CONCEPTUAL MODEL OF KNOWLEDGE TRANSFER IN MULTINATIONAL CORPORATIONS ON CONDITIONS OF SLOVAK SUBSIDIARIES

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Abstract: This paper characterizes and introduces a model developed by Minbaeva (2007) that analyzes the joint effect of four determinants of knowledge transfer – characteristics of knowledge, characteristics of both knowledge senders and receivers, and the relationships between them – on the degree of knowledge transfer from headquarters to subsidiares, which represents the most progressive theoretical and methodological approach in the world research in this area. Author realizes in own research original application of the model of knowledge transfer in muntinational corporations on conditions of Slovak subsidiaries. Contribution of this research is overcoming of two limitations of previous study: first is realization of research with sample on another geographical representation and second is creation of new variables related to cultural similarity and compatibility in the model.

Keywords: knowledge transfer, multinational corporations, determinants of knowledge transfer

JEL Classification: F23, F66, M54

1. INTRODUCTION

Increasing process of globalization redefines for multinational corporations (MNC) new conditions for international competition. As competition in global world is becoming more knowledge intensive, the ability of MNC to leverage their knowledge across subsidiaries is an increasingly the most important source of competitive performance and is a powerful mechanism for improving an organization´s productivity and increasing its survival prospects.

The primary scientific problem of knowledge transfer in MNC and solved in the paper is to develop a comprehensive conceptual model of knowledge transfer to achieve high level of knowledge transfer. Model of knowledge transfer provides a basis on what managers can do to enhance and facilitate knowledge transfer in MNC.

The research of knowledge transfer in multinational corporations shows a tendency to focus on knowledge transfer as an aggregate concept. Indeed,"very little systematic empirical investigation into the determinant of intra – MNC knowledge transfer has so far been attempted" (Gupta, Gonindarajan, 2000, p. 474). This paper aims to fill that gap in the case of knowledge transferred from the headquarters of MNC to their subsidiares by introducing a model (Minbaeva 2007) that analyzes the joint effect of four determinants on the degree of knowledge transfer. The model performances the most progressive approach in research of knowledge transfer in multinational corporations in the world in this area.

In the paper the original aplication of the model of knowledge transfer in MNC on conditions of their Slovak subsidiaries is characterized. Own research is realized at present time and data collection and results will be finished by the end of this year.

## 2. USED METHODS AND RESEARCH RESULTS

In this paper the basic elements of transfer are specified: source, message, recipient and context. There are barriers/determinants associated with each of the mentioned elements (Figure 1), which are the characteristics of knowledge, characteristics of knowledge receivers (absorptive capacity), characteristics of knowledge senders (disseminative capacity) and the characteristics of the relationship between senders and receivers.
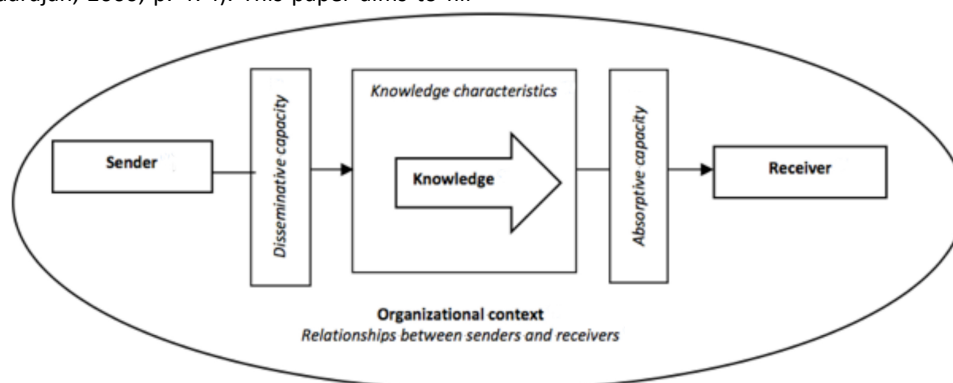
In Bold – elements of knowledge transfer
In Italics – barriers/determinants associated with the four elements of knowledge transfer

Figure 1 Knowledge Transfer: Schematic Diagram (Minbaeva, 2007)
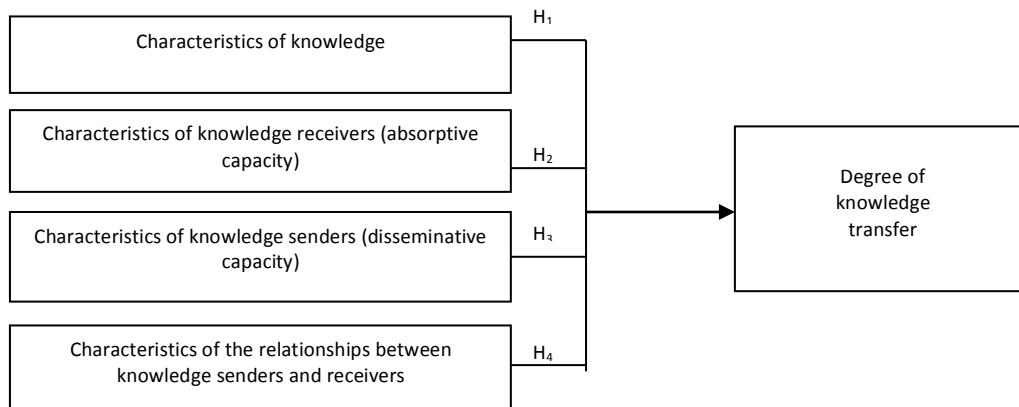
Figure 2 Conceptual model of knowledge transfer in MNC (Minbaeva, 2007)

In the following part we characterize conceptual model of knowledge transfer in MNC (Minbaeva 2007) which contributes to the understanding of intra-MNC knowledge transfer determinants (Figure 2). The determinants were classified into four groups: characteristics of knowledge, characteristics of knowledge senders (disseminative capacity), characteristics of knowledge receivers (absorptive capacity) and characteristics of retationships between senders and receivers.

In conceptual model each of four groups of determinants of knowledge transfer are conceptualized with own group of characteristics (independent variables) and four hypotheses are developed according to their effect on the degree of knowledge transfer (dependent variable).

For creation of conceptual model of knowledge transfer in MNC empirical studies Gupta and Govindarajan (2000), Hansen and Lovas (2004), Minbaeva (2007), Riege (2007), Qin, Rumburuth, Wang (2008) and Monteiro, Arvidsson, Birkinshaw (2008) were important. The most important was the empirical study Minbaeva (2007) from Copenhagen Business School in Denmark which within the last decades was focused on knowledge transfer in MNC and has become the world leader in research in this area. It is the one of the most-cited recent papers in the Journal of International Business Studies.

Minbaeva (2007) tested a model of knowledge transfer on sample of MNC with headquarters in Denmark and with subsidiaries abroad. A web-based surwey and questionnaires were chosen for data collection due to the time and cost consideration. Research statistical methods have used descriptive data (mean values, standard deviation, minimum and maximum values), correlation matrix and regression analysis. In the correlation matrix, some associations between the independent variables are apparent. A regression analysis was used to simultaneously assess relationships between each independent variable and the dependent measure. The results of regression analysis present the impact of the characteristics of knowledge, the chracteristics of knowledge receivers, the characteristics of knowledge senders and the characteristics of the relationships between the senders and receivers on the degree of knowledge transfer.

The relative importance of each independent variable was also checked. First, all independent variables were standardized and then standardized coefficients in the regression analysis were compared. As Szulanski indicates, „the larger the absolute value of a coefficient, the more important is contribution of the corresponding variable" (Szulanski, 1996, p. 36). The results of the regression suggest that the variable measuring the characteristics of knowledge receivers has the strongest effect on the degree of knowledge transfer, closely followed by the relationships between knowledge senders and receivers and characterisrics of knowledge senders. Knowledge characteristics are the least important determinant, when other factors are present.

3. DISCUSSION

This paper started with a review of conceptual and empirical studies that have contributed to the understanding of intra-MNC knowledge transfer determinants. The determinants were classified into four group: characteristics of knowledge, characteristics of knowledge senders (disseminative capacity), characteristics of knowledge receivers (absorptive capacity) and characteristics of the relationships between senders and receivers. Four hypotheses were presented to address the relationship between each of the determinants and the degree of knowledge transfer. The hypotheses were tested using data from 92 Danish subsidiaries located in 11 countries (Minbaeva, 2007). The results of the statistical analysis challenge the view that the suuccess of knowledge transfer is exclusively a function of the characteristics of knowledge. The analysis indicated that the characteristics of knowledge senders, knowledge receivers (the strongest predictor) and the relationships between them are important determinants of knowledge transfer.

The finding are interesting given that many researchers have offered excessive praise for importance of knowledge characteristics and paid little attention to other determinants of the knowledge transfer process. While knowledge chracteristics are important determinants of knowledge transfer, they are not necessarily the only ones.

When emphasizing the behavioral characteristics of individuals, such as ability and motivation, respondent shed light on the dual role of employees in the process of knowledge transfer. They are the primary actors in the process. Their behavior and, in particular, their ability and motivation to absorb and share knowledge are key to successful knowledge transfer. Previously, the behavior of both knowledge receivers and knowledge senders were seldom included in the same model.

The previous research has some limitations. First is the limited sample and sample size. However, there may be

a substantively significant relationships which current analysis did not show due to sample size per country and geographical distribution of the subsidiaries. Indeed, several empirical studies reported cultural distance as one of the obstacles for MNC internal knowledge transfer.

Second limitation is related to the cultural similarity between subsidiary and other members of the MNC network which is positively related to intra-network knowledge sharing in MNC. By similarity of national cultures are important for knowledge transfer similarity of corporate culture and similarity of national institutions. Characteristics related to the cultural similarity are not included in variables and measures used in previous study and research. These variables are related to the fourth determinant of the proposed model, characteristics of the relations between knowledge senders and receivers (barrier associated with organizational context element in Figure 1).

4. APPLICATION OF MODEL OF KNOWLEDGE TRANSFER ON CONDITIONS OF SLOVAK SUBSIDIARIES

Overall, generalization of the findings of previous study is constrained by the fact that statistical analysis is based on samples collected at specific times, in specific places and from specific individuals. Clearly, there is a need for similar study with a much larger sample and geographical representation. Therefore we realize similar research on conditions of Slovak subsidiaries of MNC with headquarters abroad with the same statistical methods and we compare the results of both research. It is the original application of model of knowledge transfer in multinational corporations, the most progressive approach in research in this area, on conditions of Slovak economy. The research is realized at present time and will be finished by the end of this year.

Our research overcomes two limitations of previous study. Overcoming of the first limitation is realized by creation of sample of Slovak subsidiaries. It means that we research the joint effect of four determinants of knowledge transfer on the degree of knowledge transfer from headquarters of foreign companies from Germany, South Korea, USA, Austria, Italy and French (the biggest investors in Slovakia) to their subsidiaries in Slovakia. The database was iniciated by selecting firms from trade chambers and additonal subsidiary contacts were obtained from foreign commercial sections of the foreign embassies. In total, it is estimated to include 300 subsidiaries in the original sample size. Achieving response rate is 30 percent.

Questionnaire will be addressed to the HRM Manager or General Manager of the focal subsidiary. If the approached manager will be unable to complete the survey, he can forward the questionnaire to a senior or middle manager with sufficient knowledge regarding the themes of research.

A web-based survey was chosen for data collection due to the time and cost considerations. The respondents will be aproached by a cover letter sent via email, which explains the purpose of the survey, details the research process and analysis procedure and provides straightforward directions completing the questionnaire. In addition, a web site is established to back up the survey. Respondents are invited to visit the web site and read more on the survey subjects and related themes. A link to the questionnaire is provided within the text of the cover letter and survey is only available through that link, which decreased the risk of potential errors. A link to our questionnaire is www.mital.sk/questionnaire and link to our web site established to back up the survey is www.mital.sk/explanations.

Variables in our questionnaire are:
- degree of knowledge transfer as dependent variable is defined as the extent to which subsidiary employees receive knowledge transfered to their subsidiary from the MNC headquarters using for evaluating a five-point Likert-type scale,
- characteristics of knowledge as independent variable,
- characteristics of knowledge receivers (absorptive capacity) as independent variable,
- characteristics of knowledge senders (disseminative capacity) as independent variable,
- characteristics of relations between knowledge senders and receivers as independent variable,
- informations about workforce and about subsidiary as control variables.

Descriptive data (mean values, standard deviation, minimum and maximum values) on all variables will be provided. The correlation matrix for all variables will be presented. In the correlation matrix some associations between the independent variables will be apparent. It is expected that variables measuring the disseminative capacity of knowledge senders and the absorptive capacity of knowledge receivers will be strongly positively correlated. As expected, the variable measuring knowledge characteristics will be negatively correlated with all independent variables and the degree of knowledge transfer. The three other independent variables will correlate positively and significantly with the dependent variable. A regression analysis will be used to simultaneously assess relationship between each independent variable and the dependent measure. The relative importance of each independent variable will be checked. We expect the result of the regression that the variable measuring the characteristics of knowledge receivers has the strongest effect on the degree of knowledge transfer, closely followed by the relationships between knowledge senders and receivers and the characteristics of knowledge senders.

Overcoming of the second limitation is realized by creation of new measures related to the cultural similarity. We have created three variables measuring three kind of cultural similarity.

First variable measures and evaluate the degree of similarity and compactibility of national culture between country of parent company and country of your subsidiary. National culture is defined as a system of values, norms, rules and belief shared by members of nation and is manifested in practice and behaviour. In our research are related terms like social model and solidarity, language, democracy, etc.

Second variable evaluate the degree and compactibility of corporate culture between parent corporation and your subsidiary. Corporate culture is system of collective shared values, rules, norms and belief within the members of an organization. Corporate culture unites all employees within corporation and icludes dimension sucha as vision and mission, norms and customs, means to achieve goals,

management processes, focus on external enviroment, image and reputation, etc.

Third variable evaluate the degree of similarity and compactibility of national institutional basis between country of parent company and country of your subsidiary. National istitutional basis is primarily system of business which consists of state institutions, financial system, employment relations, education system, work organization, ownership system, legal system, etc.

We suppose that the results of the research support the claim that the success of knowledge transfer is not exclusively a function of the characteristics of knowledge. Indeed, if we are to fully understand the process of knowledge transfer, it is important to include determinants that are related not just to knowledge characteristics, but also to the individuals involved in the transfer process and the situations in which knowledge transfer takes place.

5. CONCLUSION

The paper characterizes conceptual model of knowledge transfer in multinational corporation which represents the most progressive theoretical and methodological approach in research in the world in this area. Four determinants were entered in the same model, which allowed evaluate of the relative importance of each determinants in predicting knowledge transfer.

In the paper the original application of the conceptual model of knowledge transfer in multinational corporations on conditions of their Slovak subsidiaries in preparation is

characterized. It is realized similar research on conditions of Slovak subsidiaries of multinational corporations with headquarters abroad (Germany, South Korea, USA, Austria, Italy and French) on the base of the same statistical methods with comparing the results of both research.

We suppose that the results of the research confirms that among the four determinants, the characteristics of knowledge receivers (absorptive capacity) has the strongest effect on the degree of knowledge transfer (dependent variable) , closely followed by the characteristics of the relationships among senders and receivers and the characteristics of knowledge senders (disseminative capacity). Knowledge characteristics are the least important determinant, when other factors are present.

Previous research had two limitations and contibution of the paper is overcoming of these limitations. First limitation is overcoming by realization of the research with sample on another geographical representation. Second limitation is overcoming with creation of variables evaualting of similarity and compactibility of national and corporate culture and national institutional basis between country of parent corporation and country of its subsidiary.

Purpose of the research for practice is very important. Results of the research could be used as a basis on what managers can do to enhance or facilitate knowledge transfer between headquarter of parent company and the subsidiary.

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