2009, s. 51].

The fact that competitiveness is may be very diverse results from the impact of microeconomic, mesoeconomic, and macroeconomic variables which affect each undertaking to a different extent. Micro-micro is the lowest level. It is concerned with individual clients, business people, and single employees. The next is the micro level, which relates to the level of the entire enterprise or a household and consists of more than one consumers. Microeconomic determinants of competitiveness are dynamic by their nature. In order to increase market competitiveness, present-day determinants need to include numerous factors existing both in internal and external environments. An example of a narrow approach to competitiveness is its definition taken from Business Encyclopaedia (1995), which equates competitiveness with adjusting products to market demands and other entities especially in terms of product range, quality, price, and utilizing optimal sales channels and marketing methods. The micro level is related to costs and product quality, which translate to required effectiveness and profitability of goods offered, which at the same time influences the way an enterprise performs in a given market [Adamkiewicz-Drwiłło 2002, p. 128].

Literature review and the problem statement. In a global world, competition is ubiquitous. It covers all sectors of the market economy, including energy. Porter's Model 5 Powers, incorporated into the company's development strategy, forces the implementation of innovative solutions. This caused the author of the article, as an experienced practice, to work with his comments in this regard. And these good practices are the content of this study.

Research results. Competitive environment. Competitive potential of a business is understood as the ability perform effectively in a given market. Competitive advantage can be achieved when the entity enjoys firm competitive position, which in turn depends on the state of key performance indicators. They usually cover: an enterprise’s market position, its cost position, brand, and market embeddedness, technical competencies, utilizing modern technologies, and finally profitability and financial condition of an enterprise.

The meso level belongs to the middle. By definition it comprises industries, sectors, branches, defined areas of the economy. One definition of meso-competitiveness indicates it is the ability to design and sell goods of a given industry, branch, or department. It is marked by such characteristics as price, quality and other qualities that are more attractive than the ones offered by competitors. For this reason this group of factors includes among others production factors, demand factors, development of favourable sector arrangement (i.e. supporting and related sectors), and circumstances for establishing, organizing and managing enterprises [Flejtarski 1984, p. 23].

It is worth noting that the above-mentioned factors are collectively referred to as Porter’s diamonds and they should be perceived as a system. Porter himself stresses that competitive advantage that gives shape to competitiveness of businesses is also a determinant for developing national advantage. He adds, though, that that they do not fully explain sources of high national advantage. To become comprehensive the theory needs to include two more factors. One is making use of opportunities that may arise, faith, good luck, favourable coincidences. The second is economic policies of a given state’s government.

The macro level refers to national economies of individual countries. Its definitions usually include how well a given state is doing in international trade and particularly how it increases its share in export markets. This level of competitiveness may be described as the overall business position of a given country. Therefore, it is its ability to achieve long-term and profitable economic development. Factors that create such development impact the competitiveness of entities on the microeconomic level. This is why macroeconomic determinants include production resources’ size and structure i.e. size of natural resources, economic infrastructure, labour resources, capital resources, technological resources and level of advancement, effectiveness of utilisation of production resources, socio-economic system, and economic policy of a country. The ability to extend influence over other international economic environment is not without significance. To elaborate on the issue, economic literature distinguishes between so-called measure of the ability to compete, which usually include indicators of overall economic development: rate of economic growth, price growth index, balance of payments; changes in the size and structure of productions factors: changes in technological potential; indicators of effectiveness of utilizing production factors and profitability measure of economic activities: share of the economic result in the GNP, effectiveness of using capital, changes in level of labour productivity; measures of institutional changes determining the freedom of movement of production factors: market structure, measures describing relations between capital and work, factors determining trade with foreign economies; indicators of international position of a given country in terms of competitiveness: participation in world trade, level of trade balance, terms of trade indicators [Gorynia, Łaźniewska 2009, s. 70-71].

On the macroeconomic level we can distinguish between national and international competitiveness. The first one is shaped by internal factors, whereas the latter on by the structure of global economic forces.

The last two levels refer to regional and global systems. The latter one is considered as the economy of the entire globe. The first one, however, includes individual countries and can denote e.g. integrational entities of given countries. Regional competitiveness is commonly considered as the sum of competitiveness of businesses working on a given territory. It means that certain features may be typical of a given region, and they affect the competitiveness of all entities located in it despite the obvious fact that there may be both business that are and are not competitive. Secondary or macroeconomic competitiveness, on the other hand and in the context of international law, denotes activities on the sub-country level that have important impact for the performance of individual regions.

We can also identify factors that determine competitiveness of business based on the model of three dimensions; those include: innovation, technological advancement of a given economic entity, network of contacts and co-operators, prices and quality of goods and services, availability and methods of financing, and communication [Nagaj et al. 2016, p. 200].

The scope of individual instrument that allow businesses to compete effectively depends on the specificity of the industry they operate in. Different aspects of competitive potential play a key role depending on the industry. The same is true for the instruments. In different industries not every instrument will affect operation of business to the same extent. Each instrument regardless of the extent to which it is used will have the following roles:

- informing about an enterprise's products and services;
- presenting products and services in such a way as to make it look attractive and catch the attention of the highest possible number of customers and/or contractors;
- encouraging to choose the products of this particular business highlighting its attractiveness against competitors;
- enabling transactions beneficial to the enterprise;
- building relations with clients and maintaining client loyalty [Firlej, Żmija 2014, s. 37].

If applied adequately, they become the source of competitive advantage. Difficulties in using a given instrument means basically that its importance for acquiring competitive advantage is high. This is evident in the data presented in Figure 1.

According to ME Porter, intensity of competition results from the actions of the five forces that stimulate it. These include: purchasers' bargaining power, vendors' bargaining power, new competitors as a source of threat, risk related to substitution, rivalry between established market players [Porter 2000, p. 24].

Quality of products and services	Level of technological advancement of entity	Prices of products and services	Availability and methods of utilising funds	Communication	Network of contacts and partners
– quality of innovativeness – product brand – size of product range – product diversity – appeal of packaging – product`s ecological features – after-sale and after-guarantee service	– product`s innovativeness – modernizing of the product – introduction new products into the market – outlays on research and development – compatibility of product with other products of the enterprise	– price range – promotions – prices of new products – price of pre-sale, sales-related, and after-sales services – prices of replacement parts – value of additional benefits	– terms of payment – price reductions – seasonal discounts – instalment-based sale – purchase loans	– advertising – promotions – public relations – individual sales – contacting the client – online communication	– product availability – dependable, family deliveries – diversified distribution – family deliveries – range and quality of pre-sale, sales-related, and after-sales services

Figure 1 – Instruments of market competitiveness
Source: own work based on [Stankiewicz 2005, p. 36]

Competitive forces in the power sector. The above-mentioned factors determine the potential for profitability in a given sector. The potential's actual value depends on how vulnerable it is to new products or substitutes appearing on the market. With new products, new manufacturers may come and in the case of the energy sector, these may include for example: prosumers, i.e. consumers who produce energy for their own needs and for resale. Substitutes can not only offer wider functionality, but they can also address similar customer needs, and there may be concerns about the loss of customers who will be interested in what is offered by the substitute; e.g. renewable energy producers or prosumers will offer energy with a "green" guarantee, so something which may be attractive to those customers who attach importance to ecological and environmental issues. Therefore, close attention should be paid to substitution products as they are tendencies that foster their exchangeability with products a given sector in terms of price and efficiency. The emergence of substitution products is increasing along with maturation of the sector and aging of products. It is therefore of great important to focus on innovative work that will enable business to rejuvenate their existing offering, expand customer base, and diversify competitiveness. Competitive forces in the sector are shown in Figure 2.

The factors that affect the competitiveness of enterprises should be considered in a comprehensive manner, taking into account also their interrelationships and interdependencies. At present, the key determinants for a company are interactive and interrelated. They form a set, or a part shared by many sets, of synergically interdependent elements that occur in the same timeframe and often penetrate each other. Such definition reveals the effect of interaction with competitiveness of a company, which is often used in managerial practice [Walczak 2009, p. 112-115].

The sector's growth potential and attractiveness decrease with high pressure on suppliers and buyers, more opportunities for entering into a new manufacturing sector or the emergence of substitutes, and with strong competition between producers within the sector.

Porter M.E. distinguishes between competitive forces that determine the structure of a sector and determine long-term distribution of profits and variable factors that characterize the sector, which are called attributes or sector factors. Therefore, the most important attributes are: current sector size, future sector size, profitability of the sector.

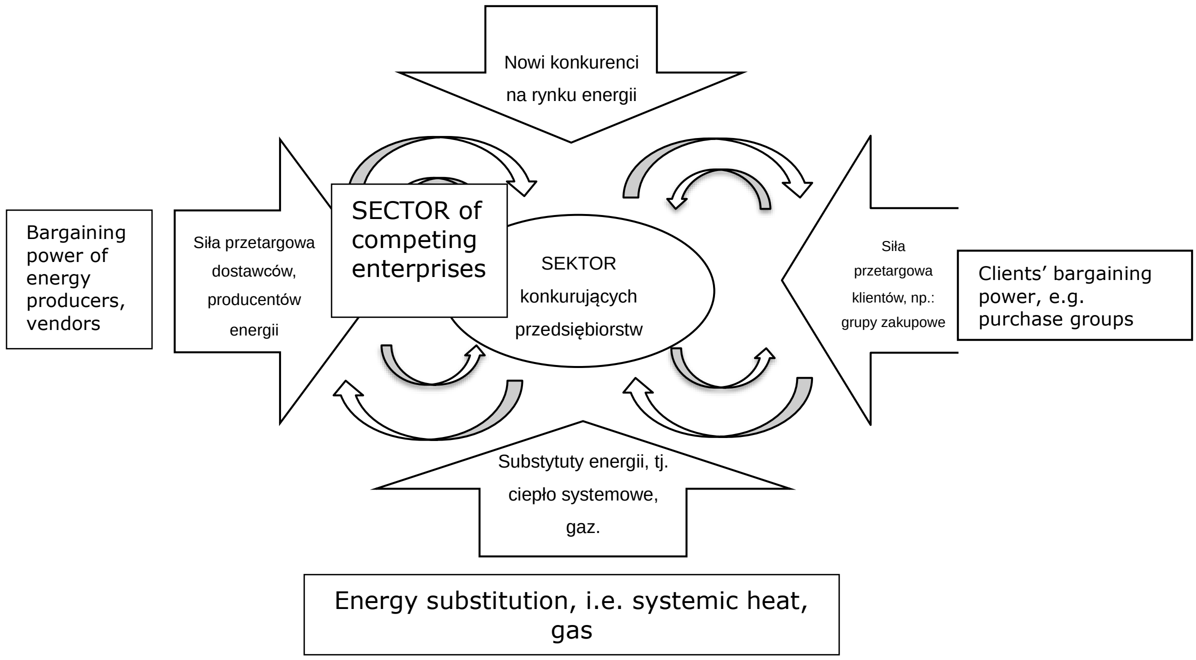

Figure 2 – Competitive forces in the energy sector
Source: own study based on [Porter 2000, p. 38]

The size of the sector is determined by the annual turnover of all entrepreneurs present in the sector and on a given market. It is worth noting, however, that this is not the value of the manufactured products, but those that were sold. The future value of the sector determines the development prospects of the sector's members and indicates the level of expected degree of competitiveness. It is useful to analyse the sector's life cycle and the number of potential customers based on demographic projections when estimating target sector size and sales dynamics for individual years.

Another important indicator for sector participants is its profitability, as it determines the economic sense of staying in the sector. Low profitability, however, cannot be equated with product life cycle, because even in the old sectors profitability may be high due to minimal level of investments. The low profitability may, however, be the result of demand constraints resulting from low standard of living of a population and will change with increasing national income. Moreover, in many high-tech industries low profitability is the outcome of competing for modern technology and spending enormous amounts on research and development investments.

Another factor determining market position of a company bargaining power of suppliers and buyers. This position depends on the relationship of supply and demand. If supply is higher than demand then the market of the producer is formed and then the bargaining power is greater on the part of the producer or seller of the product. In addition to the regulator in the form of supply-demand relations, the factors that influence the bargaining power of a company in a given sector are:

- the degree of concentration of the supplier sector relative to the recipient sector;
- the quality of the final product is depends on the quality of the product purchased from the supplier;
- the monopolist's position of the supplier or recipient;
- considerable role of the supplier in generating the recipient's costs;
- high cost of choosing a new supplier or customer;
- possibility of vertical integration [Gierszewska, Romanowska 2014, p. 81-82].

Analysis of the relationships between producers and their suppliers and customers is an vital aspect in the analysis of the sector's attractiveness. It shows opportunities of shaping some of the cost elements and sources of profits, it helps identify strategic suppliers and customers, and determines to what extent they will help or hinder the implementation of the strategic vision of the business.

There are also a number of factors that influence the value of the sector. In this context the threat of new producers and substitutes emerging is very important. The highest threat of new product launches exists in young, high-demand segments where customers have not got used to certain products yet. On the other hand, the threat of substitution increases with the aging of a sector as consumers become bored with its products, and advances in technology bring new technologies and inventions. The appearance of substitutes depends on the following factors:

- current and future size of the sector - the larger the sector and the greater its growth dynamics, the greater the threat of new products and substitutes emerging;
- profitability of the sector – the higher the current and future profitability, the higher the risk of new products and substitutes;
- barriers of the sector hindering entrance – the weaker the entry barriers, the greater the threat of external competition;
- possibility of repression on the part of the sector's producers – if producers already in the sector are able to effectively defend their access by going to price wars or closing distribution channels, then the threat of new rivals becomes lessened [Porter 2000, p. 25 et al.].

Particular importance for sector participants and potential investors is the barriers to entry the sector. The higher they are, the more comfortable are the companies already on the market and the more difficult it is for new products and substitutes to enter. The main entry barriers include:

- economies of scale;
- high technological level;
- no access to distribution channels;
- formal barriers to enter a sector;
- customs barriers [Porter 2000, p. 39].

The starting point for determining the fifth (last) component of the Porter model - competition within the sector - is to describe its structure and the way competing companies have divided the market between themselves.

Market share analysis provides important information about the degree of concentration of the sector. It consists in examining the size of companies operating in the sector. It is also important to analyse changes in the concentration. These changes may result from companies moving to other sectors. They may also be the result of low sector attractiveness.

According to M.E. Porter the level of competition in the sector is influenced by two factors: intensity and dimension of competition. Competition intensity is the highest when:

- there are many competitors with similar share in the market and similar market potential;
- the sector shows little dynamics;
- exit barriers are high;
- competitors are strongly involved in the sector;
- competitors tend to cooperate and do not take action to increase the attractiveness of the sector [Porter 2000, p. 4].

The competitive dimension is the competitive advantage of the majority of competitors and the differentiation between the needs of the buyers and ways in which they are met by companies in the sector. The level of competition is high when most companies in the sector use the strategy of competing with price and when all competitors seek to meet the same customer needs in the same ways. It is worthwhile, however, to collate external and internal factors and to analyse them in terms of fairness of use and ethics.

Conclusions. The model presented above is a compilation of some of the most important elements influencing the competitiveness of an enterprise as an entity that is present in a market environment. It also takes into account internal conditions inherent in the enterprise itself. It should be noted that external factors, usually independent of the enterprise, are largely the result of governmental policies and/or market regulations. External stimuli also depend on both the general condition and economic situation in a given country as well as the global economic situation. Internal factors, in turn, relate to management decisions and actions taken by the company. They are mainly related to the financial condition of the company and possessed material resources, intellectual capital, and organizational structure. Internal conditions are inseparable from the adopted development strategy, management methods, level of entrepreneurship and innovation, and the quality of the products and/or services offered.

It should be noted that the model does not exhaust the complexity of the problem in question, but it is a compilation of real premises and processes present in business practice. It may act as the starting point for further in-depth analyses within the framework of specific research problems identified for individual elements or groups. Due to the fact that the specificity of a given industry or sector always determines which factors have the greatest impact, relationships and dependencies need to be considered for each company individually.

The above-presented model provides a general illustration of a crucial group of factors that have a significant impact on market competitiveness and are difficult to grasp. They include among others systems and relationships in the pejorative sense, use of knowledge, unfair bidding, political-business ties, political influence. They can make a company significantly increase its competitiveness by gaining additional tangible financial benefits or by allowing it to unfairly destroy competition. A long-standing observation of reality proves that these factors can be important to an organization. However, in the this dissertation the group is omitted in the analyses as without access to such data it is not possible to evaluate it and draw conclusions.

From the remaining data and measures it will be possible to build and test a model based on the decomposition principle, so as to assess the impact of each of these factors on the level of competition relative to other companies.

It is important to point out that the energy market is a specific one, because of the importance of energy security for economic development, where such security is measured among others by the level of demand for electricity. It is estimated that not supplying PLN 1.00 worth of energy to medium and large customers generates losses in the economy worth 20 times more [PSE Bulletin 1996, p. 3]. Energy is not only an element of economic processes, but it is the most important component of consumption.

For many years, even in highly developed countries, the energy market has often been described in terms of a monopoly market and state supervision. The roots of this type of monopoly go back to distant times. The emergence of the power industry and its gradual development were related to the establishment of an exclusivity on the supply side of services related to the supply of fuels or energy. It is worth remembering that initially such deliveries were treated purely as a commodity. Trading energy was no different from other commercial transactions. Only with time, primarily because of its enormous usefulness, energy became the primary public goods provided by companies (privately- but also state-run) of public utility. In recent decades, there have been a gradual return to market-based concepts.

References

Adamkieiwicz-Drwiłło, H. (2002). *Uwarunkowania konkurencyjności przedsiębiorstwa* /Conditions of a company's competitiveness/, PWN, Warszawa.

Baehr, J., Stawicki, E. & Antczak, J. (2003). Prawo Energetyczne, Komentarz /Energy Law, A Commentary/, Domański Zakrzewski Palinka, Zakamycze.

Bakier B. & Weredyk K. (2000). Istota i mechanizm konkurencyjności /The essence and mechanism of competitiveness/ [in:] Grabowiecki J., Wnorowski H. Konkurencyjność gospodarki polskiej a rola państwa przed akcesją do Unii Europejskiej /*Competitiveness of the Polish economy and the role of the state prior to joining the European Union*/, Uniwersytet w Białymstoku, Białystok

Bhattacharyya, S. C. (2011). *Energy Economics. Concepts, Issues, Markets and Governance.* London. Springer.

Bieńkowski, W. (2000). Konkurencyjność gospodarki polskiej w przededniu wejścia do Unii Europejskiej. Czy rząd może być bardziej aktywny? / The competitiveness of Polish economy prior to entering the European Union. Can the government be more active?/ [in:] *"Unia Europejska wobec procesów integracyjnych – wyzwania dla Polski", Materiały z konferencji międzynarodowej / "European Union in view of integration processes – challenges for Poland", International conference materials/*, Dom Wydawniczy ELIPSA, Warszawa,

Biggar, D. R. & Hesamzadeh, M. R. (2014). *The economics of electricity markets.* Noida. Wiley.

Bitkowska, A. (2010). *Procesy restrukturyzacji warunkiem poprawy konkurencyjności przedsiębiorstwa /Restructuring processes as a condition of improving a company's competitiveness/*. Warszawa. Difin

Biuletyn – Kierunki rozwoju konkurencji i ochrony konsument?w w polskim sektorze energetycznym / Newsletter – Development directions of competition and consumer protection in the Polish energy sector/, Wydawnictwo UOKiK, Warszawa 2010. MI

Charnes, A., Cooper, W. W. & Rhodes, E. L. (1978). *Measuring the efficiency of*

decision making units.
Chrzan, E. (2001). *Postawy polskiego konsumenta wobec intensywnej promocji oraz naruszania jego praw (w świetle badań) w Marketing przyszłości trendy. Strategie. Instrumenty przedsie biorstwo i konsument w ewoluującym otoczeniu, zeszyt naukowy numer 661 /Positions of the Polish consumer towards intensive promotion and rights violations (in light of studies) in Marketing of the future, trends. Strategies. Instruments, enterprise and the consumer in an evolving environment, academic journal no. 661/,* Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, p.35
Ciszewski, W. (2010). Procedura tworzenia polskiej polityki energetycznej /*Procedure of developing the Polish energy policy*/, Biblioteka Regulatora.
Clark, B. (2000). *Managerial perceptions of marketing performance: efficiency, adaptability, effectiveness and satisfaction.*
COMMISSION OF THE EUROPEAN COMMUNITIES. The competitiveness of business-related services and their contribution to the performance of European enterprises, COM (2003) 747 final, Brussels, 4.12.2003, Annex II, s. 34.
Conway, P. & Nicoletti, G. (2006). *Product Market Regulation in the Non-Manufacturing Sectors of OECD Countries: Measurement and Highlights. Economics Department Working Papers No 530*
Czarnecka, M. (2013). Konsument na rynku energii elektrycznej /*The consumer on the electric energy market/*. Warszawa. C.H. Beck
Dietl, M. & Makowski, K. (2010). Monopolizacja, demonopolizacja, niepewność /*Monopolization, de-monopolization, uncertainty*/ Biblioteka Regulatora, Warszawa.
Epstein, M. & Manzoni, J. F. (1998). Implementing Corporate Strategy: From Tableaux de Bord to Balanced Scorecard, *European Management Journal*.
Edvisson, L. & Malone, M. (1997). *Intellectual Capital: the proven way to establish your company's real value by measuring it hidden brain power,* Piotkus, London
Edwards, W. D. (2010). *Energy, Trading & Investing. Trading, Risk management and Structuring Deals in the Energy Markets. New York. Mc Graw-Hill Finance & Investing*
Espinas, A. (1980). *Les origines de la technoloie, "Revue Philosophique de la France et de l'Etranger", Paris, vol. XXX.*
Flejterski, S. (1984). Istota i mierzenie konkurencyjności międzynarodowej /*The essence and measurement of international competitiveness/, Państwowe Wydawnictwo Ekonomiczne*, Warszawa
Glinka, B., & Gudkova, S. (2011). *Przedsiębiorczość /Entrepreneurship/, Wyd. Wolters Kluwer*, Warszawa.
Gorynia, M. (2000). Koncepcja i metodyka badania konkurencyjności przedsiębiorstwa /The concept and methodology of enterprise competitiveness studies/ [in:] Konkurencyjność gospodarki Polski w dobie integracji z Unią Europejską i globalizacji, Materiały dodatkowe /*Competitiveness of the Polish economy in the wake of integration with the European Union and globalization, Additional materials/*, SGH, Warszawa Grupa Lizbońska, Granice konkurencji /Boundaries of competition/, Poltext, Warszawa
Gorynia, M. (2001). *Międzynarodowa konkurencyjność polskich przedsiębiorstw – wyniki badań empirycznych, w: tom IV Przedsiębiorczość i konkurencyjność* /International competitiveness of Polish businesses –

empirical study results, in: vol. IV Entrepreneurship and competitiveness/, ed. J. Kotowicz-Jawor, VII Kongres Ekonomistów Polskich /VIII Polish Economists Congress/, Polskie Towarzystwo Ekonomiczne, Warszawa

Gorynia, M. (2005). Strategie firm polskich wobec ekspansji inwestorów zagranicznych /*Strategies of Polish companies towards the expansion of foreign investors*/. Warszawa. Polskie Wydawnictwo Ekonomiczne.

Gorynia, M. (2007). Strategie zagranicznej ekspansji przedsiębiorstw /*Strategies of foreign expansion of businesses*/. Warszawa. Polskie Wydawnictwo Ekonomiczne.

Gorynia, M. & Łaźniewska, E. (2009). Kompendium wiedzy o konkurencyjności /*Compendium of knowledge on competitiveness*/. Warszawa. Wydawnictwo Naukowe PWN.

Górska-Warsewicz, H. (2005). Podstawy rachunkowości /*Basics of accounting*/, Wyd. WSiP, Warszawa.

Grabowiecki, J. & Wnorowski, H. (2000). Konkurencyjność gospodarki polskiej a rola państwa przed akcesją do Unii Europejskiej /*Competitiveness of the Polish economy and the role of the state prior to joining the European Union*/, Uniwersytet w Białymstoku, Białystok

Illeris, S. (1996). 'The role of service activities in regional development: western and eastern europe'. w M Chatterli & R Domanski (eds), *Urban and regional management in countries in transition.* Wydawnictwo Naukowe PWN, Warszawa.

Januszkiewicz, W. (2001). Konkurencyjność polskiego sektora uslug w dobie integracji z Unią Europejską i globalizacji, w: Konkurencyjność gospodarki Polski w dobie integracji z Unią Europejską i globalizacji /*Competitiveness of the Polish service sector in the wake of integration with the European Union, in: Competitiveness of the Polish economy in the wake of integration with the European Union and globalization* /, collective study edited by J. Bossak and W. Bieńkowski, SGH, Warszawa.

Januszkiewicz, W. (2001). Konkurencyjność polskiego sektora usług /*Competitiveness of the Polish service sector*/, collective study edited by Kotowicz-Jawor J. Vol. IV, Przedsiębiorczość i konkurencyjność /Entrepreneurship and competitiveness/, VII Kongres Ekonomistów Polskich /VII Polish Economists Congress/, Polskie Towarzystwo Ekonomiczne 2001, Warszawa, Dom Wydawniczy Bellona.

Januszkiewicz, W. (2000). Konkurencyjność sfery uslug a rola państwa przed akcesją Polski do Unii Europejskiej, w: Konkurencyjność gospodarki polskiej a rola państwa przed akcesją do Unii Europejskiej /*Competitiveness of the Polish economy and the role of the state prior to joining the European Union*/, collective study edited by H. Podedworny, J. Grabowiecki and H. Wnorowski, Wyd. Uniwersytetu w Białymstoku, Białystok.

Jelonek, D. (2003). Przewaga konkurencyjna e-przedsiębiorstwa, Ekonomika i Organizacja Przedsiębiorstwa, numer 3 /*Competitive advantage of an e-business, Economics and Business Organization, issued 3*/.

Kamiński, J. (2009). Metody szacowania siły rynkowej w sektorze energetycznym /*Methods of estimating market strength in the energy sector*/. "Polityka Energetyczna" /Energy Policy/ Vol. 12 Book 2/2

Kotowicz-Jawor, J. (2001). *Vol. IV, Przedsiębiorczość i konkurencyjność /Entrepreneurship and competitiveness/, VII Kongres Ekonomistów Polskich /VII Polish Economists Congress/,* Polskie Towarzystwo

Ekonomiczne, Warszawa, Dom Wydawniczy Bellona.

Majchrzak, M. (2012). Konkurencyjność przedsiębiorstw podsektora usług biznesowych w Polsce. Perspektywa mikro-, mezo- i makroekonomiczna /*Competitiveness of companies in the Polish business services subsector. Micro, mezzo- and macroeconomic perspective*/. Warszawa. Wydawnictwo CeDeWu

Matusiak, B. (2013). Modele biznesowe na nowym, zintegrowanym rynku energii /*Business models in a new, integrated energy market*/. Łódź. Wydawnictwo Uniwersytetu Łódzkiego.

Nagaj, R. (2016). Regulacja rynku energii elektrycznej w Polsce – ex ante czy ex post /*Regulation of the Polish electric power market – ex ante or ex post*/. Szczecin

Okólski, M. (2002). *Jaki model rynku energii? /What energy market model?/, Urząd Regulacji Energetyki* /Energy Regulation Office/, Warszawa.

Pach-Gurgul, A. (2012). Jednolity rynek energii elektrycznej w Unii Europejskiej w kontekście bezpieczeństwa energetycznego Polski /*Consolidated electric power market in the European Union in the context of Poland's energy security*/. Warszawa

Pawłowski, J. (2005). Diagnoza potencjału innowacyjności i konkurencyjności przedsiębiorstw /*Diagnosis of the innovativeness and competitiveness potential of businesses*/, "Przegląd Organizacji", 2005.

Porter, M. E. (2000). Strategia konkurencji. Metody analizy sektorów i konkurentów /*Strategy of competition. Analysis methods of sectors and competitors*/, PWE, Warszawa

Stacharska-Targosz, J. (2010). Rynek energii /*The energy market*/. Krakow. Politechnika Krakowska.

Stankiewicz, M. J. (2005). Konkurencyjność przedsiębiorstwa /Enterprise competitiveness/ [in:] Budowanie konkurencyjności przedsiębiorstwa w warunkach globalizacji /*Building enterprise competitiveness in conditions of globalization*/, Dom Organizatora, Toruń,

Szczygieł, L. (2001). Model rynku energii elektrycznej /*Electric energy market model/, "Biblioteka Regulatora" publishing series, Urząd Regulacji Energetyki* /Energy Regulation Office/.

Świtalski, W. (2005). Innowacje i konkurencyjność /*Innovations and competitveness*/, Wydawnictwa Uniwersytetu Warszawskiego.

Wziątek-Kubiak, A. (2003). Konkurencyjność polskiego przemysłu /*Competitiveness of Polish Industry*/, Dom Wydawniczy Bellona, Warszawa.

Data przesłania artykułu do Redakcji: 10.06.2017
Data akceptacji artykułu przez Redakcję: 13.06.2017