Technical University of Varna
Annual Journal
https://doi.org/10.29114/ajtuv.vol7.iss1.290
Vol. 7 Issue 1 (2023)
Published: 2023-06-15
ISSN 2603-316X (Online)

Assessment of the competitiveness of manufacturing enterprises in the modern economic environment

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Abstract. *Presented in the present paper are the results of a scientific study that aims to develop and test a different model for analyzing and evaluating the competitiveness of manufacturing enterprises in the modern economic environment. Examined closely are the main aspects of the enterprise competitiveness in full consideration of their internal abilities to achieve high results over a long period of time,. The analysis shows that there are new possibilities for researching the competitiveness of the manufacturing enterprises, in search of simpler and universally applicable models and methods for the analysis and evaluation of competitiveness, and in particular that of the industrial enterprises. A new model is proposed for the analysis of the enterprise competitiveness by using familiar techniques, but with the application of a new approach to the grouping of the aspects of competitiveness in three main directions. It is also worth noting that the model. hereto described. is applicable to enterprises of different scale and subject of manufacturing.*

Keywords: competitiveness of production enterprises, economic efficiency, adaptability to changing conditions of the environment and the market, sustainability of results, competitiveness index, level of competitiveness.

1 Introduction

In the globalizing and dynamically changing economic reality, businesses are faced with the challenge of developing based on the accumulation of knowledge and innovation. New concepts, methods and tools for analysis and assessment of competitiveness are emerging. With the inclusion of new concepts and techniques for collecting and processing data, new ideas about factors that influence competitiveness are emerging: human capital, innovation, sustainability and flexibility. These factors are reflected in entrepreneurial culture, innovative ideas, multilateral cooperation, critical thinking, social trust etc. (Dimitrova K. 2019)

Ensuring and maintaining high competitiveness of an enterprise is directly dependent on the achieved economic efficiency, adaptability to the extremely dynamic business environment and sustainability based on a high level of protection of the resources important to that enterprise. In order to create an adequate competitive strategy, a method is needed that allows competitiveness to be measured and evaluated quantitatively.

The complex nature of the concept of competitiveness is the reason for the lack of a generally accepted opinion as to the indicators describing it. On the one hand, the pursuit of the most accurate and complete definition and characterization of the company's competitiveness leads to an excessively large increase in the number of proposed criteria, which makes their practical application extremely difficult. On the other hand, the aim is to develop such a separate criterion that will help undertake a generalized assessment of competitiveness, which, in the long run, leads to inaccuracy in the assessments. Given the above, most authors try to offer compromise solutions by reducing the number of criteria and increasing the accuracy of the results. (Велев М., 2004)

In the present research, the emphasis is placed on the methods and models for assessing the competitiveness of industrial enterprises. An analysis has been made of a small group of aspects that define competitiveness as a research area in search of new models for analysis and evaluation. Proposed, accordingly, is a model for assessing the competitiveness of industrial enterprises based on three groups of indicators. It is important to note that the model proposed is significantly different from the existing methods and models.

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2 Competitiveness of the manufacturing enterprises

The two main elements determining competition in the modern world are globalization and the extremely rapid change in the environment. The ever deepening globalization confronts enterprises with the need to start competing not only with local but also with foreign enterprises. The rapidly developing scientific and technical progress enforces the competitive struggle and poses new challenges to enterprises. Rapid changes in the needs and demands of consumers, as well as the accelerated obsolescence of existing techniques and technologies make the success and competitive positions of enterprises unsustainable. New requirements for their functioning are emerging, the basis of which is the need for continuous and rapid changes and improvement.

The prevailing views in the scientific literature on the competitiveness of enterprises can be classified into several groups:

According to the first group of authors, the competitiveness of the enterprise is identified with the competitiveness of the manufactured products. This thesis is advocated by Kumar, Stecke and Motwani (Kumar, A., Stecke, K., and Motwani, J., 1999), Swann and Targhavi (Swann, P. and Targhavi, M., 1992) etc. Other authors expand this thesis by adding additional indicators to product competitiveness. For example, Lifitz adds the indicators: production possibilities; market opportunities; opportunities related to the realization of the production and opportunities in the accompanying service (Лифиц И. М., 2001); Danailov - price, cost, technical capabilities of the product, compatibility with other products, design and packaging (Данаилов Д., 1999); Hardy - higher degree of utility and better functioning of products, lower price and better presentation (Hardy L., 1990).

However, the high quality of the products is only a prerequisite, but not a sufficient condition for ensuring high competitiveness. In order to achieve expansion of the market share and increase the revenues, it is also necessary to ensure that the characteristics of the products are compatible with the consumer requirements and preferences, priced accordingly, improved customer service efficiency, etc. In addition, the high competitiveness of products cannot be the only indicator of company competitiveness, because it could also be achieved at the expense of the other indicators of the company's economic success. This can lead to a deterioration of the company's financial results if it was achieved at the expense of unjustifiably high costs or at the expense of an excessively low price. Poor financial results would limit the company's opportunities for further development and success.

Another group of authors equates the competitiveness of the enterprise with the level of a separate indicator for the economic result, which is contrary to the leading opinion of the specialists about its complex nature. For example, D. Muller reduces the competitiveness of enterprises to the high profitability of their assets (Mueller, D.C., 1990), Allen and Pantsalis – to its production costs per unit of output (Allen, L., and C. Pantzalis, 1996), E. Compton - to the size or growth of their market share (Compton, E., 1985). The Russian professor Sergeev characterizes the competitiveness of the enterprise with the competitiveness of the production, the efficiency of the production activity, the financial condition, and the effectiveness of the organization in the implementation and stimulation of demand and sales (Сергеев А., 2003). Other authors as A. Judson, R. Lynch and K. Cross define competitiveness as a complex indicator of the level of overall activity of the enterprise (Judson, A., 1990; Lynch, R., Cross K., 1991). Kaplan and Norton relate it to the levels of companies' activity from four perspectives - internal, consumer, financial and from the point of view of innovation and assimilation of novelties (Kaplan, R., Norton, D., 2000). According to H. Avila: “Competitive advantages are reflected in higher productivity and then in profitability (de Azevedo Avila,H. , 1997). A manufacturing enterprise that is able to develop and maintain capabilities that ensure high performance and sustainable profitability is considered competitive. In other words, the degree of success of an industrial firm is equivalent to its level of competitiveness”.

Reducing the competitiveness of the enterprise only to the results and efficiency of its activities in the short or long term is not enough for its full characterization and because of that they only determine the degree of use of the enterprise resources and cannot reflect such features of the company's competitiveness as the ability to constantly renew and adapt to variable conditions.

Another group of authors – C. Galbraith, P. Dixon, A. Pettigrew, characterize company competitiveness as a degree of flexibility of the company, i.e. degree to which the company is able to quickly adapt to changes in environmental conditions (Galbraith C., 1990; Dickson P., 1992; Pettigrew A., 1987). Van de Ven expands this concept by reducing firm competitiveness to the level of the enterprise's ability

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to ensure long-term alignment of its internal elements (strategies, structure, processes and management style) with the external environment (Van de Ven A.H., 1976). Seitz, Johannesson and Ritchie share a similar opinion, according to which competitiveness refers to the extent to which an individual firm or national industry can survive and establish itself and the ability with which they can respond to external opportunities and threats (Zaitz G., Johannesson R., and Ritchie J.E.Jr., 1997).

Flexibility and the possibility of quick adaptation and long-term coordination of the enterprise's behavior to the demands of the external environment are important aspects of competitiveness, but they do not describe it in its entirety. The enterprise must also be characterized by the ability to recognize in time that the previous methods of action have lost their relevance and do not lead to maximum results, and to constantly search and find new and more effective ones. Therefore, the enterprise must have the ability to constantly innovate and re-adjust its operations better than its competitors.

In specialized literature, the thesis that competitiveness is a complex multifaceted category, reflecting the internal ability of the company to achieve high results over a long period of time, finds more and more supporters. An essential point in its modern characteristic is the consideration of the company's abilities for continuous renewal, improvement, introduction of novelties, flexibility and adaptability. "The competitiveness of the enterprise is its ability, through continuous renewal and improvement, to create and sustainably maintain competitive advantages leading to high economic results in the long term." (Велев М., 2004).

Despite the many opinions expressed, the problem of defining the category "enterprise competitiveness" has not yet been finally resolved.

3 Model for determining the competitiveness of a manufacturing enterprise

After analyzing the existing methods for assessing the level of enterprise competitiveness , it is necessary to conclude that there is no universal methodology for its overall assessment. The established shortcomings of the existing approaches to assessing the competitiveness of enterprises lead to limited opportunities for practical application of most of them. This opens up new opportunities for competitiveness research, in search of simpler and more widely applicable models and methods for the analysis and assessment of competitiveness, and in particular of industrial enterprises.

Based on the researched literature sources, it can be summarized that the competitiveness of the enterprise is directly related to:

- economic efficiency aimed at achieving high economic results;
- adaptability to changing environment and market conditions;
- sustainability (longevity) of the results.

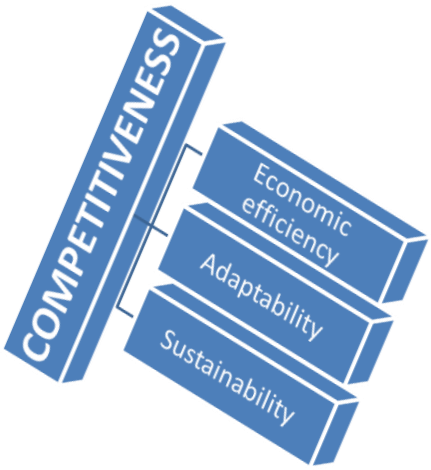

Fig. 1. Model for determining the competitiveness of a manufacturing enterprise.

Economic efficiency characterizes the resource availability of enterprises and the extent of their use. Economic efficiency is a basic principle of the economic activity of enterprises. All business activities

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are associated with both desired and undesired consequences. The goal is to achieve a balance between the costs incurred and the results obtained. (Dimitrova K., 2018)

Better resource security and the achievement of higher economic results through cost optimization provide competitive advantages to manufacturing enterprises. Efficiency is related to the methods of production, which in market conditions imply a rational combination and use of limited resources to ensure the greatest possible profit. It shows the relationship between the effect and the amount of these costs (resources) for its provision. Economic efficiency expresses the relationship between the cost of limited production factors and satisfied needs, or with a minimum cost to satisfy a maximum of needs (Икономическа енциклопедия, 2005). So is the avoidance of losses from the use of resources (Economics 2005). If resources are used efficiently, the aggregate product resulting from their interaction increases and leads to an improvement in general welfare.

As an indicator of the ***Efficiency of the enterprise (Kee)*** the ratio between income and expenses is taken as expressed by the formula:

$$\text{Kee} = \frac{Income\ from\ ordinary\ activities}{Costs\ of\ ordinary\ activity} \quad (1)$$

Depending on the data of the enterprise efficiency indicator (Kee), several degrees of economic efficiency can be distinguished, corresponding to an ***Index of economic efficiency (Ie)*** as shown in Table 1.

Table 1. Economic efficiency of the enterprise.

Quantitative measurability of the *indicator Economic efficiency of the enterprise (Kee)*	***Economic efficiency index* (Ie)**
Kee > 2	5
1,5 < Kee < 2	4
1 < Kee < 1,5	3
Kee = 1	2
Kee < 1	1

Adaptability to changing environment and market conditions shows the ability (internal potential) of enterprises to adapt to changes in the market, institutional and natural environment. Companies and societies seek the balance between different interests (individual, group, corporate, etc.) and strive to remove obstacles to the spread of knowledge, skills and attitudes among people, respectively, in the work in the organization of production. (Van Ark B., S. K. Kuipers and G. H. Kuper (ed.) 2000). Each company watches the other companies to accelerate and/or stop their own innovations in order to maintain their market positions and keep their costs under control. (Hadjitchoneva J., A. Ivanov and K. Hadjiev, 2018). According to Schumpeter (Schumpeter J. A., 1942). the engine of the economy and progress are the discreetly created "new combinations" for the production of "productive goods". These new combinations depend entirely on the firm's innovative capabilities.

According to a study by Panayotova and Dimitrova (Panayotova T. & Dimitrova K., 2019), there are various measures of the flexibility and adaptability of enterprises, such as:

- Analysis of transactions;
- Cost chains for various activities;
- Customer orientation;
- Organization maps;
- Information system and virtual collaboration;
- Highly qualified specialists;
- Internet challenges and opportunities for business;
- Dependence on intellectual capital.

In a competitive environment, companies must constantly respond to market changes, seek innovative solutions and achieve a competitive advantage over their competitors.

Given the exceptional dynamics of the contemporary economic system, innovations (product, process and structural), strategic renewal and innovation, effective use of available resources to ensure

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production flexibility and quality improvement can be accepted as the main criteria for adaptability of production enterprises.

An enterprise that is able to most quickly and adequately respond to changes in the business environment is adaptive. The highest adaptability is shown by enterprises that manage to predict new business trends and use crisis moments as new opportunities for development, continuously conducting marketing research and analysis.

In today's world, risk is an integral part of any business. Successful organizations are those that have the mechanisms and tools to identify and manage risks before they become disruptive realities that damage the organization's reputation and ability to function and be competitive. Therefore, the competitiveness of an enterprise depends to a large extent on the ability of its managers to successfully deal with all risks, and this is related to the established organizational culture in the enterprise. An invariable part of this culture is also corporate social responsibility, which in recent years has gained more and more importance and significance.

The development of information and communication technologies provides an opportunity to maintain the competitiveness of companies on local, regional and global markets by achieving and maintaining strategic competitive advantages and increasing the competitiveness of the organization in the conditions of highly competitive and open markets. To be competitive, companies invest in modern information systems that integrate different business areas, integrate all major functions, units and resources. (Dimitrova K., 2018)

Based on the analysis of the concepts as regards enterprise adaptability to the changing conditions of the environment and the market, proposed in the present study is a summary of the criteria of adaptability and selected are 10 universal indicators that can be measured and evaluated, as well as monitored over time, controlled and managed in order to positively affect the competitiveness of the enterprises.

Data for the mentioned criteria are obtained by interviewing managers or experts in the relevant field. The data is processed by determining the values of the adaptability indicators, as well as the total weighted value or the ***Adaptability Index of a particular enterprise to the changing conditions of the environment and the market Ia.*** (Table 2)

$$Ia = \sum_{i=1}^{10} \frac{(a_i \times b_i)}{100}, \% \qquad (2)$$

Table 2. Adaptability of the enterprise to the changing conditions of the environment and the market.

№	Adaptability indicators	Relative weight % a_i	Rating (1 ÷ 5) b_i	Weighted indicator value (a_i x b_i) / 100%
1	Effective use of available resources to ensure production flexibility	a_1	b_1	A
2	Marketing research	a_2	b_2	B
3	Strategic renewal and innovation	a_3	b_3	C
4	Integration of all core functions, units and resources	a_4	b_4	D
5	Information systems	a_5	b_5	E
6	Quality improvement	a_6	b_6	F
7	Organizational culture	a_7	b_7	G
8	Social responsibility	a_8	b_8	H
9	анлиз и оценка на риска	a_9	b_9	I
10	Satisfaction of all stakeholders	a_{10}	b_{10}	J
	Total	**100%**	**-**	***Ia***

Sustainability indicates the ability of the farm to exist over time. Indicators of sustainability of production enterprises can be considered as a result of its operational, investment and financial activity and can be considered as an integral expression of its complex functioning in the past and in the present. Financial sustainability as an economic category, characterizing a system of economic relations in which

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the enterprise is able to function in conditions of risk and a changing business environment, ensuring solvency, balance of financial flows, independence from attracted capital and realization of financial results, the volume of which is sufficient for self-development and satisfying the interests of all stake-holders. Taking into account the fact that the modern economy is based on knowledge, as a second criterion we accept the degree of protection of corporate information. Another essential criterion for survival in today's highly competitive environment is the satisfaction of consumers, who are the main arbiter of a market.

Table 3 presents a set of enterprise sustainability indicators. The indicators were selected after conducting a survey among managers and experts from manufacturing enterprises. The respective data is processed in the same way as the values of the adaptability indicators. As a result, the weighted values of the sustainability indicators are obtained, as well as the total weighted value or the ***Sustainability index of a specific enterprise Is.***

$$Is = \sum_{i=1}^{5}(ai\ x\ bi)\ /\ 100\% \quad (3)$$

Table 3. Sustainability of the enterprise.

№	Sustainability indicators	Relative weight % a_i	Rating (1 ÷ 5) b_i	Weighted indicator value (a_i x b_i) / 100%
1	Solvency	n_1	m_1	P
2	Balanced financial flows	n_2	m_2	Q
3	Independence from raised capital	n_3	m_3	R
4	Financial results	n_4	m_4	S
5	Protection of corporate information	n_5	m_5	T
	Total	**100%**	**-**	***Is***

In order to determine the general competitiveness of the enterprise and to compare it with the competitiveness of other enterprises, an integral indicator should be calculated - ***Enterprise Competitiveness Index (Ic),*** using the following formula for this purpose:

$$Ic = (Ie + Ia + Is) / 3 \quad (4)$$

where:
Ie – economic efficiency index;
Ia – index of adaptability to changing environment and market conditions;
Is – sustainability index.

The value of the ***Enterprise Competitiveness Index Ic*** is between 1 and 5, and the enterprise is defined as non-competitive, with low competitiveness, with good competitiveness, with high competitiveness and with very high competitiveness, according to Table 4.

Table 4. Scale for evaluating the levels of competitiveness of enterprises.

Enterprise Competitiveness Index Ic	Level of competitiveness
4,6 ÷ 5	Very high
3,6 ÷ 4,5	High
2,6 ÷ 3,5	Good
1,6 ÷ 2,5	Low
1 ÷ 1,5	Uncompetitive

4 Testing and practical applicability of a model for determining the competitiveness of a manufacturing enterprise

A pilot study to test the practical applicability of the presented model was carried out in three Bulgarian enterprises from the Manufacturing Industry sector, employing 50-100 people - Garment

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Manufacturing Plants A, B and C. A summary of the obtained results is presented in the following tables and diagrams.

Table 5. Economic efficiency of production enterprises A, B and C.

Researched enterprise	**Quantitative measurability of the indicator *Economic efficiency of the enterprise (Kee)***	***Index of economic efficiency (Ie)***
A	Kee_A = 1,68 (1,5 < Kee < 2)	4
B	Kee_B = 1,42 (1 < Kee < 1,5)	3
C	Kee_C = 1,25 (1 < Kee < 1,5)	3

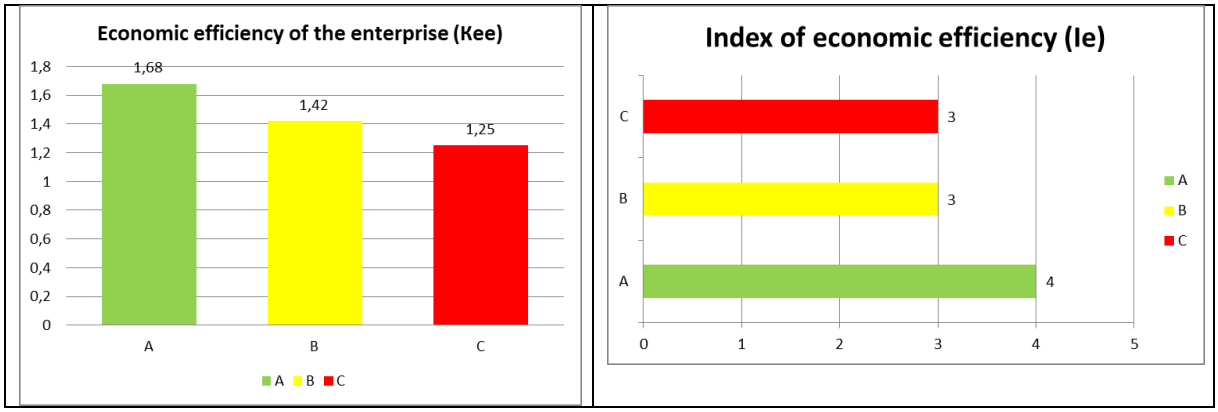

Fig. 2. Economic efficiency of manufacturing enterprises A, B and C.

Table 6. Adaptability of manufacturing enterprises A, B and C

№	**Adaptability indicators**	**Relative weight % a_i**			**Rating (1 ÷ 5) b_i**			**Weighted indicator value (a_i x b_i) / 100%**		
	Researched enterprise	**A**	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**
1	Effective use of available resources to ensure production flexibility	10	10	15	4	3	3	0,40	0,30	0,45
2	Marketing research	10	10	15	2	3	4	0,20	0,30	0,60
3	Strategic renewal and innovation	10	15	10	2	3	4	0,20	0,45	0,40
4	Integration of all core functions, units and resources	10	5	5	2	3	3	0,20	0,15	0,15
5	Information systems	10	6	5	3	2	4	0,30	0,12	0,20
6	Quality improvement	10	5	20	3	4	4	0,30	0,20	0,80
7	Organizational culture	10	7	5	2	2	3	0,20	0,14	0,15
8	Social responsibility	10	15	5	2	2	3	0,20	0,30	0,15
9	Risk analysis and assessment	10	7	10	2	4	2	0,20	0,28	0,20
10	Satisfaction of all stakeholders	10	20	10	2	4	3	0,20	0,80	0,30
	Total	**100%**	**100%**	**100%**	**-**	**-**	**-**	**Ia = 2,4**	**Ia = 3,04**	**Ia = 3,4**

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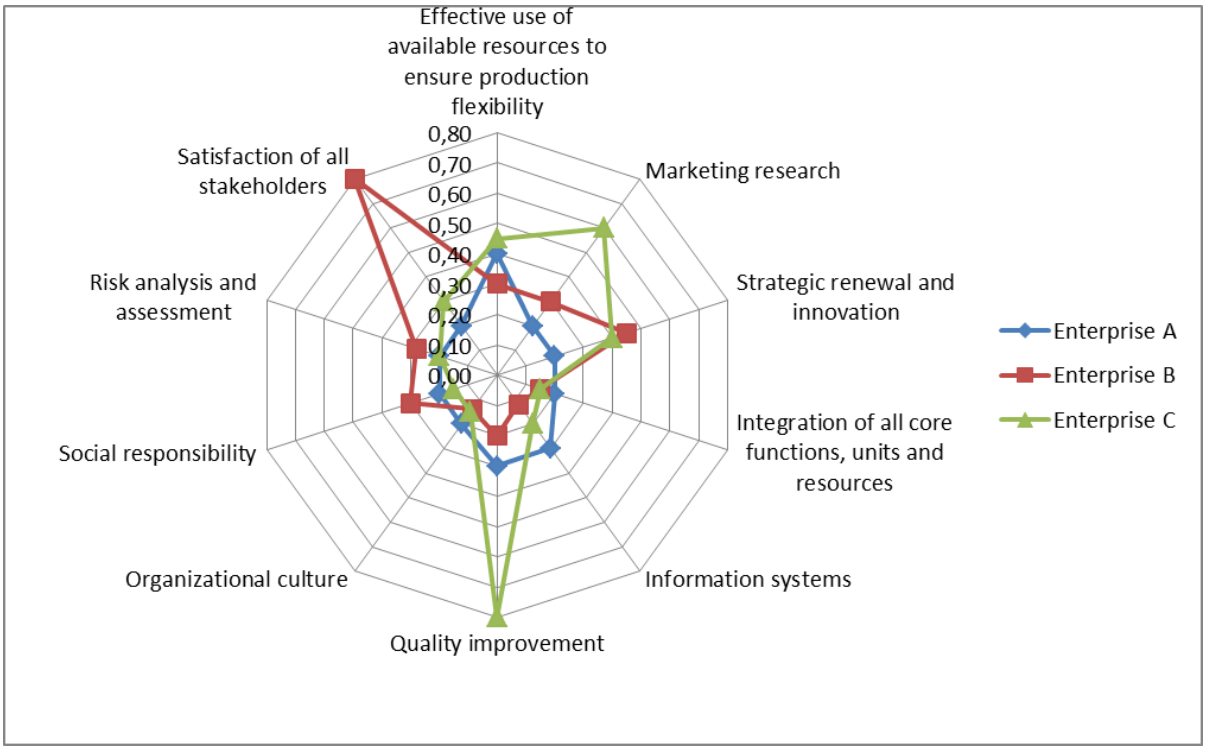

Fig. 3. Adaptability of manufacturing enterprises A, B and C.

Table 7. Sustainability of manufacturing enterprises A, B and C.

№	Sustainability indicators	Relative weight % a_i			Rating (1 ÷ 5) b_i			Weighted indicator value (a_i x b_i) / 100%		
	Researched enterprise	**A**	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**
1	Solvency	20	25	20	4	4	3	0,8	1,0	0,6
2	Balanced financial flows	20	10	20	3	2	2	0,6	0,2	0,4
3	Independence from raised capital	20	15	10	2	3	4	0,4	0,45	0,4
4	Financial results	20	30	30	4	4	4	0,8	1,2	1,2
5	Protection of corporate information	20	20	20	3	1	2	0,6	0,2	0,4
	Total	**100%**	**100%**	**100%**	**-**	**-**	**-**	**Is = 3,2**	**Is = 3,1**	**Is = 3,0**

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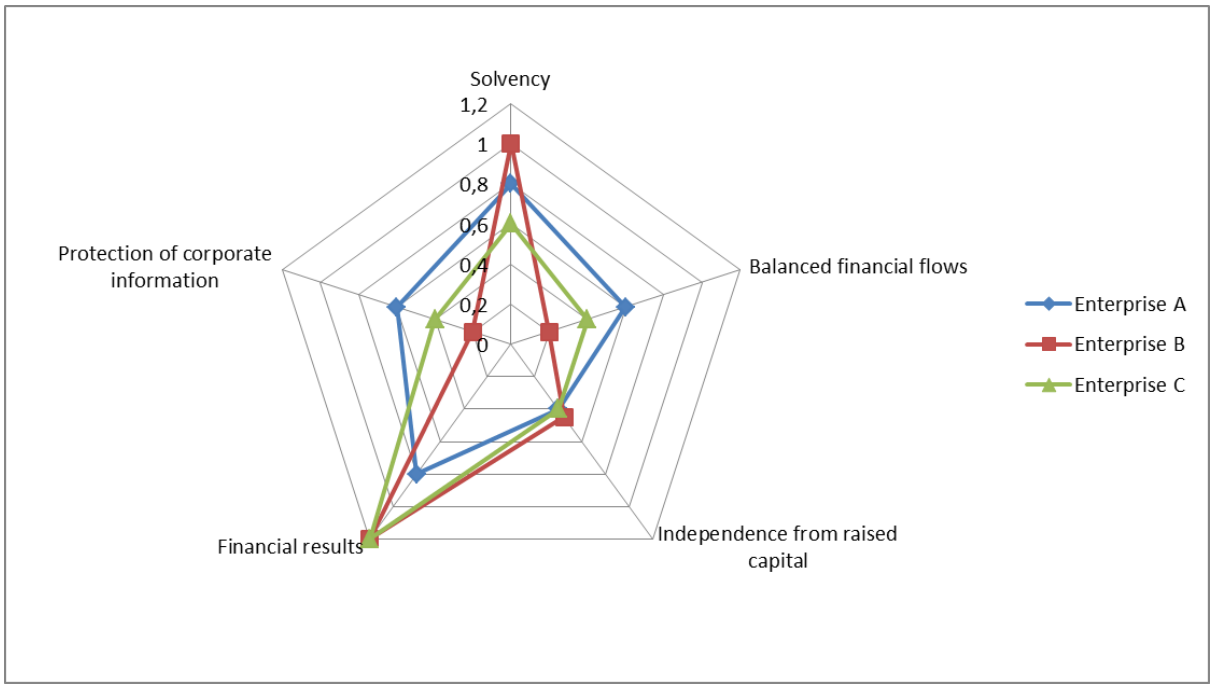

Fig. 4. Sustainability of manufacturing enterprises A, B and C.

Table 8. Index of competitiveness of manufacturing enterprises A, B and C.

Researched enterprise	Enterprise Competitiveness index Ic = (Ie + Ia + Is) / 3	Level of competitiveness
A	3,2	Good
B	3,05	Good
C	3,13	Good

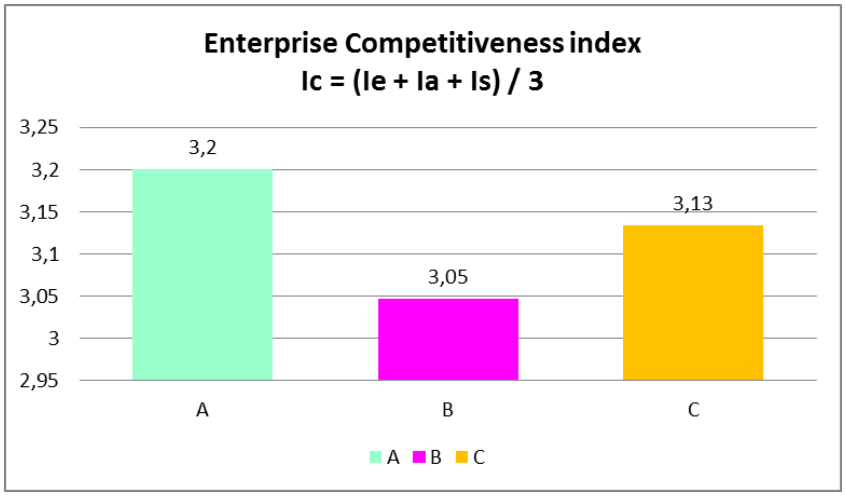

Fig. 5. Index of competitiveness of manufacturing enterprises A, B and C.

After calculating the ***Enterprise Competitiveness index (Ic)*** of the three enterprises A, B and C, based on the collected data, it was found that all the three investigated enterprises have a good level of competitiveness, but with different competitiveness indices (Table 8). This means that the level of enterprise competitiveness should be considered in its quantitative measurability and broken down by the three groups of criteria, observing and analyzing the values of all the relevant indicators.

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5 Discussion

This competitive research model is applicable to businesses of all types and sizes. The contribution of the study is that it offers a new view and approach to the analysis of the competitiveness of business organizations. To prove the practical usefulness of the presented model, more comprehensive observation and systematic analysis of the obtained results is strongly recommended as wel as increased cooperation with various business organizations.

6 Conclusions

The exceptional dynamics of the modern economic environment confronts production enterprises with the need for constant monitoring of their competitiveness. Taking into account the fact that a large part of manufacturing enterprises do not have the capacity for constant detailed analysis, derived in the present research are key indicators that are likely to greatly simplify the evaluation models applied so far and at the same time give an adequate view of the state of the company, by comparing its competitiveness to that of their competitors. The developed model has a scientific and scientifically applied value, enriching the accepted toolkit and providing a new framework for analyzing and evaluating the competitiveness of the manufacturing enterprises, and serving as a basis for developing further strategies for its constant improvement.

References

Allen, L., & Pantzalis, C. (1996) Valuation of the Operating Flexibility of Multinational Corporations. *Journal of International Business Studies, 27,* 633-653. https://doi.org/10.1057/palgrave.jibs.8490147

Compton, E. (1985). Credit Analysis is Risk Analysis. *The Bankers Magazine*.

de Azevedo Avila, H. (1997). *Evaluating the competitive position of an industrial firm*. The George Washington University, Washington, DC. https://www2.gwu.edu/~ibi/minerva/Spring1997/henrique.de.azevedo.avila.pdf

Dickson, P. (1992). Toward a general Theoiy of Competitive Rationality. *Journal of Marketing, 56*(1), 69-83. https://doi.org/10.1177/002224299205600107

Dimitrova, K. (2018). Modeling, measurement and management of business processes in organization. *In 2nd International Scientific Conference Intelligent Information Technologies for Industry,* (pp. 410–419). Springer International Publishing. https://doi.org/10.1007/978-3-319-68324-9_45

Dimitrova, K. (2019). Technology, quality and innovation - key aspects of competitiveness of industrial enterprises. *Computer Science and Technologies Journal XVII*(1), 71-80. http://csejournal.cs.tu-varna.bg/cse_journal_2019.pdf#page=71

Galbraith, C. (1990). Transferring core manufacturing techniques in high-tech firms. *California Management Review,* 32(4), 56-70. https://doi.org/10.2307/41166628

Hadjitchoneva J., Ivanov, A. & Hadjiev, K. (2018). Competitiveness for knowledge society: From nature to new developments and challenges. *Valahian Journal of Economic Studies, 9*(2), 1-12. Google Scholar

Hardy, L. (1990). *Successful business operations. How to develop and exploit competitive advantage,* Basil Blackwell Ltd.

https://doi.org/10.29114/ajtuv.vol7.iss1.290
Vol. 7 Issue 1 (2023)
Published: 2023-06-15
ISSN 2603-316X (Online)

Judson, A. (1990). *Making strategy happen: transforming plans into reality*. Wiley-Blackwell.

Kaplan, R. & Norton, D. (2000). *The strategy focused organization: How balanced scorecard companies thrive in the new business environment*, Harvard Business School Press, Boston. MA.

Kumar, A., Stecke, K., & Motwani, J. (1999). A quality index-based methodology for improving competitiveness: Analytical development and empirical validation. *Working Rarer Series, Working Paper* 01-015, University of Michigan Business School.

Lynch, R., & Cross K. (1991). *Measure up! Yardsticks for continuous improvement.* Blackwell, USA.

Mueller, D.C. (1990). *The dynamics of company profits.* Cambridge. University Press: Cambridge, MA. https://doi.org/10.1017/CBO9780511664724

Panayotova, T. & Dimitrova, K. (2019). A strategic vision for development of flexible industrial enterprise. In B. Katalinic (Ed.), *DAAAM International Scientific Book 2019* (pp.143-158), B. Katalinic (Ed.). Published by DAAAM International, ISBN 978-3-902734-24-2, ISSN 1726-9687, Vienna, Austria. https://doi.org/10.2507/daaam.scibook.2019.11

Pettigrew, A. (1987). Context and action in the transformation of the firm. *Journal of Management Studies, 24*(6), 649-670. https://doi.org/10.1111/j.1467-6486.1987.tb00467.x

Schumpeter, J. A. (1942). *Capitalism, Socialism and Democracy*. New York: Harper & Row

Swann, P. & Targhavi, M. (1992). *Measuring price and quality competitiveness - A study of eighteen British product markets.* Brookfield, Vermont: Ashgate Publishing Company, Chapter 2.

Van de Ven, A.H. (1976). On the nature, formation, and maintenance of relations among organizations, *Academy of Management Review, 1*(1), 24-36. https://doi.org/10.5465/amr.1976.4396447

Van Ark B., Kuipers, S.K. & Kuper, G.H. (Eds.). (2000). *Productivity, Technology and Economic Growth.* 1st ed. London, Springer. https://doi.org/10.1007/978-1-4757-3161-3_1

Zaitz, G., Johannesson, R., & Ritchie, J. E.Jr. (1997). An employee survey measuring total quality management practices and culture. *Group and Organization Management, 22*(4), 414-444. https://doi.org/10.1177/1059601197224002

Велев, М. (2004). *Оценка и анализ на фирмената конкурентоспособност*. Софтрейд, С., 7-18.

Данаилов Д. (1999). *Международни бизнес анализи*. ИК“Люрен“, С.

Лифиц И. М. (2001) *Теория и практика оценки конкурентоспособности товаров и услуг*. М., Юраит.

Сергеев А. (2003). *Конкурентоспособность российсьсих предприятий в предверии вступления России во ссемирную торговую организацию: направления и методъи маркетинговъих исследований.* БСУ, Център за икономически и управленски науки, Втора международна конференция “Маркетингът в ерата на глобализацията концепции и тенденции”, 15-16 Май 2003, Бургас.

Икономическа енциклопедия. Наука и изкуство, София, 2005, с. 278.

Икономикс. Учебен речник, УИ “Стопанство”, София, 2005, с. 372.