# THE PERCEPTION OF MARKET AND E-COMMERCE

**Aurelija Burinskienė** [1], **Arunas Burinskas** [2]

[1]*Vilnius Gediminas technical university,*
[2]*Vilnius university*

**Abstract**

The article discloses the perception of market, which is important talking about e-commerce. E-commerce is a phenomenon without borders. This global dimension of e-commerce proposes different themes such as taxation, jurisdiction, consumer protection, and market perception. One of them (the perception of market) is investigated from different perspectives in this paper and the perspective of e-commerce as well.

The analysis of economic scientific literature on e-commerce published by Oxford University Press, Cambridge University Press, Harvard University Press, Springer, M. E. Sharpe, Routledge, etc. show that 35% of the authors (from 0,54 mln. in total) give attention to the issues of markets. Most of these authors investigate e-market (virtual market), business-to-consumer market and only some of them define the market.

In the literature on marketing published by leading world publishers 53% of the authors (from 0,9 mln. in total) analyse the issues of markets. Most of the authors discuss the issues of market segmentation, market potential, and market entry (by ranking order). From all of the authors only 0,17% of the authors investigate the perception of relevant market.

It is also interesting that topics about market are also popular between authors published books on trade: 49% of authors (from 1,62 mln. in total) give their attention to selling markets. From all of authors only some of authors (0,11% of authors) give the introduction to the terminology of market.

In the literature on competition (published by the same publishers) discussion about market is provided by 35% of authors (from 0,35 mln. in total) and the theoretic aspects of market – by 1,1% of them.

So, the results of such analysis show the importance of research, which combines both: the perception of market and e-commerce. This also shows that the perception of market is discussed more often in the literature on marketing, trade and competition than in the literature dedicated to e-commerce. The paper presents the results of investigations in such context.

The scientific problem can be formulated – there is the lack of perception about market in modern theories, theoretical generalisations and solutions on the theme of e-commerce.

The study presented in the paper contains three different aspects. First, the perception of market is disclosed. The terminology of market is investigated in different literature and the presentation of methods and main criteria, which are used for the comparison of markets, is provided. Second, the new model, which can be used for the comparison of export markets, is presented. Third, in the paper the developed profile is applied to case study looking up for practical evidence.

The article is based on comparative and multi criteria analysis. For the comparison of export markets, a set of criteria and the multi criteria evaluation method (COPRAS) is used. Several groups of criteria: the positive criteria and negative ones are defined and used for the comparison of export markets.

The results of the study can be used by on-line sellers when they choosing export markets, which are the most attractive for selling products in European Union.

**Keywords:** E-commerce, perception of market, exports markets, European Union.

## Introduction

The application of e-commerce technologies is opening new possibilities: consumer buying at home can to buy products worldwide.

The global dimension of e-commerce proposes the discussion about market. It is interesting that the topic about market is also popular between authors, which published books on trade, competition, and marketing. The analysis of literature shows that the perception of market is discussed more often in the literature, which is dedicated to marketing, trade and competition than in the literature dedicated to e-commerce.

The research is aimed to propose new profile, which will help to identify export markets when e-commerce technologies are used for reaching consumers.

The research tasks are defined as follow: 1) to disclose the perception of market from different perspectives and from the perspective of e-commerce as well; in addition, to present methods and main criteria, which are used for the comparison of export markets, 2) to present new model, which can be used for the comparison of export markets, and 3) to provide the assessment of practical application of proposed model.

Research objective is the comparison of export markets.

The article is based on comparative and complex evaluation analysis.

The scientific novelty of the study – the presented perception of market is investigated in literature on marketing, trade, competition, e-commerce; formulated new model, which can be applied for the comparison of export markets, which are the most attractive for selling commodities on-line; the proposed approach can be usefull for authors, which analyse the issues of market segmentation.

### The perception of market

In the literature of economic science market is for exchange (i.e. buying and selling goods and services). Exchange is usually beneficial otherwise it would not take place (Thielemann, 2000).

*Competiton.* What is when competition enters the picture? Of course, there is much rivalry in the market between enterprises offering similar products. But this is not the kind of competition that drives the economy and that is responsible for the quality of the market (Thielemann, 2000).

In practice, there can be one cost-leader in the market only. Therefore other companies achieve competitive advantage thought different ways. They try both keeping costs similar to competitors and supplying products which consumers' value and are willing to pay more for them.

But rivalry doesn't define what enterprises are able to exchange. Competition takes place in specific product market, where several enterprises are competing with each other. But in some cases competition takes place for the product market, when single enterprise is monopolizing it (means that single enterprise has high market share). Relevant product market comprises products which are considered as interchangeable. The perception of relevant market is important seeking to understand how competition goes.

*Trade.* The market is connected to trade and depends on price, supply and demand mechanisms. Talking about demand it is evident that large demand can support multiple suppliers using specific technology, while smaller demand may lead to natural monopoly (Perritt, 2010).

In the literature on trade it is mentioned that the perception of market has two dimensions: geography and product. Both the product and geographic markets are defined in such way: as the identification of the narrowest possible market, extending boundaries of it until the closest substitute. Such perception of market helps to identify competitors, products, and coherent groups of clients.

*E-commerce.* The analyse of literature on e-commerce shows that in order to define market the perspective of consumers have to be used. E-marketplace is called as independent market if it offers services that are different from ones offered in traditional marketplaces. Talking about geographic market (which is a research objective of 4% of authors), first it is necessary to take into account that commodities offered on-line by enterprises are accessible from any place in the world. Some geographic restrictions are used by sellers than the offers clearly refer to quality or other requirements, which are different in specific export markets.

*Marketing.* In the literature of marketing market is where all buyers and sellers meet to satisfy their needs.

Then measuring demand of market such measures are taken into account: market level: domestic or global; time level: short, medium or long term, product level: product line and brands.

In the theory of marketing such type of markets are identified: consumer market, business market, global market, and non-profit and governmental market.

These markets are segmented by characteristics. Consumer market is segmented by consumer characteristics such as: geographic, demographic, psychographics, and behavioral characteristics. In addition, Clancy et al. (1984) specify behavioral characteristics into credit and other behavior characteristics. Beane et al. (1987) suggest using also purchase occasion, usage incidence and benefits characteristics. These characteristics are also called as target market characteristics. Business market is segmented by size and market share.

For the comparison of market such measurements have been suggested: one of them is the potential of market measure (which shows total number of consumers), another is the availability of consumers (group of consumers who has interest and money), and the third measurement is the penetration of market (consumers who are buying the products of company).

The perception of market is very important in the theory of marketing. The difference between such terms as "selection" and "segmentation" depends on how the "market" is defined. Usually, the term "selection" is used when decision focuses on segmenting the world based on national country markets, while the term "segmentation" is used in traditional marketing sense: when the seller identify markets cross-nationally by collecting the characteristics of purchasers regardless of where they live (Papadopoulos et al., 2011). Bruning et al. (2009) also give variables which play a critical role in term of consumers: price, on-time performance, national country of enterprise. "Selection" is also used here in order to mention the choice among several or more alternatives.

For selection of markets the method of R. Kuvykaite (1997) can be used. This method is called "the choice of export markets by the convergence method" and has four steps:
- First step, from all markets, which are reviewed, are eliminated those markets, where the local legislation is week and administrative priority is not proper;
- Second step, from markets, which are left after the first elimination, more markets are eliminated. Now are eliminated those export markets which are not attractive economically;
- Third step, from markets, which are left after previous elimination, additional markets are eliminated. Now are eliminated the markets where company has no competitive advantage;
- Fourth step, from markets, which are left after final elimination, some markets are filtered, mainly, those markets, where the company has no available resources or capability, are filtered.

Other authors mention that export market can be selected using the results of analysis concerning export market opportunity.

Malhotra et al (2009) offer to take into account also the role of different distance factors (geographic distance, cultural distance, economic distance, etc.) on firms' foreign market acquisition behavior. They provide also empirical

support about such behavior by multinational enterprises. In addition, talking about behaviour of national enterprises, it can be mentioned that they usually first select neighbor export markets.

Martín et al. (2011) takes acquisition behavior of buyers. They provide a model reflecting the role of risks in transaction, and intention of buyers to repeat purchase.

Sheng et al (2011) suggest taking for the comparison of export market around ten criteria such as: market size, market receptivity, physical infrastructure, geographical and cultural distances, language and religious differences, etc.

Various methods for comparison of export markets are used: market grouping methods, market estimation methods, etc. The most of markets grouping methods are based on a wide variety of political, economic and social indicators. These general country indicators are used seeking to identify and group countries with different levels of industrial development. In addition, Reddy (2007) highlights markets, which are receptive for technology; Borg (2009) separates markets into technology intensive and non-intensive markets. Such analysis rely on indicators, which may adequately characterise marketing environment but don't include the features of products. For such analysis Douglas et al. (2011) suggest using economic, demographic, socio-cultural, and geographic and/or situational consumption indicators.

The approach of geographic market analysis includes the geographic coverage of a market, which might be extended due to common pricing constraints, or purchasing behaviour of customers (Xavier et al. 2011).

Market grouping methods are based on the postulate that the most attractive markets for an enterprise are those, which most closely resemble the markets it has already penetrated assuming that successfully. Other methods are market estimation methods. The criteria used in market estimation vary and may include the indicators of growth, size, etc. Export markets are evaluated on the basis of several criteria; later the markets with the highest score are selected. These methods are subdivided into the evaluation of (according Papadopoulos et al., 1988):

- Total demand potential. These methods include indicators characterising economic development and political stability. They are used when statistical data about market is not available. Sometimes market quality index is used. This index includes macro indicators such as national income, electricity consumption and number of technology in the market. The total demand potential of export market can be evaluated by dividing the population of foreign country from the population of domestic market and by multiplying by the production amount of domestic market (in tons or units).

- Import demand potential methods. Methods used for the estimation of import demand potential typically use trade statistics for specific commodity. One of these method (is called multiple criteria method proposed by the UNCTAD and GATT) analyses markets in terms of size of imports, growth of imports, market coverage (imports versus exports) and competition. Another method (which uses the shift-share approach) relies on the identification of relative changes of import shares in various countries. The analysts calculate the average

growth rate of imports and compare actual growth rate of each market with the calculated average. The main disadvantage is that for the evaluation of import demand potential only two criteria are used. Some other methods also examine the concentration in analysed market (Papadopoulos et al., 1988).

Finally, the analysis of various methods shows that multi criteria method can be used for the comparison of export market. In addition, the conclusion can be drawn that if statistical data is available, then general indicators of export markets and import share approach can be used seeking to select export markets, which have the highest score. The analysis of criteria shows that the size of import, the growth of import, and the competition in the market can be used as main criteria and have to be included in new model.

### The comparison and selection of export markets

For the comparison of export markets, where enterprises have the purpose to use e-commerce technologies for selling goods, multiple criteria method COPRAS and the set of five criteria is used. So, the set consists of such criteria:

a) The openness of market for import (import value compared with gross domestic product (GDP), in percentage);

b) The number of internet users in market (from all inhabitants, in percentage);

c) he percentage of enterprises, which sell goods using e-commerce technologies;

d) Reduction of market openness for import (in percentage compared with previous years; criteria get value when import value compared with GDP of actual year is smaller than in previous year, over wise criteria value is zero);

e) Not enough spread of e-commerce technologies between enterprises in export market (in percentage). It is a vector distance between current level and expected level, which according Amazon.com practice has to be at least 10 %.

The criteria presented above are divided into such two groups:

- Criteria, which describe the openess of market for import (a and d criteria);
- Criteria, which describe the level of the usage of e-commerce technologies in the market (b-c and e criteria).

Authors think that the set of criteria can describe export markets, where it is possible to use e-commerce technologies in efficient way.

For the final selection of export markets the method of R. Kuvykaite (1997), which is called "the choice of foreign markets by the convergence method", can be used. In the mentioned method there are four steps. The presented model by authors can be used in the second step, where on-line seller has to eliminate those export markets which are not attractive economically. Mariotti (2008) highlights that all chosen export markets have to prefer to all rejected alternatives. Bojnec et al. (2010) mention that the internet increases economic distance between export markets, which is significant when alternatives are sorted.

Alexander et al. (2011) suggest that managers responsible for market selection decisions do not have the freedom of action implied in the marketing literature and that their actions are constrained by structural market conditions. For example, the better indicators of market will also affect selection of this market for export (Alexander et al. 2011).

Below (in Fig 1) is the presentation of new model, which can be used for the comparison of export markets.
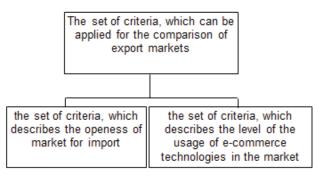


**Fig 1. The model, which can be used for the comparison of export markets (prepared by authors)**

Each decision-maker (this time on-line seller) has own preferences, but in most of cases is interested in export markets, which are attractive economically. Quantitative evaluation of such aspects allows defining their impact to the final decision.

Each alternative in the quantitative evaluation is described by five criteria. Some of them differ in optimization direction (Turskis et al., 2009). Maximising and minimising criteria are with different directions.

Bellow (see Table 1), the type of each criterion, the direction of criterion – maximizing or minimizing (i.e. max or min in column 2), is defined.

For the long time managers are dealing with multi criteria issues. Numerous methods have been developed for analysing such problems (Peldschus, 2009). One multi criteria method is the method of COmplex PRoportional ASsessment of alternatives (COPRAS). During the application of method

direct and proportional dependences are assumed and the alternatives, values and weights of criteria are adequately described (Turskis et al., 2009). Among Lithuania scientists COPRAS method is used widely (for example, by Ginevičius et al. (2009); Ginevičius et al. (2008)).

Based on such type of methods, the multi criteria problem is represented by a matrix. In our case the matrix contains 18th alternatives (rows) and 5th criteria (columns). In order to avoid the difficulties caused by different dimensions of all five criteria, the normalization is used.

**Table 1. The basic information about**

| Criterion | The direction of criterion | The weight of criterion |
|---|---|---|
| The openness of market to import (import value compared with GDP) (%) | Max | 0,224 |
| The number of internet users in market (%) | Max | 0,157 |
| The percentage of enterprises, which sell goods using e-commerce technologies (%) | Max | 0,295 |
| Reduction of market openness for import (%) | Min | 0,233 |
| Not enough spread of e-commerce technologies (%) | Min | 0,090 |

The application of multi criteria methods depends on the calculation of criteria weights. Usually for the estimation of weights experts are used. In our case study 7th experts were used (see Table 2).

For the checking consistency of experts' judgments the coefficient of concordance is calculated.

The sum of scores, presented by experts:

$$c = \sum_{j=1}^{r} c_{ij} \ (i = 1,...,m) = 105,$$

here $m$ is the number of alternatives; $r$ – the number of experts.

**Table 2. The estimation of weights by experts**

| No. | Criterion | Experts | | | | | | | The sum of scores | Deviations from the average | The significance of criterion | The average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | |
| 1 | The openness of market to import (import value compared with GDP) (%) | 4 | 2 | 2 | 5 | 1,5 | 5 | 4 | 24 | 6 | 0,224 | 3,357 |
| 2 | The number of internet users in market (%) | 2 | 4,5 | 3 | 1 | 3 | 2 | 1 | 17 | 20 | 0,157 | 2,357 |
| 3 | The percentage of enterprises, which sell goods using e-commerce technologies (%) | 5 | 4,5 | 4,5 | 4 | 5 | 3 | 5 | 31 | 100 | 0,295 | 4,429 |
| 4 | Reduction of market openness for import | 3 | 3 | 4,5 | 3 | 4 | 4 | 3 | 25 | 12 | 0,233 | 3,500 |
| 5 | Not enough spread of e-commerce technologies (%) | 1 | 1 | 1 | 2 | 1,5 | 1 | 2 | 10 | 132 | 0,090 | 1,357 |
| Suma | | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 105 | 271 | 1,00 | |
| Average | | | | | | | | | 21 | | | |

The sum of deviations in ideally agreed case:

The coefficient of concordance $W$ is calculated according such formula:

$$W = \frac{S}{S_{max}}, \text{ when } S = \sum_{i=1}^{m} (c_i - \bar{c})^2,$$

here $S$ is the sum of deviations, which shows difference from average squared, $S_{max}$ – the sum of deviations in ideally agreed case, $\bar{c}$ – overall average is calculated:

$$\bar{c} = \frac{1}{2} r(m+1) = \frac{1}{2} \cdot 7 \cdot (5+1) = 21, \text{ when } S = 271.$$

$$S_{max} = \frac{r^2 m(m^2 - 1)}{12} = \frac{49 \cdot 5 \cdot (25 - 1)}{12} = 490, \text{ after}$$

$$W = \frac{S}{S_{max}} = \frac{271}{490} = 0,5 \quad .$$

The significance $x^2$ for the coefficient of concordance is calculated as follows:

$$x^2 = Wr(m-1) = 0,55 \cdot 7 \cdot (5-1) = 15,49.$$

Random number $x^2$ is distributed under $x^2$ with $v = m-1$ the degrees of freedom of the chosen significance level $\alpha$ (in practice $\alpha$ is usually equal to the value of 0,05 or 0,01). The assessments of experts are aligned calculated $x^2$ value is greater than the $x_{kr}$ [1] (which is taken from tables of distribution and is equal to 9,49).

The coefficient of concordance is equal to 0,55 (its significance is equal to 15,49 and is greater than the critical value – equal to 9,49) and shows that experts' judgments are in a good agreement. This means that the results obtained can be used (Podvezko, 2005).

Finally, the weights of criteria are placed into the model. The criterion, which represents the spread of e-commerce technologies in the market, received the highest experts' interest. After this the matrix is normalized. The sum of normalized values is equal as always to one (Turskis et al., 2009).

### The assessment of practical application of presented model

In the paper the developed profile is applied to case study looking up for practical evidence. To assess the practical relevance of presented model the data of Amazon.com (2009), Eurostat (2009b), WTO (2008), WTO (2000), is used.

In the website of Amazon.com it is stated that Amazon.com sells on-line 200 thousand items. The main goods such as books, music, videos are sold all over the world, but other goods are sold only in limited number of export markets (from EU 27 only to the 17th of EU geographic markets). It is also mentioned that the warranty of manufacturer may not be valid in other countries; also goods may not have instructions or safety warnings for a specific language; the product may not meet the standards of other markets, specifications and labeling requirements, as well as products may not meet the requirements for electrical goods, which are valid in other export markets. In this case, the buyer is responsible for assurance that the product can be lawfully imported into domestic market.

Amazon.com sell other goods to 17 EU export markets, they are: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Luxembourg, The Netherlands, Poland, Portugal, Spain, Sweden, United Kingdom.

It may be noted that Greece, which has significant import volume (Greece belongs to top 50 countries, which have the highest import volume in the world (WTO 2007, WTO 2000)), is not a priority market for Amazon.com.

Bellow (see Fig. 2), the statistical data about Amazon.com export markets, which are placed in European Union, are presented.

The results of the study showed that Greece occupies 18th place and is not in the list of export markets of Amazon.com. The presented model suits for identification of export markets, where e-commerce technologies can be used effectively. This also means that a set of criteria can be used for the comparison of export markets.

This also shows that according "the choice of foreign markets by the convergence method", it has to be 4 steps but Amazon.com filters export markets based on the first two. Amazon.com selects only whose EU export markets, which are attractive economically and maybe take into account standardization process of e-commerce inspired by European Union law. Other steps of the method, which are related to competitive advantage and resources or capability of company, are not used by Amazon.com.

In comparison Gaston-Breton et al. (2011) made empiric research and found out such the most attractive European Union markets: Belgium, Sweden, Finland, The Netherlands, Denmark, Austria, Luxembourg, and Ireland. This also shows that presented model gives similar results.

In order to apply the presented model in the future such steps have to be taken: first, statistical data about export markets has to be collected, second, the comparison of export markets have to be made (through a set of criteria), third, the export markets have to be selected, and, fourth, the further monitoring of export markets have to be implemented.

The results of the study show that the comparison of export markets is important for on-line sellers.

---

[1] $x_{kr}$ value is taken from the tables of distribution with $v = 7-1 = 6$ the degrees of freedom and significance level $\alpha = 0,05$.

| By country | The openness of market to import (import value compared with GDP), % | The number of internet users in market | The percentage of enterprises, which sell goods using e-commerce technologies | Reduction of market openness for import | Not enought spread of e-commerce technologies | The openness of market to import | The number of internet users in market | The percentage of enterprises, which sell goods using e-commerce technologies | Reduction of market openness for import |
|---|---|---|---|---|---|---|---|---|---|
| Significance | 0,224 | 0,157 | 0,295 | 0,233 | 0,090 | | | | |
| Belgium | 92 | 69 | 18 | 0 | 0 | 0,028 | 0,010 | 0,015 | 0,000 |
| Sweden | 34 | 85 | 33 | 0 | 0 | 0,010 | 0,012 | 0,028 | 0,000 |
| Finland | 33 | 78 | 28 | 0 | 0 | 0,010 | 0,011 | 0,024 | 0,000 |
| The Netherlands | 65 | 87 | 15 | 0 | 0 | 0,019 | 0,012 | 0,013 | 0,000 |
| Denmark | 32 | 82 | 22 | 0 | 0 | 0,010 | 0,012 | 0,019 | 0,000 |
| Austria | 43 | 64 | 21 | 0 | 0 | 0,013 | 0,009 | 0,018 | 0,000 |
| Luxembourg | 54 | 82 | 12 | 0 | 0 | 0,016 | 0,012 | 0,010 | 0,000 |
| Czech Republic | 70 | 53 | 11 | 0 | 0 | 0,021 | 0,007 | 0,009 | 0,000 |
| France | 24 | 60 | 26 | 0 | 0 | 0,007 | 0,008 | 0,022 | 0,000 |
| Germany | 32 | 71 | 16 | 0 | 0 | 0,010 | 0,010 | 0,013 | 0,000 |
| Poland | 39 | 50 | 13 | 0 | 0 | 0,012 | 0,007 | 0,011 | 0,000 |
| Italy | 24 | 39 | 16 | 0 | 0 | 0,007 | 0,005 | 0,013 | 0,000 |
| United Kingdom | 23 | 77 | 33 | 1 | 0 | 0,007 | 0,011 | 0,028 | 0,009 |
| Hungary | 69 | 52 | 9 | 0 | 1 | 0,021 | 0,007 | 0,008 | 0,001 |
| Portugal | 35 | 39 | 21 | 2 | 0 | 0,011 | 0,005 | 0,018 | 0,015 |
| Ireland | 32 | 56 | 20 | 21 | 0 | 0,010 | 0,008 | 0,017 | 0,181 |
| Spain | 26 | 49 | 21 | 2 | 0 | 0,008 | 0,007 | 0,018 | 0,013 |
| Greece | 21 | 25 | 16 | 2 | 0 | 0,006 | 0,004 | 0,013 | 0,015 |
| Total amount | 749 | 1118 | 351 | 28 | 1 | 0,224 | 0,157 | 0,295 | 0,233 |
| The total amount multiplied by significance | 168 | 176 | 104 | 6 | 0,1 | | | | |

The sum is equal to 821

| Not enought spread of e-commerce technologies | The sum of values in significance matrix | The sum of maximasing criteria | The sum of minimasing criteria | Minimizing value by the country, which have the least minimizing value | The relative importance of comparative options | Priority row |
|---|---|---|---|---|---|---|
| 0,001 | 0,053 | 0,0524 | 0,0008 | 1,000 | 0,0788 | 1 |
| 0,001 | 0,051 | 0,0499 | 0,0008 | 1,000 | 0,0763 | 2 |
| 0,001 | 0,045 | 0,0445 | 0,0008 | 1,000 | 0,0709 | 3 |
| 0,001 | 0,045 | 0,0443 | 0,0008 | 1,000 | 0,0708 | 4 |
| 0,001 | 0,040 | 0,0397 | 0,0008 | 1,000 | 0,0661 | 5 |
| 0,001 | 0,040 | 0,0395 | 0,0008 | 1,000 | 0,0660 | 6 |
| 0,001 | 0,039 | 0,0378 | 0,0008 | 1,000 | 0,0642 | 7 |
| 0,001 | 0,038 | 0,0377 | 0,0008 | 1,000 | 0,0641 | 8 |
| 0,001 | 0,038 | 0,0375 | 0,0008 | 1,000 | 0,0639 | 9 |
| 0,001 | 0,034 | 0,0330 | 0,0008 | 1,000 | 0,0595 | 10 |
| 0,001 | 0,030 | 0,0295 | 0,0008 | 1,000 | 0,0560 | 11 |
| 0,001 | 0,027 | 0,0261 | 0,0008 | 1,000 | 0,0525 | 12 |
| 0,001 | 0,055 | 0,0454 | 0,0099 | 0,078 | 0,0474 | 13 |
| 0,077 | 0,114 | 0,0354 | 0,0781 | 0,010 | 0,0357 | 14 |
| 0,001 | 0,049 | 0,0337 | 0,0153 | 0,051 | 0,0350 | 15 |
| 0,001 | 0,216 | 0,0343 | 0,1816 | 0,004 | 0,0344 | 16 |
| 0,001 | 0,046 | 0,0323 | 0,0136 | 0,057 | 0,0338 | 17 |
| 0,001 | 0,039 | 0,0232 | 0,0161 | 0,048 | 0,0245 | 18 |
| 0,090 | 1,000 | 0,6762 | 0,3238 | 12,248 | 1,0000 | |

**Fig. 2. The comparison of export markets**

## Conclusions

The theoretical analysis on theme of market perception show that where is lack of theoretical knowledge in the literature on e-commerce. As well, that is a lack of theoretical solutions which are adequate to new challenges, concerning e-commerce. In the paper this theoretical knowledge is extended to the perception of market, as it is very important for any market analysis. Usually in e-commerce more than 200 thousand items are sold; this means that the criteria of product market are not so important such as criteria of geographic market for on-line sellers.

The analysis of various methods shows that multi criteria method can be used for the comparison of export market. In addition, the presentation of methods and main criteria, which are used for the comparison of markets, showed that if statistical data is available, then general indicators of export markets and import share approach can be used seeking to compare export markets. The analysis of criteria shows that the size of import, the growth of import, and the competition in the market can be used as main criteria and have to be included in new model.

New model, which can be used for the comparison of export markets, is presented. The variety of evaluation criteria are used, including criteria which reflect the country's openness to import and the usage of e-commerce technologies in examined export markets. Such set of criteria can be applicable for the comparison of export markets in which e-commerce technologies can be used effectively. The presented model can be used for the elimination of those export markets which are not attractive economically.

The results of empirical research show Amazon.com selects only whose EU export markets, which are attractive economically and maybe take into account standardization process of e-commerce inspired by European Union law. Other steps of convergence method, which are related to competitive advantage and resources or capability of company, are not used by Amazon.com.

In addition, the proposed approach can be usefull for authors, which analyse the issues of market segmentation.

Finnaly, the set of criteria is tested by using data of 18 export markets in European Union. The assessment of practical application of presented model show that it suits for the comparison of export markets. It helps to identify export

markets in proper priority sequence. These findings also show how international company selects export markets for selling commodities on-line.

**Limitations and further research**

The results show that for the comparisons of export market other directions can be used. Future studies should expand this research to such directions:

- first, to the direction of other EU and non-EU countries, which can be used further comparison;
- second, to the direction of products' assortment, to prove the necessity of criteria describing product market to be included into the model;
- third, to the direction of companies:
    - to other size of companies, which have limited competitive advantage and resources;
    - to internationalization level of their activity, in order to define the number of export markets and physical distance from national market.

**References**

Alexander, N., Rhodes, M., Myers, H.(2011). A Gravitational Model of International Retail Market Selection. International Marketing Review, 2(28): 24 - 36.

Amazon.com. News release. 2010. On line paper: http://www.amazon.com/

Beane, T.P. Ennis, D.M. (1987). Market segmentation: a review. European Journal of Marketing, 5(20): 20 – 42.

Bojnec, S., Ferto, I. (2010). Internet and international food industry trade. Industrial Management & Data Systems, 110(5): 744 – 761.

Borg, E.A. (2009). The marketing of innovations in high-technology companies: a network approach. European Journal of Marketing, 3/4(43): 364-370.

Bruning, E.R., Hu, M.Y., Hao, W. (2009). Cross-national segmentation: An application to the NAFTA airline passenger market. European Journal of Marketing, 11/12 (43): 1498 – 1522.

Clancy, K.J., Roberts, M.L. (1984). Toward an optimal market target: a strategy for market segmentation. Journal of Consumer Marketing, 1(1): 64 – 73.

Douglas, S.P., Craig, C.S. (2011). Examining contextual factors in international market selection and segmentation. International Marketing Review, 2(28): 5 - 19.

Eurostat. (2009). External and intra-European Union trade. On line paper: http://epp.eurostat. ec. europa.eu/

cashe/ITY_OFFPUB/KS-CV-08-001/EN/KS-CV--001-

EN.PDF

Gaston-Breton, C., Martín, O.M. (2011) International market selection and segmentation: a two-stage model. International Marketing Review, 3(28): 21-66.

Ginevičius, R., Podvezko, V. (2009). Evaluating the changes in economic and social development of Lithuanian counties by multiple criteria methods. Technological and Economic Development of Economy, 15(3): 418–436.

Ginevičius, R., Podvezko, V. (2008). Multicriteria graphical-analytical evaluation of the financial state of construction enterprises. Technological and Economic Development of Economy, 14(4): 452–461.

Kuvykaitė, R. (1997). Tarptautinis marketingas. Kaunas: Technologija.

Malhotra, S., Sivakumar, K., Zhu, P.C. (2009). Distance factors and target market selection: the moderating effect of market potential. International Marketing Review, 6(26): 651 – 673.

Mariotti, M. (2008). What kind of preference maximization does the weak axiom of revealed preference characterize? Economic Theory, 35(2): 403–406.

Martín, S.S., Camarero, C., Jose, R.S. (2011). Dual effect of perceived risk on cross-national e-commerce. Internet Research, 1(21): 46 – 66.

Papadopoulos, N. Martín, O.M. (2011). International market selection and segmentation: perspectives and challenges. International Marketing Review, 1(28): 11-43.

Papadopoulos, N. Denis, J.E. (1988). Inventory, taxonomy and assessment of methods for international market selection. International Marketing Review, 3(5): 38 – 51.

Peldschus, F. (2009). The analysis of the quality of the results obtained with the methods of multi-criteria decisions. Technological and Economic Development of Economy, 15(4): 580–592.

Perritt, H.H. (2010). Tort liability, the first amendment, equal access, and commercialization of electronic networks. Internet Research, 4(20): 436 – 460.

Podvezko, V. (2005). Agreement of expert estimates [in lithuanian]. Technological and Economic Development of Economy, 2(11): 101-107.

Reddy, N. M. (2007). Market opportunity analysis for emerging technologies. Management Decision, 8(28): 10 – 19.

Sheng, S.Y., Mullen, M.R. (2011). A hybrid model for export market opportunity analysis. International Marketing Review, 2(28): 6-39.

Thielemann, U. (2000). A brief theory of the market – ethically focused. International Journal of Social Economics, 1(27): 6 – 31.

Turskis, Z., Zavadskas, E.K., Peldschus, F. (2009). Multi-criteria optimization system for decision making in construction design and management. Engineering Economics, 1(61): 7–17.

World Bank. 2008. Gross domestic product 2008. On line paper : http://siteresources.worldbank.org/DATASTATIS

TICS/ Resources/GDP2008.pdf

World Bank. 2000. Gross domestic product 2000. On line paper : http://siteresources.worldbank.org/DATASTATIS

TICS/ Resources/GDP2000.pdf

Xavier, P., Ypsilanti, D. (2011). Geographically segmented regulation for telecommunications: lessons from experience. Info: the journal of policy regulation and strategy for telecommunications information and media, 2(13): 3 – 18.