
The Author's Model of Assessing the Possibility of Achieving a Competitive Advantage Based on the Business Model and Position in the Supply Chain

KONIECZNA Izabela¹

¹ *The Jan Kochanowski University in Kielce (POLAND)*
Email: izakonieczna@ujk.edu.pl

Work code CJ02F5009

Abstract

The aim of the article is to create a procedure for assessing the possibility of achieving a competitive advantage on the basis on the analysis of the degree of strategic objectives implementation through a business model, and analysis of the organization's position in the supply chain. Authorial model of the possibility of achieving a competitive advantage has been developed basing on the authorial definition of the business model.

In the article is presented the matrix on which can be presented graphically in two-dimensional space results of the interaction of the degree of strategic objectives implementation by the business model and the position in the supply chain. The matrix consists of four areas that show the possibility of achieving a competitive advantage. Depending on the area in which the organization is located after calculations, it can read the possibility of achieving a competitive advantage.

Keywords: Business model, supply chain, competitive advantage, matrix

Introduction

Competitive advantage is obtained when an organization develops or acquires a set of attributes (or executes actions) that allow it to outperform its competitors. There have been many articles over the way in which companies seek to develop sustainable competitive advantage. There have occurred two main approaches – the market-based approach associated with M. Porter, and the resource-based approach based on broadly similar views from a number of authors. The market-based approach of strategy argues that industry factors and external market orientation are the primary determinants of firm performance, while the resource-based approach of the firm draws attention to the firm's internal environment as a driver for competitive advantage and emphasizes the resources that firms have developed to compete in the environment [1].

According to M. Porter, competitive advantage can be identified through the value chain model – a basic tool for analyzing the sources of competitive advantage [2]. M. Srivastava, A. Franklin and L. Martinette state that some of the major organizational levers that are highly likely to influence a company's competitive advantage are: leadership – company vision, mission, leadership and governance; incentives – reward and performance management systems; organizational culture – corporate orthodoxies and values; organizational design – organizational structure, globalization, collaboration effects; organizational systems – strategic planning, information technology infrastructure [3]. V. K. Ranjith used select case studies to establish the causal relationship between business models and the competitive advantage. According to his results firms with multiple business models demonstrated higher chances of gaining competitive advantage [4]. V.P. Rindova and C.J. Fomburn look at the company's competitive advantage development as logical outcome of six processes, i.e. strategic investments, industry paradigms, resource allocations, strategic plots, strategic projections, and definitions of success [5]. G.L. Adams and B.T. Lamont claim that organizations achieve competitive advantage through the systematic application of learning, knowledge acquisition, and knowledge application via product, service, and process innovation [6]. The research conducted by M. Hakkak and M. Ghodsi [7] show that the

implementation of the balanced scorecard has the impact on the sustainable competitive advantage. The essence of the M.A. Peteraf's model is that four conditions underlie sustained competitive advantage, all of which must be met. These include superior resources (heterogeneity within an industry), ex post limits to competition, imperfect resource mobility and ex ante limits to competition [8]. BCG has developed an analytical framework – the Global Advantage Diamond – for assessing a company's current market position and devising strategies to achieve global competitive advantage. These are: market assess that leads to growth advantage, local adaptation that leads to “manyness” advantage, resource access that leads to resource leverage advantage, and network coordination that leads to integration advantage [9].

Despite the large number of approaches to assess the possibility of achieving a competitive advantage, there is no assessment of the possibility of achieving a competitive advantage based on both the business model and the position of the organization in the supply chain. Yet both the business model and a position in the supply chain are very important for an organization in order to create the best possible competitive advantage.

Therefore, the aim of the article is to create a procedure for assessing the possibility of achieving a competitive advantage on the basis on the analysis of the degree of strategic objectives implementation through a business model and analysis of the organization's position in the supply chain. The first part of the article presents the author's method of assessing the possibility of achieving competitive advantage, taking into account the position in the supply chain, and individual elements of the business model and their impact on the implementation of strategic objectives using the proposed method based on the analysis of such elements as: factors affecting sales revenues, customer value, value chain, resources/competences and actions for the owners.

In the second part of the article is presented an empirical verification of theoretical assumptions on the example of dairy cooperatives. This verification is based on the results of face-to-face interviews with representatives of senior management of dairy cooperatives using the interview questionnaire.

The model of the possibility of achieving a competitive advantage

Authorial model of the possibility of achieving a competitive advantage has been developed basing on the authorial definition of the business model: *the business model is a description of the elements constituting the value, both from the perspective of the organization and its customers. It includes identification of the sources of revenues basing on the value chain, and determines the value creation on the basis of a unique combination of resources/competencies that the organization possesses. The aim of the business model is to obtain such conditions of running the business in order to meet the needs of owners and act in their interest* [10].

According to the assumptions regarding the method of evaluating the implementation of strategic objectives [11] and taking into account that the implementation of strategic objectives in the case of sources of sales revenues and activities for owners takes place when the organization has more sources of income and indicates more activities for owners, the following formulas can be used to determine the degree of achievement of strategic objectives:

$$I_s = \frac{k}{n}$$

wherein:

I_s – index of strategic objectives implementation determined on the basis of sources of sales revenues,

k – the number of sources of sales revenues identified by the organization,

n – the number of possible variants to choose out of sources of sales revenues.

$$I_a = \frac{k}{n}$$

wherein:

I_a – index of strategic objectives implementation in the case of actions for members of the organization,

k – the number of actions for owners identified by the organization from the presented variants,

n – the number of variants to choose from.

In the case of the value chain, it can be assumed that the strategic objectives are implemented to the greatest extent when the organization have an impact on the implemented activities, and have control over outsourced activities [11]. In this case, the following formula can be used to determine the degree of implementation of the strategic objectives:

$$I_c = \frac{M(a + b)}{n}$$

I_c – index of the implementation of strategic objectives in the case of the value chain,

M – mean,

a – the number of activities carried out by the organization,

b – the number of outsourced activities that are under control of the organization,

n – the number of possible response options.

The measurement method of the degree of implementation of the strategic objectives of the organization by the adopted business model in the case of customer value and resources/competencies may be the index calculated according to following formulas [11]:

$$I_w = \frac{\sum_{k=1}^n k}{n \cdot m}$$

$$I_z = \frac{\sum_{k=1}^n k}{n \cdot m}$$

wherein:

I_w – the degree of implementation of the organization's strategic objectives in the case of customer value,

I_z – the degree of implementation of the organization's strategic objectives in the case of resources/competences,

k – average rating of the elements from particular areas taken into account,

n – number of areas,

m – maximum value of the scale, where the maximum value means the best situation in the assessment from the point of view of the organization.

In order to determine the degree of implementation of strategic objectives by the business model, the following formula can be used:

$$I = M(I_s + I_c + I_w + I_z + I_a)$$

I – the degree of strategic objectives implementation by the business model,

M – mean,

I_s – the degree of strategic objectives implementation in the case of factors affecting sales revenues,

I_c – the degree of strategic objectives implementation in the case of the value chain,

I_w – the degree of strategic objectives implementation in the case of customer value,

I_z – the degree of strategic objectives implementation in the case of resources/competences,

I_a – the degree of strategic objectives implementation in the case of actions for the owners.

The higher I , namely $I \rightarrow 1$, the more the strategic objectives are implemented [11].

For the assessment of organization's position in the supply chain are taken into account the position of the organization in relation to suppliers and customers. When determining the position to suppliers and customers, the following possibilities and values assigned to them are taken into account:

- Lack of bargaining power – 0
- Very weak bargaining power – 0.2

- Weak bargaining power – 0.4
- Average bargaining power – 0.6
- One of the key partners – 0.8
- Leader of the supply chain – 1

The following formula can be used to determine the organization's position in the supply chain:

$$K = M(k_d + k_c)$$

wherein:

K – position in the supply chain,

M – mean,

k_d – position in relation to suppliers,

k_c – position in relation to customers.

Having calculated the degree of implementation of strategic objectives through the business model (I) and the position in the supply chain (K), it is possible to determine the probability of achieving a competitive advantage by placing the obtained results on the matrix.

Using the matrix can be presented graphically in two-dimensional space results of the interaction of the degree of strategic objectives implementation by the business model and the position in the supply chain.

The position in the supply chain is on the abscissa axis, and the degree of achievement of strategic objectives by the business model is on the ordinate axis (Fig. 1).

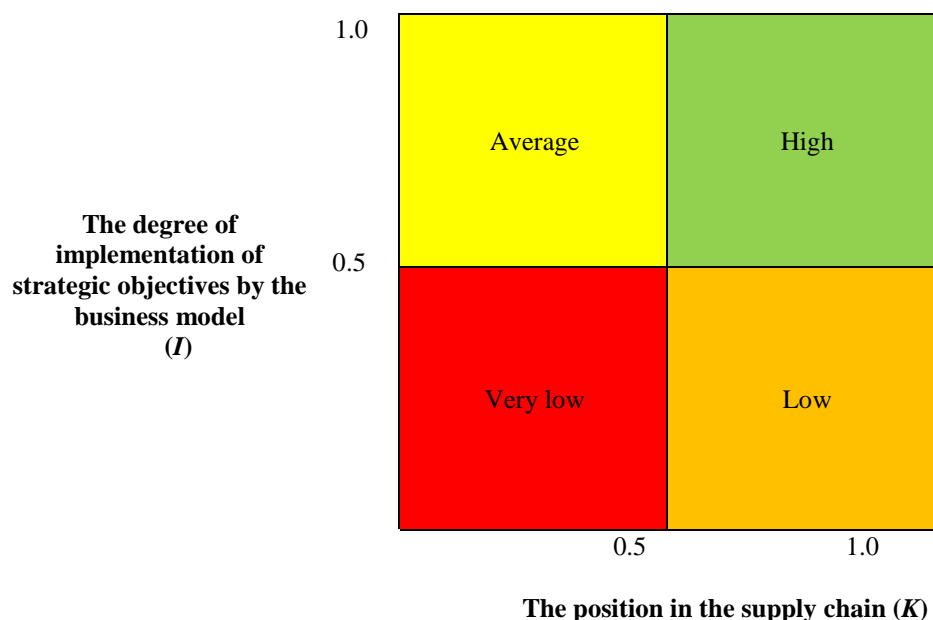


Fig. 1. The matrix of the assessment of the possibility of achieving a competitive advantage

Source: compiled by author.

The possibility of achieving a competitive advantage the matrix locates in four areas, separated on the basis of the degree of strategic objectives implementation by the business model and the position in the supply chain. These areas are:

1. **Very low** possibility of achieving a competitive advantage, which occurs when the indexes I and K reach the values less than or equal to 0.5;
2. **Low** possibility of achieving a competitive advantage that occurs when the I index reaches value lower than or equal to 0.5 and the K index reaches value above 0.5;

3. **Average** possibility of achieving a competitive advantage, which occurs when the I index reaches value above 0.5, and the K index reaches value lower than or equal to 0.5;
4. **High** possibility of achieving a competitive advantage, which occurs when the indexes I and K reach the values higher than 0.5.

Assessment of the possibility of achieving a competitive advantage based on the adopted model

Empirical verification of the assessment of the possibility of achieving a competitive advantage based on the adopted model was developed on the basis of the results of face-to-face interviews conducted with representatives of senior management of dairy cooperatives using an interview questionnaire. Representatives of all cooperatives from section 10.5 of the PKD⁸ from voivodeships of south-eastern Poland, i.e. Świętokrzyskie, Lubelskie, Podkarpackie, Małopolskie and Śląskie, were invited to the survey. Due to the willingness of the cooperatives to participate in the research, the research was conducted in 20 cooperatives, i.e. over 33% of the population. The distribution of the sample is representative in that it reflects the most important characteristics of the population of which it is a part. The selection of the sample was purposeful.

The purposefulness of sampling involved the assignment of cooperative's activities in accordance with the PKD, as well as the location of cooperatives in the indicated area covered by the survey.

After calculating the indexes, I and K (Table 1), the obtained results can be shown in the graph (Fig. 2).

Table 1. Results of calculations of indexes I and K

Cooperative	I index	K index
A	0,512	0,6
B	0,426	0,6
C	0,500	0,6
D	0,448	0,6
E	0,438	0,6
F	0,456	0,6
G	0,496	0,6
H	0,482	0,6
I	0,450	0,6
J	0,428	0,6
K	0,550	0,6
L	0,410	0,6
M	0,562	0,6
N	0,530	0,7
O	0,510	0,8
P	0,564	0,6
R	0,548	0,6
S	0,564	0,6
T	0,484	0,6
U	0,458	0,6

Source: Compiled by author.

⁸ Polish Classification of Activities

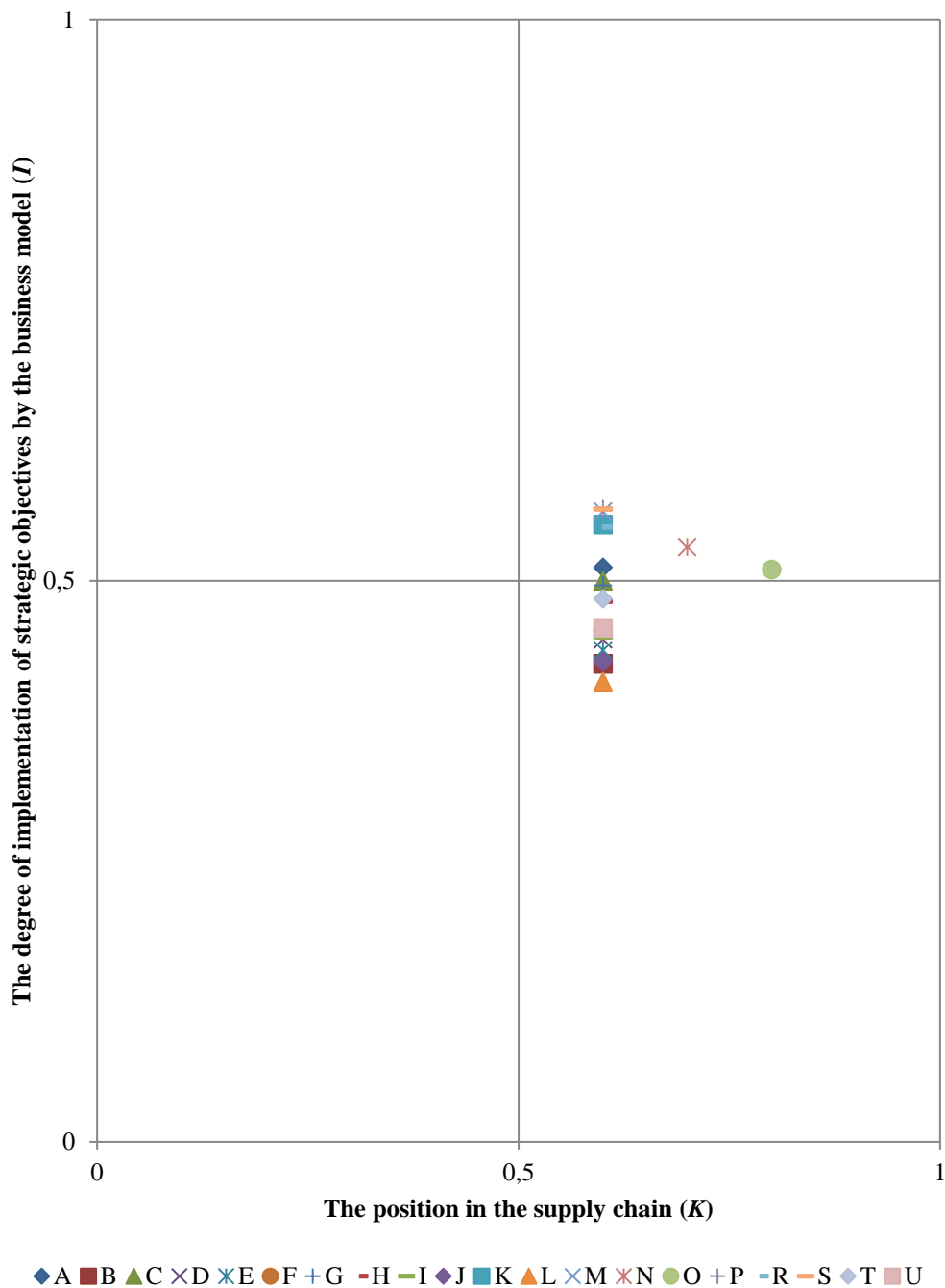


Fig. 2. The possibility of achieving a competitive advantage by dairy cooperatives
Source: compiled by author.

Due to the fact that the difference in the results of *I* index for individual cooperatives is small, therefore for greater clarity of the obtained results on Fig. 3 is shown a part of the Fig. 2.

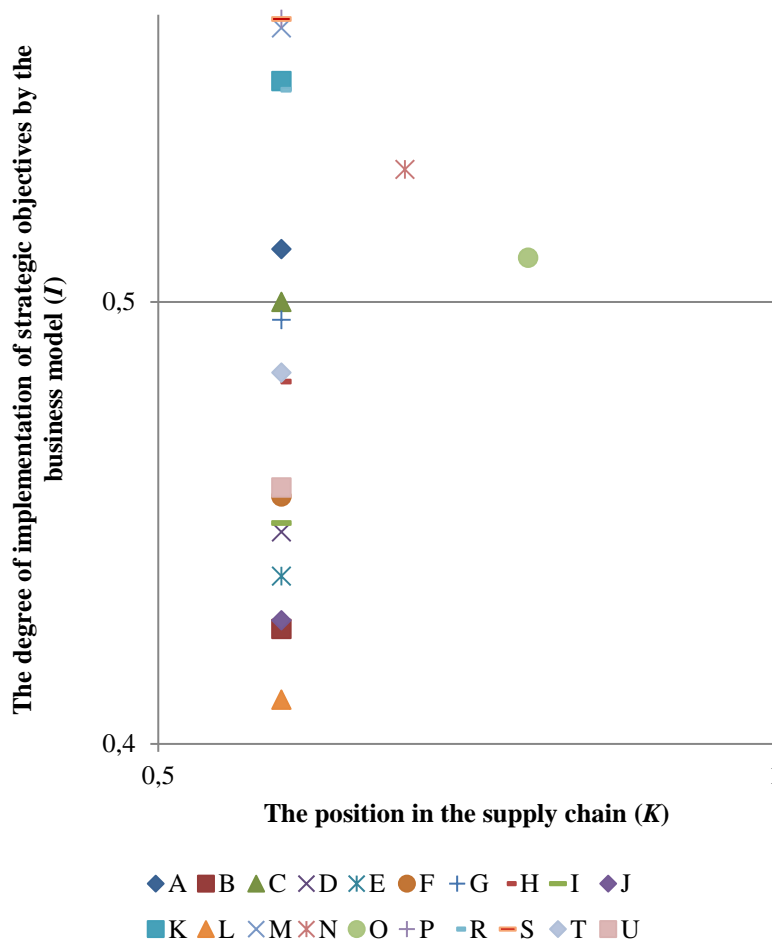


Fig. 3. The possibility of achieving a competitive advantage by dairy cooperatives – a part of the Fig. 2
Source: compiled by author.

As is apparent from Figures 2 and 3, twelve cooperative has a low possibility of achieving a competitive advantage, since the *I* index, which shows the degree of strategic objectives of the business model, is in the range between 0 and 0.5, and a *K* index that shows the position in the supply chain is higher than 0.5. Eight cooperatives, on the other hand, have a high possibility to achieve a competitive advantage, as both *I* and *K* indexes reach the values above 0.5.

Conclusion

The article presents the method of assessing the possibility of achieving a competitive advantage in the form of a matrix, in which are taken into account two variables: 1. the degree of implementation of strategic objectives of the organization by individual components of the business model, i.e. factors affecting sales revenue, customer value, value chain, resources/competences and activities for the owners, and 2. position in the supply chain as a result of the position in relation to suppliers and customers. According to the author, the proposed method can be a new approach to the research and the use of the business model in assessing the possibility of achieving a competitive advantage.

The research results show that the proposed method can be a tool in the process of assessing the possibility of achieving a competitive advantage. This method has been verified empirically in terms of the possibility of achieving a competitive advantage by cooperatives. The results of the calculations developed on the basis of

the proposed method and transferred to the matrix showed that twelve cooperatives have a low possibility to achieve a competitive advantage, and eight have a high possibility to achieve a competitive advantage.

According to the author, the presented method shows that every element of the business model has the same impact on the entire model, that there is no more important or less important element. All are equally important and affect the degree of realization of the strategic objectives and, as a result, the possibility of achieving a competitive advantage. Similarly, when analyzing the position of an organization in the supply chain it can be seen that the position towards suppliers and customers is equally important because they jointly influence the possibility of achieving a competitive advantage. On this basis, there can be formulated some guidelines for further research that seem to be needed to be able to use the proposed method more fully. The basis for further research should be the extension of the scope to other organizational and legal forms of enterprises and other industries. Further research should show whether the proposed method can be directly replicated to other sectors of the economy.

REFERENCES

1. Wang H.-L. (2014). Theories for competitive advantage. In H. Hasan (Eds.), *Being Practical with Theory: A Window into Business Research*. University of Wollongong, THEORI Research Group, pp. 33-43.
2. Porter, M. E. (1998). *Competitive advantage: Creating and Sustaining Superior Performance: With a New Introduction*, New York, Free Press.
3. Srivastava, M., Franklin, A., Martinette L. (2013). Building a Sustainable Competitive Advantage. *Journal of Technology Management & Innovation*, Volume 8, Issue 2, pp. 47-60.
4. Ranjith, V.K. (2016). Business Models and Competitive Advantage, *Procedia Economics and Finance* 37, pp. 203-207.
5. Rindova, V. P., Fomburn, C. J. (1999). Constructing Competitive Advantage: The Role of Firm-Constituent Interactions. *Strategic Management Journal*, Volume 20, Issue 8, pp. 691-710.
6. Adams, G. L., Lamont, B. T. (2003). Knowledge Management Systems and Developing Sustainable Competitive advantage. *Journal of Knowledge Management*, Volume 7, Issue 2, pp. 142-154.
7. Hakkak, M., Ghodsi, M. (2015). Development of a sustainable competitive advantage model based on balanced scorecard. *International Journal of Asian Social Science*, 5(5), pp. 298-308.
8. Peteraf, M.A. (1993). The cornerstones of competitive advantage: A resource-based view, *Strategic Management Journal*, 14(1), pp. 179-191.
9. Bhattacharya, A., Hemerling, J., Waltermann, B. (2010). *Competing for Advantage. How to Succeed in the New Global Reality*. The Boston Consulting Group.
10. Konieczna, I. (2015). Model biznesowy spółdzielni a model biznesowy przedsiębiorstw o innej formie organizacyjno-prawnej. Różnice, odrębność czynników sukcesu. Warszawa, Difin.
11. Konieczna I. (2017). Model realizacji celów strategicznych a model biznesowy organizacji. *Przegląd organizacji*, Issue 4, pp. 13-18.