

The Method of Measuring Market Orientation

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Abstract

The paper is focused on the method of measuring market orientation. Market orientation is very important and topical, because of its influence on the company results. The first part of this paper describes the factors, which influence market orientation. The factors are from the external and internal environment and also from business branches of companies. The second part of the paper proposes the new methods of measuring of market orientation. The detailed information about all items of the factors is included in this part of the chapter. The third part of this paper verifies the validity of new methods of measuring market orientation. Cronbach alfa was used for validation of the method. We plan to use the most important principles of the method for our recent research project “Research on implementation on market orientation in Hi-Tech Firms”. The research project is supported by Grant Agency of the Czech Republic (GA 402/07/1493).

Key words

Marketing, market orientation, external environment, internal environment, customers, competitors, suppliers, distributors

Introduction

Market orientation is based on the marketing concept in the current marketing approach. The marketing concept is derived from the managerial concept, which was popular in the 50s of the last century. Drucker (1954) characterizes it as the main stream of the marketing concept applied on the example of General Electric. Although the principle of market orientation has been known for more than half of a century, it came to its “revival” not before the 90s of the 20th century. In the first half of the 90s the Journal of Marketing published two research works sponsored by the Marketing Science Institute – the works of Kohli and Jaworski and Narver and Slater. These two publications had a substantial impact on the literature of that period related to the problems of marketing. They contained the first approaches to the definition of market orientation, development of measurement methods and statement of proposals connecting market orientation with an organization performance. The market orientation even superseded the interest in the marketing concept in academic lobbies and the focus of all academics has directed to the market orientation. The reason for this interest was the statement of Kohli and Jaworski (1990) that the market orientation is the marketing concept implementation.

Many studies dealing with the market orientation have appeared until the present. In addition to the definition of the market orientation term itself the focus is directed to the relationship of the market orientation and the company performance, manners and methods of the market orientation measurement and its implementation in companies. But some of the published studies contain different approaches. What individual schools agree on is that the market orientation contains the acquisition and distribution of market information. Most of available studies more or less agree with the customer orientation, the competitor orientation and the inter-functional coordination as the most important partial elements of the market orientation.

Although customers and competitors represent the most important stakeholders, the range of stakeholders should not be restricted only to these two groups. The number of the market orientation elements is currently extended by other stakeholders. In this spirit we can define the market orientation as a means, which enables managers to focus on external and internal elements and activities, which influence the activity of an organization leading to its performance increase. The importance of the market orientation then rests in the fact that its application has a positive effect on the company performance.

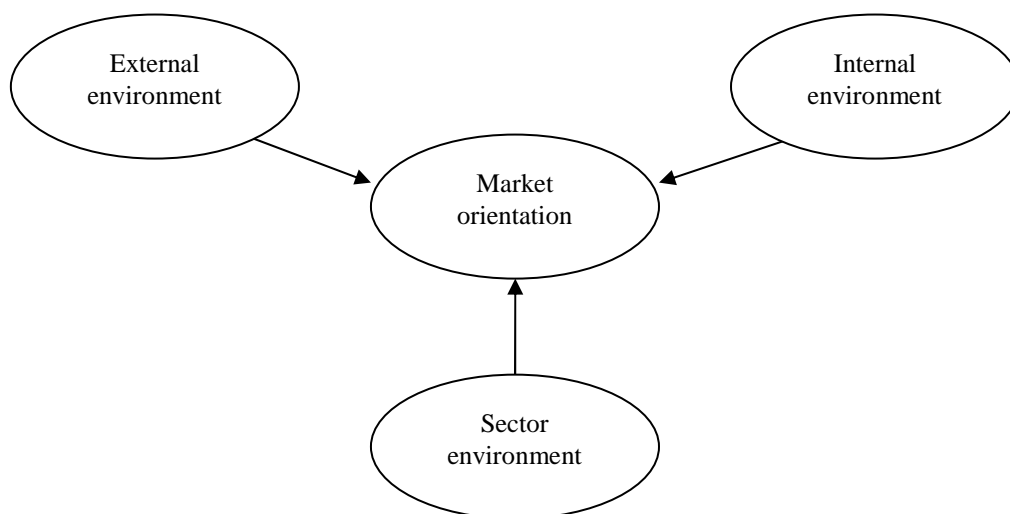
The objective of this article is to present the new method of measuring market orientation. The method was used in the research of market orientation in the Czech Republic. Compilation, analysis and synthesis are used for the article processing.

“New Method” for Measuring Market Orientation

When proposing a “New Method” for measuring market orientation (Tomášková, 2005) we proceeded from available literary resources. At first, a model of elements influencing market orientation and elements influenced by market orientation was constructed.

Proposal of Elements Influencing Market Orientation

On the basis of analysis of empiric results from available studies we proposed a market orientation model, which is given in schemes 7, 8, 9 and 10. We included external environment, sector environment and internal environment of an organization in elements influencing market orientation, see Scheme 1.



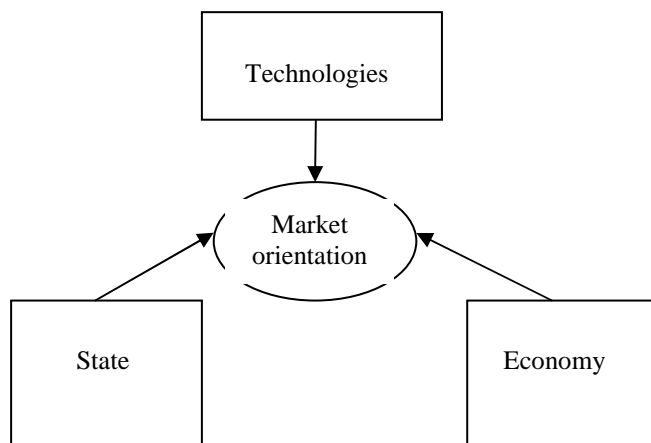
Scheme 1: Elements influencing market orientation

External Environment

The above-given scheme can be divided to further sub-schemes. Elements of external environment can be further divided to the state, economy and technologies, see Scheme 2.

- **State**

The state affects market orientation particularly by its selected policy and legislative measures. The influence of the state interferences on market orientation was studied in the works of Hooley and collective (2001). Results of the executed research showed that organizations with a higher level of market orientation are able to adapt to new conditions much better. The extent of the state interferences was also studied by Deng and Dart (1998). Their study proved that market orientation is higher in market economy than controlled economy. Another research in this field was carried out by Cervera and collective (2000) and it proved that organizations achieve lower market orientation in case of higher level of local self-government. It clearly follows from the aforementioned facts that the state activity affects market orientation.



Scheme 2: Elements of external environment influencing degree of market orientation

- **Technologies**

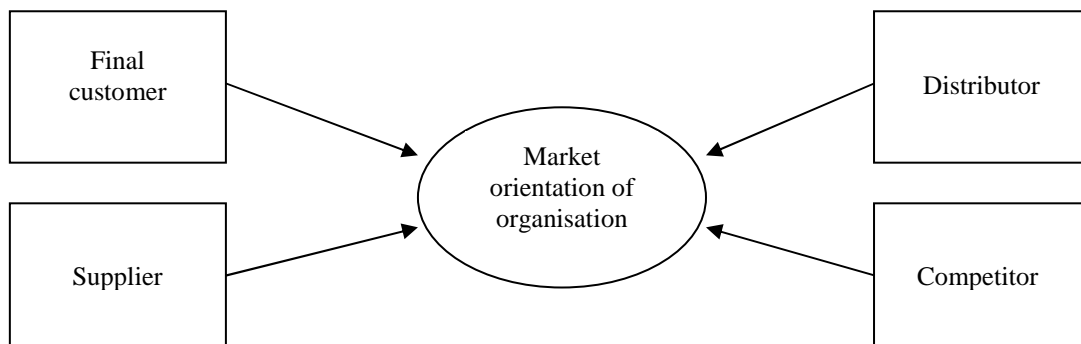
Monitoring of the development of technologies also plays an important role in market orientation. Market orientation is focused on mapping of the latest technologies in all fields and their use in the field of activity the given organization operates in. This statement is substantiated by the study of Olavarrieta and Friedmann (1999) who described the use of new technologies as a necessary element leading to the creation of a “learning organization” based on the market orientation application. In contrast, Han and collective (1998) claim that extreme changeability of used technologies adversely influences market orientation. According to him, an organization must spend substantial funds for innovation of technologies and such funds could be used in a different way. This version was supported by Varela and Río (2003) who also dealt with the relation of technological progress and market orientation. According to these two authors substantial changeability of technologies has a marked adverse influence on market orientation. Slater (2001) points out the use of IT technologies in his study, which facilitate higher market orientation.

- Economy

The third element of external environment is economy. The changeability of economy and market was studied by Han and collective (1998). His statement that high changeability of economy is not suitable for the market orientation development was continued by Palmer and Pels (2002). The subject of their study is the influence of “newly established economies” (in this case of Argentina) and "developed stable economies" (Great Britain) on market orientation. They also supported the thesis that high market turbulences may negatively affect market orientation. Perry and Shao (2002) confirmed an important influence of economy of a particular country on market orientation.

Sector Environment

We divided the sector environment to several further elements on a basis of the acquired knowledge. They include: final customer, distributor, competitors and a newly introduced element – supplier, see Scheme 3.



Scheme 3: Elements of sector environment influencing the degree of market orientation

- Final Customer

All available studies contain relation between market orientation and a final customer. This relation was examined and verified in the first half of the 90s; it has not been assessed in the latest studies, but it is viewed as a basic prerequisite for the possibility to speak about market orientation at all. Generally, it is presumed that the response to the found demands and wishes of customers is the manifestation of market orientation.

- Distributor

As far as distributors' influence on market orientation is concerned, it was revealed for the first time by Lado, Mayderu-Olivares and Rivera (1998). Recent studies (e.g. Bigné and collective, 2004) consider a distributor a full-valued customer, whose influence on market orientation is not questioned by anybody.

- Competitors

Competitors also play a substantial role in the market orientation determination. Competitor orientation as a necessary element leading to market orientation appears as early as in the first studies together with customer orientation. Some studies deal with the comparison of mutual relationship between these two elements. With regard to the fact that it is not clearly defined how to compare customer orientation and competitor orientation towards total market orientation, their influence on a company performance is assessed and it is presumed that the more important element has a greater share in the creation of the company performance. It follows from the results of Dawes's study (2000)

that competitor orientation reaches higher correlation in relation to the company performance than customer orientation. According to Harrison-Walker (2001) the company performance is influenced only by customer orientation. In contrast, Heiens (2000) proved that the company performance is equally influenced by customer orientation and competitor orientation. Although studies come to different conclusions, it is generally valid that competitor orientation and customer orientation are the most important elements of market orientation.

- **Supplier**

The last element given in Scheme 3 of sector environment is supplier orientation. Supplier orientation has not been directly included in any market orientation model yet. Nonetheless, it indirectly appears in market orientation studies dealing with its definition created in several recent years. Egan (2001) stated that *“the dynamics of the present forces organizations to think of the purchase-sale relationship concept and traditional marketing is often connected with the relationship of a company and a customer”*. If according to Hernández-Espallardo and Arcas-Lariob (2003) *“a client has an important position on the market, then there are certain reasons that the company owns important information on the given market. These could be transformed to suppliers, because they would substantially participate in the improvement of suppliers’ position.”*

Esteban and collective (2002) goes even further in the thesis – they introduced a supplier as one of the market orientation elements. According to them market orientation focuses on the following elements:

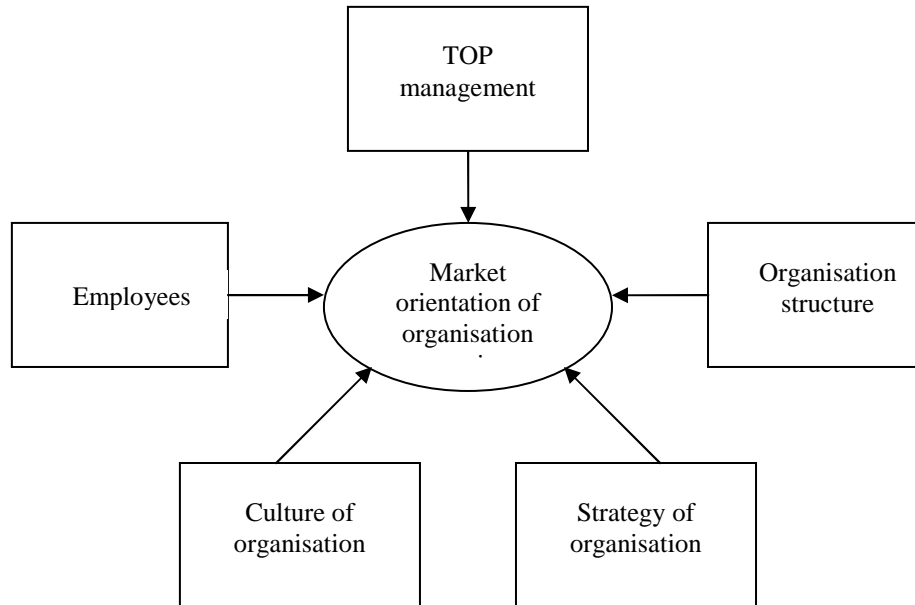
- Customer orientation
- Competitor orientation
- Supplier and client orientation
- Environment orientation
- Inter-functional co-ordination

Bigné and collective (2004) declared that market orientation has a positive relationship to the satisfaction of distributors and suppliers.

On the basis of the above-published opinions and statements suppliers can be incorporated in the model of market orientation as a full-valued element.

Internal Environment

The internal environment of market orientation is influenced by the following elements: opinions and approach of top management, organizational structure, strategy of the organization, culture of the organization and employees, see Scheme 4.



Scheme 4: Elements of internal environment influencing the degree of market orientation

- **Top Management**

We can say the most important element of the internal environment is opinions and approach of top management. The attitude of top management towards market orientation is measured e.g. by Helfert and collective (2000). It applies of course that the more positive relationship of senior managers to market orientation, the higher degree of market orientation is achieved by the organization. Homburg and Pflesser (2000) assess the attitude of senior managers towards employees. Results of this research proved the presumption that if the top management's attitude towards employees is in the spirit of the market orientation rules, such organization is more market oriented. Harris and Ogbonna (2001) studied the management style and its influence on market orientation. The conclusion of their research can be easily presumed – the directive management style prevents implementation of market orientation. Trueman (2004) assesses the relationship of top management and market orientation on the basis of managers' approach to risks, changes and education. The result of this study is also more or less obvious – too much conservatism, insufficient discipline and purposefulness in one's own education and preventing employees from education due to the worry of “their excessive growth” prevent the implementation of market orientation.

- **Organizational Structure**

The organizational structure was assessed in the study of Varelo and Rion (2003). Results of their research led to the verification of a hypothesis that excessive centralization adversely affects market orientation. A year later Trueman (2004) confirmed their hypothesis by his own survey and added that not only excessive centralisation prevents from the market orientation implementation, but also excessive formalization.

- **Strategy of the Organization**

Several authors dealt with the effect of strategy of the organization on market orientation in their studies. According to Olavarrieta and Friedmann (1999) the effective management can be achieved based on the application of the market orientation principles. They justify their statement by the fact that: “*successful organizations managed according to the principles of market orientation build image and goodwill of the organization*”, which is

according to them one of the criteria of effective management. Harris (2000) dealt with the strategy of diversification and the low cost strategy. According to him diversification shows a higher degree of market orientation. Kasper (2002) understands market orientation itself as the strategy of an organization focused on results. Lado and Maydeu-Olivares (2001) assess the influence of innovations on market orientation. They claim the strategy of an organization based on market orientation must also show innovative character. This thesis was continued by Erdil and collective (2004) in their statement that market orientation is a strategy based on innovation. The importance of this element is indisputable. Before the selection of any strategy organizations should first realize the sense of their business, determine their visions and goals. Then they should propose strategies for them which would contribute to the attainment of the set objectives and goals. Some strategies selected by top management may have nothing in common with market orientation. Managers may reject the strategy based on market orientation, because it will be less profitable in the initial stage. Others may understand market orientation as a strategy, which offers organizations the possibility to select from many elements to focus on. Such managers will orient only on some elements of market orientation passing by the remaining ones. The selected strategy will not be the best one and managers will sooner or later turn away from it.

- Culture of the Organization

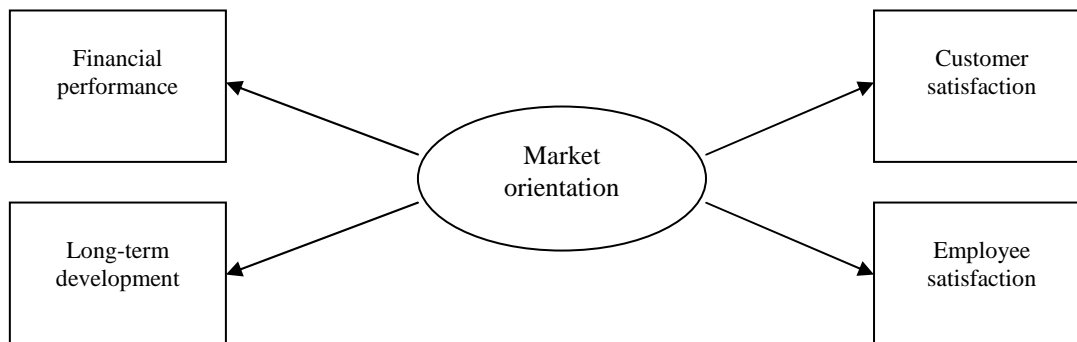
Culture was first assessed from this point of view by McCormack (1999). McCormack understands the culture of the organization as a spirit of the organization negatively or positively influencing market orientation. Homburg and Pflesser (2000) deals with a responsibility for the performed work in relation to market orientation. Results of his study confirmed that the higher respective responsibility is, the higher market orientation is achieved by the organization. Trueman (2004) deals with a set of several elements preventing the market orientation implementation. These in particular include conflicts between departments, mutual rivalry, reserve and insufficient communication and co-operation.

- Employees

The last proposed element of the internal environment influencing market orientation is employees. The relationship between employees and market orientation was studied by Harris. He pointed out in several mutually interconnected studies the important role employees may play in the market orientation implementation. He gave reasons which might have negative impact on market orientation in his study published in 1998. They especially include the apathy of employees, their limited abilities or only temporary employment. He urged all managers not to underrate the role of employees in the organization and put appropriate seriousness to it which would reflect in the degree of market orientation.

Proposal of Elements Influenced by Market Orientation

Elements influenced by market orientation can be shown in Scheme 5.



Scheme 5: Elements influenced by market orientation

- **Customer Satisfaction**

Market orientation is based on individual approach to customers and it is customer orientation and his/her satisfaction what is the focus point of this philosophy. This approach sometimes leads to mixing up of the term of market orientation with customer orientation, which results in simplification of the whole problem. However, the carried out researches show that market orientation contributes to the satisfaction of customers.

- **Financial Performance**

Some critics of market orientation claim that excessive focus on customer may be negatively reflected in the profit. We can but agree with this claim. Many customers with their specific needs and ideas can rather be a threat than opportunity for the organization. All customers cannot be satisfied either. It is necessary to focus on a certain segment. Despite these arguments we can state that a satisfied customer will positively influence the financial performance of the organization. Gray (1998) confirmed this relationship in his study. A satisfied employee will also contribute to a higher financial performance of the organization by putting in quality work and his/her participation in spreading the company's good image. The relationship between employee satisfaction and financial performance was examined in the studies of e.g. Kohli and Jaworski (1990) and Ruekert (1992).

- **Employee Satisfaction**

The strategy based on market orientation is an important stimulating means motivating employees to higher performances. The emphasis is placed particularly on openness, confidence, possibility of professional growth, etc. Customer satisfaction is the important factor of employee satisfaction as well. Not only is financial point of view concerned, when the amount of profit grows with the rate of satisfaction, but also the psychological point of view, i.e. the feeling of usefulness from well done work.

- **Long-term Development**

The strategy based on the market orientation principles is typical of its long-term character and market orientation itself therefore leads to the long-term development of an organization. Ruekert (1992) pointed out in his study the positive influence between market orientation applied in organizations and long-term development of such organizations. This statement is substantiated by the following argument – market

orientation leads to customer and employee satisfaction, higher financial performance and gaining of a competitive advantage. Having the competitive advantage has a marked influence on the position of the organization on the given market and its existence.

All studies generally agree with the main elements of market orientation such as customer orientation, competitor orientation and inter-functional coordination. Customers and competitors represent the most important external stakeholders, but it is not relevant to reduce the range of stakeholders only to two groups. The role and importance of individual stakeholders is different, it depends on the field of activity respective research focuses on, but it is by no means negligible.

Proposal of the Market Orientation Measuring Method

With regard to the fact that some shortcomings have been found by the analysis of the currently used instruments for the market orientation measuring, we will try to propose a new means for the market orientation measuring in this part of the thesis. When creating it we will consider aspects determined in the executed analysis of all the aforementioned problematic areas of market orientation and at the same time we will try to eliminate shortcomings criticized in other methods.

The selection of measured items follows particularly from the determination of elements influencing the degree of market orientation contained in the proposed model, while the present manner of measuring by means of the Likert scale shall be observed. Newly created items are divided to three main fields – external environment analysis, sector environment analysis and internal environment analysis. Sector environment analysis is further divided to the analysis of customers; both end ones and distributors, the analysis of competitors and the newly introduced field regarding the analysis of suppliers. The internal environment analysis is divided to the analysis of the use of the acquired information in the process of decision-making and the analysis of inter-functional co-ordination.

The method of the market orientation measuring contains some statements to which respondents take a standpoint expressed by means of Likert seven-degree scale. The questionnaire containing the market orientation measuring is intended for top managers of organizations.

When creating the items of measuring we followed from the following methods: Hooley and col. (1990), Gima (1995), MOS Lado, Olivares and Rivera (1998), Farrell (2002), Helfert and col. (2002) and Bigné and col. (2004).

External Environment

This part of the measuring contains the following items:

- 1) We regularly monitor changes in the field of laws, social, economic and technological changes.
- 2) We regularly identify important opportunities and threats, which could have an impact on business.
- 3) We participate in events, which demonstrate our economic utility (i.e. sponsoring, charity events, etc.).
- 4) We try to co-operate with universities and research institutes to be able to apply the latest research methods, which will bring higher value to customers.

Items 1 and 2 have been taken from the MOS method (1998). The rate of market orientation is among others given by the respondent's attitude towards monitoring of external elements, which can influence the activity of the organization. In this regard the activity of the state, the development of economy and technologies should be monitored above all. Items 3 and 4 are newly included. The relationship to the external environment should also include activities, which will contribute to the creation of goodwill of the organization – the environment of the beneficial organization characterized by the introduction and use of new technologies.

Sector Environment

The analysis of customer approach is divided to two parts. The first one focuses on final customers, the second one on distributors. In case there are no distributors, respondents do not fill in this part of the questionnaire.

- 1) We regularly analyze factors, which influence purchase behavior of customers.
- 2) We regularly monitor the development of demands of current and prospective customers.
- 3) We try to apply individual approach to customers.
- 4) We offer a wide range of after-sale services.
- 5) We regularly determine the degree of final customer satisfaction.
- 6) We know what image our products have at customers.
- 7) We determine why potential customers have not bought our product yet.

These items relate to the analysis of final customers, whereas items 1, 2, 5 and 6 have been taken from the MOS method (1998) and item 7 from the method created by Farrell (2002). The third and the fourth items are newly incorporated in the measuring of final customers. Information on final customers is very important for organizations; it is necessary to regularly monitor present needs and standpoints of customers, as well as potential tendencies of further development. Market orientation is in our opinion connected among others with individual approach to customers and a wide offer of after-sale services. These items gain on their importance in the strengthening competitive environment. Before they were connected with gaining of a competitive advantage, but at present, when competition is increasing, they become a necessary element of the approach strategy of an organization to its customers.

- 1) We monitor the development of demands of distributors.
- 2) We apply individual approach towards distributors.
- 3) We monitor image of our products at distributors.
- 4) We regularly measure satisfaction of distributors of our products.
- 5) We let us regularly inform on promotional events of our products carried out by distributors.
- 6) Our marketing strategy is compatible with the goals of distributors.
- 7) We speak with distributors about their problems.

As well as the analysis of final customers, the analysis of distributors contains seven items. Items 1, 3, 4 and 5 have been taken from the MOS method (1998), items 6 and 7 have been taken from the method created by Bigné and col. (2004). Item 2 is newly included in this field. Not only is the individual approach to final customers important. In case there are distributors, it is important that the organization tries to have individual approach to them because distributors can among others influence the sale of the given product to final customers.

The analysis of competitors includes the following items:

- 1) We perform regular monitoring of the development of competitors and their marketing policies.
- 2) We try to predict behavior of our main competitors.
- 3) We know strong and weak points of our main competitors.
- 4) We regularly analyze competitive strategies of our main competitors.
- 5) We carry out benchmarking towards main competitors.

Items 1 and 3 have been taken from the MOS method (1998), item 5 from the method created by Hooley and col. (1990). Items 2 and 4 are new. Not only is the analysis of the present state of competitors important, but the maintaining of competitiveness requires that the organization is able to predict potential behavior of competitors from the gained information. In case of a threat of intensive attack a scenario of an effective counter-strategy can be prepared.

The analysis of suppliers contains the following items:

- 1) We carry out regular analysis of offers of our present and potential suppliers.
- 2) We carry out regular analysis of image of our present and potential suppliers.
- 3) We carry out regular analysis of the approach of suppliers to our requirements.
- 4) We regularly discuss with our suppliers their problems.
- 5) We co-operate with our suppliers in the development of new special technologies (new products).

The analysis of suppliers is included for the first time in items measuring market orientation of an organization. Suppliers also play certain role in market orientation, particularly in the fields characterized by a high bargaining power of suppliers. Even in other fields, where the power of suppliers is not so risky it is suitable to maintain certain level of information for every organization on potential suppliers and their offers. Image of suppliers necessary for further production can also be important with regard to the selection of a final customer. The existence of suppliers with good image adds higher value to the final product from the point of view of the public. Regular discussions on problems of suppliers can enrich both discussing parties as well, because some persistent problems or misunderstandings may be cleared out on both sides and potential solutions suitable for both parties can be found. Mutual co-operation with suppliers on the development of new technologies can contribute to the finding of a faster and more effective solution.

Internal Environment Analysis

The analysis of reflecting the acquired information on the process of decision-making contains the following statements:

- 1) We implement the acquired information to our decisions.
- 2) We offer products reflecting the latest demands and wishes of customers (distributors).
- 3) We focus on gaining customers, for whom we can achieve a competitive advantage.
- 4) We are faster in responding to the wishes of customers than our competitors.
- 5) We respond as fast as possible to the marketing events of competitors.

Item 3 is derived from the method processed by Farrelly (2002), item 4 is created on the basis of Gim's method (1995) and item 5 has been taken over from the MOS method (1998). Items 1 and 2 are newly created. These two items respond to the acquired information. A successful organization not only tries to gain necessary information, but also respond to the given

findings. If the given response to the found facts is adequate is an allegation difficult to assess.

Inter-functional co-ordination analysis:

- 1) Every worker knows his competences and responsibilities.
- 2) Every worker is acknowledged with main objectives of the organization and knows how to contribute to their achievement.
- 3) We analyze comments of employees.
- 4) We pay attention to further education of our employees.
- 5) We regularly hold meetings, where we discuss about our successes, inform on new opportunities and threats, set new tasks and discuss with all lower-level managers.
- 6) We try to be flexible.
- 7) We prefer reaching long-term goals to short-term ones, the achievement of a certain market share to financial goals.
- 8) All partial goals follow from, develop and support the main goal of the company.
- 9) We take a positive approach to innovations.
- 10) Managers of all departments express their opinion to the created plan.
- 11) Relationships between superiors and subordinates cannot be defined as very strict and formal.
- 12) We prefer team work and mutual co-operation.
- 13) We pay attention to the exchange of information among individual departments of the organization.
- 14) In our business we try to take into account the ethics of business and make ethical decisions.

Item 7 has been taken from the method created by Hooley and col. (1990), items 8, 10, 11 from the method created by Helfert and col. (2002). Remaining questions are newly created and the first five questions relate to management and the relation of the top management to employees, items 6 through 9 examine the relation to the strategy of the organization, next two questions then to the structure and last three to the culture of the organization. All items given in this part of measuring follow from items influencing market orientation in the proposed model of market orientation.

The method of measuring market orientation proposed in this manner was compiled to the form of a questionnaire; some items were changed to the inversion ones¹ and were confronted with opinions of students attending the second year of the MBA course at the Faculty of Business and Management.

Discussion – Verification of the Proposed Method of Measuring

According to Churchill's concept for the creation of measuring methods the verification of validity follows the creation of a method. Validity is the approximation expressing real or "truthful" value of the measured variables. It can be simply said that it is measuring of what we try to measure. Measuring is accepted from the scientific point of view, if it is consistent and can be used to re-measure the same or different data.

¹ i.e. the reversed items

Validity measures the ability of the questionnaire to gain data, which show actual status of the measured variable. The proposed measuring must meet the following three conditions to be valid:

- Consistency (the created partial measurements must consider the actual state)
- Accuracy (the comparison of individual measurements does not show substantial deviances)
- Adequacy (all partial measurements should lead to the expression of the variable for which they were created)

The following methods can be among others included in methods assessing the validity of measurement according to Elizabeth Velarde-Jurado and Carlos Avila- Figuero (2002)² :

- *Structure verification* – it is carried out on a basis of verification of the fact, whether there is a relation among all variables used in the proposed measuring and the object of examination.
- *Internal consistency* – the consistency in the proposed measuring method is measured by means of a set containing several questions and can be realized in two ways:
 - *Consistency implementation* – this method is based on double questioning of the same sample of respondents, when the spread and standard deviation between the two measurements are measured. To meet the condition of consistency (of the test and repeated test), the correlation of results of both measurements must be carried out.
 - *Consistency of homogeneity* – the relation among various questions (items) of the method and the variable to be measured by the proposed method are verified. It is used for the measuring by soft data. It consists of sections containing individual questions. To gain the degree of consistency of questions contained in the measuring in relation to the measured variable their mutual relation must be examined. This measuring expresses coherence and mutual relation of items to the measurement of certain variable. To maintain internal homogeneity of the measuring method containing a set of items a statistical indicator called Cronbach alpha is used. The Cronbach alpha coefficient examines how well the set of items (or variables) measures one-dimensional construction.

Cronbach alpha (1) can be defined as a function of the number of the tested items and an average internal correlation³ among items:

² VELARDE-JURADO, E. Methods for the Quality of Life Assessment. *salud pública de méxico* [Online]. 2002, vol. 44, no. 5 [quotation 2004-11-09]. Available at: <http://www.insp.mx/salud/44/eng/i445_2.pdf>

³ Internal correlation is based on the correlation coefficient. The correlation coefficient r_{xy} (2) belongs among the most frequently used methods examining dependence of two variables. It is a proportion of co-variation s_{xy} (3) of both variables (the rate of their joint movement) to the product of their standard deviations s_x and s_y (4,5)

$$r_{xy} = \frac{s_{xy}}{s_x \cdot s_y}, \quad (2)$$

$$s_{xy} = \frac{1}{n} \sum_{i=1}^n (x_i - \bar{x}) \cdot (y_i - \bar{y}), \quad (3)$$

$$s_x = \sqrt{(x^2 - \bar{x}^2)}, \quad (4)$$

$$\alpha = \frac{N \cdot \bar{r}}{1 + (N - 1) \cdot \bar{r}}, \text{ where}$$

N = number of items of correlation

\bar{r} = average of internal correlation among items (1)⁴

The higher amount of items, the higher Cronbach alpha. When there is a lower value of average internal correlation among items, the value of Cronbach alpha will be lower, and vice versa, when there is a higher value of average internal correlation among items, the coefficient of Cronbach alpha will be higher. If the value of the internal correlation among items is high, it shows that items are based on the same principle.

If the coefficient of Cronbach alpha is high, i.e. close to one, this fact shows that the given measuring items are selected well and that independent measurements are created on the same principle. In other words, the given items are suitably selected for measuring the given quantity and results of investigation will be highly reliable.

In addition to the Cronbach alpha coefficients the Kunder-Richards correlation coefficient can also be used for the verification of validity provided that we select from two proposals.

The value of these two indicators is between 0 and 1. Measuring is consistent, if the value of coefficients approaches 0.8, if the value is higher than 0.9, it is defined as excellent, if the gained value is lower than 0.6, the selected measuring method is not consistent and its use is not recommended.

- *External consistency* – is applied in case, if different conditions arise during measuring or different measuring methods are applied. Measuring is consistent, if identical results are gained in more than one measuring⁵.

To verify the validity of measuring methods of the market orientation the Cronbach alpha coefficient is used⁶. This measuring method was used also for items of the proposed method. During calculation we followed from questionnaires filled in by MBA⁷ students.

$$s_y = \sqrt{(y^2 - \bar{y}^2)} . \quad (5)$$

⁴ What does Cronbach's alpha mean? [Online]. [quotation 2004-04-03]. Available at: <<http://www.ats.ucla.edu/stat/spss/faq/alpha.html>>.

⁵ VELARDE-JURADO, E. Methods for the Quality of Life Assessment. *salud pública de méxico* [Online]. 2002, vol. 44, no. 5 [quotation 2004-11-09]. Available at: <http://www.insp.mx/salud/44/eng/i445_2.pdf>.

⁶ This approach, however, was not adhered to for all methods measuring market orientation and due to it many methods are criticized. The best-known and the most used methods during the proposal of which this methodological concept was omitted is the MARKOR and MKTOR method.

⁷ There have been several cases in the history of the market orientation measuring, when the count of the set was lower than 30, e.g. Dawes (1999) compared the set of 23 production and 22 non-production organisations, Ruekert (1992) compared 5 SBU of one organisation, Tse (1998) examined 13 building organizations in Hong Kong, Palmer and Pels compared among others also 14 Argentina organisations with 7 English organizations in one cluster, the second cluster contained 19 and 17 organizations a the third one contained 22 and 31 organizations.

The Cronbach alpha coefficient was determined for all partial parts of the proposed measuring method, see Table no. 4. Detail results of the calculation are given in Appendix no. 4.

<i>Elements of measurement</i>	<i>Cronbach alpha coefficient</i>
External environment	0.81
Final customers	0.9336
Distributors	0.9579
Competitors	0.8555
Suppliers	0.8901
Reflecting the knowledge on the decision-making process	0.8265
Inter-functional co-ordination	0.9774
Total for the measuring method	0.893

Table no. 4: The value of Cronbach alpha coefficient for the proposed method

The value of the Cronbach alpha exceeds the value of 0.8 for all elements, for items concerning the analysis of final customers, distributors, inter-functional coordination it exceeds the limit of 0.9. The resulting value of Cronbach alpha for the whole proposed measuring method of market orientation is 0.893, which means the proposed method can be used for the market orientation measuring.

Conclusion

The above mentioned method is consistent according the results of Cronbach alfa. The method fulfils the conditions of validity. Therefore it is possible to use the method for measuring of market orientation of companies. In case of need to find out some possible barriers of market orientation, the method can be extended on other factors.

This method was used for measuring of market orientation in some important companies, which produce electric equipment and distribute electric energy in the Czech Republic. The result confirmed the differences in the perception of the importance of each factor of market orientation. According to the results we can say that analyzed companies are mostly oriented on their customers. On the other hand they do not often focus on interfunctional coordination. However this factor was confirmed as the second most important factor for company performance according to the method of Cronbach alfa.

We plan to use the most important principles of the method for our recent research. The Research is focused on implementation on market orientation in Hi-Tech Firms and it is supported by Grant Agency of the Czech Republic (GA 402/07/1493).

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