
Economic Efficiency as a Factor of Enterprise Development

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Abstract:

Purpose: The article aims to show economic efficiency as the main factor determining the possibility of functioning and development of enterprises.

Approach/Methodology/Design: The main research methods are a review of national and world scientific and practical literature and case studies among businesses.

Findings: The determinants of overall economic efficiency identified during the analysis will allow the development of practical recommendations for optimal management in enterprises, which results in opportunities for further growth in the global market economy.

Practical Implications: The practical implications of the research results included in the article will constitute recommendations for activities in managing companies that can be used in business practice, which will translate into higher financial results.

Originality/Value: The original value of the article is the analysis and classification of factors responsible for the economic efficiency of enterprises.

Keywords: Management, economic efficiency, competition, private enterprises, economic conditions, finance, business and management, welfare development.

JEL codes: A11, C82, D61, F16, I31, L21.

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1. Introduction

Private enterprises are the basic place of work in the economy (Borowiecki, 2010), so it is worth analyzing their development. Therefore, the division of economic conditions that affect the proper functioning and development of enterprises was analyzed. Concepts such as economic efficiency and competitiveness were characterized, which has a direct impact on the economic viability of a given activity (Kabus *et al.*, 2022; Trigkas *et al.*, 2019).

The article in its entirety gives a picture of the most important elements affecting the ability of enterprises to conduct business on a competitive market. Enterprises, as the basic entity in the market economy, are expected to be able to adapt tasks and functions as well as methods of work organization and management to the changing conditions of their activities (Miciuła *et al.*, 2020). The ability to adapt to the environment (its complexity, structure and dynamics) and the requirements of the market economy determines the effects of activity and development opportunities of each enterprise (Miciuła, 2012; Tyagi *et al.*, 2023).

The adaptation of companies is manifested through the implementation of various innovative and restructuring projects (Adamowicz and Łuniewska, 2015). On the one hand, the market economy creates specific operating (management) conditions for the enterprise, thanks to which it can achieve its goals, and on the other hand, it poses requirements that the enterprise must meet to ensure its relative sustainability of existence.

The aim of the article is to show economic efficiency as the main factor determining the possibility of functioning and development of enterprises. The research method used in this area is a review of national and world scientific literature and case studies among the business practices.

In the realities of the modern global economy, competitiveness is becoming one of the most important determinants of assessing the functioning of a company on the market, and is also perceived as a determinant of development. Competition is a permanent feature of the market economy (Kieżun, 1997). That is why it is so important to recognize and understand what conditions and factors influence the competitiveness of the company (Kabus *et al.*, 2022).

In general terms, it can be said that competitiveness reflects the company's potential, namely resources, skills and abilities providing an advantage over other entities operating in the same sector. Economic efficiency is the result of the synergistic impact of many internal factors inherent in the enterprise and external mechanisms and conditions existing in the environment, which gives the ability to develop, achieve benefits and profits (Zimmerer and Scarborough, 2004).

In the new global economic reality, enterprises to survive and stay on the market, they must have the ability to effectively manage their resources and authorizations and be able to adapt to the constantly changing environment (Wojtaszek and Miciuła, 2019). You should also accurately assess the company's situation and anticipate market changes, because such skills will allow for effective development and obtaining such an important competitive advantage.

These are the factors that determine the efficient functioning and further development of the company in order to survive on the market. This means that in the new global economy, enterprises have been forced to create projects that adapt to the environment or look for business ideas that are ahead of the market and have a chance of survival. This requires flexibility of action and the ability to adapt or be creative in business, and these are elements that directly affect the economic efficiency of the business (Osuszek and Stanek, 2018).

In conditions of changing environment, enterprises are looking for ways that would guarantee them a competitive advantage and development. P. Drucker states that the key element of human and enterprise development, which serves for self-fulfillment and the ability of modern society to survive, as well as the degree of goal mastery, is efficiency. Economic efficiency is considered a factor influencing the competitiveness of an enterprise and is a measure of the extent to which the enterprise achieves its goals (Koengkan *et al.*, 2022).

2. Literature Review

The term economic efficiency was first used in 1957 by M.J. Farrell, who examined the differences between the stated production level and the actual capabilities of a given system. The result of this research was the development of a concept for determining the technological limit of production possibilities for a given entity, which is a reference level in the assessment of efficiency. In the concept of M.J. Farella, maximizing the effect is not only related to the full use of the existing potential, but also results from the optimal configuration of inputs, taking into account their prices and the level of technology (Kopiński and Porębski, 2015).

One of the definitions of economic efficiency indicates that it is an activity without waste and aimed at achieving the best result within the available resources and technologies (Lockwood, 2024). In general terms, it is defined as the ability to use available resources in such a way as to achieve a given goal in the most effective and least wasteful way (Webster's dictionary, 2024). P.A. Samuelson and W.D. Nordhaus defined economic efficiency as the most effective use of society's available resources in the process of meeting needs. They identified this category with allocative efficiency or V. Pareto efficiency (Samuelson and Nordhaus, 2004).

Economic efficiency concerns economic phenomena and processes, and these phenomena or processes may be related to the economy, sector or enterprise

(Fayerweather, 2007). Economic efficiency can be defined as the relationship of a specific effect to a given production factor or a set of effects to production factors (Kisielnicki and Sroka, 1999).

Hence, the basic efficiency relationships are: labor efficiency, productivity of fixed assets, investment efficiency, material consumption and energy consumption of production (Kulawik, 2009). The concept of economic efficiency can be considered in three main aspects (Chomałowski, 1995):

- 1) production at a given moment is effective if there is a way to use available resources to increase the production of certain goods without reducing the production of other goods,*
- 2) exchange is effective if it is possible to adjust the distribution of a certain amount of goods and services so that it brings benefits to some people without causing losses to others,*
- 3) efficiency must also exist between exchange and production; it occurs when, for each pair of products and services, the tendency of consumers to substitute one good for another corresponds to the ability to change production from one good to another.*

Production efficiency falls within the scope of the denotation of the concept of economic efficiency, while the semantic area of economic efficiency belongs to the scope of the concept of social efficiency (Sharma *et al.*, 2021). Denotation is the scope of a name, i.e. the set of all objects to which it refers. Production efficiency is a concept relating to the production process, meaning the relationship between the effects of goods and services and the expenditure on their production, occurring in a specific unit of time (Jałowiec *et al.*, 2020).

Ćwiąkała-Małys and Nowak distinguished cost efficiency, income efficiency and profit efficiency as part of economic efficiency. Cost efficiency is related to the phenomenon of cost minimization and includes the ratio of inputs (at given factor prices) to the actual cost incurred by the enterprise. Cost effectiveness analysis has its origins in the method used in the past to measure the economic effectiveness of non-productive investments, i.e. those that bring a utility effect, e.g., the construction of a road or a bridge. The specificity of such investments lies in the difficulties in ensuring a uniform measure for assessing inputs and effects (Małecki, 2011).

Ćwiąkała-Małys and Nowak defined income efficiency as the quotient of the revenues achieved and the maximum revenues that can be obtained in given conditions. In turn, profit efficiency is related to the issue of maximizing this category in economic theory and is calculated as the ratio of the actually generated profit to the optimal profit (Ćwiąkała-Małys and Nowak, 2009).

Featured by M.J. Farrell's category of price efficiency is now more often called allocative efficiency. It presents the possibilities of using inputs in optimal

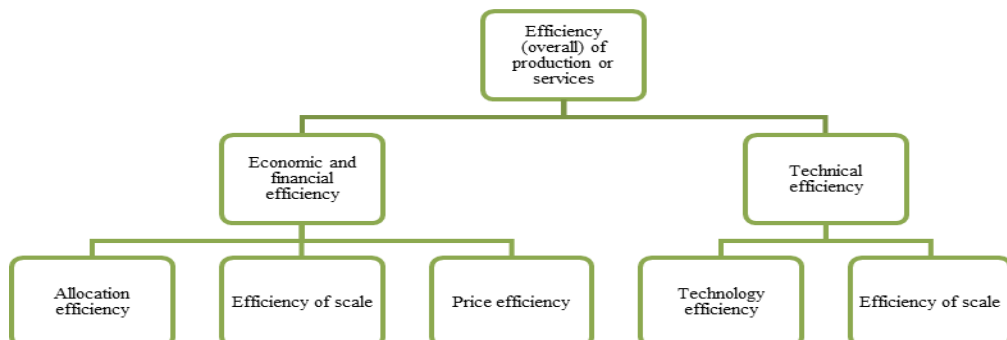
proportions at established prices and production techniques. Price efficiency expresses the company's ability to obtain more attractive conditions in terms of obtaining inputs (lower prices) and selling products (higher prices) (Szymańska, 2010). In turn, technical efficiency is used to indicate the company's ability to achieve maximum production using a given group of inputs (Szczepaniak, 2006).

Technical efficiency refers to the conversion of resources into a specific final product. It is based on technological production possibilities, i.e., it involves the use of resources in the most technologically efficient way, but is not related to the level of prices and costs (Jokiel, 2009). Technical efficiency is a necessary condition for achieving economic efficiency, but this does not mean that all technically effective solutions are also economically effective (Lin and Lai, 2021).

Technical efficiency means that increasing the number of products produced without greater involvement of production factors is impossible, so it is one of the manifestations of the management system and the assessment and measurement of achievements (Oluyisola *et al.*, 2022). Production activities are characterized by greater technical efficiency, the greater the production effect achieved at a given level of inputs and production factors used. In the literature on the subject, economic efficiency is divided into:

- 1) production efficiency,
- 2) cost and income effectiveness and according to the profit criterion,
- 3) efficiency of the enterprise's operation,
- 4) scale efficiency,
- 5) economic efficiency in relation to the allocation of resources and the functioning of economic entities (Figure 1).

Figure 1. Detailed analysis of economic efficiency.



Source: Own study.

The efficiency of an enterprise's operation is understood as the rational management of resources at a given time (Kwarciańska, 2018). Cost competition between entrepreneurs influences the fact that enterprises do not focus on assessing efficiency in the area of quality, but on economic and financial efficiency (Walczak, 2010). M.J. Farrell drew attention to the need to distinguish technical from economic factors when assessing the overall efficiency of a company.

The category of price efficiency distinguished by the author is now more often called allocation efficiency, which presents the possibilities of using inputs in optimal proportions, with established prices and production techniques. Technical efficiency, on the other hand, is used to indicate the company's ability to achieve maximum production using a given group of inputs (Farrell, 1957). Originally, these measures were called expenditure-reduction-oriented measures. Assuming the impact of price differentiation on the level of production efficiency (Miciuła, 2015).

Efficiency of scale, however, has a dual technical and economic nature. Technical efficiency of scale means achieving a higher ratio of output to inputs as the volume of production increases, regardless of the unit prices of products and inputs. Up to a certain point, an increase in the scale of production is beneficial regardless of the above-mentioned price relations. Ultimately, determining the optimal scale requires taking into account product and input prices. The part of scale efficiency that goes beyond the efficiency determined by technical relations is economic scale efficiency.

3. Research Results

Broadly speaking, there are two approaches to economic efficiency: they differ in terms of time horizon. This is about dynamic efficiency, related to the ability to grow and develop in the long term, and static efficiency, which in turn focuses on avoiding misuse of resources (constant in a given period) and their best allocation. Static efficiency can be said to mean optimal production and distribution of limited resources and its goal is to lead the system (entity) towards achieving the production possibilities curve (considering it known at a given moment).

Static efficiency can be said to mean the optimal production and distribution of limited resources, associated with the concept of Pareto optimality and the marginalist concept of general equilibrium (Turek, 2016). As J. Huerta de Soto notes, dynamic efficiency in economic theory refers to activities related to the company's main strategy, which requires defining a mission and continuous market exploitation (Huerta de Soto, 2024).

Scientific theories and business practice define and indicate ways of measuring the effectiveness of economic and non-economic organizations. This is an issue often addressed by scientists because, according to some authors, efficiency is a manifestation of rational management, which is one of the conditions for the existence and survival of an enterprise.

Based on the research, approaches to efficiency analysis have been developed: purposeful, systemic, based on the stakeholder concept (stakeholder theory), multidimensional. As part of these approaches, analyzes are often conducted on economic efficiency and the relationship with other dimensions of effectiveness (e.g. technical, organizational, environmental), effectiveness, sustainability or rationality, which is presented in Figure 2.

Economists consider economic efficiency in relation to the allocation of resources and the functioning of economic entities. If we refer the effects obtained from business activity to the expenditure incurred in connection with this activity, we refer to the economic efficiency.

Economic efficiency is a way of measuring the effectiveness and purposefulness of a given economic activity, expressed by comparing the value of the effects obtained (production, added value, national income, profit) to the input of factors used to obtain them (employment, fixed assets, investments, raw materials used).

The efficient functioning of the enterprise is controlled through comprehensive and systematic examination of economic efficiency indicators, which include: labor productivity, profit maximization, cost and competitiveness of products, intensity and efficiency of the use of financial resources, material and energy consumption of products, profitability, capital intensity and capital productivity.

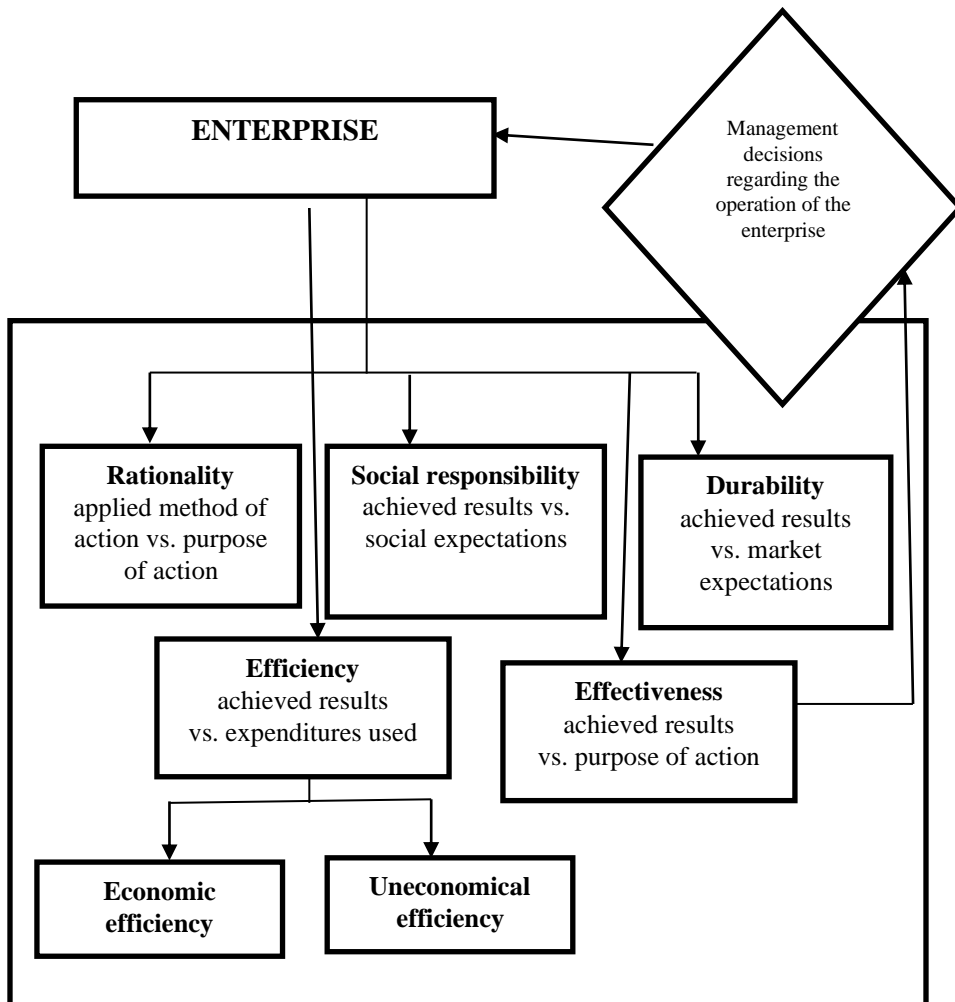
In conditions of variability, economic efficiency is an indicator of the company's success, constituting the basis for assessing the effectiveness of the company's undertakings and a multi-criteria assessment of the ratio of inputs and effects (Kotliar et al., 2020). It can be noted that the determinant of effectiveness is the external and internal environment, which is favorable for innovative technologies.

Economic efficiency, referring to the allocation of resources, is a tool for measuring the effectiveness of a company's activities, taking into account its efficiency and level of management. Efficiency is a key element of enterprise development, which can be achieved through the development process and relations with the environment at the operational and strategic level.

4. Conclusion

Enterprises are looking for ways, techniques and management methods that would contribute to increasing their efficiency. The basis for the success of enterprises is: access to information, knowledge, appropriate knowledge and intellectual capital management, and cost optimization. An enterprise operating in the 21st century must be effective, learning, flexible and able to adapt to changes. Enterprises are adapting to the requirements of the information society, looking for ways that would enable them to improve value and efficiency, and thus the level of competitiveness of enterprises.

Figure 2. Dimensions of efficiency within enterprises.



Source: Own study.

Knowledge becomes the most important resource of an enterprise, and its efficient management leads to an increase in organizational effectiveness. The analysis of economic efficiency in enterprises allows for the determination of the most important elements that allow for strategic decisions and improvement of the functioning of an economic entity in order to survive and develop on the competitive global market.

References:

Adamowicz, M., Łuniewska, S. 2015. Planning and budgeting as a tool for managing enterprise finances. In: Scientific journals of the University of Szczecin, No. 873

- Finance, Financial Markets, Insurance No. 77.
- Chomański, S. 1995. Identification and methods of measuring and assessing the efficiency of industrial structures. *Scientific Journals of the Krakow University of Economics*, Krakow.
- Ćwiakła-Małys, A., Nowak, W. 2009. Selected methods of measuring the efficiency of an economic entity. *University of Wrocław Publishing House*, Wrocław.
- Farrell, M.J. 1957. The Measurement of Productive Efficiency. *Journal of the Royal Statistical Society*, vol. 120, part 3.
- Huerta de Soto, J. 2010. Cztery lata efektywności dynamicznej. *Instytut Misesa*. <http://mises.pl/blog/2010/03/02/huerta-de-soto-cztery-lata-efektywnosci-dynamicznej/>.
- Jałowicz, T., Maśloch, P., Wojtaszek, H., Miciuła, I., Maśloch, G. 2020. Analysis of the Determinants of Innovation in the 21st Century. *Eur. Res. Stud. J.*, 23, 151-162.
- Jokiel, M. 2009. Process approach in management - genesis and directions of concept development. In: S. Nowosielski, *Process approach in organizations*, Scientific Works of the University of Wrocław No. 52, Publishing House of the University of Economics in Wrocław, Wrocław.
- Kabus, J., Dziadkiewicz, M., Miciuła, I., Mastalerz, M. 2022. Using Outsourcing Services in Manufacturing Companies. *Resources*, 11, 34.
- Kisielnicki, J., Sroka, H. 1999. *Business information systems*, Placet, Warszawa, p. 289.
- Koengkan, M., Fuinhas, J.A., Kazemzadeh, E., Osmani, F., Alavijeh, N.K., Auza, A., Teixeira, M. 2022. Measuring the economic efficiency performance in Latin American and Caribbean countries: Empirical evidence from stochastic production frontier and data envelopment analysis. *International Economics*, Volume 169.
- Lin, F.J., Lai C. 2021. Key factors affecting technological capabilities in small and medium-sized Enterprises in Taiwan. *Int. Entrep. Manag. J.*, vol. 17, no. 1, 131-143.
- Lockwood, B. 2008. Pareto Efficiency. *The New Palgrave Dictionary of Economics*, Second Edition. Palgrave Macmillan. www.dictionaryofeconomics.com.
- Małecki, P.P. 2011. Cost effectiveness as a method for assessing investment projects in environmental protection, *Scientific Journals* No. 860, Krakow University of Economics, Krakow.
- Miciuła, I. 2012. Współczesne metody i instrumenty zarządzania ryzykiem walutowym w przedsiębiorstwie. *Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania*, 28.
- Miciuła, I. 2015. The Universal Elements of Strategic Management of Risks in Contemporary Enterprises. *Entrepreneurship and Management*, 16(8), 313-323.
- Miciuła, I., Kadłubek, M., Stępień, P. 2020. Modern methods of Business Valuation – Case study and new concepts. *Sustainability*, 12, 1-22.
- Oluyisola, O.E., Bhalla, S., Sgarbossa, F., Strandhagen, J.O. 2022. Designing and developing smart production planning and control systems in the industry 4.0 era: a methodology and case study. *J. Intell. Manuf.*, vol. 33, no. 1, 311-332.
- Osuszek, Ł., Stanek, S. 2018. Assessment of the effectiveness of the implementation of a BPM business process management support system. *Wrocław*, p. 97. <http://oeconomia.annales.umcs.pl>.
- Sharma, A., Rana, N.P., Nunkoo, R. 2021. Fifty years of information management research: A conceptual structure analysis using structural topic modeling. *Int. J. Inf. Manage.*, vol. 58, 102316.
- Turek, M. 2016. Key performance measures in purchasing. The key to purchasing in the company. Or from practitioners for practitioners. *Warsaw*, p. 3.
- Wojtaszek, H., Miciuła, I. 2019. Analysis of Factors Giving the Opportunity for

- Implementation of Innovations on the Example of Manufacturing Enterprises in the Silesian Province. *Sustainability*, 11, 5850.
- Borowiecki, R. 2010. *Przedsiębiorstwo w obliczu wyzwań współczesnej gospodarki*. Uniwersytet Ekonomiczny w Krakowie, Kraków.
- Fayerweather, J. 2007. *International business management*. In: *Thunderbird – International Business Review*.
- Kieżun, W. 1997. *Sprawne zarządzanie organizacją*. Oficyna Wydawnicza SGH, Warszawa.
- Kopiński, A., Porębski, D. 2015. *Próba oceny efektywności banków komercyjnych za pomocą metody DEA*. *Annales Universitatis Mariae Curie-Skłodowska Lublin, Poland*.
- Kotliar, A., Basova, Y., Ivanov, V., Murzabulatova, O., Vasyltsova, S., Litvynenko, M., Zinchenko, O. 2020. *Ensuring the economic efficiency of enterprises by multi-criteria selection of the optimal manufacturing process*. *Management and Production Engineering Review*, 11/1, PAN, Warszawa.
- Kulawik, J. 2009. *Analiza efektywności ekonomicznej i finansowej przedsiębiorstw rolnych powstałych na bazie majątku*. WRSP, Warszawa.
- Kwarciańska, K. 2018. *Efektywność jako wyznacznik gospodarowania. Kontekst ekonomiczno-społeczny*, *Problemy Transportu i Logistyki*, t. 41, nr 1, Uniwersytet Szczeciński. Wydawnictwo Naukowe Uniwersytetu Szczecińskiego.
- Samuelson, P.A., Nordhaus, W.D. 2004. *Ekonomia*, t. 1. Wydawnictwo Naukowe PWN, Warszawa.
- Szczepaniak, I. 2006. *Factors and conditions for the development of small and medium-sized enterprises in the knowledge-based economy*, National Research Institute, Warszawa.
- Szymańska, E. 2010. *Efektywność przedsiębiorstw – definiowanie i pomiar*. *Roczniki Nauk Rolniczych, Seria G*, t. 97, z. 2, Warszawa.
- Trigkas, S., Liapis, K., Thalassinou, E.I. 2019. *Administrative Accounting Information to Control Profitability Under Certainty and Uncertainty of a Universal Bank*. In *International Conference on Computational Methods in Experimental Economics* (pp. 53-78). Cham: Springer International Publishing.
- Tyagi, P., Grima, S., Sood, K., Balamurugan, B., Özen, E., Thalassinou, E.I. (Eds.). 2023. *Smart analytics, artificial intelligence and sustainable performance management in a global digitalised economy*. Emerald Publishing Limited.
- Walczak, W. 2010. *Analysis of factors affecting the competitiveness of enterprises*. *E-mentor*, No. 5(37), bimonthly of the Warsaw School of Economics, Warsaw.
- Webster's Third New International Dictionary. www.merriam-webster.com.
- Zimmerer, T., Scarborough, N. 2004. *Essentials of entrepreneurship and small business management*. Pearson Prentice Hall, New Jersey.