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Tertiary Education Knowledge Management,  
Outside and Interior Cooperative Features

Doctoral Theses

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## ***1. Reasoning for Choice of Topic***

Knowledge has always played a vital role in social and economic life, and this role is being continuously re-valued by today's new, accelerated development – the “new” economic and “knowledge-economic”<sup>1</sup> processes. Still, what is knowledge? Which parts of knowledge are still necessary to remain competitive in terms of work, personal life – or even organizational levels? Where and how is knowledge created?

Tertiary educational institutions<sup>2</sup> are, or should be, the main stage for receiving knowledge and training at the highest possible degree. The universities become economic characters as they offer knowledge, competence and trade, which helps people leaving tertiary education to find jobs; they also help to organize and tune trade structures. Tertiary education provides people with degrees, and so they greatly influence the quality and quantity of the offering side of the labour market. Our success on the labour market depends on how well we are prepared by our previous education. The university contributes to the competitiveness of the economy with its research pursuit, in cooperation with companies, enterprises, trade unions and governmental chambers. Last, but not least, universities and colleges can be interpreted as cultural centres and employers. The material conditions of the institutional infrastructure are defined by the level and professional orientation of the education; this is necessary for running the system as well as to provide the basic services. The personal conditions are provided by the lecturers, researchers and students as well as the course material and the forms of education – together, they create, use, utilize and spread knowledge. This also means that tertiary education does not work as a unique, insulated entity. *Learning from each other is a vital factor in economy and society, providing connections which allow us to research and get new forms of education from it.*

*Tertiary education has undergone profound changes on several occasions in the last few years; the attempt to answer the new structural challenges created by mass effect of the*

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<sup>1</sup> The produced excess value, the growing number of certified higher-education graduates, the general raise in R+D costs and the growing number of patents and inter-corporate cooperation all refer to a knowledge-based economy.

<sup>2</sup> To the best of my knowledge, there is no unified definition of tertiary education in the international or the Hungarian literature. EU documents suggest that all institutions tertiary if they provide basic and master training. I accept this approach, and so, when I speak of tertiary education, I speak of colleges and universities alike as there is no need for any distinction from the point of view of my thesis.

*previous decade was realized within the Bologna Process – modified by the present aims and tasks.* In the Middle Ages, the word ‘universitas’ originally meant a body of “people with the same interests and legal status.” ‘Studium’ meant the place and environment where education was possible, while ‘generale’ pointed at the fact that the attraction of the universitas grew beyond its immediate region. The new ‘university’ is a functional creation of modern society, an answer created to the needs and demands of a given region. Division of labour is created through this answer as well as practicing its function, while permanent division of labour forms the whole tertiary educational system. In this way of functional thinking, the institution is created where a given community needs it. The massive wave of new institutions was an answer to the mass educational demands of the last few decades, where the changes are followed through the Bologna Process. These students’ *motivation upon entering the tertiary system defines how they form knowledge and competence. The question is: Does they have about expectations of higher education, the value of a given course or the jobs where a certain training can be used? A few very important factors in their training are the roles their lecturers take, the educational methods, the performance assessment of the students and the training model* . Last, but not least, student responsibility in the learning process is also taken into consideration.

According to experiences *even in the Bologna process, real connection between the world of work and the tertiary education was not formed.* The environmental changes, the new economy and the information society create new challenges and demands for tertiary education. These tasks include a new theoretical and methodological approach, the acceptance of the new tasks, the demand for moral and ethical responsibility, breaking down the “ivory towers” of the schools and creating and communicating new values towards society. (Noszkay, 2001, p. 123). Pálincás (2009) calls attention to the fact that “the complex nature of our world makes solid moral standards equal to, or perhaps even more important than, knowledge. If this is not implemented, our aims are worthless, so we must burn into people the need to co-exist within their community.” (<http://portal.bme.hu/Document%20Library/20090901evnyito.aspx>, time of download 2010.07.18.)

In our accelerating world, the “structural man” as well as the knowledge he possesses receives more and more attention (Csepeli, 2001). Knowledge management is a sub-system of corporate management, where the latest corporate theories, management techniques,

information technology and methods are applied in order to take the knowledge capital of the firm and interpret, organise, integrate and make it available, thus maximizing value creation potential. During this process, there is a need for group forming, cooperation, trust and organizational learning. The tertiary educational system plays a vital role in the long social and educational process of preparing for work. The employees entering the world of work need the above communal values and skills, especially the ability to share knowledge. For this reason, I consider it important to examine the attitude of the learner, as well as the lecturer, towards group-work. How do they feel about and what is their experience with group-work? I believe that group-work is one of the most important work organizational methods for an organization; it creates a field for social interaction. For this reason, the attitudes towards group-work are key factors for any organization – be they educational or economic ones – as well as for the individual. As for me, *I interpret group-work and cooperation within a group as a method for sharing and developing knowledge sharing, and I also examine the attitude of organizations and individuals towards it.*

My way of thinking, and, consequently, my research, is influenced by the fact that I did social studies in the tertiary system, while I work in economic education; my conclusions generally apply to these fields.

## ***2. Build-up of the Dissertation***

To limit my field of research, I decided to make surveys among students and researchers within the tertiary education system on the one hand, and among enterprises on the other hand. I raised all my questions referring to the already mentioned three central pursuits; as a common factor, I paid attention in all examined group to the attitude towards group-work and the general opinion of tertiary education. Questions about employee competence and professional training were raised in parallel among students and enterprises, and I also examined the educational methods and roles from two angles: I asked students as well of lecturers to fill in questionnaires.

I based my work – following the chapter called “Introduction” – on the use of versatile professional literature, the fields of which – it must be mentioned here that they could also be the bases of separate researches on their own; however, given the complexity of the topic, I felt it necessary to include them all – are the following (see the second chapter of the thesis):

In the thesis, I listed the models for individual and organisational knowledge creation and knowledge learning; for the research, I chose the informal learning model from Bencsik-Lóré (2009), which focuses on the connection between group learning and the knowledge capital of organizations. I used this theory in my research of cooperation types between enterprises and tertiary education. I presented the characteristics of the groups in details, and I demonstrated how knowledge is shaped by group-work. I paid attention to the role of national, as well as organizational, cultures as they have a vital role in knowledge sharing and cooperation.

I examined the field of tertiary education as well as the universities' role, changed functions and challenges in creating, transferring and developing knowledge. I pointed out that the aims of knowledge management correlate with the demands of the Single European Higher Education Area as they both wish to create the necessary knowledge and skills to promote competitiveness. I used the expansion of tertiary education and the Bologna Process as a basis to demand the necessary paradigm-change of learning and teaching; to prove my point, I presented lecturer roles as well as new teaching and learning methods. Tertiary education – just like other levels of education – cannot separate teaching from pedagogy.

Seeing as how questions concerning knowledge cannot be observed in tertiary education alone, I also used my empirical and theoretical research to examine the features of knowledge transmission within the cooperation between educational and economic figures; the research of this cooperation enabled me to reveal the characteristics of knowledge transfer as well as the demands of the labour market.

In the course of my research, I used primary and secondary data as well (KSH, Eurostat and questionnaires and deep interviews respectively). While processing the information, I created my research model: I raised hypotheses and verified them using the tools of statistical methodology.

I organized my results on the basis of logical order. Using the information gained from secondary sources, I examined the expansion of tertiary education, and I also followed the possible shifts in the aims of the Bologna Process. The examination of the labour market – based on the figures of the employed and unemployed – proved again that it is worth studying as people with higher education stand a better chance on the labour market than those with lower-grade qualifications. In order to limit the scope of my research, I left out the development in wages.

In the third chapter of my thesis, I shall present the methodology of the applied primary research as well as the specification of the samples. The chapter following that focuses on the examination of my hypotheses and the ensuing conclusions and suggestions. I shall also reveal the weak points of my research, showing possible guidelines for future researches.

In the last part of my dissertation, I summarise the results, organise all my decisions regarding my hypotheses and make the final theses.

### ***3. The Aim and Model of the Research***

The aim of my dissertation is to examine the *three central pursuit of knowledge management: interpretation* (identifying, mapping, assessing and using individual and organisational knowledge) *transmission* (sharing, granting accessibility and using) and *development* (creating knowledge and organisational learning), and to apply it to tertiary education. The huge role tertiary education plays in the management of knowledge justifies the necessity of dealing with this topic.

After the summary of the used literature, I shall present the results of my empirical research conducted within tertiary education and among economic figures. In my research, I was motivated by the following questions:

- 1) How is *knowledge* interpreted by tertiary education (lecturers and students) and by the labour market?

What does knowledge mean to firms? What kind of competence does the economy need? Does a certified employee possess the necessary competence? Can graduates be prepared by tertiary education for these requirements? Does tertiary education take into consideration the demands of the labour market?

- 2) What is characteristic of knowledge transfer in (tertiary) education?

The examination of teaching-learning methods is essential because the emphasis of professional content and knowledge ask WHAT?, HOW? and WHY? questions.

- 3) What characterises the transfer of knowledge regarding the cooperation between tertiary education and the economy?

How important is knowledge for enterprises, and what kind of knowledge do they need at all? How and through what channels do they acquire the necessary knowledge? How do organisations learn? What are the characteristic features of the relationship between tertiary education and the economy?

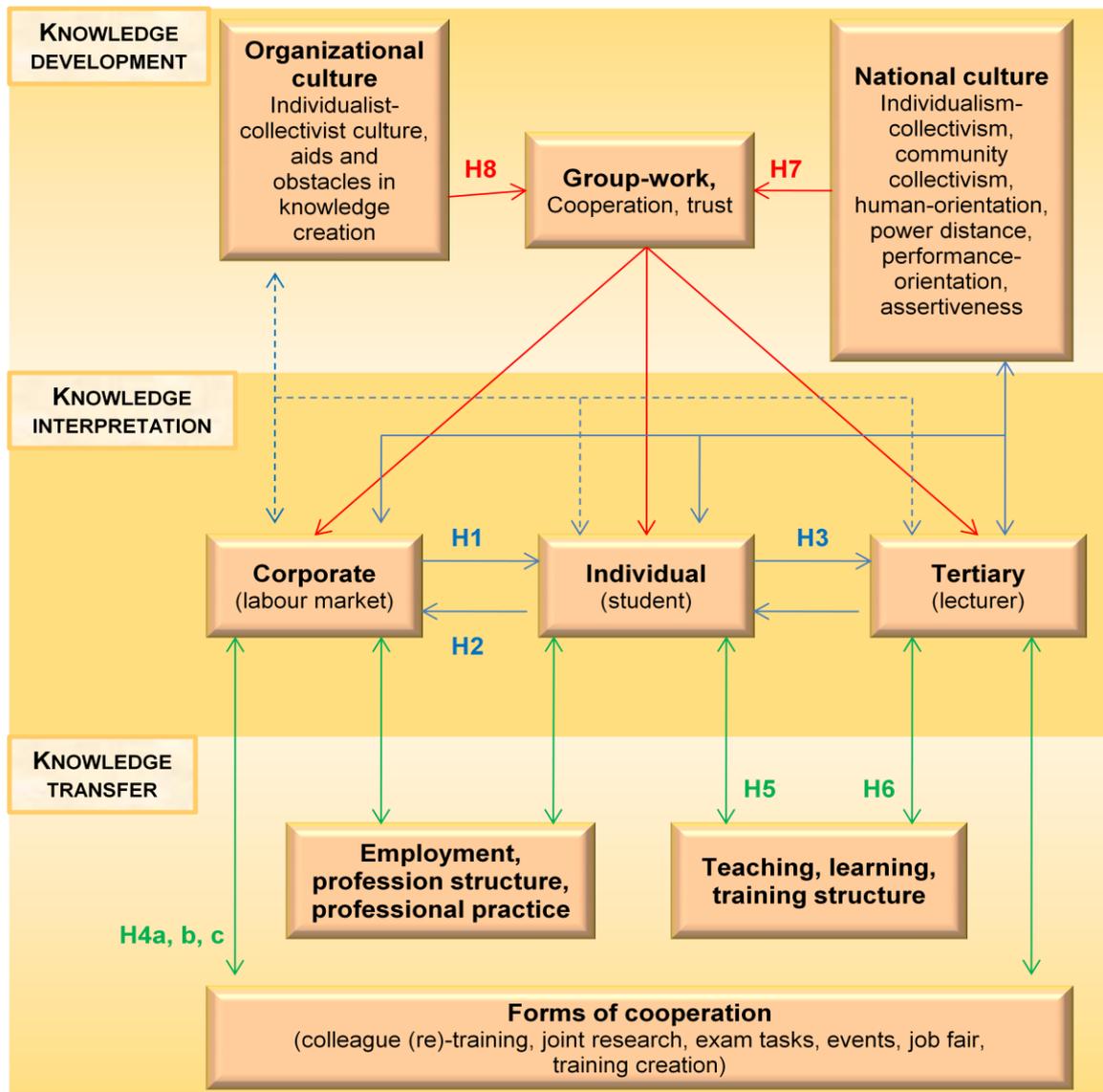
4) How can you describe the attitude of lecturers, students and enterprises towards (one possible) method of knowledge development, namely, group-work? This is an observation of the individualistic-collectivistic dimension of the national culture as well as the attitudes and opinions concerning group cohesion and group performance.

I set up my applied research model after studying the relevant theoretical findings and professional literature. The three central pursuits of knowledge management can be observed together; therefore, I made sure while creating the model to present all the connections as well as the complex and versatile nature of this topic.

In the following, I shall define the structure of the model and set up the content of the different factors as well as the connection between said factors. I based my model upon the assumption that universities do not only educate. They allow integration into the labour market as well. Besides this, the creation and development of knowledge is not only characteristic of tertiary education. It applies to the individual as employee and student, and the economy and the labour market are themselves involved as well. These figures exist independent of each other; however, they are also connected through different factors, not to mention that they can take different roles as well. The individual and the organisation, for example, can be connected through labour regulations; the individual takes part in tertiary education as a consumer of courses; they can also appear on the labour market as a seller of workforce. On the other hand, enterprises can appear as employers; as a procurer on the educational market; sometimes, as consumers of courses or other educational services.

In my opinion, if the creation and development of knowledge occurs at tertiary education, it also has to manage this knowledge: this is a responsibility that they cannot ignore. The Knowledge Subcommittee of the MTA Leadership and Organisational Committee has a consensus that knowledge management is a management subsystem, process and culture where the creation, collection, filing, sharing and increasing of knowledge capital is done in an integrated way and is supported by information technology. The three central pursuits of knowledge management are interpreting, transferring and developing knowledge, all three of which are observed together in my thesis. At the same time, I also attempted to depict the typical content of the three factors separately, as it is seen in various shades in illustration 1. The relationship between the different factors as well as the modes of action and connections are represented by arrows. I interpret the central pursuits of knowledge management, the factors and their connections in the following way:

**Illustration 1. The Tertiary Educational Model of the Three Pursuits of Knowledge Management**



Source: own creation

Within the field of *interpreting* knowledge, I presented the usual figures of the system: organisations, the individual and the tertiary educational system. On the one hand, they all have separate ideas as to what knowledge and competence means. The concepts of knowledge and competence are not separable; besides, knowledge can be interpreted on several levels (individual, group, organisational). I should also mention here the demands of the labour market, since graduates are taken in by employers, and they pick applicants according to their own standards. In my view, the necessary or right knowledge (WHAT?) is “created” in the tertiary educational system, which leads to the rather complex question of *knowledge transfer* (HOW?).

In *knowledge transfer*, the relationship between the tertiary educational system and the

demands of the labour market are represented by the (certified) employment and unemployment rates. What does the structure of education and is it suitable for the demands of the labour market? The question is important because on the one hand, the educational structure affects a country's employment policy and competitiveness; on the other hand, it remains to know if the time and energy invested in learning pays off, whether certified knowledge can be used or if there will be losers within the system. Professional training also appears as a factor of knowledge transfer as it can be used to improve on the education; this is useful for the institution and the student as well because it helps to get to know the demands of the labour market. The knowledge transfer between individuals and organisations is assured through the employment of people, the acquisition of human capital and the maintenance of the "knowledge wealth". The function of student organisations assures that the organisation is able to create new knowledge through different groups.

The flow of knowledge from the lecturers to the students is ensured by pedagogical processes: teaching and training. This influences the role teachers take as well as the proportion of teacher-scientist-functionary roles within the process. Student roles are also defining in so far as they have to decide whether they see themselves as workers within the process or as consumers of courses and other services. From the point of view of acquiring knowledge, motivation is also important because it influences such factors as activity, openness towards professional knowledge, acquiring knowledge, finishing studies and future success on the labour market. The model in which these processes are realized influences knowledge transfer. This means that it is influenced by the institutional structure, the course material itself, the know-how, the learning process and whether explicit or tacit knowledge or the unique combination of the two receive more emphasis. What is the integration of academic and professional training like, how are know-how standards set, who is responsible for professional training and, finally, what is the orientation of the educational policy?

By *knowledge development*, I mean the creation of knowledge, and this learning process requires the cooperation of students and their peers, their lecturers, co-workers and superiors as well as on the organisational level with enterprises and institutions. This cooperation with others is based upon mutual trust. Group members who work and cooperate for a common goal learn by "putting together", sharing, discussing, analysing and giving feedback to knowledge; this way, they improve on individual, group and organisational knowledge. The question of how people relate to group work (WHY?) is influenced by the organisational culture through its socializing processes on the one hand, and by the national culture on the other hand as it influences and permeates our life almost unconsciously.

#### 4. Making and Organising Research Hypotheses and Research Methodology

According to the previously mentioned research goals, I managed to list my – thanks to the complex nature of the topic, comparatively great number of – hypotheses, the main groups of which are:

1. the hypotheses concerning the demand towards employees and training during the interpretation of knowledge,
2. the hypotheses concerning the cooperation between tertiary education and the corporate sector regarding the transfer of knowledge,
3. the hypotheses concerning the transfer of knowledge and education, and finally,
4. the hypotheses about group work concerning the development of knowledge (Chart 1.).

**Chart 1. The System of Hypotheses**

<i>TM Central Pursuit</i>	<i>Hypotheses</i>
<b>Interpreting Knowledge</b>	<b>1. Expectations of Knowledge</b>
	H1 Students and enterprises have significantly different opinion about employees' competences.
	H2 Organisations expect other, communal competences from their employees besides professional knowledge.
	H3 Students enter into the tertiary educational system for labour market considerations.
<b>Transfer of Knowledge</b>	<b>2. The Connection of Tertiary Education and the Economy</b>
	H4a The relationship between tertiary educational institutions and enterprises are realized primarily among bigger corporations.
	H4b The relationship types between tertiary educational institutions and enterprises depend on the capital content of a given firm.
	H4c The relationship between tertiary educational institutions and the corporate sector is influenced by the degree to which the corporate sector shares responsibility in their cooperative relationship with the tertiary educational institutions.
	<b>3. Education</b>
	H5 tertiary education is characterised mainly by roles and teaching-learning methods based on teacher dominance.
	H6 In spite of the Bologna Process, professional training is still realized by a central training model.
<b>Developing Knowledge</b>	<b>4. Group-Work Attitudes</b>
	H7 The teaching methods applied in the Tertiary educational system do not affect the students' attitude towards group-work.
	H8 the attitude of students towards group-work is different from the same attitude of employers and lecturers.

Source: own creation

I have applied several research methods. Besides the available literature, I also used secondary data sources (statistical figures, research reports, declarations) to map out the

problem. The qualitative analysis precedes the quantitative one, which means that I first went out to have an informal conversation with lecturers and organizational leaders to form a common vocabulary and terminology with them, thus creating better understanding. This was followed by a quantitative research: lecturers, researchers, students and representatives of economic organizations filled in questionnaires. The researches were supplemented by personal interviews to make me better understand the underlying processes and connections.

**Chart 2. Information Sources Used in the Research**

<i>Research Method</i>	<i>Information Source</i>	<i>Information</i>
Making Interview	Lecturers	Less formal data collection prior to the questionnaires to forma common vocabulary and terminology. Also to support, supplement, strengthen and give feedback to the data received from the questionnaires.
	Enterprise Management	
Questionnaire Assessment	Lecturers, Researchers	General information about tertiary education, evaluation of student work, educational methods, opinions about group-work.
	Students	General information about choosing institution and course, opinion about the demands of the labour market, learning characteristics, evaluation of student work, educational methods, opinions about group-work.
	Enterprises	Opinion about tertiary education and the demands of the labour market, relationship with tertiary institutions, opinion about group-work.
Document Analysis	Statistical Databases, Reports, Declarations	Numeric support for the economic and educational processes, general policies and learning about the researches in progress.

Source: own creation

A significant portion of the research consists of the questionnaires. All groups examined (students, lecturers, firms) were given separate, but linked questionnaires to gain the necessary information; the questionnaires consist of separate entries, which are summarized in the chart 3.

The surveys were conducted between the period of June 2008 and November 2009. All together, I collected 399 student, 95 lecturer and 486 corporate questionnaires. During the research, I applied simple *applied statistics*, as they are unavoidable to get to know the collected figures (frequency, summing up, arithmetic average, dispersion etc.); these methods also form a basis for further analysis. In the following, I shall detail all the multi-factorial, data-reduction analysis methods which are suitable to reveal deeper connections, and which I also used to justify several of my hypotheses: main component analysis, factorial analysis and variant analysis. Beyond that, I also used cluster-creation techniques.

**Chart 3. Set-up of the Questionnaires Used in the Research**

<i>Student Questionnaire</i>	<i>Lecturer Questionnaire</i>	<i>Corporate Questionnaire</i>
I. General questions concerning the studies	I. General questions concerning the tertiary education system	I. Expectations from workforce and opinions about education
II. Teaching methods	II. Teaching methods and plans	II. features of group-work found at the organisation
III. Questions regarding group-work	III. Demands of employers (competences)	III. Questions regarding group-work
IV. Own opinion about group-work	IV. Evaluation of student's performance	IV. Own opinion about group-work
V. Background information	V. Questions regarding group-work	V. Background information
	VI. Own opinion about group-work	
	VII. Background information	

Source: own creation

The people questioned had to express their attitudes towards my statements on a Likert interval scale graded from 1 (I do not agree at all) to 7 (I totally agree). To provide empirical supervision for my hypotheses, I also conducted cross-chart variant and correlation analysis. I paid special attention to the preliminary examination and correction of the data as the application of a given statistical method and probe is bound by strict conditions. The application of the t-probe and ANOVA assumes the normal dispersion of the variables. As the samples were of the right amount of empirical nature, I examined the normal dispersion of variables with a Kolmogorov-Smirnov test.

To support the results and answers gained from the questionnaires, I supplemented my research with interviews belonging to the field of qualitative research. I conducted 7 interviews with lecturers and 18 with companies during the summer of 2010. The questions of the interviews were organised around the four main question groups relevant for my research:

- 1) The interpretation and forms of knowledge
- 2) The flow of knowledge within the organisation (tools and support)
- 3) Learning based on cooperation (who do the organisations learn from?)
- 4) Experiences and opinion about learning through group-work.

My decision concerning my hypotheses is summarized in Chart 4:

**Chart 4. The Hypotheses and Relevant Decisions of the Dissertation**

<i>TM Central Pursuit</i>	<i>Hypotheses</i>	<i>Status</i>
	<b>1. Expectations of Knowledge</b>	
<b>Interpreting Knowledge</b>	H1 Students and enterprises have significantly different opinion about employees' competences.	<b>Accepted</b>
	H2 Organisations expect other, communal competences from their employees besides professional knowledge.	<b>Accepted</b>
	H3 Students enter into the tertiary educational system for labour market considerations.	<b>Accepted</b>
	<b>2. The Connection of Tertiary Education and the Economy</b>	
<b>Transfer of Knowledge</b>	H4a The relationship between tertiary educational institutions and enterprises are realized primarily among bigger corporations.	<b>Accepted</b>
	H4b The relationship types between tertiary educational institutions and enterprises depend on the capital content of a given firm.	<b>Rejected</b>
	H4c The relationship between tertiary educational institutions and the corporate sector is influenced by the degree to which the corporate sector shares responsibility in their cooperative relationship with the tertiary educational institutions.	<b>Accepted</b>
	<b>3. Education</b>	
	H5 Tertiary education is characterised mainly by roles and teaching-learning methods based on teacher dominance.	<b>Accepted</b>
	H6 In spite of the Bologna Process, professional training is still realized by a central training model.	<b>Accepted</b>
	<b>4. Group-Work Attitudes</b>	
<b>Developing Knowledge</b>	H7 The teaching methods applied in the Tertiary educational system do not affect the students' attitude towards group-work.	<b>Accepted</b>
	H8 The attitude of students towards group-work is different from the same attitude of employers and lecturers.	<b>Partly Accepted</b>

Source: own creation

## ***5. Results of the Research and Thesis***

### **1. Students and enterprises have significantly different opinion about employees' competences, which the tertiary education should take into consideration.**

*I have pointed out that students (future employees) and economic figures (employers) in the samples have different opinions and expectations concerning employee competence. I have also found different opinions about whether these expected competences are actually formed in employees, and if so, to what degree. I found that students consider professional knowledge, language skills, adaptation, communicational skills as well as creativity to be the*

things their employers will expect from them. Firms indeed consider knowledge and adaptation, but the ability to cooperate and adapt, flexibility and group-work also rank high on their list. In terms of professional knowledge, adaptation, flexibility, cooperative skills, the ability to work in group and practical experience corporate expectations are higher than the level of competence, which means *the tertiary educational system can only partially meet the demands of the economic world*. My results show that *there is a difference between the students' knowledge about labour-market demands and reality; they are in no way prepared for the expectations for their future employers*. I managed to point out an ambivalent attitude towards professional practice from the part of the economy: on the one hand, firms miss or are not satisfied with practical employee experience; on the other hand, they consider up-to-date professional practice less important, which means they expect others to take care of said practice or do not see it as important or useful at all. The underlining reason for this may be cost-oriented (basic material is needed for sampling and practice, training, explaining and familiarization with the firm's processes is time-consuming, supervision and responsibility for the students takes a lot of energy etc.); this field demands more research than the present scope of this thesis.

## **2. Organisations expect other from their employees besides professional knowledge.**

Based on empiric evidence, I proved that *although knowledge is important, the demand for such group-work-related elements as social, communicational and ethical competences also appear*. Along this line of thinking, I created factors which prove that professional knowledge is important for firms. The personal maturity of the employee is even more important: employers are primarily interested in the employees attitude towards work, workplace (physical environment), and salary. I pointed out that in order to reach proper cooperation and *common learning, the ability to assist and do group-work has a vital role in the demands of the labour market*. *All this means that teachers should consider moral and ethical education to be the equal peer of general education*.

## **3. Students enter into the tertiary educational system for labour market considerations.**

Having analysed secondary databases, I managed to prove that higher-level education means higher chances of employment. However, I also took into consideration the low level of graduate activity, and considered two factors to examine the motivation of fresh tertiary education students. As the latest time a student gets onto the labour market is graduation, a

student's arrival at the institution may define his success on the labour market as well. The choice of institution for a student is clearly influenced by the institutional features and course-orientation. I used factor-analysis to show that *the primary factors in a junior student's choice of course (thus, choice of profession as well) are mostly labour market-oriented and are under the influence of conscious career-building mentality.* The rational, numerical, 'hard' element is: *besides the available admission points, the elements of personal and emotional attitude like good community atmosphere or the elements of training directly linked to the personal interests of the individual are all important factors.* The demand for good employment also appears as the most important factor in choosing the right course.

**4/1. The relationship between tertiary educational institutions and enterprises are realized primarily among bigger corporations, but the type of relationship does not depend on corporate capital structures.**

A given firm's so-called "size-effect" *correlates with the relationship between tertiary institutions and the economy in a statistically justifiable way, which means it also correlates with knowledge transfer and the formation of tacit knowledge into explicit one.* As a size-effect factor, I structured the examined firms according to the number of their employees, and I examined five separate cooperative fields as regards relationship: the professional training of colleagues, research cooperation, participation in exam tasks, event support and, finally, representation on job fairs. I managed to prove that there is a significant relationship between the size of the organization and the type of cooperation, which means that depending on the size of the organization, there is a different connection between the firm and the educational institutions. I pointed out that smaller firms keep and plan less contact with universities/colleges. *The same connection was found during the examination of knowledge transfer from the corporate sector towards the education through the invitation of professional people to give lectures.* In the case of all the types of cooperation, it turned out that *the level of connection is very low, that is, there have not been any cooperative routine between the economy and the tertiary educational system. My supplementary quantitative researches suggest that the tertiary institutions seek contact primarily with bigger companies, especially when it comes to professional training contribution and the possibility of gaining other material resources.*

**4/2. The relationship between tertiary educational institutions and the corporate sector is influenced by the degree to which the corporate sector shares responsibility in their cooperative relationship with the tertiary educational institutions.**

My analysis concerning the orientation of the above connections proves that cooperation between the economy and the tertiary institutions is based upon feedback about work-oriented professional and personal competence towards the universities; the firms' participation in creating new courses and their success or failure are also important factors. A reliable conclusion is that any cooperation and knowledge transfer is based on personal relationship and the trust that such a relationship ensues. I also pointed out that *the opinion about the course selection of a given college or university influences all fields of cooperation*. I found that opinions about the competence of fresh graduates and the level of education of an institution differ wildly. *I also found that the expectations on the firms' side are mostly market-oriented.*

**5. In spite of the Bologna Process, professional training is still realized by a central training model as well as by the roles and teaching-learning methods based on teacher dominance.**

I used statistical means in many aspects within the student, lecturer and corporate sample to prove that *tertiary education is still influenced by a centralized training model (ravioli model), even in spite of the Bologna Process*. Within this framework, I managed to show that *firms consider tertiary education to be primarily theory-oriented as opposed to practical considerations*. I also proved that not even students consider the amount of practical training important when it comes to course selection. It became obvious that knowledge transfer through inviting professional, practical lecturers is not a widely used method. My examination of the learning context showed that within the observed group, *student activity consists mostly of attending the lectures and seminars, while the students are not interested in receiving further experience and knowledge*. As for the teaching context, *lecturers favour theoretical and specific knowledge transfer, with heavy emphasis on lectures as the main teaching method*. This is confirmed by students as well. I tried to reveal *the relationship between the study-organising and decision-making teacher roles (Óhidy-model) and the most widely used teaching-communicational methods (verbal knowledge transfer, demonstration, description)*. *I pointed out the relationship between discussion and observation concerning observer,*

*intervener and evaluator role during learning, but students claim that their teachers tend to use these forms of education to the least degree.*

*I pointed out that the students involved in the research favour those educational (in their case, labour) methods which include team-work, presentation and discussion, that is, methods where they can participate in the learning process and share tasks and responsibility, but which do not demand too much energy from them.*

**6. The teaching methods applied in the Tertiary educational system do not affect the students' attitude towards group-work. The attitude of students towards group-work is different from the same attitude of employers and lecturers, which can be explained by their legal relationship with the organization.**

*Using data reduction methods, I managed to prove again that people's emotions and attitude towards group work have already been formed by the time they arrive at the tertiary education system. I also found that the main reason for their attitudes towards group-work performance is mostly influenced by their relationship with the organization. The organizational culture is the most influential factor regarding group-work preference (individualism versus collectivism) as well as group cohesion. This means that people with work contract (lecturers and entrepreneurs) tend to favour group-oriented cooperation (individualism versus cohesion) as well as performance and a sense of belonging somewhere than students, who appear primarily as consumers and products of the educational process.*

## ***6. Possible Ways of Research***

The aim of my tri-partial research was to give a picture about the assessment, flow and development of knowledge in the tertiary educational system. My empirical researches were aimed primarily at Central Hungary and Western- and Central Transdanubia; on the one hand, this allowed me to narrow the scope of my research, but, on the other hand, this also limited it. It would be an interesting experience to follow this research on a national, perhaps an international, level.

The other limit was the lack of available monetary sources and the lack of renown, which both hindered me to conduct my research in a wider scope; people's willingness to answer my

questions was also limited by the lack of these factors. The processing of all incoming data, which was conducted solely by me, also meant a lot of required time and energy.

I believe that my work and my results can form a pilot program to reveal the cooperative nature of the internal figures of the tertiary educational system as well as the connection of the tertiary education, the economy and the labour market. I can imagine several lines of research based on this one; for example, the cooperation of enterprises and tertiary educational institutions or the reasons for the lack of their cooperation, with additional suggestions attached. It would be also interesting to examine the connection of the capital content of enterprises and knowledge management in order to understand how knowledge is acquired, assessed, identified, evaluated, shared, transferred, saved and conserved.

In the topic of knowledge and organisational learning, I believe that further deep interviews may help to examine knowledge and the organisational conditions of acquiring it. It is especially important to assess the student-organisational features among enterprises and especially tertiary educational institutions, even on an international level.

Last, but not least, a further aim could be to further examine the learning methods of students as well as their relationship with one another to be able to define or reject the notion of any possible „student culture”.

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