

Knowledge as a Source of Innovation and Value Creation in Distributive Trades Sector

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Abstract The distributive trade is an important sector in every national economy. In Croatia in past decade, due to increased process of internationalization, this sector is restructuring and becoming more competitive. Therefore, companies in the sector are striving to find new models for value creation. In recent literature knowledge is stated to be the key economic resource that improves utilization of traditional economic resources (work, land and capital). In this paper the interrelation between knowledge usage and value creation is discussed on the basis of results of the empirical research conducted on the sample of Croatian companies in the distributive trades sector.

Key words distributive trade, knowledge management, value creation

1 Introduction

During the communism era from 1945 till 1990, Croatian economy was controlled and the entry of international companies was not legally approved. During and after the war (1991-1995) whole Croatian economy was in decline and that negative trend continued till 1997. Throughout last decade Croatian economy is revitalizing.

Since mid-nineties Croatia is trying to establish a more flexible legal framework and allow and encourage the entry of foreign capital onto the domestic market. The distributive trades sector was the most responsive to such efforts. Because European chain stores driven by their economic interest begun to enter Croatian market place in 1999 and trend of internationalization in this sector goes on till now.

According to the official statistics distributive trades is extremely important sector in Croatian national economy. For instance, in 2003 it created 10,2% of GDP and employed 16,7% active workforce. Despite the fact that the sector is growing in terms of value generation and number of employed persons, it is necessary to stress out that since 1997 the number of registered entities (companies) in distributive trades sector has been growing at a slower rate than the number of all registered legal entities (companies). That information may indicate that the development of this sector has reached its mature stage which means that some companies are shut down, entering is very difficulty and the concentration of capital (by mergers and acquisitions) is an ongoing trend. It also means that there is an enhanced competition in this sector. For detailed analysis of trends in the distributive trades sector in Croatia see Knezevic [15].

Increased competitiveness in distributive trades sector enforce companies to search for new models of adding value to products, processes and services in order to increase competitiveness and to keep or enlarge their market share. In the recent scientific literature in the area of knowledge management it is emphasized that competitiveness of a company relies on the ability of a company to collect, process, create and utilize new knowledge. Moreover, throughout numerous examples and case studies it is proven that knowledge based companies are the nucleus of the modern developed economies regardless their industry or business activity. But there is a scarcity of research papers that are systematically investigating the existence of connection between value creation capabilities and knowledge usage in the sector of distributive trades.

Therefore, the purpose of this paper is to explain is there a connection between innovativeness, value creation and knowledge practices among companies in the distributive trades sector. The research is conducted on the sample of Croatian companies. Firstly the research methodology will be explained, than the research results will be discussed and finally, conclusions on connection between knowledge and value creation in this sector will be made.

2 Methodology

2.1 The sample description

According to the database "Business Croatia - summer 2005" [1] in Croatia in the distributive trades sector there are 29.362 active companies from which 8% perform activity in the motor vehicles

branch, 28% in the retail trade, and 64% in the wholesale trade branch. Table 1 represents the number of distributive trades companies according to branches and number of employed persons.

Table 4 The Number of Distributive Trades Companies According to Branches and Number of Employed Persons

No. of employees	Distributive trade branch			TOTAL
	G50	G51	G52	
0	363	4222	1437	6022
1 - 9	1627	12528	5982	20137
10 - 49	281	1738	772	2791
50 - 249	36	190	119	345
250 and more	1	31	35	67
Total	2358	18760	8397	29362

Note: According to NCEA the mark G50 represents motor vehicle selling and repair, G51 wholesales and G52 retailing.

Source: adapted from the database "Business Croatia - summer 2005"

On the basis of assumption that positive results of knowledge management come from the synergistic effect of cooperation among employed and information technology usage in companies which have greater number of employees, as the object of this research trade companies with 10 or more employed are chosen.

Therefore, from mentioned database only companies which have 10 or more employed have been extracted. In such way, the initial contact list has been structured. The list included telephone numbers and postal addresses of 3203 distributive trades companies. The created contact list was extended with e-mail addresses of concrete individuals in companies. The process of contact list supplementing appeared relatively complex because the goal was to gather highly quality and useful e-mail addresses. The process included following procedures:

- 1) searching for web sites of selected companies
- 2) testing of web sites accuracy
- 3) establishing data on individuals and e-mail addresses which were appropriate for the distribution of poll questionnaire.

For companies that didn't have web sites or for those which have out-dated web sites, the verification of data accuracy in the existing contact list was performed. Main questions in the verification process were:

- 1) is the company still active?
- 2) does the company perform business activity in stated branch?

In the verification process data on active companies accessible on the online court register [10] and in the database BIZNET of Croatian Chambers of Economy [8] were used. Nonexistent or wrongly classified companies have been deleted from the contact list. Furthermore, companies have been contacted by telephone in order to get the concrete e-mail address on which the questionnaire was going to be distributed. For the discovering of current data about telephone numbers the online telephone book [11] has been used.

Thereby, the procedure of adaptation of the initial contact list resulted with 1347 removed companies (297 does not exist or have changed the activity, 274 don't have the web site and/or no accessible data for the telephone contact, 776 companies have not been able and willing to give an e-mail address). It is necessary to mention that there was relatively significant number of companies which has expressed that does not want to participate in the research.

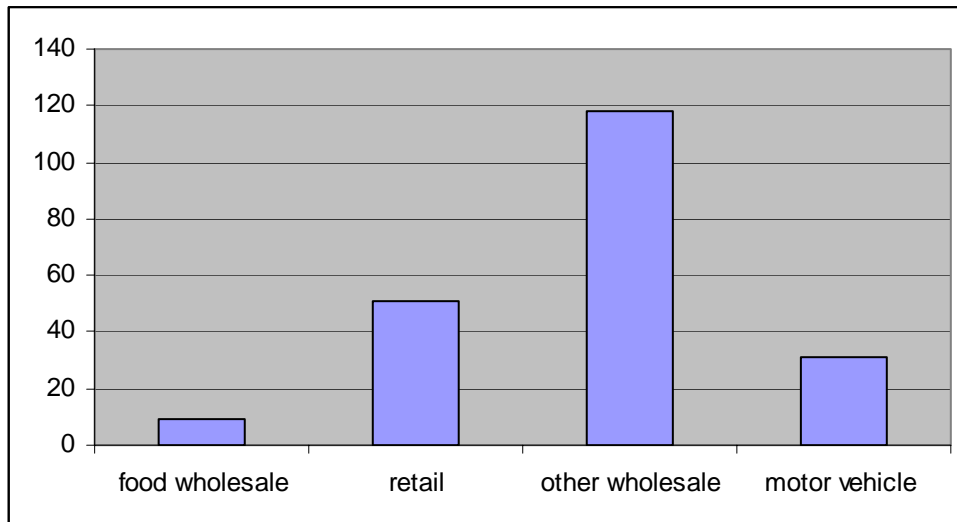
Finally, the updated contact list with included e-mail addresses of concrete individuals has comprised 1856 companies that is 57,95% of companies from the initial contact list. Table 2 shows the structure of companies included in the final contact list.

Table 5 The Structure of Companies in the Final Contact List (N=1856)

No. of employees	Distributive trades branch			Total
	G50	G51	G52	
From 10 to 49	8,77%	54,26%	24,10%	87,14%
From 50 to 249	1,12%	5,93%	3,72%	10,77%
250 and more	0,03%	0,97%	1,09%	2,09%
TOTAL	9,93%	61,16%	28,91%	100,00%

Since the purpose of the paper is the investigation of the influence of knowledge on the process of

value creation, one more characteristic was added into the created contact list, and that is the rank of company on the list of 1000 most successful companies in Croatia.



Source: Adapted from TOP 500, The Institute for Business Intelligence, 2007., str. 68-78

Figure 2 The Number of Distributive Trade Companies Placed on the List of 1000 Largest Value Creators

The list of the most successful companies in Croatia is published once a year on the basis of data on value added realized in the passed fiscal year. The list is published under the title "TOP 500" by The Institute for Business Intelligence in cooperation with FINA (Financial Agency) and the business magazine Lider. Besides the alphabetical and rank list, the publication [18] includes the list of 1000 most successful companies according to prevailing business activities of companies. According to accessible data, 210 companies from the sector of distributive trade can be found on the mentioned list, and their structure is represented in the Figure 1.

2.2 The tool and the survey method

At the moment 35% population in Croatia use Internet which puts Croatia on the top in the region, yet slightly underdeveloped in respect to the European Union average [9]. Some research results are yet more optimistic and tell that around 38% of households in Croatia have installed access on Internet from the own home. Moreover, the share of companies which utilize Internet is estimated to be more than 60%. E-mail is the one of the most frequently used Internet services, and towards the previously conducted research among Croatian companies [14] it appears to be the effective instrument for poll survey that generates high response rate. Furthermore, in same research [14] e-mail showed to be faster and simpler instrument for the collection of responses than polls via the classic mail. For example for the sending and refund of written poll minimally 7 days was necessary, while in the poll distributed via e-mail the majority of responses came back in 48 hours.

Additionally, electronic way of responses gathering enables tracking and supervision above the poll; also it ensures the smaller degree of mistakes which happens during the manual transfer or digitization and storage in the information system.

On the basis of uttered, it has been decided that the invitation for the participation in the research will be distributed to selected companies via previously created e-mail list. However, the research was exceptionally comprehensive, and therefore the placement the questionnaire inside the e-mail message was not the acceptable method for the questionnaire distribution due to possible fatigue and eagerness which emerge while one is reading so large-scaled e-mail message.

Also the testing of distribution of poll questionnaire in the form of the enclosed digital document has not produced favorable results. Thus, as the optimal method of questionnaire distribution the designing of web poll questionnaire was chosen accompanied with the distribution of e-mail invitation that includes the link to the created web form.

QuestionPro (TM) was selected as a suitable solution for the web survey form design. Mentioned tool insures the complete control over the structure of questionnaire. For this research it was necessary to ensure that one company fills poll questionnaires only once. QuestionPro (TM) appeared to be exceptionally good choice because it enables design and management of e-mail lists, invitations and

responses via the procedure called "Manage Mail List". Also, this tool offers the possibility of data download in the digital form suitable for processing in several other computer programs.

From the previously prepared contact list, according to more detailed criteria, data have been classified in several e-mail lists in order to enable grouping of participants according to the company size and the presence of the company on the lists of largest value creators in Croatia.

Two invitations for the participation in the research were sent to selected companies via e-mail during the same week. Invitations have included the link on the web poll questionnaire and the recipient could access the web poll form in only one mouse-click.

2.3 The structure of the questionnaire

The poll questionnaire was created based upon findings of several studies in the area of knowledge management. Hereafter the most important studies will be briefly described.

In the study on information orientation and successful performance of company which was based on the empiric research on the large number of companies in Great Britain, Marchand et al. [16] present the methodology and research results regarding the correlation between the value of information and practical application of information technologies, together with managerial processes in area of information management. They have pointed to three types of information that are necessary for the leader position acquiring. Those are: (1) competitive information, (2) customer information, and (3) operational information. For the every type of information they calculated the significances, and the estimated the influence of particular information types on belonging data types.

Weis [19 and 20] researches the usage information communication technologies in the trade sector in Germany, and describes that the application of the contemporary technology changes the manner of the knowledge flow between companies and customers. He emphasizes that contemporary communication canals should not be neglected as the instrument for the knowledge transfer between customers and trade companies or sole proprietors in the distributive trades sector. Also, he stresses out that different communication canals achieve different levels of information during the buying-selling process which has the direct impact on the business result.

In the quantitative empiric research conducted on the sample of managers of big companies from different industrial branches (N = 443), Darroch [4, 5, 6] confirms that there is a positive correlation between the knowledge and innovativeness and efficiency of companies. During the mentioned research she measured the interrelation of management and three components knowledge management: (1) knowledge acquisition, (2) knowledge dissemination and (3) responsiveness the knowledge. More over, Darroch [6] suggested the model of evaluation and established positive and significant correlation between the knowledge management and competitive ability of a company.

Kalling [12] points to the problem of knowledge utilization in companies and emphasizes that the knowledge enlargement does not necessarily result in the improved efficiency of a company. He identifies possible solutions for the knowledge utilization improvement. A qualitative research is conducted on the sample of European multinational manufacturing companies. The research indicates that knowledge development is associated with the development of business resources, knowledge utilization with the improvement of value-chain activities, and knowledge capitalization with the ability of cost reduction and/or the product differentiation.

Massingham [17] has made the case study of large Australian companies based on interviews with 20 top-managers in companies within different business sectors. The study correlates knowledge management strategy with RBV management model in the international business environment. As two key areas of knowledge management Massingham [17] distinguishes two types of knowledge within knowledge management strategy: (1) knowledge for the purpose of business process development with the purpose of large investments decision making process, and (2) knowledge about business partners with the purpose to increase the value for the customer.

Al-hawari and Hasan [1, 2, 3] have developed the model knowledge creation space, so called K-space (the knowledge space) and have established 4 predominant styles in the knowledge management, those are: adoption, standardization, systematization and articulation of knowledge. The developed model was investigated via polls in different companies, and the research showed that in service industry (such as distributive trade) the most important is the knowledge articulation. Therefore, to companies in service sector, they recommend the implementation of tool which will enable recognizing and data processing from company's surroundings.

According to Kent and Omar [13], retail companies depends on several knowledge categories, those are: (1) macro-environment factors; (2) micro-environment factors and (3) internal factors. Macro-environment factors are general market conditions in some country on region and they include:

business, demographic, legal and technological environment. Micro-environment factors are those from the closer, direct environment of the company, they include: business partners (buyers and suppliers), competitors, workforce, financial institutions, logistic companies and so on. Internal factors are connected with business processes within the company which are conducted in order to purchase supplies and selling products. Kent and Omar (2003) stress out the fact that the level of environmental factors depends on the stage of company growth which means that companies in the mature stage will interpret and react differently to the same information from the environment than companies in the development phase.

After the analysis of the recent literature, the poll questionnaire has been structured into 4 segments: (1) general questions about the company and examinee, (2) general attitudes towards the knowledge management in the company, (3) external knowledge resources, and (4) internal knowledge resources.

In the first segment questions on company's size and revenue were asked, but also questions on prevailing activity of the company and on the department from which the examinee answers on the poll. In the second segment, questions on company and management attitudes towards knowledge are asked, together with questions on estimation of usefulness of knowledge system components and their possible effect on the business results.

The third segment of the questionnaire was subdivided into questions on (1) knowledge gathered from the macro-environment and (2) knowledge gathered from the micro-environment of the company. In this part of the questionnaire, the question on the knowledge relevance was asked but also questions on current state of knowledge management methods usage in the company.

The most extensive part of the questionnaire was the fourth part which was related to the internal knowledge resources. Based on the suggested model of internal knowledge which was proposed by Knezevic [15], the questions were subdivided into following components: (1) information technology, (2) employees, (3) cooperation within the company.

The created questionnaire consisted of 23 questions of different question types and was adapted and structured into a web poll form. The form was structured in 5 screens and was tested in order to ensure effective time consumption. It was suggested that filling process should not take more than 15 minutes.

3 The Research Results

As mentioned earlier, the invitation for survey participation was sent to 1856 selected companies via the e-mail list management module. Invitations were distributed twice in the period from the 1st till 12th December, 2007, the first time as a classical invitation, and the second time as a reminder.

Table 6 The Status of Sent Invitations and Response

Indicators	Number
The distributed e-mail message	1856
Refused because of the irregular e-mail address	123
Refused by the spam security mechanism	218
Received messages	1515
Clicked on the link to the poll (the looked poll)	865
Incomplete respond (DROP OUT)	71
Completely responded the poll	223

In Table 3 data on the status of sent invitations and response are shown. The majority of messages were correctly delivered to examinees' inboxes (1515). Comparing to the number of the delivered messages, relatively good response rate was produced (14,7%) because 223 questionnaires were totally completed. In the further analysis only fully filled questionnaires were analyzed.

Figures 2 and 3 show the distribution of companies according to the number of employees and according to the generated revenue. It is obvious that the majority of responding companies has less than 65 millions kunas revenue²⁷ and employ between 10 and 49 employees.

²⁷ the exchange rate is: 1 EUR = 7,3 kunas

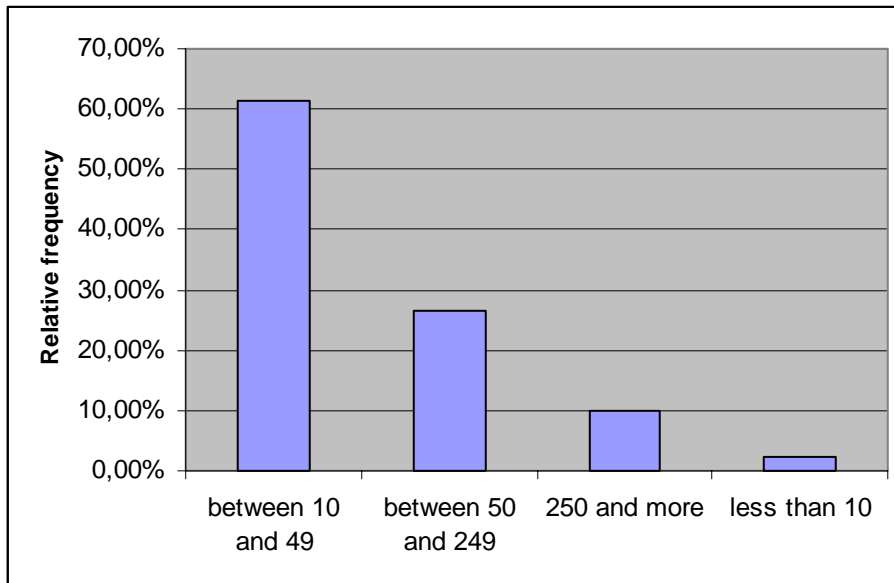


Figure 3 The Distribution of Respondents According to the Number of Employees (N=223)

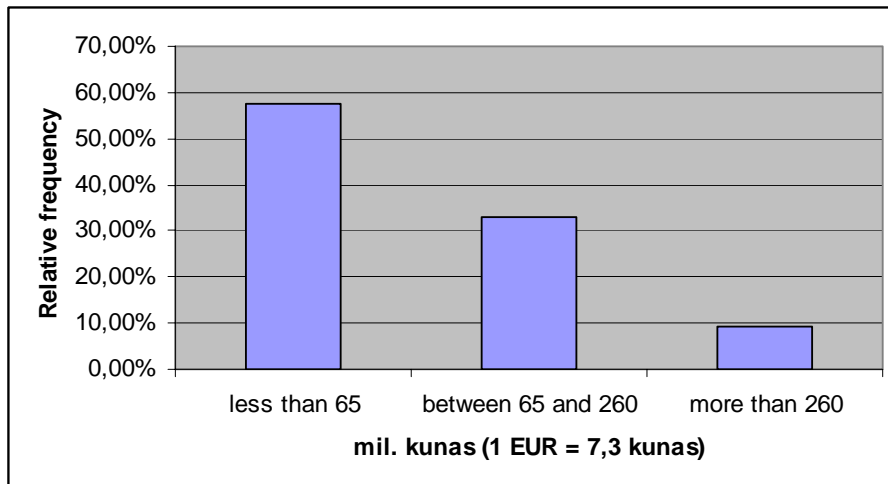


Figure 4 The Distribution of Respondents According to the Annual Revenue (N=223)

3.1 Differences between value creators and others in the distributive trade sector

The aim of this paper is to establish that knowledge have the influence on innovativeness and value creation in companies in distributive trades sector. The research results should be classified according the criterion of value creations among companies. As described earlier, the data on the presence of the company on the list of the value creators were embedded into the contact list. According to the data on their presence on the value-creator list and data gathered form the module of e-mail list management within the Question Pro (TM) tool, it was possible to make two groups of companies: (1) those that are on the list of the greatest value creators and (2) others. Out of 223 analyzed companies, 43 are on the list and 180 are not.

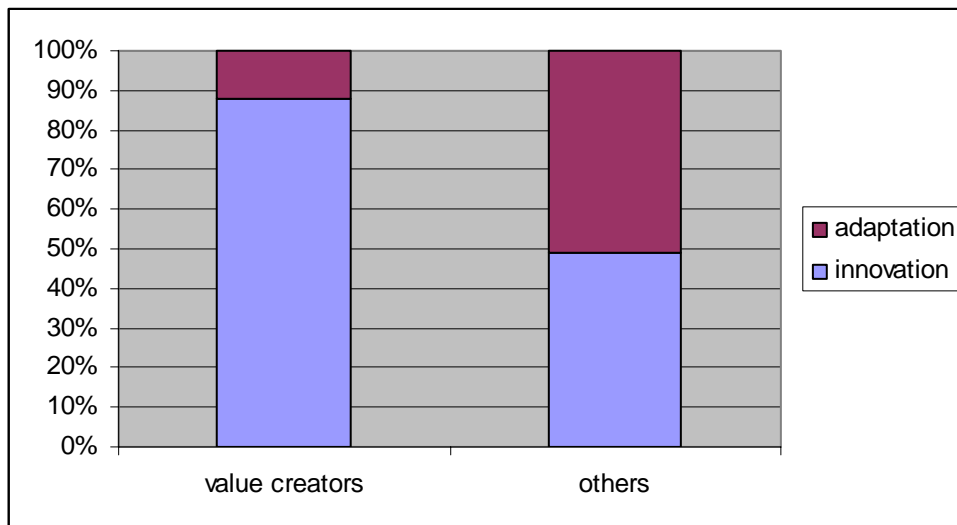


Figure 5 The Structure of Trading Companies According to Declared Knowledge Management Goals (N=223)

In order to establish the relation between knowledge and value creation process in the distributive trades sector, the analysis of variance (ANOVA) and H-Tests were conducted. Analyses showed that there are statistically significant differences between observed groups of companies.

Firstly, comparing to others, companies that creates higher values are showing the higher level of innovation application in their business processes. While others are merely adapting to the market situation, value creators are striving to find and apply new solutions and methods (new knowledge) in their business. See Figure 4.

For value creators, following statements are proven to be true by means of statistical analysis:

(1) They express higher degree of agreement with the claim that they are in the constant search for new suppliers that have the better purchasing condition than other companies.

(2) They express higher degree of agreement with the claim that they are in the constant search for better purchasing conditions by existing suppliers than other companies.

(3) They express higher degree of agreement with the claim that they are in the constant interaction with suppliers in order to improve processes and level of services than other companies.

(4) They express higher degree of agreement with the claim that they reward their customers (or consumers) than other companies.

All mentioned reveals that the group of companies belonging to the list of 1000 largest value creators more intensively uses knowledge in interaction with their business partners than the group of other companies.

Beside that, further analysis has shown following:

(1) They have a greater share of highly educated employees than other companies

(2) They have higher degree of the financial stimulation of continuous education than other companies

(3) They express higher degree of agreement with the claim about the systematic tracking of employees' knowledge level improvements than other companies.

From quoted it can be concluded that the group of companies belonging to the list of 1000 largest value creators has the better treatment regarding the employees' knowledge.

Table 7 Statistically Significant Differences between Observed Groups of Companies

Distinctive Criterion	MEAN		ANOVA P ($\alpha=0.05$)
	value creators	others	
declared goals of knowledge management*	3,14	2,65	0,02974
continuous search for new suppliers	1,3	1,62	0,00272
active approach towards suppliers in order to improve conditions of procurement	1,09	1,25	0,02885
active approach towards suppliers in order to improve processes, services and products	1,21	1,49	0,00240
customers' loyalty rewarding	1,25	1,71	0,00012
education of employees for elementary IT usage	1,41	2,06	0,00000
education of employees for advanced IT usage	1,48	2,27	0,00000
share of highly-educated in the total number of employees**	2,91	2,61	0,02753
systematical tracking of change in the level of employees' knowledge	1,56	2,20	0,00000
financial stimulation of continuous education of employees	1,23	2,01	0,00002
influence of IT on the enhancement of volume and efficiency of businesses in the passed 5 yrs***	4,07	3,43	0,00179
influence of change of education level on the enhancement of volume and efficiency of businesses in the passed 5 yrs***	3,55	2,90	0,00015
possibility of knowledge flow improvement on the basis of existing IT and existing education level***	4,21	3,42	0,00001

Notes: * higher mean – higher level of innovativeness; ** higher mean – higher share; *** higher mean – higher degree of agreement with the quoted statement. For other distinctive criteria: lower mean - higher degree of agreement with the quoted statement

Also, the group of value-creating companies shows and higher degree of agreement with the claim that IT significantly has contributed to the enhancement of the efficiency level of a company than it is the case in the group of other companies. Similar finding stands for the degree of agreement regarding the role of improvement in the employees' knowledge level.

Finally, the group of value-creating companies has a larger awareness of improvement possibilities in the area of knowledge flow within the company on the basis of the existing information technology and existing employees' knowledge level.

Table 4 represents the indicators that showed the statistically significant difference among observed groups companies.

5 Conclusion

The distributive trade is an important part of the national economy. In Croatia it generates 11,52% of GNP and employs 21,17% workforce. More than 30% of all active companies are operating in this sector. Modern economy is oriented towards knowledge more than other business resources. Therefore, the aim of this research was to discover relation between knowledge and value creation among companies in distributive trades sector.

The research showed that companies which generate higher value are treating knowledge differently compared to other companies. For instance, they: (1) have higher proportion of highly educated personnel; (2) stimulate continuous education more than others; (3) are systematically tracking educational improvements among their employees than others.

The group of companies belonging to the list of 1000 largest value creators more intensively uses knowledge in interaction with their business partners than the group of other companies. Moreover, they are trying to find and apply new solutions and methods (new knowledge) in their business, so one can tell that they are more innovative than others.

On the basis of the empiric research it can be concluded that value creators have better attitude towards knowledge than others and have implemented better knowledge practices than others. It is obvious that those attitudes and practices have the direct impact on their positions on value-creators list. Therefore, we can say that knowledge gathering, processing and usage has a positive impact on value creation process in the distributive trades sector.

In the further research it is necessary to establish the numeric indicators of level of correlation between knowledge utilization and value creation metrics in this sector.

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