MANAGERS' AND COMPANIES' KNOWLEDGE ORIENTATION AS BUSINESS PERFORMANCE DRIVERS

ORIJENTACIJA MENADŽERA I PODUZEĆA PREMA ZNANJU KAO POKRETAČ POSLOVNE USPJEŠNOSTI

UDK 005.336+65.011.8
Prethodno priopćenje
Preliminary communication

Jolanta Mazur, Ph. D.
Professor, Institute of International Management and Marketing
Warsaw School of Economics (SGH)
Ul Al. Niepodległości 162, 02-554 Warsaw, POLAND
Phone: ++48 22 564 9358
E-mail: Jolanta.Mazur@sgh.waw.pl

Marianna Strzyżewska, Ph. D.
Professor, Institute of International Management and Marketing
Warsaw School of Economics (SGH)
Ul Al. Niepodległości 162, 02-554 Warsaw, POLAND
Phone: ++48 22 564 9358
E-mail: mstrzy@wp.pl

Ključne riječi:
orijentacija menadžera prema znanju, orijentacija poduzeća prema znanju, poslovna uspješnost

Key words:
managers' knowledge orientation, companies' knowledge orientation, business performance

SAŽETAK

Mnogi autori znanje smatraju važnim izvorom održive konkurentske prednosti koja pospješuje poslovnu uspješnost poduzeća. Stoga je velik broj autora pokušao opisati ulogu znanja. No, bilo je znatno manje pokušaja da se ocijeni utjecaj aktivnosti i ponašanja u pogledu znanja na rezultate poslovanja poduzeća u različitim zemljama. Istovremeno, gotovo niti jedno istraživanje nije utvrdilo potpuni raspon mišljenja i uvjerenja koja bi pokazala stavove menadžera o aktivnostima povezanima sa znanjem unutar njihovih poduzeća. Ovaj rad istražuje odnose između mišljenja menadžera o znanju (orijen-

ABSTRACT

Knowledge is widely considered to be the major source of sustainable competitive advantage, fostering companies' business performance. Therefore, a number of authors have undertaken the efforts at describing its role. There were, however, much fewer attempts aimed at evaluating the influence of knowledge activities and behaviors on companies' business performance/results in various countries. At the same time, there was practically no research identifying the full range of opinions and beliefs, indicating company managers' attitudes towards knowledge activities within their companies. This paper investigates

tacija menadžera prema znanju), aktivnosti i ponašanja povezanih sa znanjem (orijentacija poduzeća prema znanju) i poslovne uspješnosti poduzeća u kontekstu srednje velikih poduzeća koja posluju u Poljskoj.

the relations between the managers' opinions concerning knowledge (managers' knowledge orientation), the knowledge-related activities and behaviors (companies' knowledge orientation) and companies' business performance within the context of medium-sized companies operating in Poland.

THEORETICAL BACKGROUND

The term *company's orientation* was used by many authors before the concept was operationalized. One of the first attempts at determining what market orientation was and how it influenced the performance of companies, including their profitability, were undertaken by J.C. Narver and S.F. Slater.[1] The company's orientation was also operationalized by A.H. Kohli, B.J. Jaworski.[2] The latter ones delineated the domain of market orientation by proposing an inventory of activities and behaviors reflecting the marketing business philosophy. Together with A. Kumar[3] they developed the MARKOR scale, based on the attributes of organization's market orientation. The list of marketing activities and behaviors reflected three phases of a process consisting of marketing intelligence, information dissemination and reacting to this information by a company. The mentioned activities could be undertaken more or less intensively. This way a company's (strategic unit's) market orientation level could be higher or lower. A.H. Kohli and B.J. Jaworski[4] were also interested in the influence of market orientation on companies' business performance and some other results of its implementation. The positive relations between market orientation and the companies' business performance were empirically tested and confirmed. The concept and the MARKOR scale were widely applied in many research projects concerning groups of companies,[5] branches[6] and sectors.[7] The construct of company's orientation was then widened to include learning orientation,[8] and both market orientation and learning orientation (innovativeness) were expected to positively influence business performance, because applied together they enabled the company not only to follow the customers expectations but to lead the market. Market-based organizational learning started to be considered the optimal orientation.[9]

To measure this wider knowledge orientation (beyond market orientation), the concept of knowledge management orientation was developed by J. Darroch and R. McNaughton.[10] They implemented a modified MARKOR scale to test knowledge management orientation influence on organizations' innovativeness, and indirectly on their business performance. Market orientation concentrates on organization's market relations[11] while the enterprise's competitiveness is also determined by other factors, such as new technology applications, its internal strengths and weaknesses. Therefore, J. Darroch and R. McNaughton claimed that knowledge management orientation estimations should include the whole portfolio of aspects influencing organizations' performance. An empirical research of New Zealand medium-sized companies enabled their segmenting into four clusters, i.e. scientific oriented companies (technology oriented), knowledge management oriented companies (implementing market-based organizational learning), companies responsive to knowledge (applying market orientation) and non adopters (ignoring all aspects of knowledge). The best business performance results were achieved by knowledge management-oriented companies; they were better than the results of the companies responsive to knowledge and much better than the results of two other clusters.

J. Darroch and R. McNaughton did not research any external or internal factors influencing the adoption of certain orientations by companies. However, the publications by A.H. Kohli and B.J. Jaworski mentioned earlier raised this very problem. According to these authors, the most important factor was the managers' attitude. The opinions on the leading role of managers, especially top managers, in determining the ways in which enterprises function was shared in numerous other publications.

Senior management knowledge orientation, i.e. their support for data gathering and disseminating, knowledge generating, sharing and implementing is treated as the major condition of knowledge project success. According to M. Warkentin, V. Sugumaran and V.R. Bapna[12]

"…transforming the company through knowledge and learning requires top management standing on the front lines of knowledge management". Organizational leadership was also considered crucial for any knowledge management program according to K. Bell De Tienne, G. Dyer, C. Hoopes and S. Harris[13] „Because leaders set the example for others in the company, they have a direct impact on the organization's culture and on how the company approaches and deals with knowledge management". The importance of managers in deciding on companies' knowledge practices resulting in their performance was also underlined by H. Hasan and M. Al-hawari.[14] They concentrated on four knowledge management styles understood as managers' personal attributes. They claimed that the best companies' performance was a result of the optimal combination of knowledge management styles.

A leading role of managers in developing knowledge processes in the companies was confirmed in empirical research projects. K.Y. Wong[15] suggested that knowledge supporting managers of SMEs are followed by other company staff members, developing an organization's knowledge culture. J.D. Poltis[16] claimed there was a relationship between various leadership styles and the application of knowledge activities. In this sense he identified a link between managers' attitudes and companies' practices.

CURRENT STUDY

In this paper, the knowledge orientation construct includes the features of both market and learning orientations. According to our concept, all knowledge-related activities determine the level of *company's knowledge orientation* (CKO).

Another construct applied in this study, named *managers' knowledge orientation* (MKO), is aimed at reflecting the managers' attitudes towards knowledge processes. It is introduced to appreciate the leading role of managers as a factor determining companies' knowledge orientation.

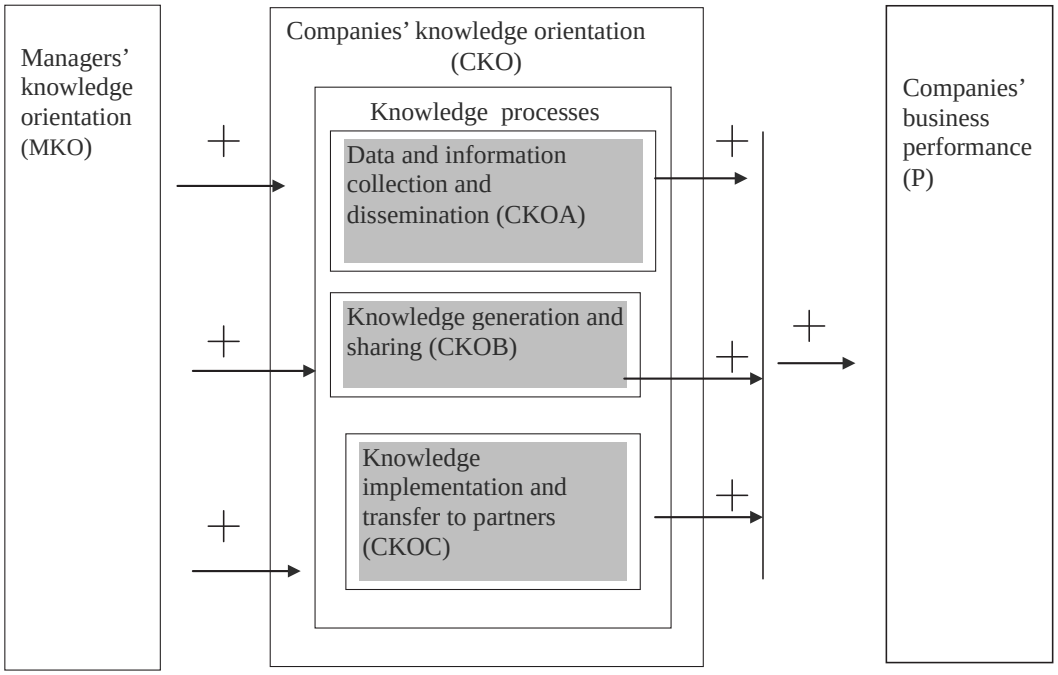
The third construct describes enterprise *business performance* (P). Target levels of business performance are achieved thanks to companies' competitive advantages, and knowledge is widely considered in literature to be their major source.[17]

The main purpose of the study is to test the correlation between major constructs i.e. managers' knowledge orientation, companies' knowledge orientation and companies' business performance. The influence of managers on knowledge-related activities and behaviors, suggested in a literature, should be well-illustrated by the relationships between managers' knowledge orientation and companies' knowledge orientation. Subsequently, knowledge-related activities and behaviors as a competitive advantage generator should be related to enterprise business performance. The relations to be tested are illustrated by the model (see Figure 1).

Knowledge processes are classified by various authors into numerous categories. G. Probst, S. Raub, K. Romhardt[18] distinguished: knowledge localization, knowledge collection, knowledge generation, knowledge sharing and dissemination, knowledge implementation and storing. J. Darroch and R. McNaughton[19] mentioned knowledge acquisition, knowledge dissemination and responsiveness to knowledge. The model presented in Figure 1 also identifies three categories of knowledge processes, i.e. data and information collection and dissemination (CKOA), knowledge generation and sharing (CKOB), knowledge implementation and transfer to partners (CKOC).

The model suggests that managers' knowledge orientation (MKO) positively influences each of the three processes of companies' knowledge orientation (CKO), which in turn have a positive impact on companies' business performance (P). This leads us to hypothesize:

Figure 1: Relationships between managers' knowledge orientation, companies' knowledge orientation and companies' business performance



Source: Authors

H1. The greater the level of managers' knowledge orientation (MKO) the higher the companies' knowledge orientation (CKO).
H2. The higher the companies' knowledge orientation (CKO) the better the companies' business performance (P).

The model was simplified by assuming one-way relationships between the constructs while, in fact, they are interdependent. For example, a good company's financial performance could influence both investing in knowledge infrastructure and manager's attitude towards these activities. Another simplification lies in assuming a linear character of the relationships. Therefore, the analysis will not tell us whether increasing knowledge orientation beyond a certain level will decrease company's economic performance.

MKO and CKO are latent constructs and cannot be directly observed; therefore, they have to be identified by measuring knowledge orientation descriptors (attributes). There is no universally accepted inventory of knowledge activities and behaviors just as there is no one inventory of managers' attitudes, which combine rational and emotional elements as well as intentions to act in a certain way. Therefore, our initial task was to determine the descriptors of MKO and CKO based on a literature review and discussions with managers.

According to S.P. Myers[20] cited by C.A. Conley and W. Zheng,[21] companies' business performance is determined by the interactions between their strategies, the context of their implementation and the behavior of people which is also influenced by the context. In this situation, strategies and the context (conditions of their application) are the factors which matter. R. Snyman and C.J. Kruger[22] presented D. Logan's[23] opinion on success factors of knowledge management. The list

included: linking knowledge management to the overall strategy, developing an organizational culture and discipline supporting knowledge sharing, collaboration and innovation, basing knowledge management on robust business and human processes, creating a compelling technology environment and assuring an extended enterprise view on company's processes, people and content. In other words, to succeed in knowledge management (to be knowledge oriented), the company should treat the knowledge strategy as an important part of an overall strategy, develop a knowledge-supporting corporate culture and organization, apply technology-supporting formal and informal information flows and relationships, and incorporate all the personnel members and all the activities undertaken into the knowledge system.

The presented views suggest, in our opinion, that knowledge processes should not be limited exclusively to strategic decision-making. So, both strategic and operational perspectives are taken into consideration in our study, as strategic knowledge management requires operational support to plan, implement and control knowledge-related activities. This approach contradicts the idea of distinction between intellectual capital management and knowledge management which was proposed by K.M. Wiig.[24] According to this author, knowledge management supports the creativity of intellectual capital as tactical/operational support. Intellectual capital consists of all kinds of intangible value drivers. Some authors divide intellectual capital into human capital and structural capital[25] while others consider human capital one of the three constructs of intellectual capital, composed also of structural capital and relational capital.[26] According to some other sources, intellectual capital consists of human capital, customer capital and organizational capital.[27] In the literature on intellectual capital human capital is usually described as "a collection of knowledge and competences possessed by employees individually and collectively in firms".[28] But it is not only the stock of knowledge which matters. The flow of knowledge seems more important than its stocks. And we claim that knowledge management is about managing this flow, including creating conditions to support knowledge-related activities. According to O.A. Aliaga,[29] knowledge-related activities are both strategic and operational. We support this view.

Examination of the existing literature suggested finally that, while developing the questionnaire scales, the following descriptors (attributes) of knowledge orientation should be taken into consideration:

- managers' involvement in knowledge-related activities
- other staff involvement in knowledge-related activities
- incorporating operational activities into knowledge processes
- incorporating strategic activities into knowledge processes
- organizational culture supporting knowledge-related activities
- organizational structure supporting knowledge-related activities
- technical infrastructure supporting knowledge-related activities.

RESEARCH DESIGN

To consider the relationships between managers' knowledge orientation, companies' knowledge orientation and company performance, quantitative methods were applied. The analysis was based on the data from the medium-sized companies operating in Poland. We expected that knowledge processes would differ in enterprises of various sizes, therefore we decided to concentrate only on the companies employing between 50 and 250 people. The population of companies to be researched was additionally reduced by excluding high-tech branches, which we considered unique from the point of view of our topic. The sample then included the companies representing the following branches:

- manufacturing
- wholesale trade
- retailing
- hotels and restaurants
- companies engaged in cultural, recreational and sports services
- surface transportation.

A proportional (by the branch and the region of Poland) sample, consisting of 40% of companies out of the 5250 meeting the required criteria, was drawn. A total of 852 interviews were conducted by telephone with top managers or their deputies (Computer Assisted Telephone Interviewing). No full reply ratio amounted to 41.1% and was caused mostly by the refusal to declare sales value (29.3%) and the number of staff members (1.4%), which increased estimation errors.

The interviews were based on a questionnaire. The first part included the items addressing managers' knowledge orientation while the second consisted of the items aimed at determining the levels of companies' knowledge orientation. The second part was subdivided into the blocks addressing three phases of the knowledge processes (data and information collecting, knowledge creation and sharing and knowledge implementation and transfer to partners). In both parts the same composition of seven knowledge orientation descriptors (attributes) was applied (2-3 items per each descriptor). Additionally, in the first part of the questionnaire three items describing the general managers' opinions on the role of knowledge in achieving business goals were included. The third part of the questionnaire concerned the companies' business performance.

There are various measures of business performance, which can be conceptualized in a number of ways. Many researches use the simple measure, such as sales growth dynamics, while others argue that organizational performance is multifaced[30] and that it should include both financial and non-financial performance.[31] The information on precise financial indicators is usually difficult to obtain from companies. Moreover, even when researchers manage to get it, they cannot be sure whether certain results declared by companies are the consequence of the processes being analyzed. Therefore, it is suggested that the performance evaluation should be based on the opinions of well-informed respondents, who are aware of the performance changes in time and are able to make comparisons with competitors.[32] This suggestion was applied in a research of knowledge management orientation of companies in New Zealand.[33]

Both groups of performance indicators were used in the current study. The interviewed managers declared annual sales values and also company results with regard to the following:

- actual companies' position versus competitors' position (the stronger the position the better the performance),
- changes of the companies' economic situation in time (positive changes meant better performance),
- meeting the market and financial targets (the lower the realization to plan ratio the worse the business performance).

The companies' performance instrument consisted of a twelve-item scale (four items per category). The items in all three parts were scored on a five-point response format, from strongly disagree (scored one) to strongly agree (scored five). Some items were negatively scored. At the end of the interview the managers were asked to share information on their companies which would allow classifying the sample according to various criteria.

Although an instrument to measure the levels of MKO, CKO were to a certain extent grounded in the publications on market orientation and knowledge management orientation, the statistical methods applied to identify the construct values were different than those applied by other authors. To determine the levels, a fuzzy sets theory by L.A.Zadeh[34] was implemented. Its core concept is the membership function. The grades of the membership function are expected to

belong to <0;1> set (0 - means no managers' knowledge orientation, no companies' knowledge orientation and 1- means the managers' full knowledge orientation, and the companies' full knowledge orientation; the higher the level of knowledge orientation the bigger the grade of membership to the set).

If the construct is defined by *k* attributes (descriptors) of equal importance, the membership function which includes all of them may be compounded in the form of a mean of individual attributes' membership functions.

$$f(x) = \frac{1}{k}\sum_{j=1}^{k} f(x_j) \quad .$$

The idea of implementing the fuzzy sets theory in the statistical analysis came from Rószkiewicz. She was also responsible for all the data calculations.[35]

Quantification of a latent construct is possible when the descriptors (scale items) are acceptably reliable and valid. The scale's theoretical validity, meaning its accuracy in defining the described category, was reviewed based on the literature review. Additionally, it was verified by explanatory and confirmatory factor analyses. The scale's reliability was evaluated statistically. The *alpha*-Cronbach and Kaiser-Mayler-Olkin coefficients were calculated.

Table 1: Alpha-Cronbach coefficients for the scales measuring MKO, CKOA, CKOB, CKOC and PP, PMP, PFP

Orientation / Business performance category	*Alpha*-Cronbach coefficient
MKO	0.471
CKOA	0.693
CKOB	0.680
CKOC	0.722
PP	0.837
PMP	0.685
PFP	0.788

Source: Research

Almost all the *alpha*-Cronbach coefficient values suggest that the proposed items will properly reflect the latent constructs. Only the *alpha*-Cronbach coefficient concerning the scales measuring the managers' knowledge orientation fell below the acceptable level, suggesting that some items only partially explain the latent structure. However, if some other combination of scale positioning is applied, the *alpha*-Cronbach coefficient increases to 0.62, which still is not a high but can be accepted.

The latent constructs were also confirmed by K-M-O statistics, suggesting the items' loading consistently onto a single factor (see Table 2).

Table 2: Kaiser-Mayler-Olkin statistics and single factor accountability of the variance

Knowledge orientation/ business performance categories	K-M-O statistics	Single factor accountability of the variance (%)
MKO	0.757	16.716
CKOA	0.797	22.226
CKOB	0.813	21.348
CKOC	0.789	22.866
PP	0.652	67.303
PMP	0.697	52.764
PFP	0.655	61.583

Source: Research

All K-M-O statistics values were acceptable, as they exceeded 0.5. A low accountability of the variance by a single factor in the case of managers' knowledge orientation was a result of the weak correlation of descriptors in question.

Confirmatory factor analysis enabled verifying the quality of the construct modeling. The model approximation goodness was then identified by calculating the following indicators: chi-square statistics, GFI, AGFI, RMSEA, HOELTER. The verification procedure brought satisfactory results.[36]

RESEARCH RESULTS

Managers' knowledge orientation levels (MKO)

The average level of the managers' knowledge orientation was relatively high and it amounted to 0.8134. The managers turned out to be very homogeneous in their attitudes towards knowledge (10% variation rate). The lowest level declared was 0.5 and the highest 1.0 (total orientation). The companies where the managers showed lower than average knowledge orientation accounted for 42.6% of the sample, and the amount of their orientation represented 38.6% of the total sample amount. Other managers, whose level of

Table 3: Average levels of managers' knowledge orientation in the groups of companies

Company characteristics	Managers' knowledge orientation (MKO)	*p*-value
Sector: - manufacturing - services	 0.8078 0.8238	 0.006
Capital source: - exclusively Polish capital - joint ventures (Polish-foreign capital) - exclusively foreign capital	0.8102 0.8205 0.8376	 0.019
Sales in ZL million: - below 5 - 5 – 40 - above 40	 0.8039 0.8097 0.8226	 0.196
Number of employees: - 50 – 100 - 101 – 200 - 201 – 250	 0.8128 0.8130 0.8181	 0.855
Sales in ZL million per employee: - below 0.05 - 0.05 - 0.2 - above 0.2	 0.8044 0.8060 0.8210	 0.085
Ownership: - public ownership - private ownership	 0.8190 0.8125	 0.412
Companies situated in: - relatively more industrialized regions - relatively less industrialized regions	 0.8131 0.8122	 0.911
Average in the sample	0.8134	

A result is said to be statistically significant when the p-value is less than the present threshold value (in our case p=0.05). The p-values or less than 0.05 are underlined.

Source: Research

knowledge orientation was above the sample average, accounted for 57.4% of the total number researched, and the amount of their orientation accounted for 61.4% of the total sample amount.

Table 3 presents the levels of MKO in the groups of companies classified according to various criteria.

Major observations:

- The average level of the managers' knowledge orientation in the service companies exceeded the level of the managers' knowledge orientation in the manufacturing companies.
- The larger the share of foreign capital in the company the higher the level of the managers' knowledge orientation.
- Other criteria used to classify the groups of companies did not noticeably influence the managers' knowledge orientation levels.

Companies' knowledge orientation levels (CKO)

The average level of CKO in the sample amounted to 0.6797. The companies turned out to be

Table 4: Average levels of companies' knowledge orientation in the groups of companies

Company characteristics	Companies' knowledge orientation (CKO)	*p*-value
Sector: - manufacturing - services	 0.6726 0.6930	<u>0.014</u>
Capital source: - exclusively Polish capital - joint ventures (Polish-foreign capital) - exclusively foreign capital	 0.6757 0.6855 0.7140	<u>0.026</u>
Sales in ZL million: - below 5 - 5 – 40 - above 40	 0.6578 0.6840 0.6962	<u>0.036</u>
Number of employees: - 50 – 100 - 101 – 200 - 201 – 250	 0.6736 0.6839 0.6984	0.140
Sales in ZL million per employee: - below 0.05 - 0.05 - 0.2 - above 0.2	 0.6638 0.6758 0.6967	<u>0.039</u>
Ownership: - public ownership - private ownership	 0.6852 0.6788	0.575
Companies situated in: -relatively more industrialized regions - relatively less industrialized regions	 0.6720 0.6827	0.384
Total	0.6797	

A result is said to be statistically significant when the p-value is less than the present threshold value (in our case p=0.05). The p-values of less than 0.05 are underlined.

Source: Research

quite homogeneous in their knowledge activities and behaviors (17% variation rate). The lowest level identified was 0.21 and the highest 0.98. The companies showing CKO below the sample average accounted for 52.7% of the sample number, and the amount of their orientation accounted for 45.8% of the total sample value. Other companies, whose level of knowledge orientation exceeded the sample average, accounted for 47.3% of the total sample number and the amount of their orientation represented 54.2% of the total sample value. Table 4 presents the levels of CKO in the groups of companies classified according to various criteria.

Major observations:

- The average level of the companies' knowledge orientation in the service companies exceeded slightly the level of companies' knowledge orientation in the manufacturing companies.
- The larger the share of foreign capital in the company the higher the level of the companies' knowledge orientation.
- The bigger the value of sales value and per employee sales the higher the level of the companies' knowledge orientation.
- Other criteria used to classify the groups of companies did not noticeably influence the companies' knowledge orientation levels.

MKO – CKO relationship

The Pearson correlation index was estimated to describe the relationship between the two constructs. It amounted to 0.371 ($p<0.001$), which positively verifies the hypothesis suggesting that the higher the level of MKO the higher the level of CKO.

In order to deepen understanding of the relationship between MKO and CKO, the whole sample was segmented into four groups of companies. The k-average method was implemented to classify the companies according to the levels of both constructs. Table 5 presents the results of this classification.

Table 5: Average MKO and CKO levels in four company segments

	Segment 1	Segment 2	Segment 3	Segment 4	Total
MKO	0.77	0.87	0.85	0.73	0.81
CKO	0.51	0.81	0.66	0.69	0.68
Segment's share in the sample	19.9%	29.6%	28.4%	22.1%	100%
Number of companies	n= 170	n=252	n=242	n=188	n=852

Source: Research

The highest levels of MKO and CKO were calculated in the case of segment 2, the lowest in segments number 1 and number 4. It is interesting to compare the MKO and CKO estimated for segment 3. The results show that in spite of the managers' positive attitude towards knowledge (high MKO level), the knowledge activities and behaviors in the companies they manage are not intensive (low CKO level).

CKO - P relationship

The Pearson correlation index was estimated to describe the relationship between the two constructs. In the case of CKO - P relationship $r = 0.33$ ($p<0.01$). The results of correlations concerning the relationship between CKO and three categories of business performance were as follows: CKO - PP, $r= 0.281$ ($p<0.001$); CKO - PMP, $r = 0.287$ ($p<0.001$); CKO - PFP, $r = 0.246$ ($p<0.001$). They positively verify the second hypothesis, suggesting that the higher the companies' knowledge orientation (CKO) the better the companies business performance (P).

To understand how the combination of MKO and CKO affects the companies' business performance, the business performance levels achieved by the companies classified earlier into four segments – in total and according to three different performance attributes – were calculated. They are presented in Table 6.

Table 6: Business performance levels in four segments of companies classified by MKO, CKO levels

Company segments	Average levels			
	Business performance (total)	Realization to plan ratio	Market position	Economic situation improvement
Segment 1	0.6280	0.6688	0.5224	0.6929
Segment 2	0.7535	0.7980	0.6435	0.8190
Segment 3	0.6908	0.7316	0.5779	0.7630
Segment 4	0.7176	0.7705	0.6053	0.7771
F Statistics (Anova test)	13.998	16.485	11.975	21.161
p-value	< 0.001	< 0.001	< 0.001	< 0.001
eta correlation index	0.217	0.235	0.202	0.264

Source: Research

The p-value suggests that the segments explicitly differ one from another and, at the same time, that both MKO and CKO influence the companies' business performance. The best business performance levels were registered in the companies with the highest levels of MKO and CKO (segment 2). Low levels of both MKO and CKO, or only CKO resulted in worse business performance levels.

DISCUSSION

Both hypotheses suggesting the relationship between the managers' knowledge orientation (MKO) and the companies' knowledge orientation (CKO), and between the companies' business orientation (CKO) and their business performance (P) were supported. However the investigation of the relationship between the first two constructs indicated that high levels of MKO in the case of some enterprises were not reflected in high values of CKO. This suggested certain barriers to a transformation of the companies into knowledge-based companies by their highly knowledge oriented managers. The barriers can include:

- managers' reservations or inability to implement knowledge behaviors and activities in practice in spite of their positive attitude towards knowledge,
- human resource characteristics (educational and cultural standards) restricting or delaying the implementation of certain knowledge behaviors and activities,
- external reasons (economic or legal environment).

The explanation of the situations in which the levels of MKO and CKO are not matched is speculative and requires further research.

It is necessary to note that the current study concentrated on the intensiveness of knowledge processes in the companies, ignoring their quality. Therefore, relatively low correlation indexes between CKO and P could have been a consequence of the inferior quality of activities and behaviors connected with knowledge. For

example, collecting a lot of information does not mean that the necessary information was gathered or that the information reached the right target. Also, intensive knowledge generation does not have to be the strength of a company if it does not increase the company's competitive position or if it cannot be commercialized. Finally, in spite of wide knowledge implementation the business performance may be restricted by high investments and/or inefficient innovation investments.

So, as the knowledge-related activities do not always increase the firm's competitiveness, the problem of the quality of knowledge processes deserves further research.

Even though the links between MKO, CKO and P were weak, they still showed the benefits of knowledge orientation. This indicates to the managers that rational investments in knowledge are worthwhile.

CONCLUSION

The paper describes an instrument for assessing important managerial constructs: managers' knowledge orientation and companies' knowledge orientation. The research adds empirical evidence to the assertion that the managers' attitudes towards knowledge, the companies' knowledge orientation and their business performance are related. Managers with the high levels of knowledge orientation are expected to facilitate information flows, support employee development, encourage risk-taking and experimenting, and include the staff members in strategic and operational decision-making. (The research results indicated, however, that some of them do not behave this way.) Subsequently, the high levels of knowledge-related activities and behaviors positively influence business performance by enabling companies to take advantage of the innovativeness of their employees.

LITERATURE

1. Abhayawansa, S., Abeysekera, I.: An explanation of human capital disclosure from the resource-based perspective, **Journal of Human Resource Costing and Accounting**, Vol. 12, No. 1, 2008, pp. 51-64.
2. Aliaga, O.A.: **Knowledge Management and Strategic Planning, Advances in Developing Human Resources**, No. 2, 2000, pp. 91-104.
3. Baker, W.E., Sinkula, J.M.: Learning Orientation, Market Orientation, and Innovation: Integrating and Extending Models of Organizational Performance, **Journal of Market-Focused Management**, Vol. 4, No. 4, 1999, pp. 295-308.
4. Baker, W.E., Sinkula, J.M.: The Synergistic Effect of Market Orientation and Learning Orientation on Organizational Performance, **Journal of the Academy of Marketing Science**, Vol. 27, No. 4, 1999, pp. 411-427.
5. Bell De Tienne, K., Dyer, G., Hoopes, C., Harris, S.: Toward a Model of Effective Knowledge Management and Directions for Future Research: Culture, Leadership, and CKO's, **Journal of Leadership and Organizational Studies**, Vol. 10, No. 4, 2004, pp. 26-43.
6. Bontis, N.: Assessing knowledge assets; a review of the models used to measure intellectual capital, **International Journal of Management Reviews**, Vol. 3, No. 1, 2001, pp. 41-60.
7. Chang, T.Z., Mehta, R., Chen, M.Y., Polsa, P., Mazur, J.: The Effects of Market Orientation on Effectiveness and Efficiency: The Case of Automotive Distribution Channels in Finland and Poland, **Journal of Services Marketing**, Vol. 13, No. 4-5, 1999, pp. 407-418.

8. Conley, C.A., Zheng, W.: Factors Critical to Knowledge Management Success, **Advances in Developing Human Resources**, Vol. 11, No. 3, 2009, pp. 334-348.
9. Connor, K.R., Prahalad, C.K.: A resource-based theory of the firm: knowledge versus opportunism, **Organization Science**, Vol. 7, No. 5, 1996, pp. 477-501.
10. Logan, D.: Knowledge management scenario: measuring and managing intellectual asset - In: **Proceedings of the Gartner Symposium/ITexpo Africa**, Sandton, South Africa, unpublished paper, 2001.
11. Darroch, J., McNaughton, R.: Beyond market orientation. Knowledge management and the innovativeness of New Zealand firms, **European Journal of Marketing**, Vol. 37, No. 3-4, 2003, pp. 407-429.
12. Darroch, J.: Developing a measure of knowledge management behaviors and practices, **Journal of Knowledge Management**, Vol. 7, No. 5, 2003, pp. 41-54.
13. Edvinson, L., Malone, M.S.: **Intellectual Capital: Realizing Your Company's True Value by Finding its Hidden Brainpower**, Harper Business, New York, NY, 1997.
14. Hasan, H., Al-hawari, M.: Management styles and performance: a knowledge space framework, **Journal of Knowledge Management**, Vol. 7, No. 4, 2003, pp. 15-28.
15. Hooley, G., Fahy, J., Greenley, G., Beracs, J., Fonfara, K., Snoj, B.: Market orientation in the service sector of the transition economies of central Europe, **European Journal of Marketing**, Vol. 37, No. 1-2, 2003, pp. 86-106.
16. Jaworski, B.J., Kohli, A.K., Sahay, A.: Market driven versus driving markets, **Journal of Academy of Marketing Science**, Vol. 28, No. 1, 2000, pp. 45-54.
17. Khatri, N., Ng, H.A.: The Role of Intuition in Strategic Decision-making, **Human Relations**, Vol. 53, No. 1, 2000, pp. 57-86.
18. Kohli, A.K., Jaworski, B.J., Kumar, A.: MARKOR: A Measure of Market Orientation, **Journal of Marketing Research**, Vol. 30, 1993, pp. 467-477.
19. Kohli, A.K., Jaworski, B.J.: Market Orientation: The Construct, Research Propositions and Managerial Implications, **Journal of Marketing**, Vol. 54, 1990, pp. 1-18.
20. Kwaku, A.A., Satyendra, S.: Market orientation and Performance: An Empirical Study of British SMEs, **Journal of Entrepreneurship**, Vol. 7, No. 1, 1998, pp. 27-47.
21. Lambin, L.L., Chumpitaz, R.: Being customer-driven is not enough, **European Business**, No. 2, 2000, pp. 28-34.
22. Mazur, J., Rószkiewicz, M., Strzyżewska, M.: **Orientacja na wiedzę a wyniki ekonomiczne przedsiębiorstwa**, Warsaw School of Economics, Warsaw, 2008.
23. Morgana, R.E.: Market-Based Organisational Learning – Theoretical Reflections and Conceptual Insights, **Journal of Marketing Management**, Vol. 20, 2004, pp. 67-103.
24. Myers, S.P.: **Knowledge management and organizational design**, Butterworth-Heinemann, Boston, MA, 1996.
25. Narver, J.C., Slater, S.F.: The Effect of a Market Orientation on Business Profitability, **Journal of Marketing**, Vol. 54, 1990, pp. 20-35.
26. Politis, J.D.: The relationship of various leadership styles to knowledge management, **Leadership & Organization Development Journal**, Vol. 22, No. 8, 2001, pp. 354-364.
27. Probst, G., Raub, S., Romhardt, K.: Zarządzanie wiedzą w organizacji, **Oficyna Ekonomiczna**, Kraków, 2002, pp. 42.

28. Snyman, R., Kruger, C.J.: The interdependency between strategic management and strategic knowledge management, **Journal of Knowledge Management**, Vol. 8, No. 1, 2004, pp. 5-19.
29. Venkatraman, R., Ramanujam,V.: Measurement of Performance in Strategy Research: A Comparison of Approaches, **Academy of Management Review**, Vol. 11, No. 4, 1986, pp. 801-814.
30. Warkentin, M., Sugumaran, V., Bapna, V.R.: E-knowledge networks for inter-organizational collaborative e-business, **Logistics Information Management**, Vol. 14, No 1-2, 2001, pp. 149-162.
31. Wawrzyniak, B.: **Zarządzanie wiedzą w przedsiębiorstwie**, Wydawnictwo Wyższej Szkoły Przedsiębiorczości i Zarządzania im, Leona Koźmińskiego, Warsaw, 2003.
32. Wiig, K.M.: Integrating intellectual capital and knowledge management, **Long Range Planning**, Vol. 30, 1997, pp. 399-405.
33. Wong, K.Y.: Critical success factors for implementing knowledge management in small and medium enterprises, **Industrial Management and Data Systems**, Vol. 105, No. 3-4, 2005, pp. 261-279.
34. Zadeh, L.A.: Fuzzy Sets, **Information and Control**, No. 8, 1965, pp. 338-353.

References

1 Narver, J.C., Slater, S.F.: The Effect of a Market Orientation on Business Profitability, **Journal of Marketing**, Vol. 54, 1990, pp. 20-35.
2 Kohli, A.K., Jaworski, B.J., Kumar, A.: MARKOR: A Measure of Market Orientation, **Journal of Marketing Research**, Vol. 30, 1993, pp. 467-477.; Kohli, A.K., Jaworski, B.J.: Market Orientation: The Construct, Research Propositions and Managerial Implications, **Journal of Marketing**, Vol. 54, 1990, pp. 1-18.
3 Kohli, A.K., Jaworski, B.J., Kumar, A.: op. cit., pp. 467-477.
4 Ibid.
5 Kwaku, A.A., Satyendra, S.: Market orientation and Performance: An Empirical Study of British SMEs, **Journal of Entrepreneurship**, Vol. 7, No. 1, 1998, pp. 27-47.
6 Chang, T.Z., Mehta, R., Chen, M.Y., Polsa, P., Mazur, J.: The Effects of Market Orientation on Effectiveness and Efficiency: The Case of Automotive Distribution Channels in Finland and Poland, **Journal of Services Marketing**, Vol. 13, No. 4-5, 1999, pp. 407-418.
7 Hooley, G., Fahy, J., Greenley, G., Beracs, J., Fonfara, K., Snoj, B.: Market orientation in the service sector of the transition economies of central Europe, **European Journal of Marketing**, Vol. 37, No. 1-2, 2003, pp. 86-106.
8 Baker, W.E., Sinkula, J.M.: Learning Orientation, Market Orientation, and Innovation: Integrating and Extending Models of Organizational Performance, **Journal of Market-Focused Management**, Vol. 4, No. 4, 1999, pp. 295-308.; Baker, W.E., Sinkula, J.M.: The Synergistic Effect of Market Orientation and Learning Orientation on Organizational Performance, **Journal of the Academy of Marketing Science**, Vol. 27, No. 4, 1999, pp. 411-427.
9 Morgana, R.E.: Market-Based Organisational Learning – Theoretical Reflections and Conceptual Insights, **Journal of Marketing Management**, Vol. 20, 2004, pp. 67-103.
10 Darroch, J., McNaughton, R.: Beyond market orientation. Knowledge management and the innovativeness of New Zealand firms, **European Journal of Marketing**, Vol. 37, No. 3-4, 2003, pp. 407-429.; Darroch, J.: Developing a measure of knowledge management behaviors and practices, **Journal of Knowledge Management**, Vol. 7, No. 5, 2003, pp. 41-54.
11 Jaworski, B.J., Kohli, A.K., Sahay, A.: Market driven versus driving markets, **Journal of Academy of Marketing Science**, Vol. 28, No. 1, 2000, pp. 45-54.

12 Warkentin, M., Sugumaran, V., Bapna, V.R.: E-knowledge networks for inter-organizational collaborative e-business, **Logistics Information Management**, Vol. 14, No 1-2, 2001, pp. 152.

13 Bell De Tienne, K., Dyer, G., Hoopes, C., Harris, S.: Toward a Model of Effective Knowledge Management and Directions for Future Research: Culture, Leadership, and CKO's, **Journal of Leadership and Organizational Studies**, Vol. 10, No. 4, 2004, pp. 34.

14 Hasan, H., Al-hawari, M.: Management styles and performance: a knowledge space framework, **Journal of Knowledge Management**, Vol. 7, No. 4, 2003, pp. 15-28.

15 Wong, K.Y.: Critical success factors for implementing knowledge management in small and medium enterprises, **Industrial Management and Data Systems**, Vol. 105, No. 3-4, 2005, pp. 261-279.

16 Politis, J.D.: The relationship of various leadership styles to knowledge management, **Leadership & Organization Development Journal**, Vol. 22, No. 8, 2001, pp. 354-364.

17 Connor, K.R., Prahalad, C.K.: A resource-based theory of the firm: knowledge versus opportunism, **Organization Science**, Vol. 7, No. 5, 1996, pp. 477-501.

18 Probst, G., Raub, S., Romhardt, K.: Zarządzanie wiedzą w organizacji, **Oficyna Ekonomiczna**, Kraków, 2002, pp. 42.

19 Darroch, J., McNaughton, R.: op. cit., pp. 407-429.

20 Myers, S.P.: **Knowledge management and organizational design**, Butterworth-Heinemann, Boston, MA, 1996.

21 Conley, C.A., Zheng, W.: Factors Critical to Knowledge Management Success, **Advances in Developing Human Resources**, Vol. 11, No. 3, 2009, pp. 334-335.

22 Snyman, R., Kruger, C.J.: The interdependency between strategic management and strategic knowledge management, **Journal of Knowledge Management**, Vol. 8, No. 1, 2004, pp. 11.

23 Logan, D.: Knowledge management scenario: measuring and managing intellectual asset - In: **Proceedings of the Gartner Symposium/ITexpo Africa**, Sandton, South Africa, unpublished paper, 2001.

24 Wiig, K.M.: Integrating intellectual capital and knowledge management, **Long Range Planning**, Vol. 30, 1997, pp. 400.

25 Edvinson, L., Malone, M.S.: **Intellectual Capital: Realizing Your Company's True Value by Finding its Hidden Brainpower**, Harper Business, New York, NY, 1997.

26 Bontis, N.: Assessing knowledge assets; a review of the models used to measure intellectual capital, **International Journal of Management Reviews**, Vol. 3, No. 1, 2001, pp. 41-60.

27 Wawrzyniak, B.: **Zarządzanie wiedzą w przedsiębiorstwie**, Wydawnictwo Wyższej Szkoły Przedsiębiorczości i Zarządzania im, Leona Koźmińskiego, Warsaw, 2003, pp. 199.

28 Abhayawansa, S., Abeysekera, I.: An explanation of human capital disclosure from the resource-based perspective, **Journal of Human Resource Costing and Accounting**, Vol. 12, No. 1, 2008, pp. 51.

29 Aliaga, O.A.: **Knowledge Management and Strategic Planning, Advances in Developing Human Resources**, No. 2, 2000, pp. 96.

30 Venkatraman, R., Ramanujam,V.: Measurement of Performance in Strategy Research: A Comparison of Approaches, **Academy of Management Review**, Vol. 11, No. 4, 1986, pp. 801-814.

31 Khatri, N., Ng, H.A.: The Role of Intuition in Strategic Decision-making, **Human Relations**, Vol. 53, No. 1, 2000, pp. 57-86.

32 Lambin, L.L., Chumpitaz, R.: Being customer-driven is not enough, **European Business**, No. 2, 2000, pp. 28-34.

33 Darroch, J. (2003b): op. cit., pp. 52.

34 Zadeh, L.A.: Fuzzy Sets, **Information and Control**, No. 8, 1965, pp. 338-353.

35 Mazur, J., Rószkiewicz, M., Strzyżewska, M.: **Orientacja na wiedzę a wyniki ekonomiczne przedsiębiorstwa**, Warsaw School of Economics, Warsaw, 2008.

36 Ibid.