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# Abstract

These days technologies and innovations become more and more relevant for the company. These two things can be called the main objects of the organization in terms of competitiveness. That is why the knowledge management becomes the crucial part of the company. However, the problem of education new employees became quite relevant due to the increasing complexity of technologies and the ways of transmitting data. This study aims to analyze modern approaches to knowledge management and develop the prototype of the software to assess the level of knowledge management infrastructure in the organization. The following methods were used: synthesis, modeling, analysis and methods of systematization. Consideration of the concept of a knowledge management system is one of the most important parts of the work, so as the existing systems and the definition of the parts of knowledge management systems and the identification of their relationship. As a result of the work, the created calculation for evaluating the level of infrastructure in the organization has been applied in the company and updates and improvements of the system for the successful functioning of the company have been shown. To sum up, this study has shown the analysis of the modern approaches to knowledge management and the technologies. And the functioning prototype of the software that allows to assess the level of knowledge management in the organization.

# Introduction

## Significance

The **relevance** of the research is primarily due to worldwide situation. The information can be called the main object of the organization in terms of competitiveness. Knowledge management involves an integrated approach focused on the company's employees. People, processes and technologies are the building blocks of success. Employees solve problems their previous experience, existing databases and the tools that company can provide. The joint work of people multiplies the knowledge accumulated by the organization and improves the conditions for achieving potential success

## Background

Knowledge management incorporates courses instructed within the areas of trade organization, data frameworks, administration, library, and data science. Numerous expansive companies have some tools that help with their strategy or human resource management departments. A few counseling companies give counsel to these organizations.

Knowledge management tends to focus on organizational goals, such as increased productivity, competitiveness, exchange of information and systematic improvement of the organization.

## Problem Statement

**The aim** of the work is to analyze modern approaches to knowledge management, applied information technologies and the development of software to assess the level of knowledge management infrastructure in the organization.

To achieve this goal, the following **tasks** were proposed:

1. To identify the main problems of knowledge management in terms of existing knowledge management systems.
2. To define the knowledge management system
3. To identify the crucial parts of knowledge management systems and their relationship.
4. To prepare proposals for improving the knowledge management infrastructure.
5. To develop an algorithm for assessing the level of management infrastructure in the organization.

**The object** of the study is modern approaches to knowledge management.

**The subject** of the study is the indicators for assessing the level of knowledge management infrastructure in an organization.

Analysis and methods of systematization were used in this study.

**The practical value** of the work consists in the advancement of a calculation and a working model of program for assessing level of knowledge management in the company. A precise approach is proposed and suggestions are created to progress the information administration infrastructure.

# Main part

## Literature review

Nowadays a knowledge management system is an essential part of almost every successful business. Tom H. Davenport provided a definition in 1994. He said that knowledge Management was the process of capturing, distributing, and effectively using knowledge. In the modern world the knowledge management system is the effective tool which companies use for sharing knowledge.

The first scientist who said about the knowledge management was the Peter Drucker. Then I. Nonaka and X. Takeuchi open the implicit and explicit knowledge management, they studied the dependencies.

A number of works were written by A.L. Gaponenko (2017), V.A. Derevnikov (2016) as textbooks on knowledge management for students and postgraduates of economic specialties.

However, there are still no attempts to summarize practical experience and combine everything into a system that would help companies’ educating departments. The aim of the literature review is to study the problems in knowledge management systems which are extremely actual nowadays and it is crucial to implement it successfully in the company.

The studies conducted from 1995 to 2018 in terms of the research methods, advantages and limitations were analyzed. They bring up issues and opportunities for the future of knowledge management systems and organizational learning.

There are several trends that have been shown:

* Mobile technology is the future
* The data is better perceived visually
* Integrated external communication
* Cloud-based software

Despite the fact that many scientists have dedicated their lives to knowledge management in the company, leaders should follow some trends in order to be successful.

The articles show the areas to be improved in modern knowledge management and perspectives to develop the future extensive system.

The main idea is the evaluation of modern organizations’ attempts to manage and share their knowledge by following the knowledge management and transfer lifecycles when developing their projects.

According to the statistic more than 78% of the companies use the Knowledge Management. Only 61% of respondents agreed that this knowledge is used on future projects.

It can be seen that there are 2 steps during the lifecycle of the project when the work on the project is not so effective.

However, the majority of respondents (90%) believes that learning improves managers and project teams’ knowledge for the benefit of future projects. Regarding the knowledge learned, 69% agree that it allows employees to strengthen their experience and professional maturity.

So, according to their opinion, it can be said that knowledge management is even more relevant nowadays. The rapid development of the companies and the big flow of new employees make companies adapt and there is an effective tool that they use.

Overall, though, there are still some aspects that can be proved, this method of educating the new workers can become crucial in companies.

Many of the trends demonstrate the common fact that knowledge management is increasingly central to an organization, shifting from a peripheral tool to an extremely important one. Knowledge management, definitively, is relevant today and positioned to enable organizational initiatives and power sweeping changes in how employees work.

## Methodology

The problem of building a knowledge management infrastructure will be proposed in this study. To start with, the characteristics of knowledge management infrastructure are the main parts of the work to be studied. There is plenty of companies that use the modern approaches in knowledge management, but it is necessary to understand the value of the system in a particular organization. Therefore, during further work the following parameters will be considered: the instrument that is used in the company, the special features of the infrastructure, and criteria of evaluating the effectiveness of knowledge management.

As a result of the study, the developed algorithm for assessing the level of knowledge management infrastructure in the organization will be applied in the company. Updates and improvements of the system for the successful functioning of the company will be proposed.

It is necessary to get data from the company to summarize and make the final algorithm. During the experiment primary data will be collected by interviewing the workers in the company.

***Method of data collection***

To have a successful algorithm it is necessary to learn all the aspect of the systems that are included in the companies’ management infrastructure. The data should be stored in order to summarize it and make a conclusion about the effectiveness of this instrument.

***Analysis method description***

To select the foremost suitable algorithm, which is able to calculate the level of the infrastructure in the organization it is necessary to analyze the results. The prototype can be quite effective for the companies, on the other hand, it should be simple and easy to understand.

There are still some aspects that can be proved. This method of educating the new workers can become crucial in companies. An important criterion for choosing an algorithm was the features of the projects in the company. The next step of the research is to test and analyse the results of the prototype.

## Anticipated results

The current research project is supposed to develop an algorithm and a prototype of software for evaluating the knowledge management infrastructure in an organization. A systematic approach will be proposed and recommendations for improving the knowledge management infrastructure will be developed on the basis of the results. This software will help companies see the weaknesses in their infrastructure. In addition, the recommendations proposed by the prototype will help to improve it and make the work of employees more effective and the implementation of new technologies easier. The more employees the company recruits, the more useful this software will be. It is useful not only for the employment of the new workers, but also for the retraining of the staff. As a result of the study, the developed algorithm for assessing the level of knowledge management infrastructure in the organization will be applied in the company. Updates and improvements of the system for the successful functioning of the company will be proposed. The software will evaluate the current state of the infrastructure and offer several options for improvement. The company chooses the best one. After some time, it will be possible to check the state of the infrastructure again in order to verify the effectiveness.

# Conclusion

So, according to the respondents’ opinion of the survey, it can be said that knowledge management is even more actual nowadays. The rapid development of the companies and the big flow of new employees make companies adapt and there is an effective tool that they use.

Many of the trends demonstrate the common fact that knowledge management is increasingly central to an organization, shifting from a peripheral tool to an extremely important one. Knowledge Management is relevant today. It positioned to enable organizational initiatives and power sweeping changes in employees’ work.