

## Integrating Analytical Techniques with Business Strategic Decision-making

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*The paper offers a discussion about the impact of strategic position on strategic decision-making. Many transitional countries are solving the problem of criteria, their selection and evaluation for a successful competition in the global environment. The theoretical aspects of the application of analytical techniques in strategic decision-making and the ways how strategic decisions, based on these techniques, should be made by Lithuanian dairy product producers are discussed. The analysis shows that adaptability is the essential characteristic of decision making for the future of an enterprise, and up-to-date techniques should be included into strategic thinking.*

### Introduction

A lot of recent business firms are not well familiarized with the basics of analytical techniques as a strategic issue in decision-making. Experience shows that the fundamental changes have imposed new strains on business around the world. Industry transformation has forced a realignment of resources, products and services, and globalization has changed the boundaries of competition. New markets and industries have emerged as a result of substantial changes in technology and customer demands. Deregulation has removed protective barriers from certain industries, and firms have suddenly felt the pressure to improve their products and services to meet world standards. These dramatic changes have led to major

shifts in firms' competitiveness. Innovations and entrepreneurship becomes the most important sources of competitiveness. Therefore, in conditions of increasing competition, entry into markets requires more contemporary knowledge [7, 72-73]. Businesses have had to revise their approach toward strategic decisions and to search for new concepts and methods that give guidance in this turbulent environment.

The most powerful force for reaching a competitive position are new strategic approaches. They are the main subject that will become increasingly important for all concerned with operating successfully in the decades ahead. These new approaches can radically change and improve the way firms operate, especially Lithuanian firms, which are striving to

penetrate and operate in a market-based economy. However, as practical experience shows, they are largely overlooking the incorporation of matrices into strategic considerations.

It has been written a lot about formulating successful strategies and the means of achieving a competitive position by using new approaches. Such famous authors as I.H. Ansoff, K. Andrews, H. Mintzberg, M. Porter, D. Buzzel, T. Gale and world-level companies have made theoretical and empirical researches linking strategy to performance.

World experience shows that successful firms have integrated analytical techniques with strategic decision-making. Business portfolio planning, or theoretical approaches to planning more generally, emerged during the period from early 1960s and have become very popular currently. Especially it is necessary to mention the Profit Impact of Market Strategy (PIMS) as the most extensive strategic information database in discussing strategic issues of performance, especially in the manufacturing industry firms. An important means of strategic analytic techniques in world practice is the Strategic Position and Action Evaluation (SPACE) matrix.

At the hearth of strategy resides the willingness to change, to adapt the firm, to improve its competitive position. That change can only be realized if strategic decisions are based on extensive and reliable research techniques leading to a basic consensus among key managers about the strategic direction of the firm. Within the classic strategy literature, discussions of the firm's strategy concentrate on the relation between strategy and firm's environment. I.H. Ansoff, the doyen of strategic writers, treats strategy exclusively as connected with relations between the firm and its environment. In his classical "Corporate Strategy"

he wrote that strategic decisions are directly related with external rather than internal, problems of the firm and specifically with the product mix which a firm will produce and markets in which it will sell them [2].

Strategy theorists as Hofer and Schendel in one of the best books about strategy formulation also define strategy as "the basic characteristics of the match an organization achieves with its environment" [6]. Strategy is needed for firms to obtain a viable match between their external environment and their internal capabilities. As a result, identification of the nature of the external environment and the diagnosis of the internal environment gained importance as an element of an effective information-gathering system for strategy formulation.

Finally, a firm's strategy can be more implicit rather explicit, a point well made by K. R. Andrews (one of the earliest writers on the subject) whose comprehensive definition of strategy is presented in "Corporate Strategy" as wide action groups about the pattern of decisions in a company that determines and reveals its objectives, purposes or goals, produces the principal policies and plans for achieving these goals, and defines the range of business the company is to pursue, the markets to be served, the kind of economic and human organization it is, or intends to be, and the nature of economic and non-economic contribution it intends to make to its shareholders, employees, customers and communities [1]. These questions by definition are not just of academic interest, but can be of major practical importance in applying concepts and techniques to particular situations in strategic position evaluation and strategy formulation for Lithuanian enterprises.

## Analytical techniques in strategic decision-making

The PIMS programme started its life as a corporate appraisal technique in the American Electric Company in late '60s / early 70s and has developed since then into a major research and evaluation programme based at Harvard University. Now it is widely adopted in the use of planning decision-making in terms of strategic needs and opportunities.

The PIMS programme is oriented into collection of detailed database information about business units (i.e. a division, or other profit centre of a company) requiring a separate strategy. Like other models of strategic behaviour, the PIMS model aims to provide insights of a generic nature into strategy and performance, and thus it is only concerned with those aspects of strategy that are (a) of general industrial relevance, and (b) are measurable. The resulting PIMS database contains substantial information, gleaned over a period of several years, about performance in the source companies. The database available for research is suitable not only for large but also small companies providing a wide variety of products and services.

The approach of the PIMS programme is to collect kinds of information related with: **market conditions** in which the business operates [3, 2]:

- ♦ the stage of the market (i.e. embryonic, growing, mature, declining)
- ♦ degree of selling price inflation
- ♦ degree of product standardization
- ♦ extent of supplier concentration
- ♦ number of suppliers and customers
- ♦ amount of relative importance of typical customer purchases
- ♦ extent of exports and imports in the industry.

## The business unit(s) competitive position

1. The most important single factor affecting business performance is the *quality of its goods and services*, in relation to its competitors
2. *Market share* is strongly related to profitability (Market share in this context refers to the market share rank that a business holds in relation to its competitors' market shares)
3. High investment intensity adversely affects profitability
4. Vertical integration (i.e. buying-in upstream or downstream) is only a profitable strategy for some businesses
5. Most of the strategic factors that have the greatest impact on Return on Investment also contribute to long-term shareholder value.

Efforts to discover strategic decision-making principles involve both statistical analysis and the investigation of the linkage between market share and profitability.

The PIMS competitive strategy paradigm incorporates ideas from several important research traditions and viewpoints (Figure 1).

For PIMS database each business unit provides a basic descriptive information including a wide variety of dimensions in terms of its customers, operation processes, product age and life-cycle, timing of market entry, and so on.

Normally analytical techniques ensure a range of decisions, which will allow for the achievement of strategic intents. Portfolio matrices have made important contributions to the improvement of strategic decision-making [5, 301]. Beginning with the 1960s, a number of leading consulting firms developed the concept of portfolio matrices to help managers in reaching a better understanding of the competitive position of the overall portfolio of business-

ses, to suggest strategic alternatives for each of the businesses, and to develop priorities for resource allocation. The current dynamic business environment called for a new approach to their application.

plays of the overall competitive standing of the portfolio of businesses or products of the firm. In this way, we are able to apprehend the overall strength or weakness of the portfolio. *Second*, each matrix positions the business units

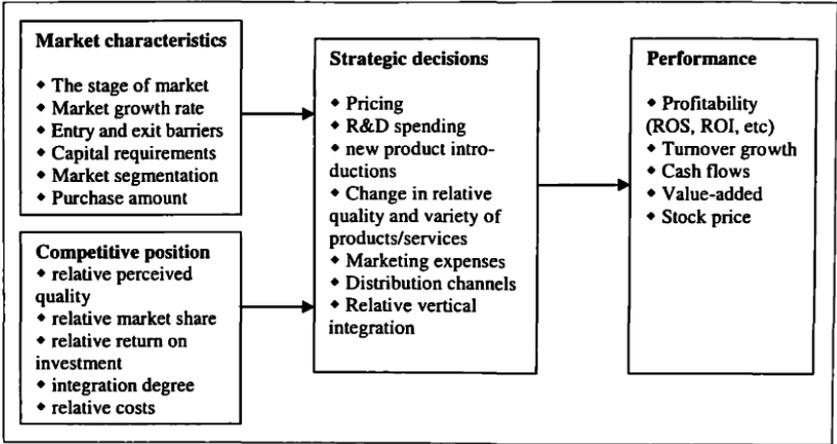


Figure 1. Framework for strategic decision-making

There has been an undeniable influence of these matrices on the practice of strategic decision-making, suggesting a disciplined step-by-step approach to formalize the development of strategic decisions. In one form or another portfolio planning methods are widely used by world corporations, but Lithuanian firms, which are not very large and diversified, only begin discussing the portfolio planning methods and use them very reservedly in practice. As our research shows, mostly contemporary business specialization postgraduates use it in their master research theses. It depends on their current knowledge acquired during the teaching and empirical research making processes.

Portfolio matrices have several elements in common. *First*, they constitute graphical dis-

or product portfolio of the firm according to the two dimensions. The first is an external dimension that attempts to capture the overall attractiveness of the industry in which the business participates. The other is an internal dimension related with the strength of the business within its industry (see Table 1).

*Third*, the positioning of each business unit in the corresponding portfolio matrix is associated with a strategy that fits the competitive strength enjoyed by the business, and the degree of attractiveness of its industry.

*Finally*, and most importantly, the basic idea of assigning businesses to portfolio cells in the matrix is that the position (or cell) that a business occupies within the matrix should determine the strategic mission and the general charac-

Table 1. Most important portfolio matrices and their external and internal factors [6, 302]

Matrices	External factors	Internal factors
Growth-share matrix	Market growth	Relative market share
Industry attractiveness-business strength matrix	Overall industry attractiveness <ul style="list-style-type: none"> <li>• Critical structural factors</li> <li>• Five forces model</li> </ul>	Sources of competitive advantage <ul style="list-style-type: none"> <li>• Critical success factors</li> <li>• Value chain</li> </ul>
Life-cycle matrix	Industry maturity	Overall measurement of business position
Alternative BCG matrix	Ways to compete (opportunities for differentiation)	Size (sustainability) of competitive advantage
Profitability matrix	Market growth potential Cost of capital	Profitability Cash generation

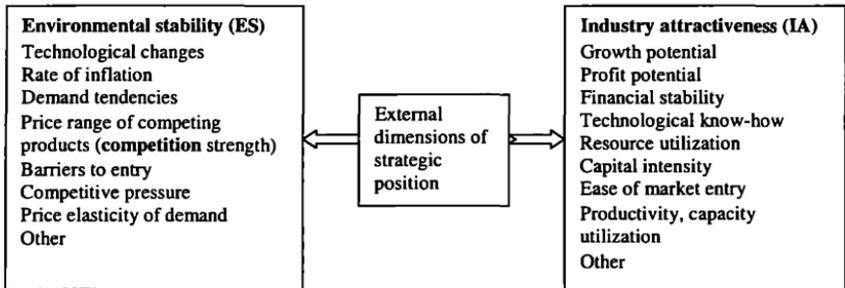


Figure 2. Important determinants of company's external strategic position

teristics of the strategic decision-making for the firm. So, they can be used in a number of ways to improve the quality of strategy formulation and implementation within the firm, including market entry and diversification decisions, competitive strategy formulation and business portfolio planning and balancing. In the following section we explore some of these uses.

The PIMS database is available to use for strategic decision-making by constructing matrices. The SPACE matrix draws upon the earlier portfolio matrices and pulls together the thinking behind a number of other techniques (SWOT, BCG, PIMS and others) into a powerful analytical tool. It is a very methodolo-

gical tool for aiding in understanding the internal and external environments. The matrix is specific to a business unit with one major industry and/or product focus and is especially useful in the stage of suggestion of strategic alternatives [4; 5; 9].

The SPACE matrix is a model consisting of four quadrants indicating whether conservative, aggressive, competitive or defensive strategies are most suitable for a given firm. However an important difference between this matrix and the others is that it is constructed and based on the evaluation of two internal and two external dimensions. The parameters of the SPACE matrix represent two internal

dimensions: 1) financial strength (FS) and 2) competitive advantage (CA) and two external dimensions: 1) environment stability (ES) and industry strength (IS). These four dimensions are the most important determinants of the firm's overall strategic position [5,9]. The factors most inherent to the four dimensions are presented in Figures 2 and 3.

The sets of factors that determine the strategic position for any strategic business unit (SBU) will be unique to that particular busi-

ness and others markets. Currently the milk-processing industry is an important part of the food industry. In 1998–2002 its gross output share in the food industry averaged to 24–25 percent and in 2003 to 17 per cent. Dairy industry firms manufacture such products as milk, sour milk, fat cheese and sour cream, which make the major part of their production. About half of dairy industry products are consumed nationally in Lithuania, but the Lithuanian milk sector is highly internationally

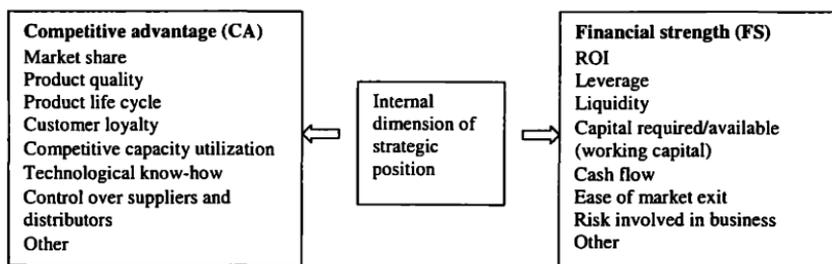


Figure 3. Important determinants of company's internal strategic position

ness. The location of an SBU within the matrix will be based on evaluation of these factors, internally by the management and externally by experts. Measures of several key strategic factors (related with competitive advantage) are based on estimates or judgments about an enterprise position relative to its principal competitors. In many instances, these judgmental and market research assessments are based on hard data from industry associations' surveys or data from internal databases collected under the special questionings.

### Analytical techniques for strategic position setting

The Lithuanian milk-processing industry has been well known for a long time in the Euro-

pean competitive too. The amount of exported food industry production in 2002 declined by 7.1 per cent in comparison with 2001, accordingly also declined the milk processing industry's export incomes (by 2.35 per cent). In 2003, dairy products yielded 34 per cent of all food exports [15]. Lithuanian main dairy product export in 2003 is presented in Figure 4. One can see that cheese export took the dominant position (64 percent). The main partners of sales are the EU and CIS countries and the USA. Entry into the European Union is expected to curtail the export of Lithuanian milk products to the United States. Exports to U.S. are governed by the EU quota set for Lithuania.

The industry gradually adapts to the conditions of international business. Before the planned entry into the EU, the Lithuanian milk

processing industry has been restructured extensively by completing privatization in the sector. One of the major challenges the Lithuanian food industry faces in the process of its integration into the EU is the enhancement of competitiveness and readiness to operate in the

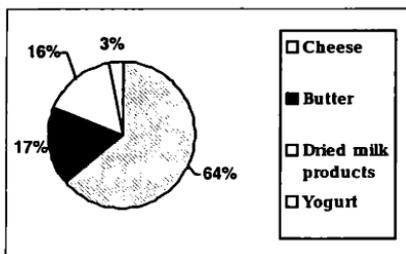


Figure 4. Export of main dairy products in 2003 [8, 12; 14; 15]

EU common market. With the aim of enhancing agricultural and rural development in Lithuania, the EU has taken measures to provide a special pre-accession aid, SAPARD. The programme aims to improve the processing and marketing conditions for agricultural products in order to fulfil the EU requirements (hygiene, food safety, quality, etc.).

For applying analytical techniques we have chosen the Lithuanian milk-processing companies "Rokiškio sūris", "Pieno žvaigždės", and "Žemaitijos pienas". The reason why we have chosen them was that these companies are the main players in Lithuanian dairy business. They purchase and process more than 80 per cent of raw milk. These three companies are to share the major part of the EU subsidies. According to the issued licenses, to export 2.68 thousand tons of cheese and 25 tons of sour cream, milk producers should receive LTL 6 million. The database of these milk-processing

companies will benefit for a better understanding of their competitive position. Despite their leading position, the application of analytical techniques requires monitoring the changes in their database in order to interpret these data properly.

"Rokiškio sūris" is the leading company in the Lithuanian milk processing industry. In order to ensure a continuous supply of raw materials and strengthen its position in the local market, "Rokiškio sūris" acquired several dairies and formed the "Rokiškio sūris" group. "Rokiškio sūris" is the largest and most advanced cheese manufacturer both in Lithuania and throughout the Baltic States. Over the last years it has increased considerably the quality and output of production. Every year "Rokiškio sūris" undergoes significant renovations and reconstructions, and boldly introduces advanced technologies. In 2003 the company's export accounted for 60 per cent, while sales in the local market accounted for 40 per cent of its turnover [12].

The "Žemaitijos pienas" company has strong dairy traditions and experience in cheese export for more than ten years (Russia, European countries, USA), and only now it is discovering Middle East and western markets. It has its own distributive network in Lithuania and Latvia. In 2003, in Lithuania the sale amounted to 66.7 per cent, in Russia, Latvia, Estonia and others to 13.6 percent, and in Western countries 19.7 per cent [15].

The "Pieno Žvaigždės" company has taken advantage of consolidation of the Lithuanian dairy sector and was established through a merging of a few specialized Lithuanian processors. In 2003 the company invested 45 million litas into modern production, sales-distribution systems and informational technologies [Pieno zv Int]. The company has quickly grown in-

to one of the leading dairies in the Baltic States, with the primary focus on fresh dairy products and a sound base of export-oriented sales. The product mix of the company is composed of whole milk products such as fresh and sour milk, cream, butter, a variety of curds, yogurts and desserts. "Pieno žvaigždės" maintains approximately 40% of shares in the domestic market [14]. Presently "Pieno žvaigždės" exports its production to the EU countries, Japan, the CIS, Russia and the Baltic States.

Table 2 lists main data on the three leading dairy product producers. These companies are characterized by similar results of activity, but

žvaigždės" allowed identification of their strategic positions. The results of application of analytical techniques to the main Lithuanian dairy enterprises are presented in Figure 5. A SPACE matrix emerges from focusing on the selected external and internal dimensions and allows to position of the companies into one of the four quadrants.

"Rokiškio sūris" and "Pieno žvaigždės" are positioned in the competitive quadrant, showing that these enterprises work in an unstable environment and financial strength is the critical factor for them. For both enterprises it would be useful to acquire the needed resour-

Table 2. Main data on three leading dairy product producers, 2001–2003 [15]

	Sales (LTL thousand)	Production costs (LTL thousand)	Operating and sales expenses (LTL thousand)	Profit before tax (LTL thousand)	Net profit (LTL thousand)	Net profit per share (LTL)
<b>Rokiškio sūris</b>						
2001	351 043	301 336	31 662	17 651	17 408	3.79
2002	374 150	337 573	43 552	(6 665)	(5966)	(1.33)
2003	363 843	288 262	54 742	19 511	14 906	3.31
<b>Žemaitijos pienas</b>						
2001	259 250	202 823	46 805	7793	7949	2.83
2002	240 641	193 115	49 666	1119	1188	0.26
2003	254 576	194 266	50 014	9536	7092	1.59
<b>Pieno žvaigždės</b>						
2001	288 475	234 581	41 128	10 311	10 311	0.19
2002	253 744	215 192	46 375	(1425)	(1425)	–
2003	285 007	222 270	50 397	1867	9209	0.1704

"Rokiškio sūris" in comparison with "Žemaitijos pienas" in 2003 got an almost three times bigger net profit and a more than twice bigger net profit per share. "Pieno žvaigždės" outruns "Žemaitijos pienas" in such figures as net profit, but its net profit per share was less in 2003.

A deeper study of the other external and internal dimensions of the Lithuanian milk processing industry's main enterprises "Rokiškio sūris," "Žemaitijos pienas" and "Pieno

ces to protect their competitive advantage in the declining market. Competitive strategies indicated by this quadrant include backward, forward, and horizontal integration; market penetration; market development; product development and strategic alliances. From the long-term perspective, it could be useful for these enterprises to make strategic decisions that could help them to act in the aggressive position. These strategic decisions will safegu-

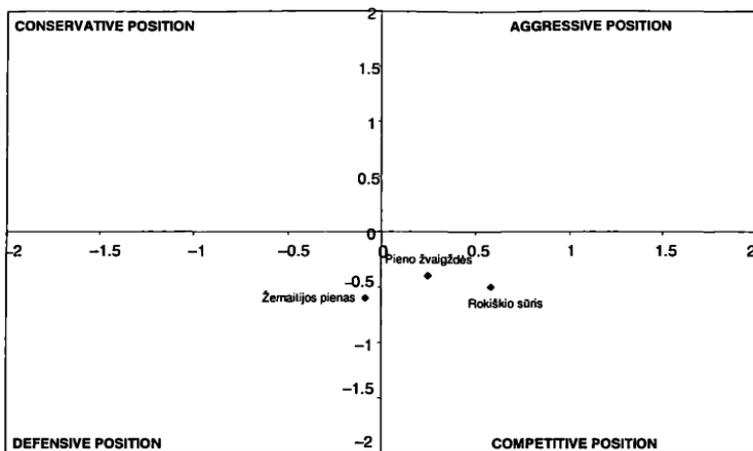


Figure 5. Positioning of the main Lithuanian dairy enterprises

ard from environmental turbulences and provide for a strong competitive advantage in new profitable markets.

“Žemaitijos pienas” is located in the defensive quadrant, which suggests that the enterprise lacks competitive products and financial strength. The critical factor for the company is competitiveness. The company should focus on rectifying internal weaknesses and avoiding external threats. From the perspective point of view, it needs to take strategic decisions related with the possibilities to change its position, applying differentiation decisions related with markets and the products supplied to these markets. The defensive strategies include retrenchment, divestiture, and concentric diversification which should be directed to the possible restructuring of the company and improvement of the competitive position.

## Conclusions

The key aspects of some useful analytical techniques are summarized and those included do

not exhaust the list. Analytical techniques provide a framework for strategic analysis and choice. In each stage of the strategic decision making framework (i.e. the input, matching, and decision stages) various techniques help strategists identify, evaluate and select strategies. Consequently, these techniques can be very useful for aiding strategic analysis and making strategic decisions. However, when using any analytical technique care should be taken. Strategists themselves, not analytical techniques, are always responsible and accountable for strategic decisions. The techniques can be limited by the objectivity and reliability of the data used in their application. Successive analyses may give inconsistent results because of the approach based on subjective judgments.

Firms are very different, and the application of the techniques is not an easy task in the global environment. Therefore, all techniques seek to create a framework and show the direction, but not say what we will find, i.e. what conclusions will be made. Firms need to apply

an individual approach; analysts in the enterprises or consulting groups must apply them creatively.

The main database characteristics of the firms' activity, including external and internal dimensions, allow by applying analytical techniques and looking from a long-term perspective to define the firm's competitive position and to react creatively, making strate-

gic decisions for reaching a strong competitive advantage. Analysis has shown that the most appropriate strategic decisions for Lithuanian dairy product producers result from their strategic positioning in a corresponding quadrant. Alternative strategies are proposed for the analyzed companies, based on the evaluation of the selected external and internal dimensions.

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## ANALITINIŲ METODIKŲ INTEGRAVIMAS VERSLO STRATEGINIAMS SPRENDIMAMS PRIIMTI

G. Jatuliavičienė, M. Kučinskienė

### Santrauka

Šiuolaikinėje verslo aplinkoje vykstantys pokyčiai verčia įmones ieškoti naujų analitinių metodikų sėkmingai verslo plėtrai pagrįsti. Tikėtina, kad daugelis percinamosios ekonomikos laikotarpio šalių įmonių perims pasaulyje naudojamas ir jau pasiteisinusias metodikas, pagrindžiančias strateginius sprendimus. Anali-

zė parodė, kad dažniausiai Vakarų šalyse įmonės taiko PIMS programos duomenų bazes verslo portfelio matricoms konstruoti. SPACE matrica leidžia nustatyti įmonės strateginę poziciją, lemiančią galimas strateginių sprendimų alternatyvas. Analizuojant strateginės pozicijos įtaką verslo įmonių strateginiams sprendimams,

įmonės išorės ir vidaus aspektų (veiksnių) tinkamas išskyrimas, jų grupavimas ir įvertinimas turi padėti pasirinkti esamai strateginei pozicijai optimalias strategines alternatyvas tolimesnei įmonės plėtrai. Strateginių veiksnių, susijusių su konkurenciniu pranašumu, pasirinkimas ir įvertinimas, priklauso nuo duomenų bazės patikimumo ir subjektyvių sprendimų priėmėjų charakteristikų. Todėl Lietuvos įmonėms, siekiančioms konkuruoti globalioje rinkoje, būtina taikyti šiuolaikines analitines metodikas, padedančias identifikuoti

konkurencinę poziciją. Analizė parodė, kad sprendžiant Lietuvos pieno pramonės įmonių veiklos konkurencingumo didinimo galimybes Europos Sąjungos ir pasaulio rinkose, būtina įtraukti analitinių metodikų naudojimą į strateginių sprendimų priėmimo procesą. Atliktas tyrimas rodo, kad tirtų įmonių konkurencinėms pozicijoms gerinti ypatingą reikšmę turi vidinių veiksnių konkurencingumo didinimas atsižvelgiant į egzistuojančių ir galimų palankių panaudojimą Lietuvai tapus Europos Sąjungos nare.

*Įteikta 2004 m. birželio mėn.*