SUMMARY
-doctoral dissertation-

THE KNOWLEDGE MANAGEMENT PROCESS AND MARKETING RESEARCH IN THE FOOD INDUSTRY IN REPUBLIC OF MACEDONIA

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ABSTRACT

This paper is about two processes that are essential for the operation of modern companies. These processes are knowledge management and marketing research.

The knowledge management process includes identifying the need to obtain new knowledge in the company, and the overall organization for the acquisition of new knowledge and detection of existing one, management of the knowledge and its application for execution of the tasks, decision-making and realization of company objectives.

Marketing research is also a process that provides new information to the markets, customers, competition, and everything else that is important for one company to bring appropriate marketing decisions for exploiting opportunities or solving problems.

These two processes are based on knowledge and application of overall knowledge in favor of the company. Therefore, this paper emphasizes on the interaction between these two processes and on the benefits that can be obtained if these two processes are used in a company.

The applications of the knowledge management process and the marketing research in this paper are shown through the companies from the food industry, as one of the key industries in Macedonia. The goal of the applications is progress in the production and sales of the food products on the domestic market.

In this paper, through appropriate theoretical and practical research of the knowledge management process and marketing research, and the relevant tools and models to support these two processes, is presented how food companies based on the knowledge they possess and newly acquired knowledge can increase cooperation within and outside the company, advance workflows, increase sales, achieve competitive advantage in the market, gain new customers and achieve their goals.

Keywords: knowledge management process, marketing research, food industry, market, customers, competitors
Research introduction

Knowledge is the most important resource that company owns. The trend of constant technological development has caused knowledge to be a key resource and managing with it to be set of activities that are necessary for successful operation and existence of the company in the daily dynamic environment. Knowledge management is the process of collecting, creating, connecting and distributing data, information, knowledge, experiences and practices in a company.

Companies identify, determine, organize, build and distribute knowledge in order to have advanced and successful knowledge management. With knowledge management, companies can increase productivity, solve problems faster, get new ideas, create innovative solutions to meet the diverse demands, can contribute for additional education, increase the communication within the company and to merge people with different profiles and areas. Companies that are able to manage with their knowledge on the most optimal way, can contribute to more efficient and effective operation and performance of the business processes and activities, greater market competitiveness, better team work, flexible working environment, higher profits investments and future development and progress.

Marketing research, as well as the process of knowledge management is an important aspect of the operation of a company. Marketing research involves collection of information, processing, distribution and use with a goal to adopting appropriate marketing decisions. It can be implemented in different situations, and with its help can be facilitated the work of those who make decisions in the company, so those decisions can be made much faster and easier. Solutions to business problems can be made through the marketing research. It is with a focus on consumer shopping habits, the company and the competition, market trends and other indicators on the performance of the overall market, products and competition. These relationships are crucial to a company. Marketing research helps the company to communicate effectively, to identify and understand the opportunities and to identify obstacles and problems. In order marketing research to be done more efficient and effective, it should be appropriate to manage with all its processes, all the data and information obtained through the marketing research.

In this paper is discussed about the marketing research in the food industry in the Republic of Macedonia, as an industry that is constantly on the rise and is the key for development and progress of
the whole society. The number of companies engaged in the production of food products increases from year to year. Also, imports of food products grows, causing the market of food products to increase constantly. ¹

In order domestic food industry to be competitive in the market, it is crucial to be made appropriate marketing decisions that can meet consumer demands, increase the value of domestically produced food products and to achieve the objectives of domestic producers.

In order to make the right marketing decisions, these companies need to carry out appropriate marketing research. Marketing research to be properly done or to meet the needs and requirements of food companies, it is good to have a parallel use of knowledge management process.

Furthermore, the knowledge management process can contribute to more effective processing of data obtained from the market research and making easier and faster decisions in relation to an activity or a problem in the companies.

This paper shows the relationship between processes, knowledge management and marketing research, and all their activities that are essential for the operation of companies.

The process of knowledge management involves proper identification of the need to obtain new knowledge, gathering knowledge through appropriate means and methods, then appropriate storage of knowledge in a format that is accessible to the company, appropriate transfer of knowledge between employees and other stakeholders, and its appropriate update.

The knowledge management process offers many opportunities for the company, of course if it is properly implemented and if it operates according to previously made schematic model of work or a software tool that fits to the business activities of the company.

If the marketing research is put into interaction with the process of knowledge management and running according to set of standards for storing newly survey data for their processing, transmission

¹ According to indications from the State Statistical Office: 
and update, than marketing research can be more effective and the information obtained from that research can be optimally utilized.

In already done researches, the knowledge management process is combined with various processes and operations of the companies. The knowledge management process can be associated with the management of the business processes, human resources and information technology strategies, with the objectives of companies, competitive advantage, organizational learning, etc.

But in this paper outlines a different interaction between knowledge management process and marketing research, and all activities which make up these two processes.

In this interaction, areas of research are organizational sciences, knowledge management, ie management of the entire intellectual capital that owns a company, and the management of change because the introduction of the process of knowledge management presents a change in the company. Next is the strategic management, which includes all activities for devising a strategy for the introduction of the process of knowledge management in the company. Also, here is involved the management of human resources because the process of knowledge management has a stake in communication and build a relationships among employees in the company.

Apart from the organizational sciences, also is involved marketing research area which includes: market research, competition research and consumer research. Market research, consumer research and competition research are critical to the company's operations and creation of strategies to increase sales, attract new customers and increase market share.

**Research goals**

The main goal of this research is food companies to carry out marketing research in order to make appropriate marketing decisions and also to apply the knowledge management process, ie to have adequate storage, process and distribution of data and information obtained from the marketing research. At the same time, these same companies should be motive more to think in a way to achieve success and their business goals through the proper use of knowledge, and through its continuous update and recharge.
Marketing research, that includes market research, customers research, competitors research and also other marketing aspects, food companies need to do it in accordance with a working model or using the appropriate tools of the knowledge management process to obtain advanced research, desirable results and to make appropriate marketing decisions.

These goals will help in creation recommendations for appropriate usage of the knowledge management process and marketing research, and the creation of appropriate schematic model of activities that can be used by companies.

**General hypothesis, specific and individual hypotheses**

The general hypothesis of this research is: The companies from the food industry in the Republic Macedonia do not use proper marketing research and knowledge management process to achieve their goals.

The specific and individual hypotheses arising from the research problem are given in the following table:

<table>
<thead>
<tr>
<th>Problem</th>
<th>Specific hypothesis</th>
<th>Individual hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of the knowledge management process in the food companies.</td>
<td>Company's knowledge is used appropriately in the food companies.</td>
<td>• Food companies get new knowledge;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The new knowledge is processed and transferred between employees;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Food companies renew the knowledge they possess.</td>
</tr>
<tr>
<td>Application of marketing research in the food industry in the Republic of Macedonia.</td>
<td>Food companies in Republic of Macedonia make marketing research.</td>
<td>• Food companies need marketing research;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• With the marketing research can be obtained new knowledge about the market, customers and competition;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Based on the market research companies make marketing decisions.</td>
</tr>
</tbody>
</table>
Application of the knowledge management process and marketing research in the food companies in the Republic of Macedonia.

In the food companies in the Republic of Macedonia is given sufficient attention to the knowledge management process and market research.

- Marketing research is organized and implemented by assigned way;
- Food companies use software tools for collection and processing of the data obtained from the marketing research;
- Food companies use the knowledge gained from the market research.

Table 1.1. Hypotheses research

**Research organization**

The research is exploratory and descriptive.

The method of collection of the data in the research is crucial in order to be optimally realized.

Here is the applied the testing method. Technique that is used is online survey testing. The questionnaire is completed by top management in the companies or managers of the marketing sector or the sector for research and development.

The questionnaire is divided into three parts, namely: the part which refers to the knowledge management process and its application in food companies, part which refers to marketing research and its implementation in the food businesses and the part that shows the interaction between these two processes and the implementation of this interaction in food companies in the Republic of Macedonia.

The processing of the received data from questionnaires is done in a statistical software package SPSS 19.0 and Microsoft Excel, and hypotheses are tested with Decision Tree, t-test and $\chi^2$ contingency table.
Conclusion and Recommendations

On the basis of the theoretical research it can be concluded that the marketing research process and knowledge management process are key processes for the operation of the food companies.

Through marketing research can be collected data, which can be used for obtaining information and knowledge for the adoption of certain marketing decision or solving a problem. While the process of knowledge management contributes to the proper storage of the data, proper processing, transfer to the company's employees, as well as recovery of company knowledge.

If these two processes are used in the interaction, can be obtained many benefits for the marketing sector and also for the whole company.

Based on the practical research can be concluded that the knowledge management process and marketing research as separate processes are represented and used in food companies in the Republic of Macedonia. On the other hand, the interaction of these two processes are not properly applied in order to obtain the desired knowledge and have proper management with it.

To improve this situation in food companies, or to apply the interaction of knowledge management process and marketing research, it is necessary to be taken certain actions.

Food companies should implement a model for knowledge management that will be part of the marketing research that company makes. In this way, marketing research can be conducted smoothly according to previously known activities, and the data obtained from it can be effectively treated, also according to the known and defined way. Furthermore, the model will display where the knowledge is stored and to whom should be transferred, in order to have proper use and achieve certain corporate purpose. This model can present employees, other resources and time resources that are needed for implementation of each activity, and expected results of the activity that is undertaken.

Food companies can create and use their own model based on their needs and activities, but also can use one of the numerous developed models for knowledge management, that suit their business needs.

Also, to promote the application of interaction of the knowledge management process and marketing research, food companies can implement knowledge management software. This software
except for the overall management of the corporate knowledge, can be also used for the treatment and knowledge management gained from the market research. In this way, the data collected from the marketing research will be placed in particular software for knowledge management and the overall process, storage, transmission and use of the knowledge will be automated, ie everything will be done with the help of this software.

Whether the food company will use the model or software for management of the knowledge gained from marketing research, it is crucial that all staff appreciate the overall knowledge and based of it to carry out all work activities. Employees should be familiar with the knowledge that correspond with their workplaces and activities, in order companies to have appropriate application of this knowledge and to be achieved company objectives.

To have a complete understanding and application of knowledge obtained from the marketing research, the process of knowledge management should be part of the food companies. In this way, employees can carry out their tasks more effectively, advance the company and contribute to its development and progress.

When food companies prosper or produce new products, attract new customers and increase their sales and market share, therefore, benefits are for the companies and also for the progress and development of the food industry in the Republic of Macedonia.

**The draft schematic model for market research, research of the consumers and competition and the knowledge management process in the food industry**

The proposed model shows the relationship or interaction between the knowledge management process and marketing research in the food company.

Processes of marketing research proposed by this model are: market research, consumer research and competition research. Processes of the knowledge management are: identifying the need for new knowledge, collection and organization of knowledge, storing knowledge, processing knowledge, distributing knowledge and usage of knowledge.
Nr. 1.1. Model: Interaction between marketing research and knowledge management process

Components of the proposed model are: people, operations, technology and knowledge.

Nr. 1.2. Components of the proposed model

The purpose of this model is to present all the steps for identifying and encouraging the need to obtain new knowledge through the process of marketing research, by organizing and conducting marketing research, and by managing knowledge obtained from the marketing research through the process of knowledge management in food company.

Nr. 1.3. Modules of the proposed model
The proposed model consists four modules, namely: cooperation module, marketing research module, knowledge management module and module for application of the acquired knowledge.

Each of these modules includes the four components, and each module is specifically explained and justified.

**Cooperation module**

This module shows the cooperation between marketing manager and the staff, and the ways to be reached the appropriate knowledge for the adoption of appropriate marketing decisions. Cooperation module is presented on the picture with number 1.4.

In order the marketing manager to bring proper marketing decision, the adequate data, information and knowledge are crucial. When marketing manager will identify the need for the adoption of certain marketing decisions, then he or she needs immediately to begin with the search of relevant data, information or knowledge. The search can be initiated in the existing knowledge bases in the company or in electronic databases, archives, registrars etc. For the search in the knowledge bases, marketing manager selects employees who will be in charge of searching through databases in order to extract relevant data, information and knowledge for grouping or organization and delivery. If the database has the required knowledge, then it is extracted, grouped or organized by the responsible employees, and then submit it to the marketing manager. Marketing manager decides whether, with this knowledge can bring certain marketing decision.

If the database does not have the requested data, information and knowledge, then everything is turning to marketing research as an alternative way of obtaining the desired data. To begin marketing research, marketing manager should determine means and timetable for its implementation and to determine the data or information that wants to receive.
Nr. 1.4. Cooperation module

Marketing research module

In this part of the model is explained the flow of the marketing research in order to be collected the necessary data. Marketing research module is shown on the picture with number 1.5.

With this module, the marketing manager starts with the organization of the marketing research. The marketing manager defines the problem or research purposes in order to obtain appropriate data that can be used in making a particular decision or marketing decisions. A marketing manager is a
person in the company who decides for what will be done the research: market research, consumer research, competition research or a combination of them, depending on the needs of the company and the decisions that need to be adopted. Then, the marketing manager has to decide who will implement the overall marketing research. The marketing manager needs to determine the company's employees to conduct marketing research, of course, if considers these workers to have enough knowledge and experience to implement it. Marketing managers should familiarize selected employees with the goals of the research, and on that way they can start making the research project which will be referred to throughout the entire marketing research. Then, employees should choose methods for data collection, to create forms for collection of data and choose a sample of the population that will be investigated. After these steps, the employees continue with data collection.

If the marketing manager believes that the company does not have adequate staff for organizing and conducting marketing research, then turn to hiring a marketing research agency. The company should send a request to the agency where must be reasoned purposes of the research and data that the company wants to get through the marketing research. After the completed marketing research, marketing agency submits a report and presentation for received and processed data to the marketing manager of the food company.
Nr. 1.5. Marketing research module
Knowledge management module

In this part of the model are displayed the storage, processing and delivery of data collected by the marketing research. The activities of this section are shown in picture with number 1.6.

The collected data should be placed into three copies, as follows: for the marketing manager, for the storage and for processing.
Employees who were in charge of conducting the marketing research, submit the collected data to the marketing manager. The other copy of the collected data is stored in electronic databases, the information system or in the archive of the company, depending on the method of storage that is practiced in the food company. The third copy of the collected data is processed. If there are company-defined methods and techniques for data processing, then they are using, but if there are not, then they are defining in order the collected data to be processed and analyzed. After processing the data, a report with the results of market research is made. This report is made in two copies, one for storage and the other to be submitted to the marketing manager.

The delivery of the collected and processed data to the marketing manager is intended in order marketing manager to be familiar with the way, the flow and the quality of the processed data.

The storage of the collected data is done in order data to be again processed with other methods or techniques if it is necessary or to be used for the other purposes in the company.

Module for application of the acquired knowledge

This section shows the use of the new knowledge that is received from the marketing research. The module for application of the acquired knowledge is shown on the picture with number 1.7.

Nr.1.7. Module for application of the acquired knowledge
The marketing manager examined the report from the marketing research and based on the new knowledge makes proper marketing decisions, depending on the needs of the food company. At the same time, marketing manager decides whether the new knowledge from the marketing research can be used for other needs of the company. If this can be done, then the marketing manager determines which employees can access and use this knowledge. If this knowledge can not be used for other company purposes, marketing manager sets restrictions for access and usage of knowledge.
List of published papers:

4. Ana Ristevska, Nuhi Sela, „Knowledge management process-key factor for innovative SMEs” (Proceedings from the Conference SMEs development and innovation: Building competitive future of South-Eastern Europe-Faculty of Economics Prilep, 26-27 September, 2014)
6. Ana Ristevska, „Knowledge management software application in ice-cream companies“ (Proceedings of the 14 International symposium, Zlatibor, Srbija, 6-10 June 2014)
9. Ana Ristevska, „The process of knowledge management and its impact of a small and medium enterprises and market development“ (Proceedings of the First International doctoral student conference Faculty of Economics-Prilep, 18 May 2013)
10. Ana Ristevska, „Selection of knowledge management software application for attracting new customers” (Proceedings of the 9th International conference of American college –Skopje, 15 May 2014)
11. Ana Ristevska, „Creation of initiative in the companies for hiring young people“ (Proceedings of the Third Symposium BAS, 25 April 2014)
12. Ana Dimovska, „Increase of sales and market share through the usage of knowledge management software” (Proceedings of the First International science conference “Euro-Balkan” Skopje, 20-21 December 2013);
13. Ana Ristevska, „Usage of differentiated marketing strategy in targeting different regional market“ (Proceedings of the First International science conference Faculty of Economics Tetovo, 6-7 December 2013);
14. Ana Dimovska, „Creation of attractive brand for different ice-cream production lines in the ice-cream industry “ (Proceedings of the Second International science conference BAS, 1-3 November 2013 )