NOVA IMS Information Management School

MEGI

Mestrado em Estatística e Gestão de Informação

Master Program in Statistics and Information Management

The Impact of Knowledge Management Systems on Organizational Effectiveness *and Innovation*

NINA BAJRAKTAROVA

Dissertation presented as partial requirement for obtaining the Master's degree in Statistics and Information Management

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The Impact of Knowledge Management Systems on Organizational Effectiveness *and Innovation*

by

Nina Bajraktarova

Dissertation presented as partial requirement for obtaining the Master's degree in Information Management, with a specialization in Information Systems Management

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ABSTRACT

The new digital age has been triggering dramatic changes in the way organizations think and operate. If we can learn one important lesson from the history of organizational management, it is that the knowledge and the management are the vital organs behind every surviving organization. Today, the greatest importance lies when combining the two - the intellectual property of the organization.

This paper looks into the importance of Knowledge Management and analyses the impact that Knowledge Management Systems have on organizational effectiveness and ultimately, innovation.

Many manufacturing companies from the Balkan region value the traditional way of operating. They remain to have hierahcy, centralized decision making and are seen to adapt to the technological changes on a slower rate when compared to other regions of Europe. Many of them have non-serial manufacturing. Often, due to the size of the country of origin of the individual organization, the only way to stay in business is by having tailored production. This increases the need for Knowledge Management.

The purpose of this research is to get a better perspective on how Knowledge Management is embraced in manufacturing companies in order to see how information technology can help in the future.

Data were collected with the use of an online survey sent to organizations. In order to obtain reliable data on the research and to have a more realistic view of the processes of knowledge management, this research includes organizations with different number of employees and different years of existence.

Despite still having a centralized decision making and a more traditional organizational environment with noticeable hierarchy, manufacturing organizations in the Balkan Region today strive for improvement and have a high level of recognition for the need of Knowledge Management, according to the results from the analysis.

KEYWORDS

Knowledge Management; Knowladge Management Systems; Information Technologies; Organizational Effectiveness; Innovation; Manufacturing Companies; Balkan Region

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1. INTRODUCTION

Knowledge Management, which can also be found in the literature under 'Management of the intellectual capital of an organization' is a field of study that has progressed from simply being an academic theory to now representing a vital component of all existing organizations.

In this decade, organizations are increasing their focus on knowledge as a resource. The question of many researchers still remains in the line of why this science field emerged in the first place and why did organizations need many years to recognize its real value?

Several world trends have had a significant impact on the development of this science, such as:

- The globalization of the economy, which has made strong pressure on companies in increasing their adaptability, innovation and reaction to change;
- Increased awareness about the importance of specialized knowledge embedded in organizational processes and practices;
- Increased awareness about the importance of knowledge as an obvious source of competitive advantage.

Existing in an era of rapid technical and technological development, rapid change and selective customers, one of the main prerequisites in gaining a competitive advantage is in the 'know how' of the companies. In today's business environment, the knowledge a company possesses, along with the ability to transfer, multiply and utilize that knowledge, all play a significant role in where the company stands on the market.

The process of innovating today is a product of effective and efficient group work. An effective work that is fundamentally a result of shared knowledge on how the machines operate, how can their work be improved, what are the requirements and demands of the consumers, and how can services be improved to fit the consumer needs and wants.

It is not uncommon for organizations in the Balkan region to have extremely valuable knowledge that is not been stored properly or at all. It often gets to a point that they forget knowledge is being possessed in the first place. In fact, lost information throughout the organizational archives and knowledge left behind in the minds of the employees is a problem that many companies share - a problem that in the long run costs them both money and market power.

In order to prevent knowledge of becoming obsolete, knowledge management is necessary.

The issue of organizational knowledge management is treated in a variety of ways. Some organizations look at knowledge management in a traditional way by focusing on the collection and organization of knowledge, with high emphasis on measuring and planning how to utilize it. While others view this on a much deeper level, by dealing with numerous questions in relation to the following: circulation of knowledge in the organization; transfer of knowledge; knowledge growth and multiplication; collection of new knowledge; storage of knowledge; as well as questions about what happens to the knowledge of individuals that have left or are leaving the organization.

Knowledge is the only resource that can be sold, re-used, shared, and again available to be traded in any way and yet to still remain in possession of the initial owner. It is also the only resource that grows when being shared.

Regardless of how we treat knowledge management, theorists agree that there is a strong link between knowledge and power. Dating back to the oldest theories on knowledge management, power cannot be practiced without knowledge and it is impossible for knowledge not to cause power. So as long as knowledge and power are interconnected, knowledge management will result in social and economic power. [Michel Foucault, 1969]

The aim of this paper is to combine the theory and practice in the fields of knowledge management and knowledge management systems. The main goal is to identify the relation between the application of information systems for knowledge management and organizational effectiveness and innovation. The focus is put on manufacturing companies of the Balkan region due to the interest in how they embrace Knowledge Management today.

In the Balkan region many organizations in the manufacturing industry have non-serial production. Many times, due to the size of the country of origin of the individual organization, the only way to stay in business is by having tailored production. This by itself increases the need for Knowledge Management and is the reason why it is important to get a better perspective on how Knowledge Management is understood and embraced.

The paper is structured in the following parts: an introduction, a literature review, methodology, research results with interpretation and a conclusion.

2. THEORETICAL FOUNDATIONS

Knowledge sharing is not a new behavior. History shows an endless aspiration and a basic need of the human race for knowledge circulation. It is a behavior old not centuries but millenniums.

One of the first undertakings in the field of knowledge collecting and sharing takes place in the beginning of the third century of the new era when the Egyptian King Ptolemy I Soter built a library in Alexandria. His goal was to gather copies of all that was ever written, all over the world, until that time. In fact, there is no major difference in the core idea of knowledge management in organizations today and the knowledge management behind the purpose of this library that is rightfully considered to be the first center of knowledge.

2.1. KNOWLEDGE MANAGEMENT (KM)

Defining the term knowledge management with a single definition has been and is still almost impossible. There are hundreds of definitions used in the literature today, all being adapted to an environment and discipline.

In a more recent publication, ["Defining knowledge management: Toward an applied compendium" 2015], the authors have tried to record the depth and scope of applied knowledge management definitions written by researchers and practitioners. Collectively the definitions characterize the thoughts of authors across 13 countries and 23 different domains. The collection includes over 100 definitions, confirming the true depth and multidisciplinary nature of knowledge management. By analyzing the words used in each of the hundreds of definitions with a word parsing tool, a list of words was created.

At the top of the list of words that are mostly used to define knowledge management were: knowledge; organization; process; information; use; share; create; manage; assets; people; practice; improve; systematic; capture; value; resources; organizing.

Therefore, if we only take into account the words that appear most often, the definition of knowledge management would be one of the following:

"Knowledge Management is the process of creating, sharing, using and managing the knowledge and information of an organization. "

"Knowledge Management is the management process of creating, sharing and using organizational information and knowledge."

Although the concept of knowledge management is not new, the approach that managers today are beginning to use is different. Parallel to the rapid changes on the market, successful managers are taking advantage of knowledge and its value. However, in order to ensure an effective working organization, even those who managed to catch up with the technological changes and informational revolution, still remain to find the right system and approach that will enable knowledge management and information understanding.

Organizations need good practices, new ideas, creative thinking and collaboration. All this, can be ensured only through effective management and use of knowledge.

2.2. DATA, INFORMATION, KNOWLEDGE

There are numerous interpretations that can be found through the literature on knowledge and the importance of knowledge (in epistemology, in sociology, in psychology).

As stated by Polany, there is no certain definition for both knowledge and knowledge management [Polany, 1966].

However, the ideas behind data and information are very different from that of knowledge.

Holsapple points out that, while data is seen as a collection of unprocessed, non-actualized facts, numbers and events, the information is organized and processed data that is time-accurate [Holsapple, 2003].

Data as a general concept commonly associated with scientific research, refers to the fact that some information or knowledge is represented or coded in a form suitable for usage or processing. Data represents a set of values of qualitative or quantitative variables.

Data is a unique set of symbols representing a perception of raw facts. (Zinz, 2007 citing Nicolae Dragulanescu) Data is measured, collected, reported, analyzed, and can be visualized using graphs, tables, images or other tools for analysis. It exists on its own; it does not constitute a basis for action, and is a physical, solid, item with an objective existence. Data only describes what is happening, it does not interpret the events or the cause of those events.

Unlike data, information has meaning, purpose and relevance. Information is an entity/form that reduces uncertainty and provides an answer to a certain question.

Information is corpuscular, quantifiable, commoditized, objective and 'out there,' transferable, interconvertible, transparent, autonomous and measurable. It has shape and can be processed and accessed, generated and created, transmitted, stored, sent, distributed, produced and consumed, searched for, used, compressed and duplicated. Information can also be of different types with different attributes. It can be sensitive information, qualitative or quantitative information. Modern uses even extend its use to biological cells using and transmitting information, with cancers, for example, seen as spreading misinformation. [Jonathan Hey, 2004]

The understanding of knowledge seems to be quite different in comparison to both data and information. Knowledge can be implicit (practical skill/expertise) or explicit (theoretical understanding of a topic) and is usually personal and subjective. On an organizational level - it is found in the people. Knowledge is formed and shaped by the individual perceptions and experiences of the holder.

According to literature covering knowledge management, there are two different types of knowledge: tacit and explicit.

Tacit knowledge is the kind of knowledge that is difficult to transfer from one person to another by Mean of writing or verbalizing. It is a type of knowledge that is hard to encode and communicate. [Polany,1966]. Furthermore, tacit knowledge is subjective, personal, context-specific and difficult to formalize [Nonaka and Takeuchi, 1995].

On the contrary, explicit knowledge is the type that can be easily transferred from one person to another. It can be encoded and is able to be communicated in language. This is in fact the type of

knowledge that Knowledge Management practices are able to more easily capture, create, retain, control, codify, store, transfer, share and multiply.

2.3. THE VALUE OF KNOWLEDGE TO THE ORGANIZATION

In an age when data and information have a significant impact on competitive advantage, it gets even more frequent for knowledge to be seen as a corporate asset.

In many organizations, however, the economic value of that asset is like beauty, it is in the eye of the beholder. Knowledge itself seems to hardly ever be in the focus of managers. They feel it is too abstract and academic, so they usually do not see the economic benefit it offers. But, they do have understanding of its importance in terms of organizational performance. Whether it is for educated decision making, recognizing the causal relationships that affect organizational processes, or for predictions of the future, knowledge plays a necessary role.

Overall, the accumulated body of data, information, and knowledge generated in the course of an organization's life, is organizational memory and refers to products, production, raw materials, customers, marketing strategy, financial performance, strategic plans, goals of the organization and much more. By utilizing knowledge, organizations constantly increase their power by adjusting and adequately responding to the external environmental, social, political, and market changes as well as consumer needs and demands.

Placing knowledge in the focus of the organization leads to positive changes in several areas, such as:

- Improved response to organizational change;
- Improved products and services;
- Increase in revenues by improving the placement of products and services;
- Increased market presence;
- Improved work operations and reduced costs by eliminating insignificant and/or unnecessary processes.

2.4. FOUR-PROCESS MODELS OF KNOWLEDGE MANAGEMENT

What is mutually found in most definitions is that knowledge management is a compound activity that contains multiple processes. Different people have explained these processes in a different manner.

To begin with, the area of knowledge management, according to Suresh, includes: management, business processes, information technologies, business strategy and the individual potential of people [Suresh, 2005].

In general, knowledge management can be viewed as a process that is closely related to organizational goals, the processes of an organization, competitive advantage, the practice of

cooperation and the sharing of lessons learned. It is very often associated with the idea of learning organizations. Organizations encourage employees to learn by promoting the exchange of information in order to create a workforce that is using knowledge efficiently and on an increasing rate. In order to deliver the right information to the right user, knowledge management includes data mining, information systems and methods for delivering information. Furthermore, knowledge management is a constant process of organizational knowledge renewal, which significantly differs from business process reengineering or total quality management (TQM).

Jeff Angus and Jeetu Patel have described a four-process view of knowledge management. Their model consists of: (1) Gathering, the collection of knowledge that encompasses: data entry, optical character recognition (OCR) , Scanning Voice input, collecting information from various sources and searching for information to be included; (2) Organizing, knowledge organization which includes: categorization, indexing, filtering and linking; (3)Refining, a process that includes: contextualizing, collaborating, compacting, projecting and mining; (4) Disseminating, which includes: flow of knowledge, sharing, alert and push. [Jeff Angus & Jeetu Patel, 1998]

In the literature, however, there is also another model with four basic processes. (1) Developing new knowledge - a process that can be supported by organizational memory and encompasses continuous upgrading of knowledge through creative ideas, studies, daily experiences, and similar. (2) Protection of existing and new knowledge - a process of continuous collection of individual knowledge, storage and its proper indexing, in order to make it readily available to all in the organization in need of that knowledge. (3) Distribution of knowledge - the process of allocating knowledge to all those who benefit from it. (4) Combining the knowledge of the organization - a process that allows the knowledge acquired at different departments to be accessed from different places, with aim to make it easily available for use in multidisciplinary teams.

Finally, there is the model that is most vastly studied. Alavi & Leidner, have set up a system framework for analyzing the impact of information technology in knowledge management. The basis of this framework was set by Berger and Luckman in 1967, continued by Gurvitch in 1971 and by Holzner and Marx in 1979 [Berger & Luckman, 1967; Gurvitch 1971; Holzner & Marx, 1979] and it is based on the understanding that the organization is a social community and that it is a system of knowledge. According to this framework, organizational knowledge management consists of four processes: (1) Capture and Creation; (2) Storing / retrieval ; (3) Transfer ; (4) Application. [Holzner & Marx, 1979; Pentland, 1995]

3. INFORMATION SYSTEMS FOR KNOWLEDGE MANAGEMENT

In the past few decades, the interest on knowledge inside organizations has grown enormously. Many organizations are continuously increasing their awareness of the value of knowledge, and the fact that if it is not shared and utilized within the organization, it loses all of its value. In the words of Polanyi "we all know a lot more than what we say". [Polanyi, 1966]

An organization on its own cannot know anything without the knowledge of its employees. The organization serves only as a "guardian" of the knowledge of its employees and facilitates the access to that knowledge when the employees need it. In order to facilitate the use of the knowledge, it is necessary to make it available. In this area of enabling knowledge to be available to employees, whenever they need it, in the appropriate form they need it; organizations have to figure out a proper way of how to deliver the required solution.

Today, by choosing, introducing and applying different information technologies, companies are able to improve the quality and scope of many processes.

Information technologies are recognized as tools that deliver an exceptional opportunity for improving processes at different stages of knowledge management. When speaking of information technologies, it is referred to the technological aspect of the information system, especially the hardware, the communication technology, the operating system, the database management system, the network software and other information components.

Knowledge management is a methodology rather than a technology or a product, but information technologies are the key to a successful knowledge management. The emphasis is no longer only on people and the organizational culture, but on technology and how it can impact today's modern organizations.

Knowledge Management Systems are systems used for applying and using principles of knowledge management. They contain data-driven objectives in terms of business strategies, business model, business intelligence analysis etc.

A Knowledge Management System is an application designed to capture and collect all the information that lies within an organization and make it available to the employees. It is a knowledge repository software system, made up of diverse software modules served by a central user interface. In other words, it represents an "information hub" where information can be created, organized, redistributed and easily accessible through search tools and added features that allow users to find the needed information in the needed time.

Some of these features can allow for data mining on consumer input and history, alongside the provision or/and sharing of electronic documents. Knowledge management systems can not only support many work achievements such as better sales and management, but they also assist business leaders to make critical decisions and can be of great support in terms of staff training and orientation.

A Knowledge Management System is a system considered to be only one part of the overall concept of Knowledge Management, then again, a very important part.

Knowledge Management Systems can be of many different types, serving numerous different purposes. However, the purpose they share is the one of storing and retrieving important data, information, and knowledge.

3.1. THE IMPORTANCE OF KNOWLEDGE MANAGEMENT SYSTEMS (MANUFACTURING INDUSTRY)

Every day, organizations obtain an enormous amount of data and information. While some of this data might not be of any relevance, other information or knowledge could be vital to the future of the organization.

Knowledge management prevents employees from constantly having to reinvent the wheel. In the manufacturing industry it is considered to be highly important since it provides a reference point for progress measurement, decreases the need of supervisory opinion, makes visual thinking tangible, and effectively manages big volumes of information in order to support the work of individuals.

In organizations with tailored manufacturing, it is of even higer importance for employees to be able to access information on old practices and sproduct solutions and not having to reinvent and start from scratch again.

This is exactly where the significance of knowledge management systems can be realized. It is the knowledge management systems that enable organizations to store, manage and distribute the data.

Most common benefits of using Knowledge Management Systems:

- Improved distribution of knowledge
- Improved information accuracy and consistency
- Increased employee satisfaction
- Increased productivity, less time spent searching for answers
- Quicker training of new employees
- Retention of knowledge of employees leaving the organization

One of the highest benefits of having a knowledge management system is that it helps the learning process by making learning part of a routine. When learning is a routine in one organization, it creates a type of a culture which is motivated towards constant empowerment, self-assessment and self-improvement. The possibility to learn through the use of knowledge management systems makes users more eager to learn, and can improve loads of processes.

Furthermore, it makes way for innovation and workplace changes. With regular and active management of knowledge, employees tend to express their ideas and use creativity more often. When transparency is increased, and information is readily available, it gets easier to see the problems and think of solutions. Hence, it also enables informed-decision making.

4. METHODOLOGY

4.1. RESEARCH PROBLEM

Many of the organizations in the Balkan Peninsula still value the traditional way of working. They are putting their focus on tangible capital, while neglecting the meaning and leaving their intellectual capital unexploited.

In the manufacturing industry where companies also have non-serial manufacturing, keeping the 'know-how' protected is of high importance.

The problem of this research will be the integration of knowledge management in the processes of creating, identifying, collecting, sharing, practicing and applying knowledge, which will enable organizations to keep the 'know-how' protected and increase competitiveness.

4.2. RESEARCH GOALS AND OBJECTIVES

4.2.1. Main purpose

The main purpose of this research is to examine the impact of knowledge management systems on organizational efficiency and innovation in manufacturing companies in the Balkan Region.

4.2.2. Research Assignments

- Determine the extend to which knowledge management is valued in organizations;
- Determine how the process of creating, identifying, collecting, sharing, practicing and applying knowledge functions in organizations;
- Determine how and if organizations enable continuous learning, that is, whether they allow the acquisition of new knowledge and experience, as well as sharing of knowledge between employees;
- Determine whether organizations have a system that fosters individual and team development;
- Identify the relationship of innovation with the age of the organization;
- Determine whether there is a link between knowledge management and the age and size of the organization;
- Define the area of the processes of management of knowledge occurring in the organizations;
- Determine whether knowledge is integrated in the organization's strategy;
- Determine how organizations encourage employees to be innovative, search for new ideas, try out new processes, or develop new products and services.

4.3. HYPOTHESES

Within this part of the research the main hypothesis and several specific hypotheses will be elaborated.

4.3.1. General hypothesis

X-0 The application of Knowledge Management Systems implicitly influences the organizational efficiency and innovation in the manufacturing companies.

4.3.2. Specific hypotheses

X-1 The better the circulation of knowledge - the greater the degree of innovation in the organization;

X-2 There is an interrelation between the organization's strategy and knowledge management;

X-3 The size of an organization affects its knowledge management;

X-4 The age of an organization affects its knowledge management;

X-5 The age of the organization affects the level of innovation;

X-6 The effectiveness of the organization is enhanced by sharing new knowledge;

X-7 The education of employees encourages effectiveness;

X-8 For a successful completion of work tasks it is necessary to have an individual plan for the development of the employees;

X-9 The shared experience of employees affects the overall performance of the organization.

4.4. RESEARCH TYPE AND DESIGN

According to the general criteria for classifying research work and according to the methodological nature of it, this can be placed as research in which there is a valorization of certain phenomena in different conditions. According to the time frame, it is classified as transversal research, and according to the degree of general belonging - operational research, or more precisely, developmental research, based on finding and developing better solutions.

In the realization of this paper, the following research methods have been applied:

- Analytical-synthetic and inductive methods have been applied as general introductory methods;
- From the explicit methods, the empirical method was used;
- In order to process data from the survey, statistical method was used.

The survey was conducted in the first half of 2018. The course and the organization of the research was carried out in the following order: firstly, all the necessary information on this topic was collected, and then followed by the surveying of the respondents. Data collection was carried out electronically.

The gathering of data took place in a centralized manner, planning the research and all other preparations take one place. In the final phase of the research, data compilation was carried out through appropriate programs for statistical processing.

4.5. RESEARCH RESPONDENTS

For the needs of this research, more micro, small, medium and larger organizations were covered. The survey involved 98 (ninety-eight) respondents (top managers, middle managers and employees). During the research, there were three samples of respondents according to the number of employees in the organizations and three samples of respondents according to the years of existence of the organization.

According to the number of employees in the organization:

- First sample, **micro** - up to 10 employees (31 respondents);
- Second sample, **small** - from 11 to 50 employees (31 respondents);
- Third sample, **medium and large** - over 51 employees (31 respondents).

According to the years of existence of the organization:

- First sample, **up to 1 year** – (29 respondents);
- Second sample, **from 11 to 20 years** – (39 respondents);
- Third sample, **over 21 years** – (30 respondents).

4.6. EXAMPLE OF VARIABLES AND METHOD OF THEIR MEASUREMENT

The variables applied in this research can be divided according to their measured nature of qualitative and quantitative and methodological nature in two groups - dependent and independent variables.

With *qualitative* – also known as attributive variables, certain descriptive categories of statements are given.

With *quantitative* - or numerical variables, an assessment was made on the overall area of the processes of knowledge management and the effectiveness of the management of knowledge and innovation. The estimate is made by a numerical scale (1- not applicable / I do not know; 2- to degree or less than one third, 33.3%; to a stronger degree or 33.3% -66.6%; strongly agree or 66 , 6% -100%).

Dependent variables - or criterion variables are in function or participate in the definition of knowledge management and innovation development.

Independent variables - in the group of independent or predictor variables are those that define processes of knowledge management, information about strategies and approaches related to the creation, collection, storage, transfer, etc.

The used data collection research technique was survey, a questionnaire, which, in addition to the demographic data, consisted of three parts:

- The first part was composed of attributive and numerical indicators that define information about the strategies, approaches and processes associated with collecting knowledge.
- The second part was made up of numerical indicators that define information about the strategies, approaches and processes related to storing and disseminating knowledge.
- The third part was composed of attributive and numerical indicators related to information on the effective knowledge management and innovation.

4.7. DATA ANALYSIS

Descriptive and comparative statistics were used in the data processing.

The descriptive procedures for each variable determine the frequency distribution, and for each continuous series, the central tendencies and the dispersion measures (arithmetic mean, standard deviation, variance, rank, variation width) are calculated, and the distribution of the values of the Gaussian curve (Skewness and Kurtosis).

In the area of comparative statistics, parametric and non-parametric procedures were also used.

From the area of discriminatory procedures, was used:

- Kruskal-Wallis Test, which sets the difference in the sum of the ranks between the sub-samples defined by the number of employees in the organizations and the age of the organizations.

From the space of causal procedures, the following were used:

- Square test ($\chi 2$ - square test) for the quality of eligibility in the attributes (top managers, middle management, employees) among the respondents
- Factor analysis- used to describe variability among observed
- The determination of the link between the indicators that define the processes of management was calculated using the Pearson correlation coefficient

For the processing of the data, Excel application programs and the Statistics and SPSS program packages were used.

5. RESEARCH RESULTS

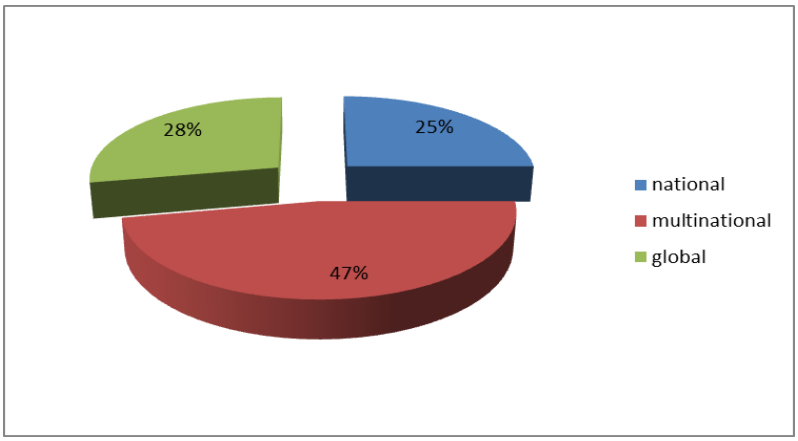
In the presentation of the survey results, besides the explanations for the obtained indicators, graphic displays, histograms and spreadsheets were used.

Qualitative and quantitative statistic procedures were used in data processing. With the help of descriptive statistics, the distribution of frequencies in certain findings was determined, the measures of the central tendency and dispersion measures were calculated. From comparative statistics, causal statistical procedures were used. In the field of non-parametric procedures, the Chi-Square Test and the Kruskal-Wallis Test were used, while from parametric procedures - factor analysis and correlation matrix.

5.1. BASIC DEMOGRAPHIC INDICATORS OF THE RESPONDENTS

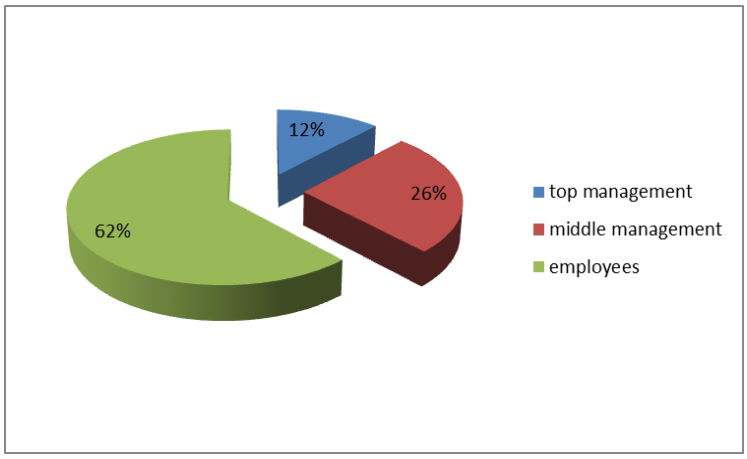
From the total number of companies in this survey, almost half of them are multinational (47%), followed by global companies (28%) and national companies (25%).

Figure 5.1. – 1 Geographical area in which the organization operates



The total number of respondents in the survey is 98 (figure 5.1.-2). From which, 12% of respondents are top (general) managers, 26% are part of the middle management, while the remaining 62% are employees.

Figure 5.1. -2 Review of the respondents according to their work position



In this survey (figure no. 5.1.-3), the largest amount of organizations are with a number of employees between twenty one and fifty (33%) and organizations with up to twenty employees (31%). Seventeen percent of organizations have from 51 to 100 employees, eleven percent has a number of employees between 501 and 1000 and the fewest number of organizations are those with a number of employees between 101 and 500 employees (8%). Although in the questionnaire there is a category for companies with over a thousand employees, there were no survey responses from such organization.

In the further procedure, in order to enable a more detailed data processing, an additional classification of the organizations was made (figure 5.1.-3a), according to the number of employees, classifying the organizations as: micro organizations; small; medium and large organizations (**micro** - under 20 employees, **small** – under 50 employees; **medium and large** - over 50 employees).

Figure 5.1.-3 Number of employees in the organization

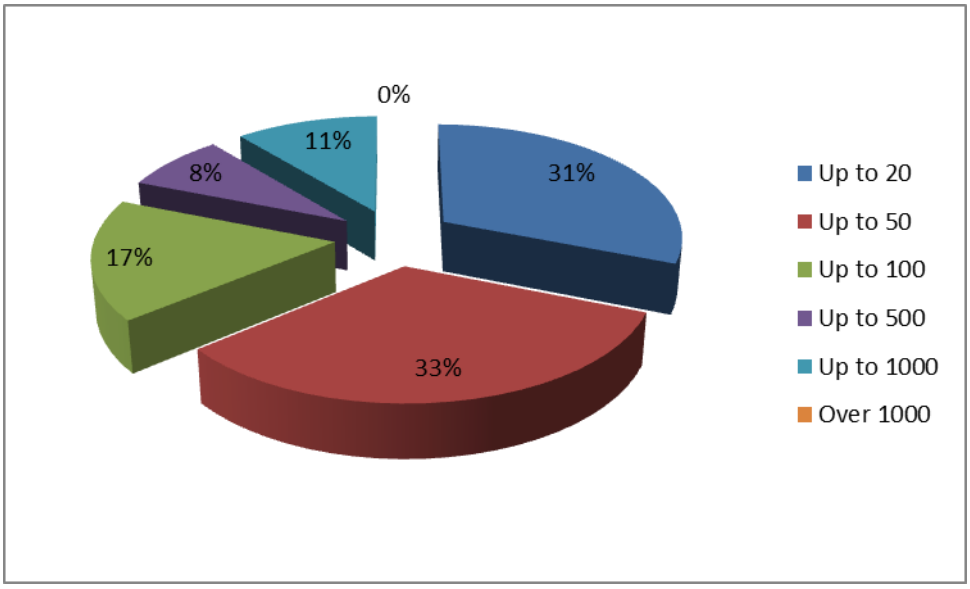
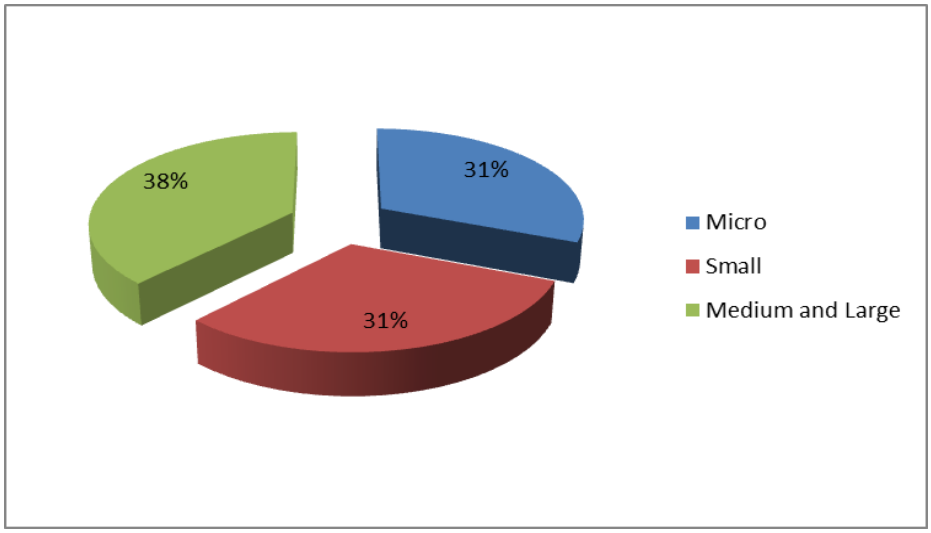


Figure 5.1.-3a Number of employees in the organization



According to the obtained results (figure 5.1.-4), the largest number of organizations have between eleven and twenty years of existence (39%). Followed by organizations with six to ten years of existence (21%), twenty-one to thirty years of existence (19%), and over forty-one years of experience (11%).

In the further procedure, and in order to enable more detailed data processing, again, an additional classification of the organizations had been made (Figure 5.1.-4a), according to the years of existence. The organizations have been classified into: up to ten years; eleven to twenty years and over twenty-one years of existence.

Figure 5.1.-4 Organizations by years of existence

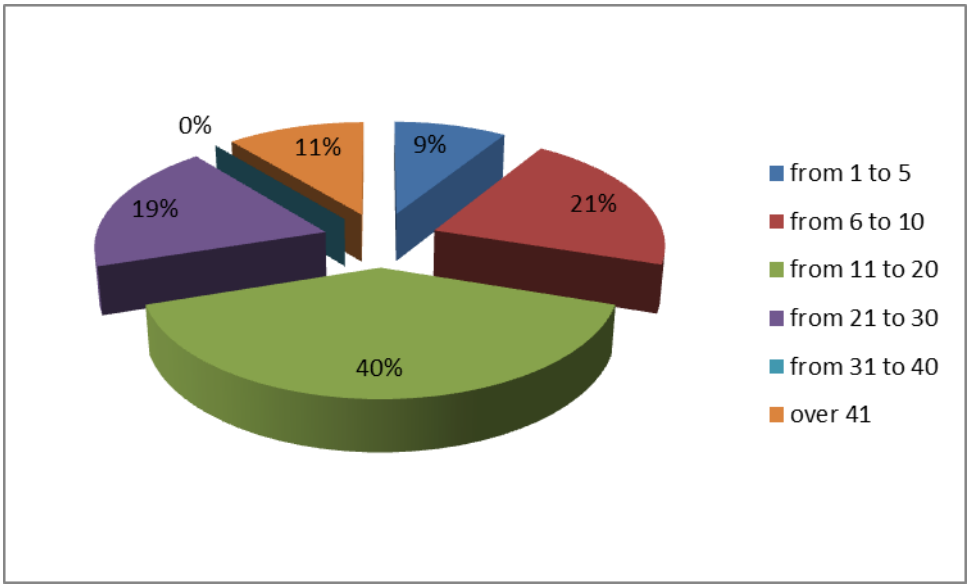
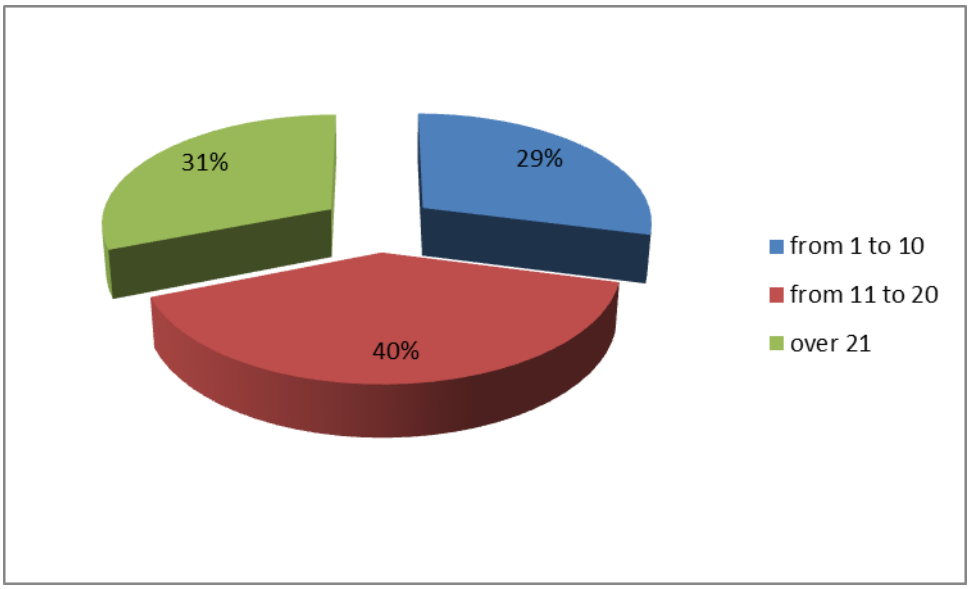


Figure 5.1.-4a Organizations by years of existence



5.2. RESULTS ABOUT STRATEGIES, APPROACHES AND PROCESSES

The number of answers given by the respondents varies, taking into consideration the possibility to give more answers to one question, as well as the incomplete speech on all questions.

5.2.1. Information on strategies, approaches and processes related to the collection and creation of knowledge from attributive indicators

According to the obtained results from the performed analysis in which the chi-square test for determining the quality of eligibility between the observed and the expected frequencies was noted that there are significant differences in all seven indicators.

Question: 1. If your organization does not use the term "Knowledge Management", do you have any other definitions or names for knowledge-related initiatives?

Possible answers: a) Yes b) No c) I do not know

From the analyzed results (Graphic Display No. 5.2.1.-1 and Table 5.2.1.-1) it can be noted that the largest number of respondents gave a confirmed answer regarding the use of the term knowledge management.

With a chi-square test for determining the distribution of the attribute statements of the examinees, it was concluded that there are statistically significant differences between the expected and the empirical (observed) frequencies of the statements ($\chi 2 = 140{,}592$; df = 2; n = 98; = 0.000).

Graphic display 5.2.1.-1 Application and use of the term "knowledge management"

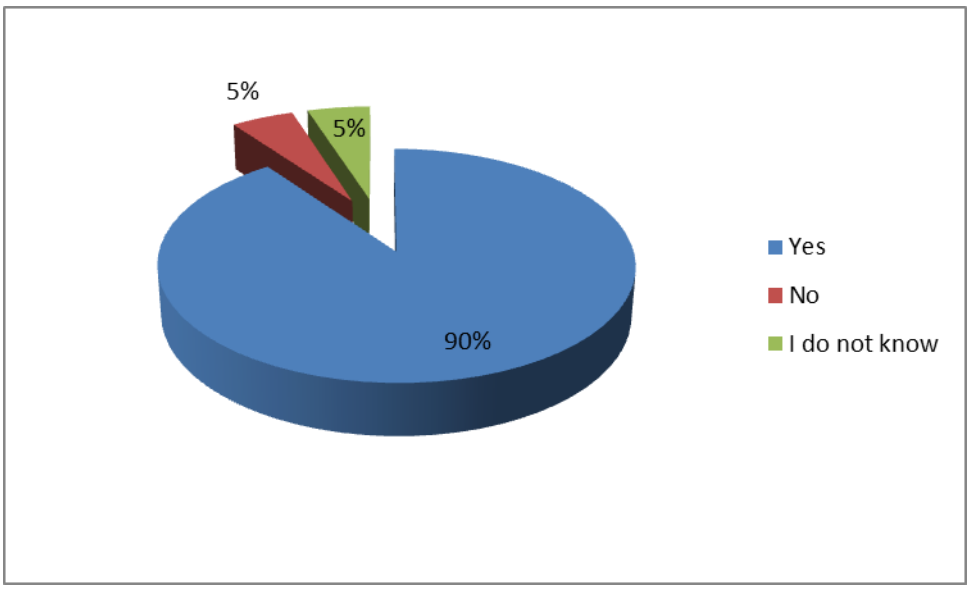


Table no. 5.2.1.-1

Application and use of the term "knowledge management"

VAR00002

	Observed N	Expected N	Residual		VAR00002
Intellectual capital	56	44,5	11,5	Chi-Square	5,944[b]
Learning Organization	33	44,5	-11,5	df	1
Total	89			Asymp. Sig.	,015

Question 2: If you answered the previous question with Yes, then which of the following terms do you use in Relation to the initiatives related to knowledge?

Possible answers: a) Intellectual capital b) Patent management c) Learning organization

The analyzed results (Graphic Display No. 5.2.1.-2 and Table 5.2.1.-2) indicate that the most commonly used term related to knowledge is *intellectual capital*, many respondents connect it to the term *learning organization* while no respondents answered with *patent management.*

From the chi-square test for determining the distribution of the attribute statements of the examinees, it was concluded that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 5.944$; df = 1; n = 89; = 0.015).

Graphic display no. 5.2.1.-2 Terms used in Relation to the initiatives related to knowledge

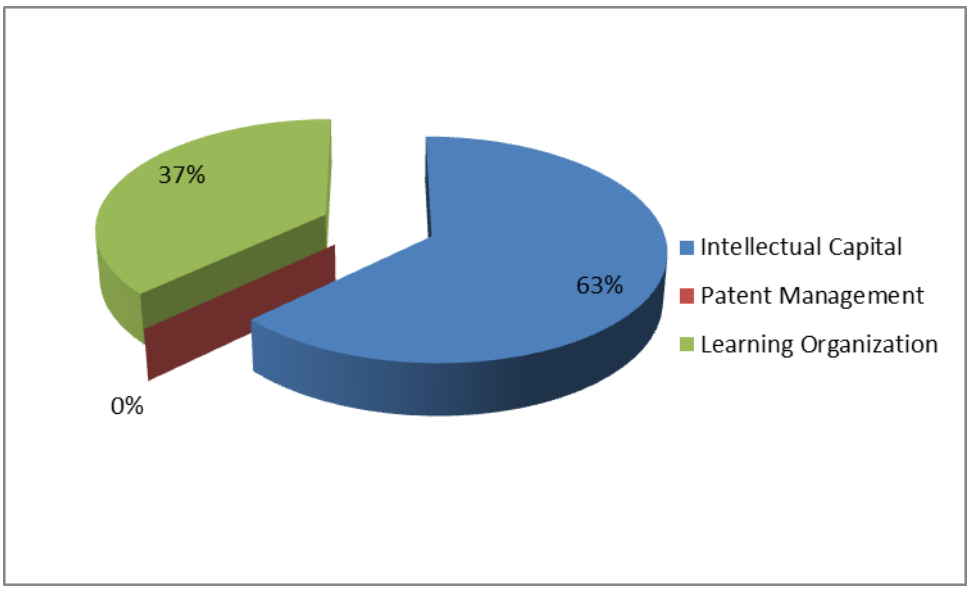


Table no. 5.2.1.-2 Terms used in Relation to the initiatives related to knowledge

VAR00002

	Observed N	Expected N	Residual		VAR00002
Intellectual Capital	56	44,5	11,5	Chi-Square	5,944[b]
Learning Organization	33	44,5	-11,5	df	1
Total	89			Asymp. Sig.	,015

Question 3: Most often, where can you say that the knowledge of your organization resides?

Possible answers: a) In the memory of the people; b) On paper documents; c) In the memory of computers; d) It's built-in in products and services; e) Other

From the analyzed results (Graphic Display No. 5.2.1.-3 and Table 5.2.1.-3), it can be noted that the opinion of the respondents about where the knowledge is in the organization is that it is mostly in the memory of computers.

According to the chi-square test for determining the distribution of the attribute statements of the respondents, it was concluded that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 28,122$; df = 3; n = 98; = 0.000).

Graphic display no. 5.2.1-3 Where does knowledge reside in the organization

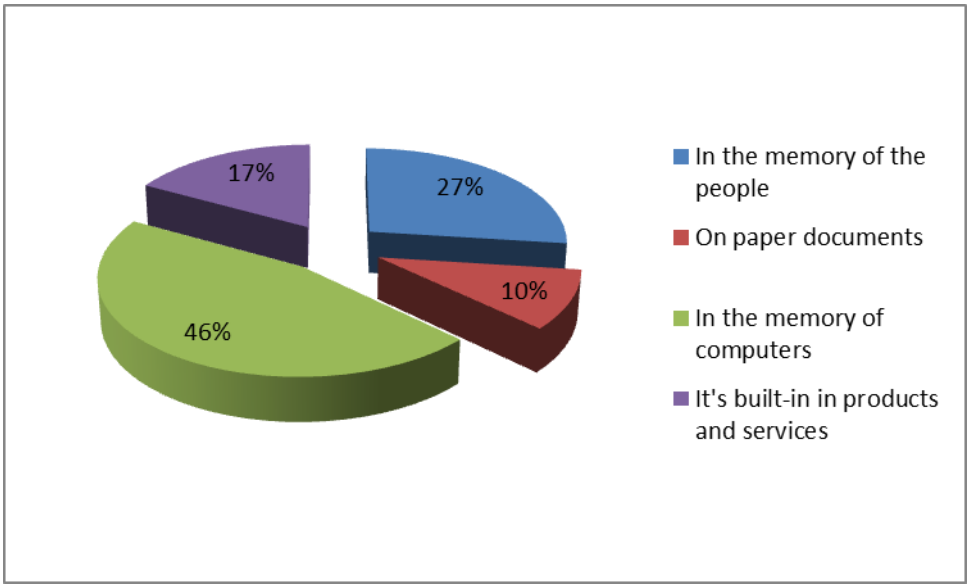


Table no. 5.2.1-3 Where does knowledge reside in the organization

VAR00003

	Observed N	Expected N	Residual		VAR00003
In the memory of the people	26	24,5	1,5	Chi-Square	28,122[c]
On paper documents	10	24,5	-14,5		
In the memory of computers	45	24,5	20,5	df	3
Built-in in products & services	17	24,5	-7,5		
Total	98			Asymp. Sig.	,000

Question 4: Does your organization have an online platform for employees?

Possible answers: a) Yes b) No

According to the analysis (Graphic Display No. 5.2.1-4 and Table 5.2.1.-4), it can be noticed that a very high percentage of organizations have their own online platform.

By applying a chi-square test to determine the distribution of attribute statements of the respondents, it was found that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 86{,}367$; df = 1; n = 98; Sig. = 0.000).

Graphic display no. 5.2.1-4 Online platform

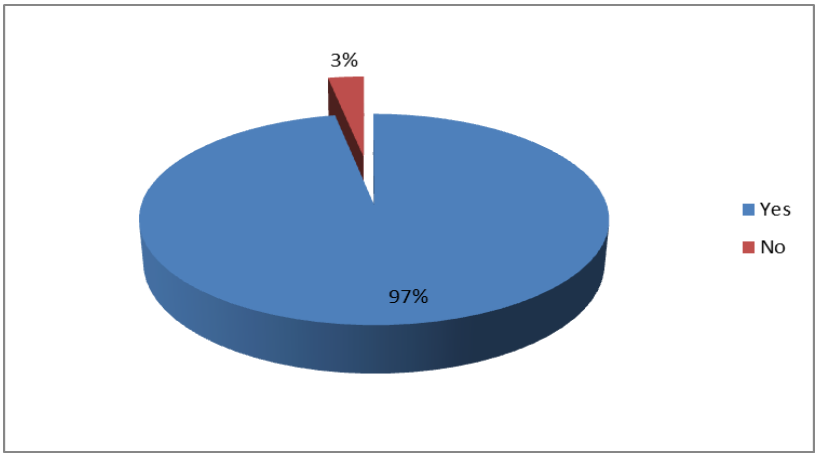


Table no. 5.2.1.-4 Online platform

VAR00004

	Observed N	Expected N	Residual		VAR00004
Yes	95	49,0	46,0	Chi-Square	86,367[d]
No	3	49,0	-46,0	df	1
Total	98			Asymp. Sig.	,000

Question 5: If your organization has an online platform, what information does it have on it? (You can select multiple answers)

Possible answers: a) Information on products and technology b) Information on organizational structure c) Market analysis reports d) Academic and scientific research e) History of the firm f) Archive of good practices g) Procedures, rules and standards of the organization h) Innovative ideas of employees j) Online training k) News

According to the results (Graphic Display No. 5.2.1-5 and Table 5.2.1.-5), it can be noted that the largest number responded that the platform has information on products and technology as well as procedures, rules and standards in the organization.

With a chi-square test for determining the distribution of attribute statements of the examinees, it was found that there are statistically significant differences between the expected and the empirical (observed) frequency of the statements ($\chi 2 = 267,367$; df = 10; n = 395; = 0.000).

Graphic display no. 5.2.1. – 5 Information on the platform

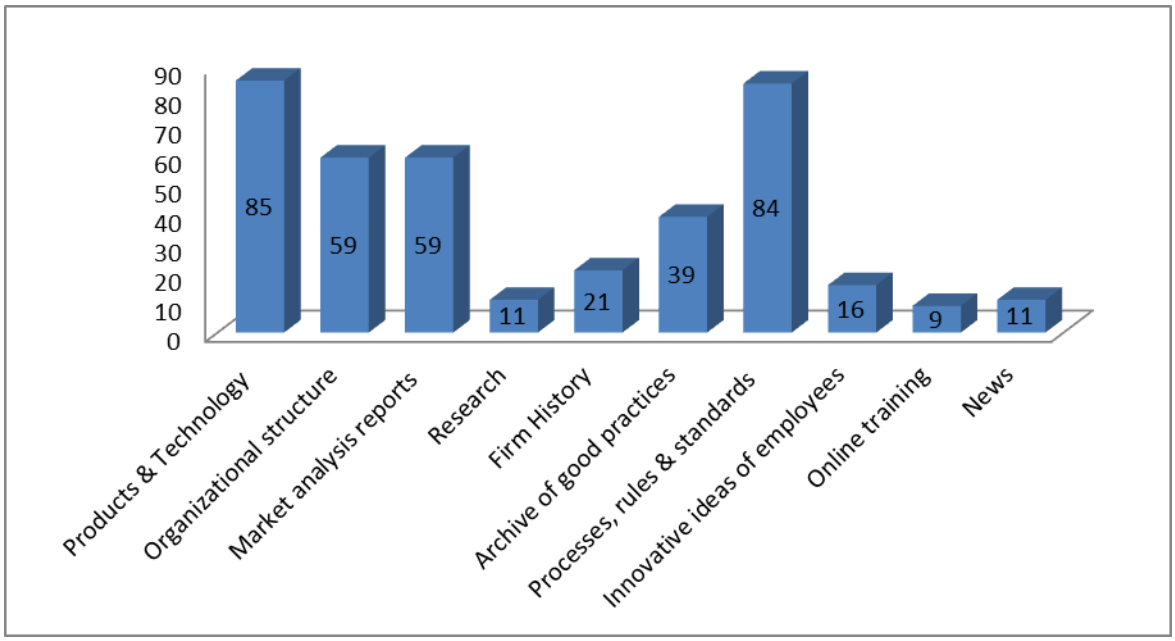


Table no. 5.2.1.-5 Information on the platform

VAR00005

	Observed N	Expected N	Residual		VAR00005
1,00	85	35,9	49,1	Chi-Square	267,367[e]
2,00	59	35,9	23,1		
3,00	59	35,9	23,1		
4,00	11	35,9	-24,9		
5,00	21	35,9	-14,9		
6,00	39	35,9	3,1		
7,00	84	35,9	48,1	df	10
8,00	16	35,9	-19,9		
9,00	9	35,9	-26,9		
10,00	11	35,9	-24,9		
Total	395			Asymp. Sig.	,000

Question 6: What percentage of employees have access to the organizational online platform?

Possible answers: a) 0% - 25% b) 26% - 50% c) 51% -75% d) 76% -100%

There is a division in the attitude of the respondents regarding the access to the organizational platform (Graphic Display No. 5.2.1-6 and Table 5.2.1.-6).

According to the chi-square test for determining the distribution of the attribute statements of the respondents, it was found that there are statistically significant differences between the expected and the empirical (observation) frequencies of the statements ($\chi 2 = 17,837$; df = 3; n = 98; = 0.000).

Graphic display no. 5.2.1-6 Access to the online platform

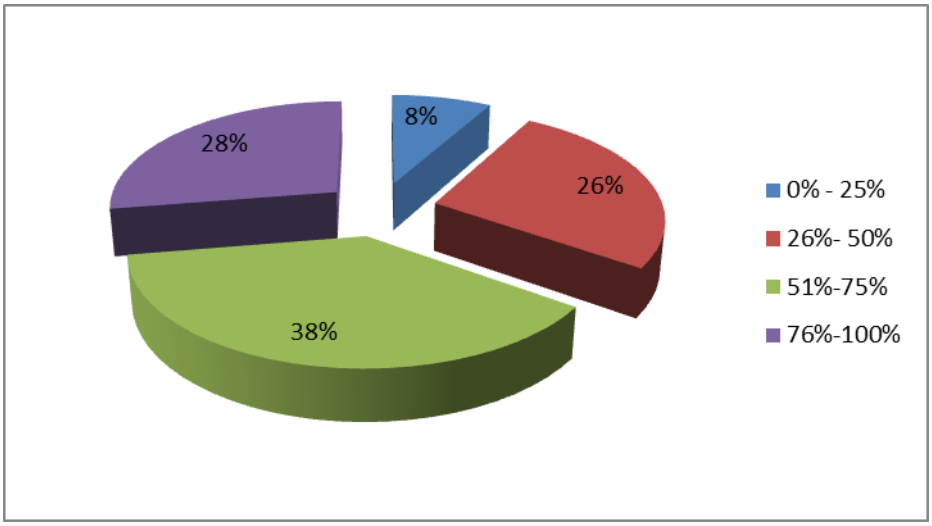


Table no. 5.2.1.-6 Access to online platform

VAR00006

	Observed N	Expected N	Residual		VAR00006
0% - 25%	8	24,5	-16,5	Chi-Square	17,837[c]
26% - 50%	26	24,5	1,5		
51% -75%	37	24,5	12,5	df	3
76% -100%	27	24,5	2,5		
Total	98			Asymp. Sig.	,000

Question 7: How often do you personally use the organizational online platform?

Possible people: a) Every day b) Once a week c) Several times per month d) Once in few months e) Once a year f) Never

According to the results of the analysis (Graphic Display No. 5.2.1-7 and Table 5.2.1.-7), it can be noticed that the online platform is visited daily by more than half of the respondents.

By applying a chi-square test to determine the distribution of attribute statements of the examinees, it was found that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 89,755$; df = 4; n = 98; Sig. = 0.000).

Graphic display no. 5.2.1-7 Online platform usage

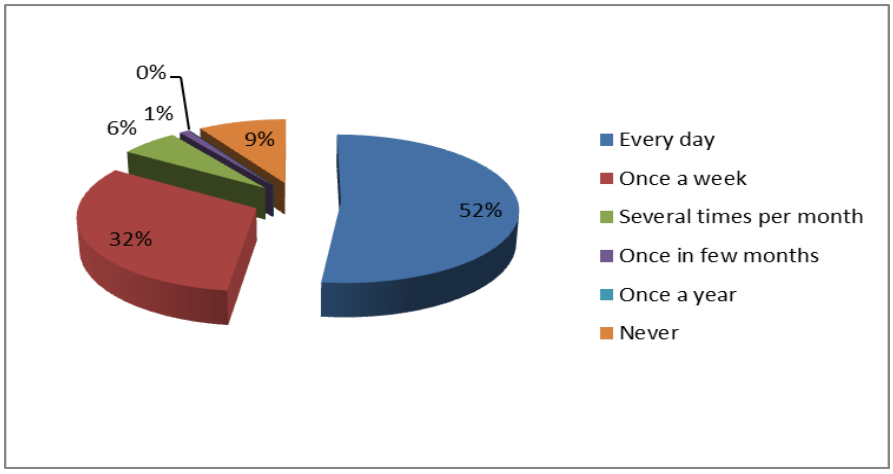


Table no. 5.2.1.-7 Online platform usage

VAR00007

	Observed N	Expected N	Residual		VAR00007
Every day	51	19,6	31,4	Chi-Square	89,755[f]
Once a week	31	19,6	11,4		
Several times per month	6	19,6	-13,6	df	4
Once in few months	1	19,6	-18,6		
Once a year	9	19,6	-10,6		
Total	98			Asymp. Sig.	,000

5.2.2. Information about effective knowledge management and innovation from attributive indicators

According to the obtained results from the performed analysis in which the chi-square test shows the quality of eligibility between the observed and the expected frequencies, it is noted that there are significant differences in all sixteen indicators.

Question 1: Do you think that your organization needs innovation in terms of the products or services it offers?

Possible answers: a) Yes b) No c) I do not know

From the analyzed results in the survey (Graphic Display No. 5.2.2.-1 and Table 5.2.2.-1), it can be noted that a very high percentage of respondents point to the need for innovation in terms of products and services.

With a chi-square test for determining the distribution of attribute statements of the respondents, it was founded that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 90{,}163$; df = 1; n = 98; = 0.000).

Graphic display no. 5.2.2.-1 Need for innovation in products or services

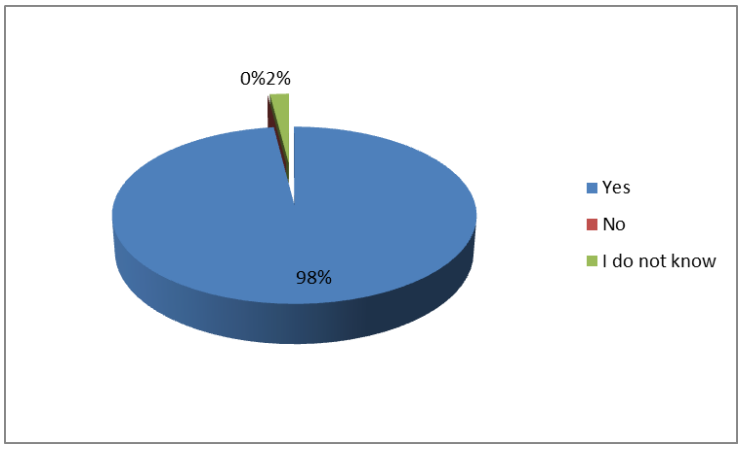


Table no. 5.2.2.-1 Need for innovation in products or services

VAR00001

	Observed N	Expected N	Residual		VAR00001
Yes	96	49,0	47,0	Chi-Square	90,163[a]
I do not know	2	49,0	-47,0	df	1
Total	98			Asymp. Sig.	,000

Question 2: Do you think that your organization needs innovation in organizational structures and functioning?

Possible answers: a) Yes b) No c) I'm not informed

From the analyzed results in the survey (Graphic Display No. 5.2.2.-2 and Table 5.2.2.-2), it can be noted that a very high percentage of respondents point to the need for innovation related to organizational structures and functioning.

By applying a chi-square test for determining the distribution of attribute statements of the examinees, it was concluded that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 167,286$; df = 2; n = 98; Sig. = 0.000).

Graphic display no. 5.2.2.-2 Need for innovation in organizational structure and functioning

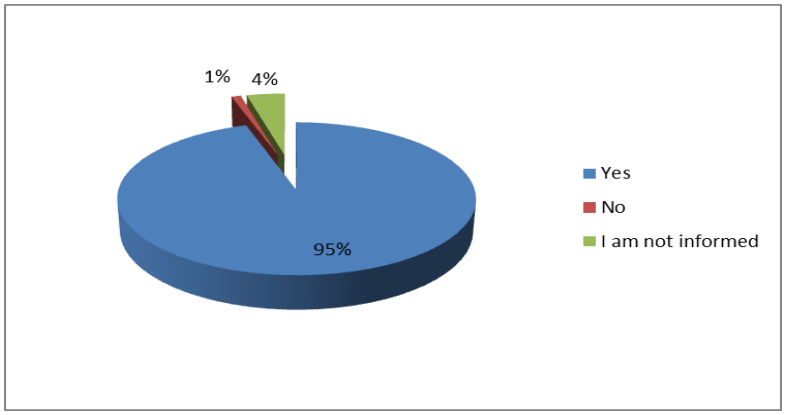


Table no. 5.2.2.-2 Need for innovation in organizational structure and functioning

VAR00002

	Observed N	Expected N	Residual		VAR00002
Yes	93	32,7	60,3	Chi-Square	167,286[b]
No	1	32,7	-31,7	df	2
Not informed	4	32,7	-28,7		
Total	98			Asymp. Sig.	,000

Question 3: Which of the following opportunities do you consider that innovation in an organization can offer? (You can select multiple answers)

Possible answers: a) Better working atmosphere; b) Increased employee focus on company development; c) Improved operations due to technology; d) New customers; e) More satisfied existing customers; f) Improved brand image of the business; g) Greater competitiveness on the market; i) Increased profits; j) Shared knowledge

According to the analyzed results (Graphic Display No. 5.2.2.-3 and Table 5.2.2.-3), it can be noted that the largest number of respondents favor the technology that facilitates work, as well as the focus on employees for company development; increased profits and greater competitiveness.

From the results of the applied quadrature test for determining the distribution of attributive statements of the examinees, it was concluded that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 82{,}143$; df = 8; n = 461 ; Sig. = 0.000).

Graphic display no. 5.2.2.-3 Opportunities from innovation

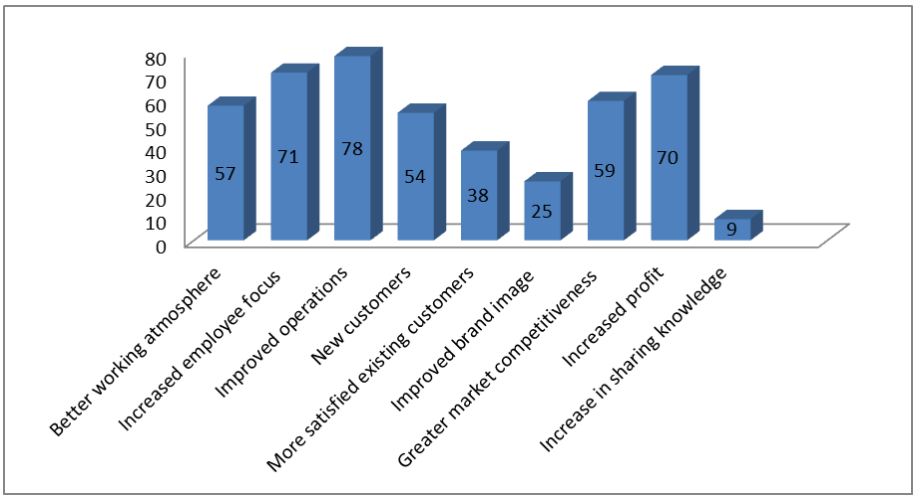


Table no. 5.2.2.-3 Opportunities from innovation

VAR00003

	Observed N	Expected N	Residual		VAR00003
1,00	57	51,2	5,8	Chi-Square	82,143[c]
2,00	71	51,2	19,8		
3,00	78	51,2	26,8		
4,00	54	51,2	2,8		
5,00	38	51,2	-13,2	df	8
6,00	25	51,2	-26,2		
7,00	59	51,2	7,8		
8,00	70	51,2	18,8		
9,00	9	51,2	-42,2		
Total	461			Asymp. Sig.	,000

Question 4: Which of the following do you think is the main reason for lack of innovation?

Possible answers: a) Lack of finances b) Lack of knowledge c) Lack of ideas d) Other

Research analysis (Graph 5.2.2.-4 and Table 5.2.2.-4) indicates that over half of respondents see the lack of finances as a main reason, but a good percentage indicates that lack of ideas is a good reason as well.

With a chi-square test for determining the distribution of attribute statements of the examinees, it was found that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 55.061$; df = 3; n = 98; = 0.000).

Graphic display no. 5.2.2.-4 Reasons for lack of innovation

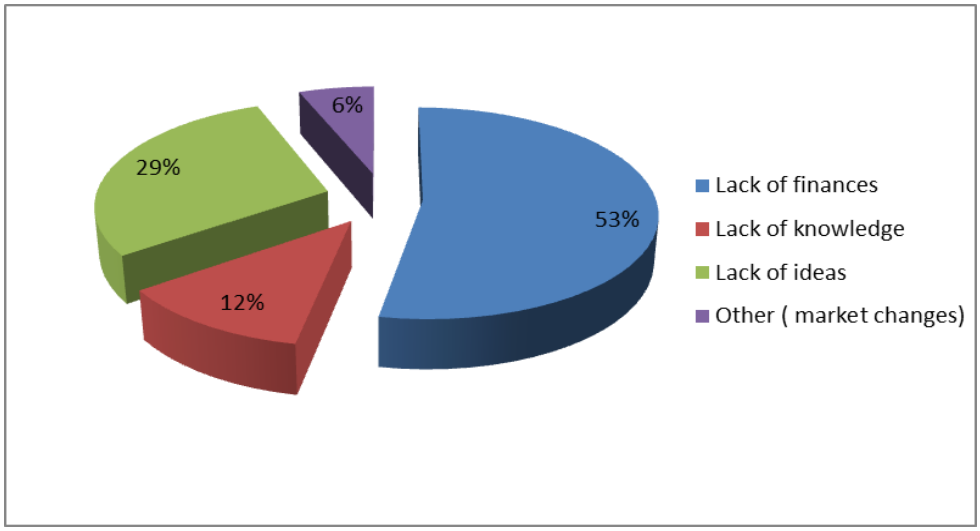


Table no. 5.2.2.-4 Reasons for lack of innovation

VAR00004

	Observed N	Expected N	Residual		VAR00004
Lack of finances	53	24,5	28,5	Chi-Square	55,061[d]
Lack of knowledge	11	24,5	-13,5		
Lack of ideas	28	24,5	3,5	df	3
Other	6	24,5	-18,5		
Total	98			Asymp. Sig.	,000

Question 5: The innovative ideas in your company come from? (multiple answers are possible)

Possible answers: a) Market research b) Group generating new ideas c) Previous knowledge storing d) Knowledge gained from educational programs e) Employee surveys f) Archived ideas g) Continuous learning of employees h) Other

According to the obtained statements from the respondents (Graphic Display No. 5.2.2.-5 and Table 5.2.2-5), most of the respondents were noted, but innovative ideas are most often derived from market research, group generating ideas, such as and continuous learning of employees.

From the obtained results of the applied chi-square test for determining the distribution of attributive statements of the examinees, it was concluded that there are statistically significant (significant) differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 116{,}210$; df = 5; n = 286; Sig. = 0.000).

Graphic display no. 5.2.2.-5 Innovative ideas

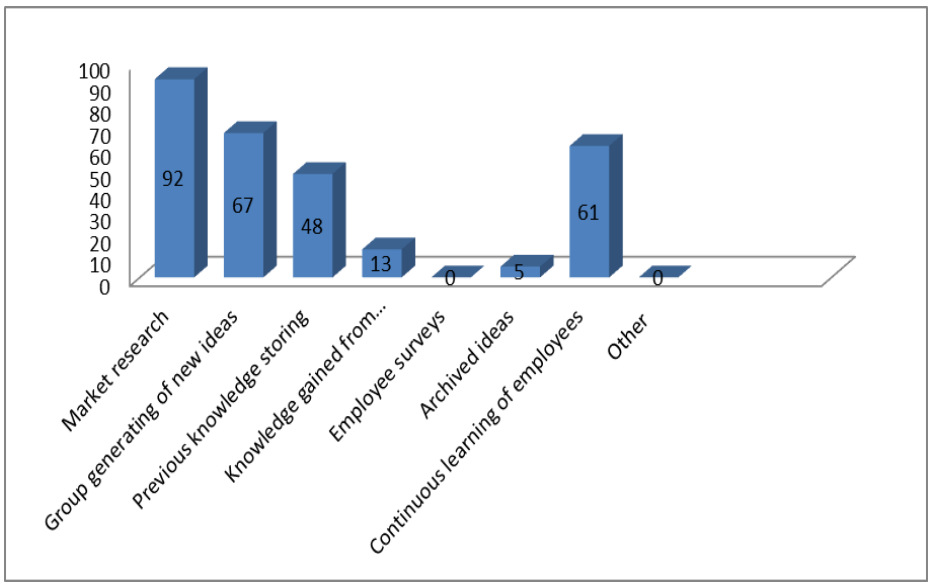


Table no. 5.2.2.-5 Innovative ideas

VAR00005

	Observed N	Expected N	Residual		VAR00005
1,00	92	47,7	44,3	Chi-Square	116,210[e]
2,00	67	47,7	19,3		
3,00	48	47,7	,3		
4,00	13	47,7	-34,7		
6,00	5	47,7	-42,7	df	5
7,00	61	47,7	13,3		
Total	286			Asymp. Sig.	,000

Question 6: Are there employees working on innovative projects in your organization?

Possible answers: a) Yes b) No c) I'm not informed

According to the obtained results of the survey (Graphic Display No. 5.2.2.-6 and Table 5.2.2.- 6) it can be noted that the largest number of respondents or over 60% reported that there are employees working on innovative projects , while the rest have no information.

With a chi-square test for determining the distribution of attribute statements of the examinees, it was concluded that there are statistically significant (significant) differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 4{,}939$; df = 1; n = 98; = 0.000).

Graphic display no. 5.2.2.-6 Work on innovative ideas

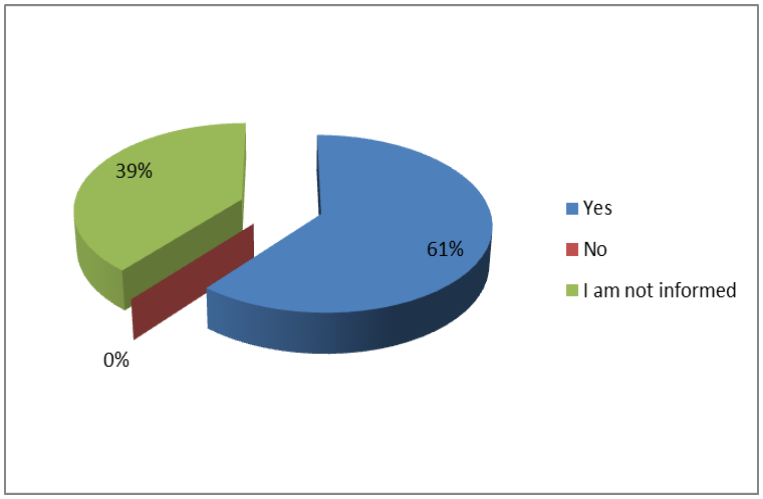


Table no. 5.2.2.-6 Work on innovative ideas

VAR00006

	Observed N	Expected N	Residual		VAR00006
1,00	60	49,0	11,0	Chi-Square	4,939[a]
3,00	38	49,0	-11,0	df	1
Total	98			Asymp. Sig.	,026

Question 7: Is there an innovation team?

Possible answers: a) Yes b) No c) Only when needed d) I'm not informed

From the analysis of the obtained results in the survey (Graphic Display No. 5.2.2.-7 and Table 5.2.2.- 7), it can be noticed that the largest number of respondents reported that there is an innovation threshold, about a third do not have information, an interesting statement is that it is formed depending on the needs of the organization. The number of organizations that do not have innovation teams is insignificant.

By applying a quad-square test to determine the distribution of attribute statements of the respondents, it was found that there are statistically significant (significant) differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 28{,}612$; df = 3; n = 98; Sig. = 0.000).

Graphic display no. 5.2.2.-7 A team for innovation

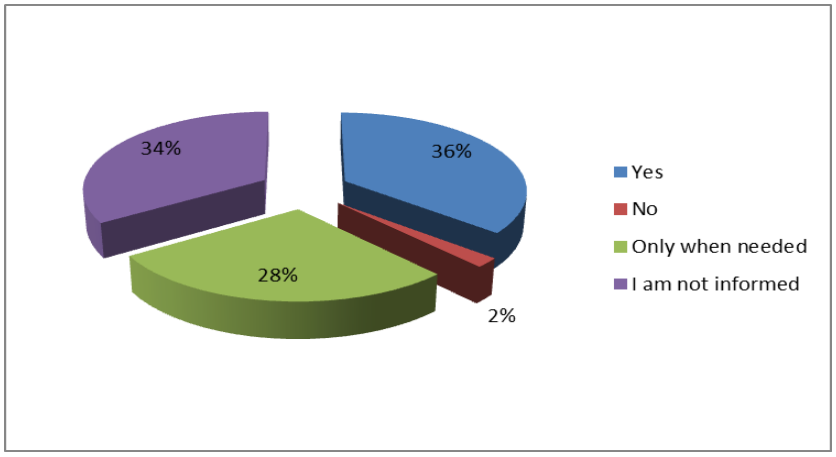


Table no. 5.2.2.-7 A team for innovation

VAR00007

	Observed N	Expected N	Residual		VAR00007
Yes	35	24,5	10,5	Chi-Square	28,612[d]
No	2	24,5	-22,5		
Only when needed	28	24,5	3,5	df	3
Not informed	33	24,5	8,5		
Total	98			Asymp. Sig.	,000

Question 8: How often does your organization have specific workshops for innovating purposes?

Possible answers: a) Never b) Only when needed c) Once per month d) Every week

According to the analysis of the obtained results in the survey (Graphic Display No. 5.2.2.-8 and Table 5.2.2.- 8), the majority of respondents reported that the organizations organize the workshops only when needed, some of them organize once a month or never, and the percentage of organizing statements every week is insignificant.

From the analyzes of the applied chi-square test for determining the distribution of the attribute statements of the examinees, it was concluded that there are statistically significant differences between the expected and the empirical (observation) frequencies of the statements ($\chi 2$ = 142,245; df = 3; n = 98 ; Sig. = 0.000).

Graphic display no. 5.2.2.-8 Workshops

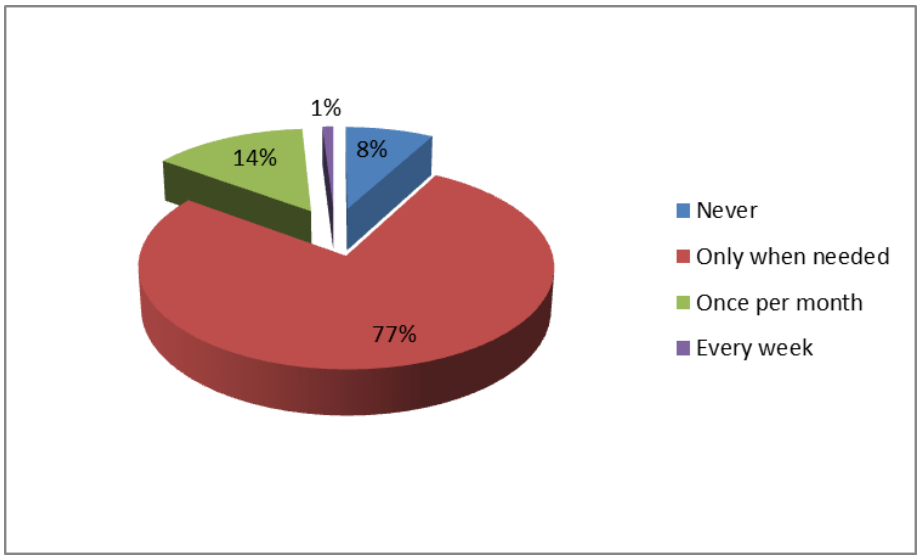


Table no. 5.2.2.-8 Workshops

VAR00008

	Observed N	Expected N	Residual		VAR00008
1,00	8	24,5	-16,5	Chi-Square	142,245[d]
2,00	75	24,5	50,5		
3,00	14	24,5	-10,5	df	3
4,00	1	24,5	-23,5		
Total	98			Asymp. Sig.	,000

Question 9: Does the management board support innovative ideas?

Possible answers: a) Never b) Rarely c) Sometimes d) Most often e) Always

According to the analysis (Graphic Display No. 5.2.2.-9 and Table 5.2.2.-9), the majority of respondents reported that top management most often supports innovative ideas, the support it gives or always is 17% or quite small, and there is a certain percentage that consider that sometimes only ideas are supported.

By applying a chi-square test to determine the distribution of attribute statements of the respondents, it was found that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2$ = 54,245; df = 2; n = 98; Sig. = 0.000).

Graphic display no. 5.2.2.-9 Supporting innovative ideas

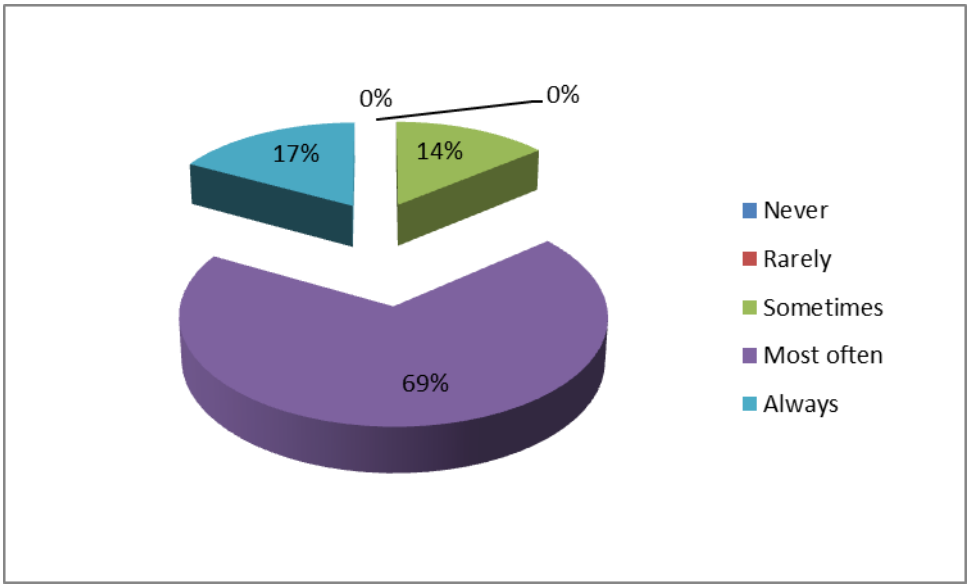


Table no. 5.2.2.-9 Supporting innovative ideas

VAR00009

	Observed N	Expected N	Residual		VAR00009
Sometimes	14	32,7	-18,7	Chi-Square	54,265[b]
Most often	67	32,7	34,3		
Always	17	32,7	-15,7	df	2
Total	98			Asymp. Sig.	,000

Question 10: Does the organization have a system for internal training of employees?

Possible answers: a) Yes b) No c) When needed d) I am not informed

The analysis of the obtained results in the survey (Graphic Display No. 5.2.2.-10 and Table 5.2.2.-10) indicate that the majority of respondents are of the opinion that there is a system of internal trainings, just over a fifth consider that such a system exists only as needed, and the percentage that declared it does not exist is very small or insignificant.

With a chi-square test for determining the distribution of attribute statements of the respondents, it was found that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 84{,}571$; df = 2; n = 98; = 0.000).

Graphic display no. 5.2.2.-10 Training system

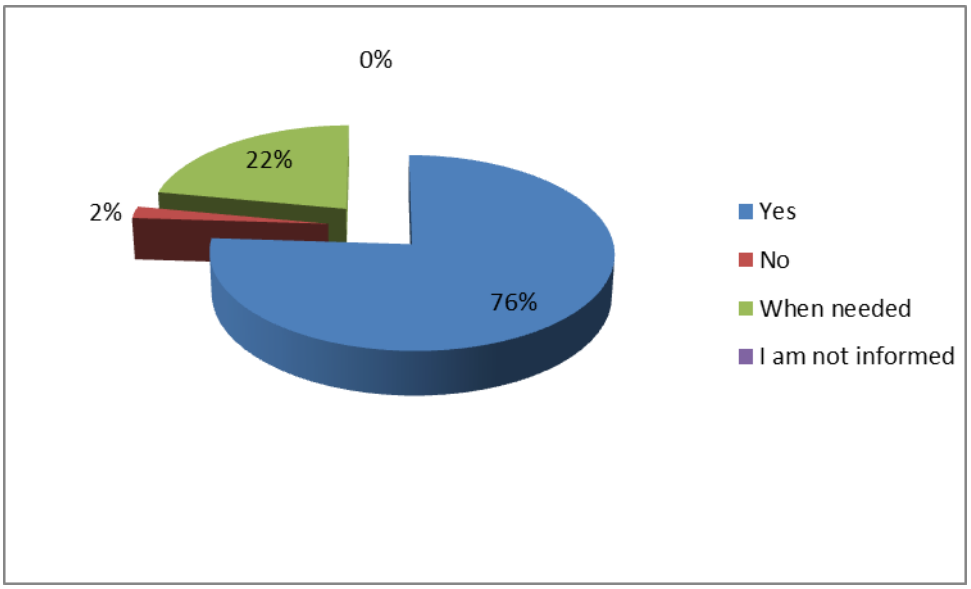


Table no. 5.2.2.-10 Training system

VAR00010

	Observed N	Expected N	Residual		VAR00010
Yes	74	32,7	41,3	Chi-Square	84,571[b]
No	2	32,7	-30,7		
When Needed	22	32,7	-10,7	df	2
Total	98			Asymp. Sig.	,000

Question 11: If there is a system for internal training, who conducts the trainings?

Possible answers: a) Other employees b) Human Resources c) The Management d) Other

According to the obtained results in the survey (Graphic Display No. 5.2.2.-11 and Table 5.2.2.-11), most of the trainings are conducted by other employees, about half of the respondents reported, as well as management, which is more than one third of respondents or about 35% of the total number of respondents.

According to the applied chi-square test for determining the distribution of attribute statements of the respondents, it was concluded that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 53{,}804$; df = 3; n = 97; . = 0,000).

Graphic display no. 5.2.2.-11 Realization of trainings

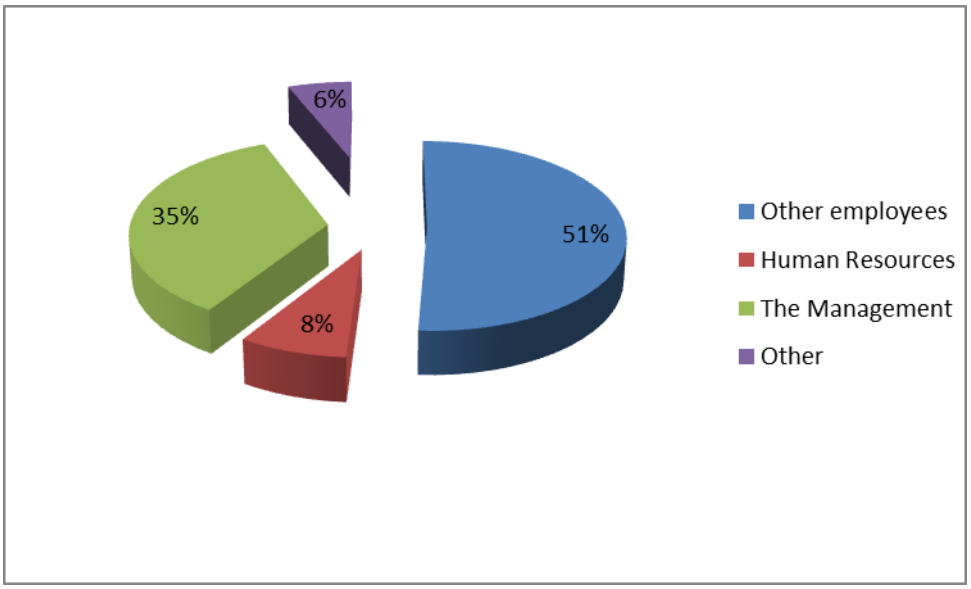


Table no. 5.2.2.-11 Realization of trainings

VAR00011

	Observed N	Expected N	Residual		VAR00011
Other employees	49	24,3	24,8	Chi-Square	53,804[f]
Human Resources	8	24,3	-16,3		
The Management	34	24,3	9,8	df	3
Other	6	24,3	-18,3		
Total	97			Asymp. Sig.	,000

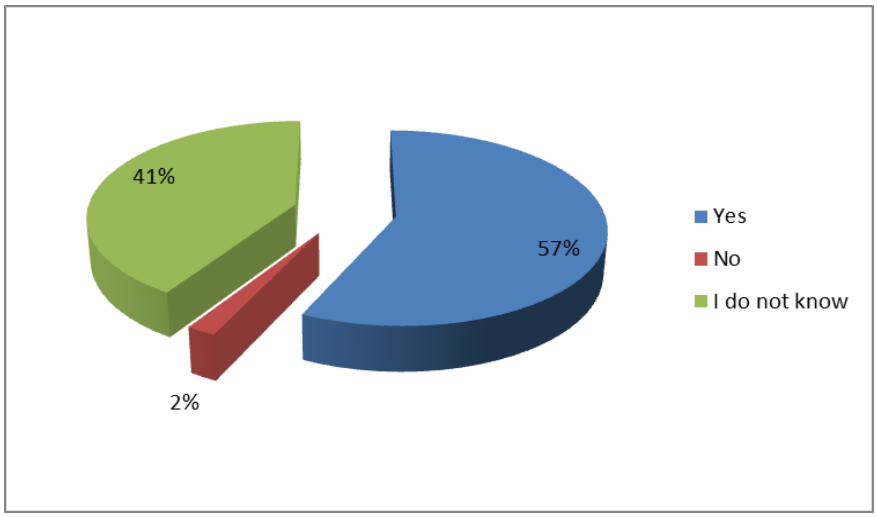
Question 12: Are there employees who analyze the achievements of innovation inside and outside of the organization?

Possible answers: a) Yes b) No c) I do not know

From the analyzed results in the survey (Graphic Display No. 5.2.2.-12 and Table 5.2.2.-12), it can be noticed that in most of the organizations the analysis of the achievements in innovation is carried out. The 41% share is quite high that are not familiar with whether analyzes are made, and a very small or insignificant number think that there is no analysis of innovation achievements.

According to the applied quadrature test for determining the distribution of attribute statements of the respondents, it was concluded that there are statistically significant differences between the expected and empirical (observed) frequency of statements ($\chi 2 = 47{,}102$; df = 2; n = 98; . = 0,000).

Graphic display no. 5.2.2.-12 Analysis of the achievements of innovation



Graphic display no. 5.2.2.-12 Analysis of the achievements of innovation

VAR00012

	Observed N	Expected N	Residual		VAR00012
Yes	56	32,7	23,3	Chi-Square	47,102[b]
No	2	32,7	-30,7	df	2
I do not know	40	32,7	7,3		
Total	98			Asymp. Sig.	,000

Question 13: How often do your employees attend educational programs outside of the organization?

Possible answers: a) Once a month b) Several times a year c) Once a year d) Only when needed

According to the obtained results in the survey (Graphic Display No. 5.2.2.-13 and Table 5.2.2.-13), it can be noticed that in the majority or about two thirds of the respondents reported that there is a visit to educational programs outside of the organization. A certain part of the organizations (22%) of the employees organize them only when they need it, while the smallest number of close to a dozen do it once a month. The number of organizations that disorganize or do it once a year is minimal

From the analyzed results of the chi-square test for determining the distribution of attributive statements of the examinees, it was concluded that there are statistically significantdifferences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 91{,}143$; df = 3; n = 98 ; Sig. = 0.000).

Graphic display no. 5.2.2.-13 Educational programs

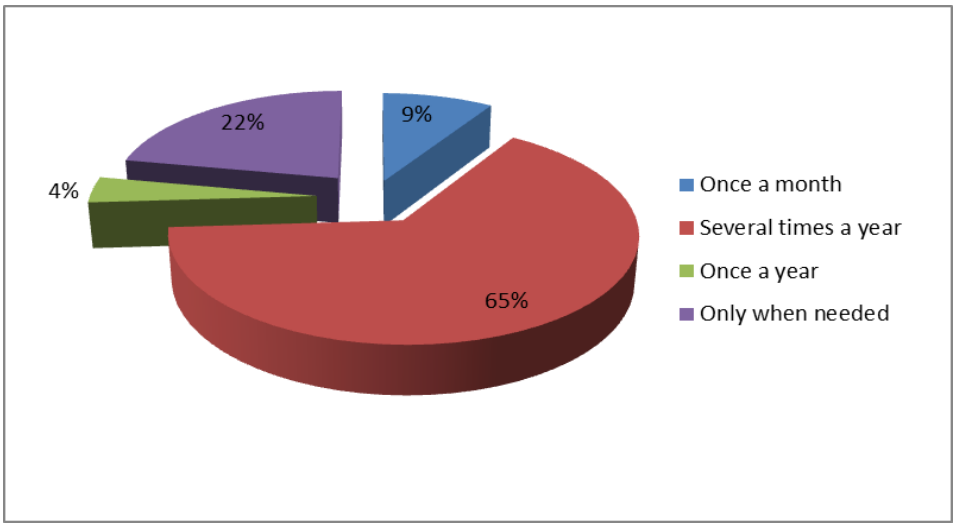


Table no. 5.2.2.-13 Educational programs

VAR00013

	Observed N	Expected N	Residual		VAR00013
Once a month	9	24,5	-15,5	Chi-Square	91,143[d]
Several times a year	64	24,5	39,5		
Once a year	4	24,5	-20,5	df	3
Only when needed	21	24,5	-3,5		
Total	98			Asymp. Sig.	,000

Question 14: Has your organization submitted a patent application in the last two years?

Possible answers: a) Yes b) No c) I do not know

The results in the survey (Graphic Display No. 5.2.2.-14 and Table 5.2.2.-14) show that in most cases they do not know if the organization has filed a patent application, a percentage of about 40% of the respondents are familiar with and the smallest number of respondents did not know if it was submitted.

From the analyzed results of the chi-square test for determining the distribution of attributive statements of the examinees, it was concluded that there are statistically significant differences between the expected and the empirical (observed) frequency of statements ($\chi 2 = 18{,}500$; df = 2; n = 98 ; Sig. = 0.000).

Graphic display no. 5.2.2.-14 Patent application

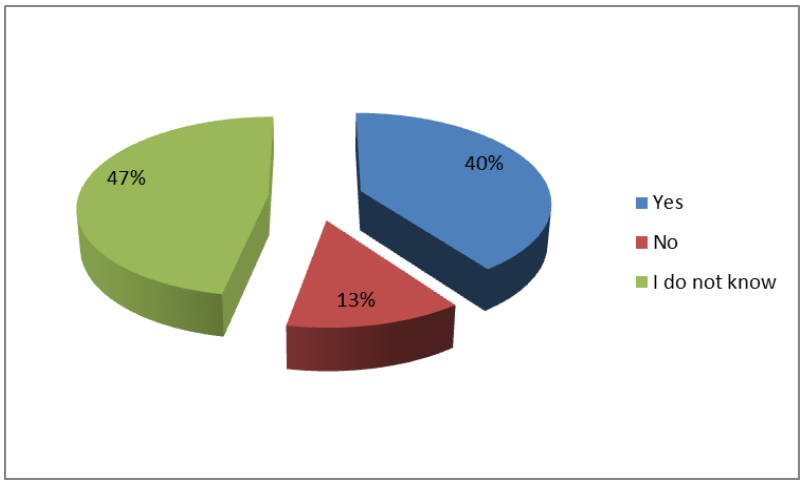


Table no. 5.2.2.-14 Patent application

VAR00014

	Observed N	Expected N	Residual		VAR00014
Yes	39	32,7	6,3	Chi-Square	18,510[b]
No	13	32,7	-19,7		
I do not know	46	32,7	13,3	df	2
Total	98			Asymp. Sig.	,000

Question15: At which level of the organization is most of the decision making done?

Possible answers: a) Top management b) Middle Management c) Employees d) Everyone has a role in decision making

According to the obtained results in the survey (Graphic Display No. 5.2.2.-15 and Table 5.2.2.-15), it can be noted that a very high percentage of respondents support the view that managers are those who decide when making decisions , a small percentage of about 14% are of the opinion that those responsible for the sectors are those who decide, while the smallest or negligible number is with the view that everyone in the organization has a role in making decisions.

From the analyzes in the chi-square test for determining the distribution of the attribute statements of the examinees, it was concluded that there are statistically significant differences between the expected and the empirical (observed) frequency of the statements ($\chi 2 = 113,959$; df = 2; n = 98; Sig. = 0.000).

Graphic display no. 5.2.2.-15 Making decisions

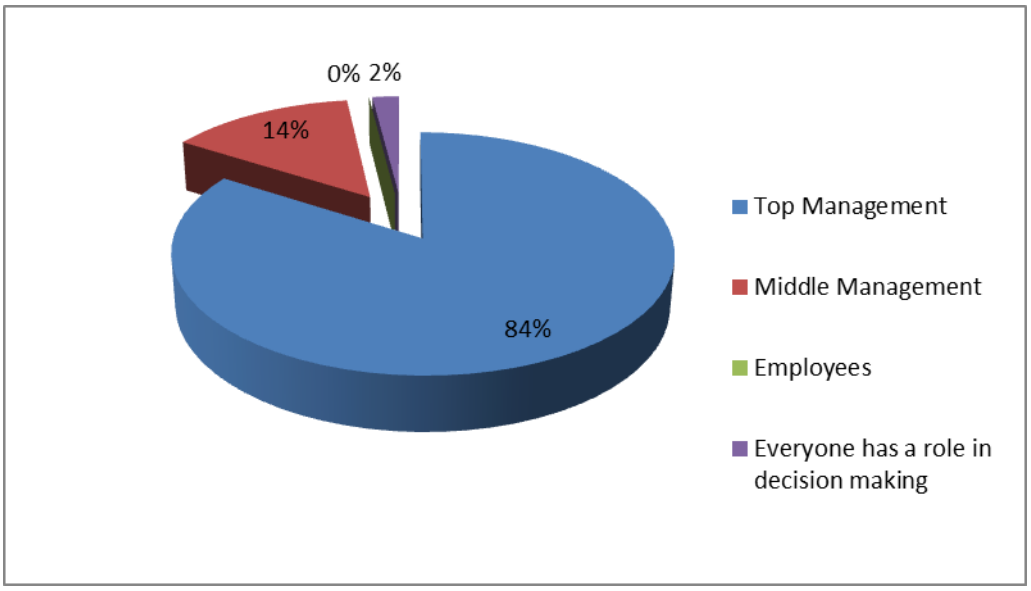


Table no. 5.2.2.-15 Making decisions

VAR00015

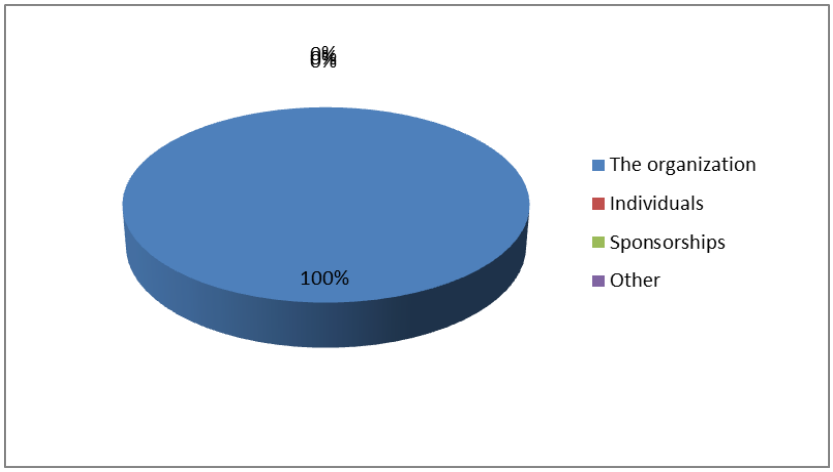
	Observed N	Expected N	Residual		VAR00015
Top Management	82	32,7	49,3	Chi-Square	113,959[b]
Middle Management	14	32,7	-18,7		
Employees	2	32,7	-30,7	df	2
Total	98			Asymp. Sig.	,000

Question 16: Trainings for employees in your organization are funded by:

Possible answers: a) The organization b) Individuals c) Sponsorship d) Other

According to the obtained results in the survey (Graphic Display No. 5.2.2.-16 and Table 5.2.2.-16), it can be noted that the respondents are unique in the view that the organization is the one that finances the trainings.

Graphic display no. 5.2.2.-16 Funding for trainings



Graphic display no. 5.2.2.-16 Funding for trainings

VAR00016

	Observed N	Expected N	Residual
The Organization	98	98,0	0,0
Total	98[a]		

5.3. NUMERICAL INDICATORS IN THE RESEARCH

5.3.1. Basic descriptive indicators from the assessment carried out for information on strategies, approaches and processes related to collection of knowledge

Scale of estimates from 1 to 4 (1- not applicable / I do not know; 2- to degree or less than one third - 33.3%; 3- to a stronger degree or 33.3% - 66.6%; 4- strongly agree or 66.6% to 100%)

VAR00001	I believe that knowledge as a key resource
VAR00002	I am aware of the need to proactively manage knowledge
VAR00003	Top management in the organization are committed to knowledge management
VAR00004	Top management recognizes KM as an important part of the business strategy
VAR00005	Collecting knowledge is encouraged and rewarded
VAR00006	Intellectual values are recognized and valued
VAR00007	Recording and sharing knowledge is routine and second nature
VAR00008	In the organization there is a system / method of collecting and storing knowledge
VAR00009	Knowledge is stored in archives for further use

In the Table 5.3.1.-1 it is given data on the total number of completed assessments of respondents, as well as respondents who conducted partial or complete assessment for information on strategies, approaches and processes related to knowledge acquisition. Basic descriptive Indicators (N; Mean; Std. Deviation;Variance, Range, Minimum, Maximum, Kurtosis) from the evaluations of top managers, middle managers and employees in organizations. From the results obtained in all (nine) indicators it can be noted that the values range from 2.83 (level between to degree or after or one third - 33.3% and to a stronger degree or 33.3% - 66.6%) and 3.69 (level between the stronger level or 33.3% - 66.6% and strongly agree or 66 , 6% to 100%). The lowest values are recorded in the seventh indicator (VAR00007, M = 2,83), while the highest in the first indicator (VAR00001, M = 3,69) The spread in five indicators is two, while in the remaining (four) has a value of three. Most of the results are concentrated around the arithmetic mean. According to the obtained values of the variance and the standard deviation in all nine indicators, the values are within the normal range. Values indicating the degree of slope of the curve (Skewness) and the indicators of Kurtosis Curve in most of the indicators is without significant deviations. Significant deviations above the slope curve (Skewness) are recorded in the first and second indicators (VAR00001, Skewness = -1,558 and VAR00002, Skewness = -1,005), while the curvature at the Kurtosis curve is recorded in the first indicator VAR00001, Kurtosis = 1.544)

Table no. 5.3.1.-1 Descriptive indicators - common

Statistics

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009
N	Valid	99	99	98	98	98	98	98	99	98
Mean		**3,69**	**3,64**	**3,55**	**3,43**	**3,10**	**3,09**	**2,83**	**2,86**	**3,20**
Std. Deviation		,547	,524	,577	,626	,696	,690	,760	,796	,703
Variance		,299	,275	,332	,392	,484	,476	,578	,633	,494
Skewness		-1,558	-1,005	-,862	-,625	-,327	-,506	-,127	-,360	-,308
Kurtosis		1,544	-,112	-,234	-,537	-,227	,509	-,431	-,205	-,931
Range		2,00	2,00	2,00	2,00	3,00	3,00	3,00	3,00	2,00
Minimum		2,00	2,00	2,00	2,00	1,00	1,00	1,00	1,00	2,00
Maximum		4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00

5.3.1.1. Basic descriptive indicators for the approaches and processes related to the collection of knowledge in organizations classified by the number of employees

In table no. 5.3.1.1.-1 data is given on the total number of performed assessments of the respondents from the defined sub-sample according to the number of employees in the organization (micro, small, medium and large), as well as respondents who conducted a partial or full assessment for information on strategies, approaches and processes related to the collection of knowledge. The main descriptive indicators are given (N; Mean; Std. Deviation; Minimum; Maximum) from the executives of the top managers, middle managers and employees in the organizations. From the obtained indicators it can be noted that in most indicators the values of the arithmetic environments are above three or more precisely from level to strong degree or 33.3% -66.6% and strongly agree or 66.6% -100%. Lower values of three are observed in two indicators (VAR00007 and VAR00008). In the seventh indicator obtained values in all three subcomponents (micro, small, medium and large) range from 2.65 (small organizations) to 2.87 (medium and large organizations) or more precisely between level to or less than 33 , 3% and to a strong degree or 33.3% -66.6%. In the eighth indicator in both types of organizations micro and small organizations values are below three, while in medium and large organizations over three.

Table 5.3.1.1.-1 Basic descriptive indicators of knowledge acquisition processes - organizations classified according to the number of employees

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
VAR00001	Micro	31	3,77	0,43	0,08	3,62	3,93	3,00	4,00
	Small	31	3,74	0,44	0,08	3,58	3,91	3,00	4,00
	Medium and Large	36	3,56	0,73	0,12	3,31	3,80	2,00	4,00
	Total	98	3,68	0,57	0,06	3,57	3,80	2,00	4,00
VAR00002	Micro	31	3,74	0,44	0,08	3,58	3,91	3,00	4,00
	Small	31	3,65	0,49	0,09	3,47	3,82	3,00	4,00
	Medium and Large	36	3,50	0,65	0,11	3,28	3,72	2,00	4,00
	Total	98	3,62	0,55	0,06	3,51	3,73	2,00	4,00
VAR00003	Micro	31	3,58	0,50	0,09	3,40	3,76	3,00	4,00
	Small	31	3,48	0,68	0,12	3,24	3,73	2,00	4,00
	Medium and Large	36	3,53	0,61	0,10	3,32	3,73	2,00	4,00
	Total	98	3,53	0,60	0,06	3,41	3,65	2,00	4,00
VAR00004	Micro	31	3,55	0,51	0,09	3,36	3,73	3,00	4,00
	Small	31	3,39	0,67	0,12	3,14	3,63	2,00	4,00
	Medium and Large	36	3,33	0,72	0,12	3,09	3,58	2,00	4,00
	Total	98	3,42	0,64	0,06	3,29	3,55	2,00	4,00
VAR00005	Micro	31	3,10	0,79	0,14	2,81	3,39	1,00	4,00
	Small	31	3,00	0,73	0,13	2,73	3,27	2,00	4,00
	Medium and Large	36	3,19	0,58	0,10	3,00	3,39	2,00	4,00
	Total	98	3,10	0,70	0,07	2,96	3,24	1,00	4,00
VAR00006	Micro	31	3,13	0,76	0,14	2,85	3,41	1,00	4,00
	Small	31	3,00	0,73	0,13	2,73	3,27	1,00	4,00
	Medium and Large	36	3,14	0,59	0,10	2,94	3,34	2,00	4,00
	Total	98	3,09	0,69	0,07	2,95	3,23	1,00	4,00
VAR00007	Micro	31	2,84	0,90	0,16	2,51	3,17	1,00	4,00
	Small	31	2,65	0,75	0,14	2,37	2,92	1,00	4,00
	Medium and Large	36	2,97	0,61	0,10	2,77	3,18	2,00	4,00
	Total	98	2,83	0,76	0,08	2,67	2,98	1,00	4,00
VAR00008	Micro	31	2,87	0,85	0,15	2,56	3,18	1,00	4,00
	Small	31	2,58	0,85	0,15	2,27	2,89	1,00	4,00
	Medium and Large	36	3,08	0,65	0,11	2,86	3,30	2,00	4,00
	Total	98	2,86	0,80	0,08	2,70	3,02	1,00	4,00
VAR00009	Micro	31	3,32	0,65	0,12	3,08	3,56	2,00	4,00
	Small	31	3,06	0,77	0,14	2,78	3,35	2,00	4,00
	Medium and Large	36	3,22	0,68	0,11	2,99	3,45	2,00	4,00
	Total	98	3,20	0,70	0,07	3,06	3,34	2,00	4,00

5.3.1.2. Basic descriptive indicators of the approaches and processes related to knowledge collection in organizations classified according to the years of existence of the organization

In table no. 5.3.1.2.-2 data are given on the total number of performed assessments of the respondents from the defined sub-sample according to the years of existence of the organization (up to 10 years, from 11 to 20 years, over 21 years), as well as from respondents who performed partial or full an assessment of information on strategies, approaches and processes related to knowledge collection. The main descriptive indicators are given (N; Mean; Std. Deviation; Minimum; Maximum) from the executives of the top managers, middle managers and employees in the organizations. From the obtained indicators it can be noted that in most indicators the values of the arithmetic environments are above three or more precisely from level to strong degree or 33.3% -66.6% and strongly agree or 66.6% -100%. Lower values of three were observed in four indicators (VAR00005; VAR00006; VAR00007 and VAR00008) among the respondents from the organizations from 11 to 20 years, and in two indicators (VAR00007 and VAR00008) among the respondents over 21 years.

Table 5.3.1.2.-2 Basic descriptive indicators of knowledge-gathering processes - organizations classified according to years of existence

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
VAR00001	Up till 10 years	29	3,83	,384	,071	3,681	3,974	3,00	4,00
	11 to 20 years	39	3,62	,633	,101	3,410	3,821	2,00	4,00
	Over 21 years	30	3,63	,615	,112	3,404	3,863	2,00	4,00
	Total	98	3,68	,567	,057	3,570	3,797	2,00	4,00
VAR00002	Up till 10 years	29	3,79	,412	,077	3,636	3,950	3,00	4,00
	11 to 20 years	39	3,49	,556	,089	3,307	3,667	2,00	4,00
	Over 21 years	30	3,63	,615	,112	3,404	3,863	2,00	4,00
	Total	98	3,62	,547	,055	3,513	3,732	2,00	4,00
VAR00003	Up till 10 years	29	3,55	,506	,094	3,359	3,744	3,00	4,00
	11 to 20 years	39	3,51	,644	,103	3,304	3,721	2,00	4,00
	Over 21 years	30	3,63	,556	,102	3,426	3,841	2,00	4,00
	Total	98	3,56	,576	,058	3,446	3,677	2,00	4,00
VAR00004	Up till 10 years	29	3,52	,509	,094	3,324	3,711	3,00	4,00
	11 to 20 years	39	3,36	,668	,107	3,142	3,576	2,00	4,00
	Over 21 years	30	3,43	,728	,133	3,162	3,705	2,00	4,00
	Total	98	3,43	,642	,065	3,300	3,557	2,00	4,00
VAR00005	Up till 10 years	29	3,41	,501	,093	3,223	3,604	3,00	4,00
	11 to 20 years	39	2,85	,709	,113	2,616	3,076	1,00	4,00
	Over 21 years	30	3,23	,679	,124	2,980	3,487	2,00	4,00
	Total	98	3,13	,683	,069	2,996	3,270	1,00	4,00
VAR00006	Up till 10 years	29	3,34	,484	,090	3,161	3,529	3,00	4,00
	11 to 20 years	39	2,82	,721	,115	2,587	3,054	1,00	4,00
	Over 21 years	30	3,23	,679	,124	2,980	3,487	2,00	4,00
	Total	98	3,10	,681	,069	2,966	3,239	1,00	4,00
VAR00007	Up till 10 years	29	3,14	,743	,138	2,855	3,420	1,00	4,00
	11 to 20 years	39	2,62	,782	,125	2,362	2,869	1,00	4,00
	Over 21 years	30	2,90	,662	,121	2,653	3,147	2,00	4,00
	Total	98	2,86	,760	,077	2,705	3,009	1,00	4,00
VAR00008	Up till 10 years	29	3,10	,724	,135	2,828	3,379	1,00	4,00
	11 to 20 years	39	2,67	,806	,129	2,405	2,928	1,00	4,00
	Over 21 years	30	2,93	,740	,135	2,657	3,210	2,00	4,00
	Total	98	2,88	,777	,078	2,722	3,033	1,00	4,00
VAR00009	Up till 10 years	29	3,45	,632	,117	3,208	3,689	2,00	4,00
	11 to 20 years	39	3,13	,695	,111	2,903	3,354	2,00	4,00
	Over 21 years	30	3,13	,776	,142	2,844	3,423	2,00	4,00
	Total	98	3,22	,711	,072	3,082	3,367	2,00	4,00

5.3.2. Basic descriptive indicators from the assessment carried out for information on strategies, approaches and processes related to the storage and transfer of knowledge

Scale of estimates from 1 to 4 (1 - not applicable / I do not know; 2- to a degree or less than one third or 33.3%; 3- to a stronger degree or 33.3% - 66.6%; 4- strongly agree or 66.6% to 100%)

VAR00001	I am not afraid to share knowledge
VAR00002	I share knowledge whenever I can and I'm asked to
VAR00003	Communication and knowledge sharing at the workplace is only done when really necessary
VAR00004	There is a senior level doing review of the effectiveness of knowledge management of the whole company
VAR00005	Knowledge is considered to be the key strategic asset
VAR00006	Employees are motivated to store and share knowledge actively and daily
VAR00007	Negative knowledge management behavior is actively discouraged
VAR00008	Intellectual assets are legally protected
VAR00009	In the day-to-day work, it is easy to find the right information
VAR00010	When a team completes a task, it distils and documents what it has learned
VAR00011	Internal staff rotation is actively encouraged to share best practices and ideas
VAR00012	Technology is a key enabler in ensuring that the right information is available to the right people at the right time
VAR00013	There are complete IT security procedures in place (backup, recovery etc.)

In table no. 5.3.2.-1 data is given on the total number of completed assessments of respondents, as well as respondents who made a partial or complete assessment for information on strategies, approaches and processes related to the storage and transfer of knowledge. The basic descriptive indicators are given (N; Mean; Std. Deviation; Range; Minimum; Skewness; Kurtosis) from the assessments made by top managers, middle managers and employees in organizations. From the results obtained in all (thirteen) indicators it can be noted that the values range from 2.70 (level between to a degree or less than one third - 33.3% and to a stronger degree or 33.3% - 66.6%) and 3.79 (level between a stronger degree or 33.3% - 66.6% and strongly agree or 66.6% to 100%). The lowest values were recorded in the eleventh indicator (VAR00011, M = 2.70), while the highest in the first indicator (VAR00001, M = 3.79). The spread in two indicators is two, while the other (eleven) has a value of three. The majority of the results are concentrated around the arithmetic mean. According to the obtained values of the variance and the standard deviation in all thirteen indicators, the values are within the limits of normal. Values indicating the degree of slope of the curve (Skewness) and the indicators indicating Kurtosis Curve in most of the indicators are without significant deviations. Significant deviations above the slope curve

(Skewness) are recorded in the first and second indicators (VAR00001, Skewness = -2.043 and VAR00002, Skewness = -1.707), while Kurtosis curve is recorded in the first, second and the third indicator (VAR00001, Kurtosis = 3.530; VAR00002, Kurtosis = 3.296 and VAR00003, Kurtosis = 1.706).

Table no. 5.3.2.-1 Descriptive indicators - common (storage and transfer of knowledge)

Statistics

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013
N	Valid	98	98	98	98	101	98	98	98	99	99	98	100	100
Mean		**3,79**	**3,63**	**3,11**	**3,03**	**3,14**	**3,01**	**2,90**	**2,87**	**2,96**	**2,87**	**2,70**	**2,98**	**3,16**
Std. Deviation		,460	,599	,624	,724	,708	,725	,725	,741	,768	,751	,735	,724	,615
Variance		,211	,359	,389	,525	,501	,526	,526	,549	,590	,564	,540	,525	,378
Skewness		-2,043	-1,707	-,600	-,379	-,550	-,513	-,174	-,247	-,344	-,368	-,104	-,458	-,106
Kurtosis		3,530	3,296	1,706	-,054	,330	,387	-,306	-,177	-,260	,020	-,239	,278	-,414
Range		2,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	2,00
Minimum		2,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	2,00
Maximum		4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00

5.3.2.1. Basic descriptive indicators for the processes related to storing and transferring knowledge in organizations, classified by the number of employees

In table no. 5.3.2.1.-1 data is given on the total number of performed assessments of the respondents from the defined sub-sample according to the number of employees in the organization (micro, small, medium and large), as well as respondents who conducted a partial or full assessment for information on strategies, approaches and processes related to the storage and transfer of knowledge. The main descriptive indicators are given (N; Mean; Std. Deviation; Minimum; Maximum) from the executives of the top managers, middle managers and employees in the organizations. From the obtained indicators it can be noted that in micro organizations in the majority of indicators the values of the arithmetic environments are between three and four, respectively, to a strong level, or 33.3% -66.6%, and strongly agree or 66.6 % -100%. In four indicators (VAR00007; VAR00008; VAR00010 and VAR00011) the level is below three. In small organizations in ten indicators the values are below three, while in three indicators (VAR00001, VAR00002 and VAR00013) values have reached values of three or a level to a strong degree or 33.3% -66.6%. In medium and large organizations, the higher number of indicators are above three, while in three indicators (VAR00009; VAR00010 and VAR00011) the level is below three, more precisely between level to degree or less than 33.3% and to a strong degree or 33.3% - 66.6%.

Table no. 5.3.2.1.-1 Basic descriptive indicators for storing and transferring knowledge - classified by the number of employees in organizations

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
VAR00001	Micro	31	3,84	0,37	0,07	3,70	3,98	3,00	4,00
	Small	31	3,71	0,53	0,09	3,52	3,90	2,00	4,00
	Medium and Large	36	3,81	0,47	0,08	3,65	3,96	2,00	4,00
	Total	98	3,79	0,46	0,05	3,69	3,88	2,00	4,00
VAR00002	Micro	31	3,65	0,49	0,09	3,47	3,82	3,00	4,00
	Small	31	3,52	0,77	0,14	3,23	3,80	1,00	4,00
	Medium and Large	36	3,67	0,53	0,09	3,49	3,85	2,00	4,00
	Total	98	3,61	0,60	0,06	3,49	3,73	1,00	4,00
VAR00003	Micro	31	3,29	0,53	0,09	3,10	3,48	2,00	4,00
	Small	31	2,97	0,75	0,14	2,69	3,24	1,00	4,00
	Medium and Large	36	3,08	0,55	0,09	2,90	3,27	2,00	4,00
	Total	98	3,11	0,62	0,06	2,99	3,24	1,00	4,00
VAR00004	Micro	31	3,10	0,65	0,12	2,86	3,34	2,00	4,00
	Small	31	2,52	0,63	0,11	2,29	2,75	1,00	3,00
	Medium and Large	36	3,31	0,67	0,11	3,08	3,53	2,00	4,00
	Total	98	2,99	0,73	0,07	2,84	3,14	1,00	4,00
VAR00005	Micro	31	3,26	0,58	0,10	3,05	3,47	2,00	4,00
	Small	31	2,81	0,75	0,13	2,53	3,08	1,00	4,00
	Medium and Large	36	3,25	0,69	0,12	3,02	3,48	2,00	4,00
	Total	98	3,11	0,70	0,07	2,97	3,25	1,00	4,00
VAR00006	Micro	31	3,10	0,70	0,13	2,84	3,35	2,00	4,00
	Small	31	2,77	0,76	0,14	2,49	3,05	1,00	4,00
	Medium and Large	36	3,08	0,69	0,12	2,85	3,32	2,00	4,00
	Total	98	2,99	0,73	0,07	2,84	3,14	1,00	4,00
VAR00007	Micro	31	2,97	0,71	0,13	2,71	3,23	2,00	4,00
	Small	31	2,58	0,76	0,14	2,30	2,86	1,00	4,00
	Medium and Large	36	3,03	0,65	0,11	2,81	3,25	2,00	4,00
	Total	98	2,87	0,73	0,07	2,72	3,01	1,00	4,00
VAR00008	Micro	31	2,94	0,63	0,11	2,70	3,17	2,00	4,00
	Small	31	2,55	0,81	0,15	2,25	2,85	1,00	4,00
	Medium and Large	36	3,00	0,68	0,11	2,77	3,23	2,00	4,00
	Total	98	2,84	0,73	0,07	2,69	2,98	1,00	4,00
VAR00009	Micro	31	3,00	0,82	0,15	2,70	3,30	2,00	4,00
	Small	31	2,87	0,85	0,15	2,56	3,18	1,00	4,00
	Medium and Large	36	2,94	0,67	0,11	2,72	3,17	1,00	4,00
	Total	98	2,94	0,77	0,08	2,78	3,09	1,00	4,00
VAR00010	Micro	31	2,81	0,75	0,13	2,53	3,08	1,00	4,00
	Small	31	2,71	0,82	0,15	2,41	3,01	1,00	4,00
	Medium and Large	36	2,94	0,63	0,10	2,73	3,16	2,00	4,00
	Total	98	2,83	0,73	0,07	2,68	2,97	1,00	4,00
VAR00011	Micro	31	2,74	0,73	0,13	2,47	3,01	1,00	4,00
	Small	31	2,42	0,72	0,13	2,16	2,68	1,00	4,00
	Medium and Large	36	2,83	0,65	0,11	2,61	3,05	2,00	4,00
	Total	98	2,67	0,71	0,07	2,53	2,82	1,00	4,00
VAR00012	Micro	31	3,00	0,77	0,14	2,72	3,28	1,00	4,00
	Small	31	2,81	0,75	0,13	2,53	3,08	1,00	4,00
	Medium and Large	36	3,03	0,61	0,10	2,82	3,23	2,00	4,00
	Total	98	2,95	0,71	0,07	2,81	3,09	1,00	4,00
VAR00013	Micro	31	3,13	0,56	0,10	2,92	3,34	2,00	4,00
	Small	31	3,03	0,66	0,12	2,79	3,27	2,00	4,00
	Medium and Large	36	3,25	0,60	0,10	3,05	3,45	2,00	4,00
	Total	98	3,14	0,61	0,06	3,02	3,26	2,00	4,00

5.3.2.2. Basic descriptive indicators for processes related to the storage and transfer of knowledge in organizations classified by years of existence

In table no. 5.3.2.2.-2 data are given on the total number of performed assessments of the respondents from the defined sub prediction according to the number of the organization's existence (up to 10 years, from 11 to 20 years, over 21 years), as well as the respondents who performed partial or full an assessment of information on strategies, approaches and processes related to knowledge collection. The main descriptive indicators are given (N; Mean; Std. Deviation; Minimum; Maximum) from the executives of the top managers, middle managers and employees in the organizations. From the obtained indicators it can be noticed that in organizations with the existence of up to 10 years the values of the arithmetic environments are between three and four levels of the level to a strong degree or 33.3% -66.6% and strongly agree or 66.6% -100%. In small organizations in nine indicators the values are below three, while in four indicators (VAR00001, VAR00002, VAR00003 and VAR00005) values have reached values of three or a level to a strong degree or 33.3% -66.6%. For organizations with over 21 years of existence in six indicators, they are above three, or level up to a strong degree, or 33.3% -66.6%, while in seven indicators (VAR00003; VAR00007; VAR00008; VAR00009; VAR00010 VAR00011; and VAR00012) the level is below three, more precisely between level to degree less than 33.3% and to a strong degree 33.3% -66.6%.

Table no. 5.3.2.2.-2

Basic descriptive indicators from the processes for storing and transferring knowledge - organizations classified according to the years of existence

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
VAR00001	Up till 10 years	29	3,90	0,310	0,058	3,78	4,01	3,00	4,00
	11 to 20 years	39	3,79	0,409	0,066	3,66	3,93	3,00	4,00
	Over 21 years	30	3,67	0,606	0,111	3,44	3,89	2,00	4,00
	Total	98	3,79	0,460	0,046	3,69	3,88	2,00	4,00
VAR00002	Up till 10 years	29	3,76	0,435	0,081	3,59	3,92	3,00	4,00
	11 to 20 years	39	3,72	0,456	0,073	3,57	3,87	3,00	4,00
	Over 21 years	30	3,40	0,814	0,149	3,10	3,70	1,00	4,00
	Total	98	3,63	0,599	0,060	3,51	3,75	1,00	4,00
VAR00003	Up till 10 years	29	3,28	0,528	0,098	3,08	3,48	2,00	4,00
	11 to 20 years	39	3,21	0,570	0,091	3,02	3,39	2,00	4,00
	Over 21 years	30	2,87	0,730	0,133	2,59	3,14	1,00	4,00
	Total	98	3,12	0,630	0,064	3,00	3,25	1,00	4,00
VAR00004	Up till 10 years	29	3,28	0,528	0,098	3,08	3,48	2,00	4,00
	11 to 20 years	39	2,87	0,695	0,111	2,65	3,10	2,00	4,00
	Over 21 years	30	3,03	0,850	0,155	2,72	3,35	1,00	4,00
	Total	98	3,04	0,717	0,072	2,90	3,18	1,00	4,00
VAR00005	Up till 10 years	29	3,45	0,506	0,094	3,26	3,64	3,00	4,00
	11 to 20 years	39	3,03	0,628	0,101	2,82	3,23	2,00	4,00
	Over 21 years	30	3,00	0,871	0,159	2,67	3,33	1,00	4,00
	Total	98	3,14	0,703	0,071	3,00	3,28	1,00	4,00
VAR00006	Up till 10 years	29	3,34	0,553	0,103	3,13	3,56	2,00	4,00
	11 to 20 years	39	2,77	0,627	0,100	2,57	2,97	2,00	4,00
	Over 21 years	30	3,00	0,871	0,159	2,67	3,33	1,00	4,00
	Total	98	3,01	0,725	0,073	2,86	3,16	1,00	4,00
VAR00007	Up till 10 years	29	3,34	0,553	0,103	3,13	3,56	2,00	4,00
	11 to 20 years	39	2,72	0,647	0,104	2,51	2,93	2,00	4,00
	Over 21 years	30	2,80	0,847	0,155	2,48	3,12	1,00	4,00
	Total	98	2,93	0,736	0,074	2,78	3,08	1,00	4,00
VAR00008	Up till 10 years	29	3,24	0,511	0,095	3,05	3,44	2,00	4,00
	11 to 20 years	39	2,64	0,707	0,113	2,41	2,87	1,00	4,00
	Over 21 years	30	2,83	0,834	0,152	2,52	3,14	1,00	4,00
	Total	98	2,88	0,736	0,074	2,73	3,03	1,00	4,00
VAR00009	Up till 10 years	29	3,28	0,702	0,130	3,01	3,54	2,00	4,00
	11 to 20 years	39	2,85	0,709	0,113	2,62	3,08	2,00	4,00
	Over 21 years	30	2,87	0,860	0,157	2,55	3,19	1,00	4,00
	Total	98	2,98	0,773	0,078	2,82	3,13	1,00	4,00
VAR00010	Up till 10 years	29	3,10	0,673	0,125	2,85	3,36	2,00	4,00
	11 to 20 years	39	2,64	0,707	0,113	2,41	2,87	1,00	4,00
	Over 21 years	30	2,97	0,718	0,131	2,70	3,23	1,00	4,00
	Total	98	2,88	0,722	0,073	2,73	3,02	1,00	4,00
VAR00011	Up till 10 years	29	2,97	0,626	0,116	2,73	3,20	2,00	4,00
	11 to 20 years	39	2,56	0,641	0,103	2,36	2,77	1,00	4,00
	Over 21 years	30	2,73	0,828	0,151	2,42	3,04	1,00	4,00
	Total	98	2,73	0,711	0,072	2,59	2,88	1,00	4,00
VAR00012	Up till 10 years	29	3,21	0,620	0,115	2,97	3,44	2,00	4,00
	11 to 20 years	39	2,85	0,670	0,107	2,63	3,06	1,00	4,00
	Over 21 years	30	2,93	0,828	0,151	2,62	3,24	1,00	4,00
	Total	98	2,98	0,718	0,073	2,84	3,12	1,00	4,00
VAR00013	Up till 10 years	29	3,21	0,491	0,091	3,02	3,39	2,00	4,00
	11 to 20 years	39	2,92	0,623	0,100	2,72	3,13	2,00	4,00
	Over 21 years	30	3,33	0,661	0,121	3,09	3,58	2,00	4,00
	Total	98	3,13	0,620	0,063	3,01	3,26	2,00	4,00

5.3.3. Basic descriptive indicators of the performed assessment for the effective knowledge management and innovation

Scale of estimates from 1 to 4 (1- is not applicable / I do not know; 2- to degree or less than one third - 33.3%; 3- to a stronger degree or 33.3% - 66.6%; 4- strongly agree or 66.6% to 100%)

VAR00001	Employees are motivated to be committed to continual improvement
VAR00002	Employees have a clear picture about the work tasks in their work place
VAR00003	Employees have access to data connected to problem solving
VAR00004	Employees have an opportunity for promotion
VAR00005	Employees are committed to continual improvement and are constantly generating new ideas within the organizational context
VAR00006	Individuals are encouraged to think creatively
VAR00007	Effective solutions are encouraged and rewarded
VAR00008	The organization has developed enough " reserves " which in case of employee absence will allow no changes in work
VAR00009	Employees with creative ideas are encouraged to share their ideas
VAR00010	There is a good team intra-communication and sharing of knowledge
VAR00011	Rapid response and problem solving is encouraged and rewarded
VAR00012	Failure is seen as an opportunity to learn
VAR00013	Change is accepted as part of working life
VAR00014	The processes and the organizational structure are harmonized and guarantee effective and efficient functioning

In table no. 5.3.3.-1 data are given on the total number of completed assessments of respondents, as well as respondents who conducted a partial or full assessment for information on strategies, approaches and processes related to effective knowledge management and innovation. The basic descriptive indicators are given (N; Mean; Std. Deviation; Range; Minimum; Skewness; Kurtosis) from the assessments made by top managers, middle managers and employees in organizations. From the results obtained in all (fourteen) indicators can be noted that the values range from 2.71 (level between to a degree or less than one third - 33.3% and to a stronger degree or 33.3% - 66.6%) and 3.44 (level between up to a stronger degree or 33.3% - 66.6% and strongly agree or 66.6% to 100%). The lowest values were recorded in the eighth indicator (VAR00008, M = 2.71), while the highest in the first indicator (VAR00001, M = 3.44). The spread in four indicators is two, while the other (ten) has a value of three. The majority of the results are concentrated around the arithmetic mean. According to the obtained values of the variance and the standard deviation in all fourteen indicators the values are within the limits of normal. Values indicating the degree of slope of the curve (Skewness) and the indicators indicating Kurtosis Curve in most of the indicators without significant deviations. Significant deviations above the slope curvature (Skewness) are not observed, while Kurtosis curvature is recorded in the first indicator (VAR00001, Kurtosis = 1,238).

Table no. 5.3.3.-1 Descriptive indicators - common (knowledge management and innovation)

Statistics

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013	VAR00014
N	Valid	99	98	98	98	98	98	98	98	101	98	98	98	98	102
Mean		**3,44**	**3,30**	**3,12**	**3,13**	**3,06**	**3,03**	**3,04**	**2,71**	**3,02**	**2,97**	**3,03**	**2,93**	**3,12**	**3,18**
Std. Deviation		,610	,613	,693	,668	,686	,724	,731	,746	,678	,695	,695	,777	,721	,709
Variance		,372	,375	,480	,446	,470	,525	,534	,557	,460	,484	,484	,603	,521	,503
Skewness		-,886	-,269	-,167	-,157	-,274	-,213	-,387	-,087	-,220	-,522	-,604	-,279	-,357	-,268
Kurtosis		1,238	-,601	-,885	-,739	-,170	-,561	-,106	-,300	-,155	,689	,896	-,392	-,441	-,971
Range		3,00	2,00	2,00	2,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	2,00
Minimum		1,00	2,00	2,00	2,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	2,00
Maximum		4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00

5.3.3.1. Basic descriptive indicators for the effective knowledge management and innovation in organizations, classified by the number of employees

In table no. 5.3.3.1.-1 data are given on the total number of performed assessments of the respondents from the defined sub prediction according to the number of employees in the organization (micro, small, medium and large), as well as respondents who conducted a partial or full assessment for the effective knowledge management and innovation. The main descriptive indicators are given (N; Mean; Std. Deviation; Minimum; Maximum) from the executives of the top managers, middle managers and employees in the organizations. From the obtained indicators it can be noted that in micro organizations in the majority of indicators the values of the arithmetic environments are between three and four, respectively, to a strong level, or 33.3% -66.6%, and strongly agree or 66.6 % -100%. In five indicators (VAR00007; VAR00008; VAR00009; VAR00011 and VAR00012) the new one is below three. In small organizations in eight indicators the values are below three, while in six indicators (VAR00001, VAR00002, VAR00003, VAR00004, VAR00011 and VAR00013) values have reached values of three or a level to a strong degree or 33.3% -66.6%. In medium and large organizations in all indicators the level is above three, ie between level to strong degree or 33.3% -66.6% and strongly agree or 66.6% -100%.

Table no. 5.3.3.1.-1 Basic descriptive indicators for the effective knowledge management and innovation - classified by the number of employees

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
VAR00001	Micro	31	3,52	0,57	0,10	3,31	3,73	2,00	4,00
	Small	31	3,35	0,61	0,11	3,13	3,58	2,00	4,00
	Medium and Large	36	3,42	0,65	0,11	3,20	3,64	1,00	4,00
	Total	98	3,43	0,61	0,06	3,31	3,55	1,00	4,00
VAR00002	Micro	31	3,29	0,64	0,12	3,05	3,53	2,00	4,00
	Small	31	3,26	0,63	0,11	3,03	3,49	2,00	4,00
	Medium and Large	36	3,22	0,59	0,10	3,02	3,42	2,00	4,00
	Total	98	3,26	0,61	0,06	3,13	3,38	2,00	4,00
VAR00003	Micro	31	3,19	0,75	0,13	2,92	3,47	2,00	4,00
	Small	31	3,03	0,60	0,11	2,81	3,25	2,00	4,00
	Medium and Large	36	3,03	0,70	0,12	2,79	3,26	2,00	4,00
	Total	98	3,08	0,68	0,07	2,94	3,22	2,00	4,00
VAR00004	Micro	31	3,06	0,77	0,14	2,78	3,35	2,00	4,00
	Small	31	3,03	0,66	0,12	2,79	3,27	2,00	4,00
	Medium and Large	36	3,19	0,62	0,10	2,98	3,41	2,00	4,00
	Total	98	3,10	0,68	0,07	2,97	3,24	2,00	4,00
VAR00005	Micro	31	3,03	0,75	0,14	2,76	3,31	1,00	4,00
	Small	31	2,87	0,67	0,12	2,63	3,12	2,00	4,00
	Medium and Large	36	3,14	0,64	0,11	2,92	3,36	2,00	4,00
	Total	98	3,02	0,69	0,07	2,88	3,16	1,00	4,00
VAR00006	Micro	31	3,00	0,77	0,14	2,72	3,28	2,00	4,00
	Small	31	2,87	0,67	0,12	2,63	3,12	2,00	4,00
	Medium and Large	36	3,08	0,73	0,12	2,84	3,33	1,00	4,00
	Total	98	2,99	0,73	0,07	2,84	3,14	1,00	4,00
VAR00007	Micro	31	2,94	0,73	0,13	2,67	3,20	1,00	4,00
	Small	31	2,90	0,75	0,13	2,63	3,18	2,00	4,00
	Medium and Large	36	3,22	0,76	0,13	2,97	3,48	1,00	4,00
	Total	98	3,03	0,75	0,08	2,88	3,18	1,00	4,00
VAR00008	Micro	31	2,74	0,77	0,14	2,46	3,03	1,00	4,00
	Small	31	2,45	0,68	0,12	2,20	2,70	1,00	4,00
	Medium and Large	36	3,00	0,76	0,13	2,74	3,26	1,00	4,00
	Total	98	2,74	0,76	0,08	2,59	2,90	1,00	4,00
VAR00009	Micro	31	2,97	0,71	0,13	2,71	3,23	2,00	4,00
	Small	31	2,74	0,58	0,10	2,53	2,95	2,00	4,00
	Medium and Large	36	3,17	0,70	0,12	2,93	3,40	1,00	4,00
	Total	98	2,97	0,68	0,07	2,83	3,11	1,00	4,00
VAR00010	Micro	31	3,00	0,82	0,15	2,70	3,30	1,00	4,00
	Small	31	2,81	0,54	0,10	2,61	3,01	2,00	4,00
	Medium and Large	36	3,03	0,74	0,12	2,78	3,28	1,00	4,00
	Total	98	2,95	0,71	0,07	2,81	3,09	1,00	4,00
VAR00011	Micro	31	2,97	0,80	0,14	2,68	3,26	1,00	4,00
	Small	31	3,03	0,55	0,10	2,83	3,23	2,00	4,00
	Medium and Large	35	3,03	0,75	0,13	2,77	3,29	1,00	4,00
	Total	97	3,01	0,70	0,07	2,87	3,15	1,00	4,00
VAR00012	Micro	31	2,94	0,81	0,15	2,64	3,23	1,00	4,00
	Small	31	2,74	0,68	0,12	2,49	2,99	1,00	4,00
	Medium and Large	35	3,06	0,80	0,14	2,78	3,33	1,00	4,00
	Total	97	2,92	0,77	0,08	2,76	3,07	1,00	4,00
VAR00013	Micro	31	3,00	0,73	0,13	2,73	3,27	2,00	4,00
	Small	31	3,06	0,63	0,11	2,83	3,30	2,00	4,00
	Medium and Large	35	3,26	0,78	0,13	2,99	3,53	1,00	4,00
	Total	97	3,11	0,72	0,07	2,97	3,26	1,00	4,00
VAR00014	Micro	31	3,06	0,57	0,10	2,85	3,27	2,00	4,00
	Small	31	2,97	0,75	0,14	2,69	3,24	2,00	4,00
	Medium and Large	35	3,40	0,69	0,12	3,16	3,64	2,00	4,00
	Total	97	3,15	0,70	0,07	3,01	3,30	2,00	4,00

5.3.3.2. Basic descriptive indicators for processes related to the storage and transfer of knowledge in organizations, classified by years of existence

In table no. 5.3.3.2.-2 data is given on the total number of performed assessments of the respondents according to the number of the organization's existence (up to 10 years, from 11 to 20 years, over 21 years). The main descriptive indicators are given (N; Mean; Std. Deviation; Minimum; Maximum) from the top managers, middle managers and employees in the organizations. From the obtained indicators it can be noticed that in organizations with the existence of up to 10 years the values of the arithmetic environments are between three and four, respectively, to a strong level or 33.3% -66.6% and strongly agree or 66.6% -100%, with the exception of the eighth indicator where the values are below three. In small organizations in nine indicators the values are below three, while in four indicators (VAR00001, VAR00002, VAR00009 and VAR00013) values have reached values of three or a level to a strong degree or 33.3% -66.6%. In organizations with over 21 years of existence in twelve indicators, they are above three, ie to a strong level, or 33.3% -66.6%, while in two indicators (VAR00008 and VAR00012) the level is below three, more precisely between level to degree or less than 33.3% and to a strong degree or 33.3% -66.6%.

Table no. 5.3.3.2.-2 Basic descriptive indicators for the effective knowledge management and innovation - organizations classified according to the years of existence

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
VAR00001	Up till 10 years	29	3,55	,506	,094	3,359	3,744	3,00	4,00
	11 to 20 years	39	3,33	,737	,118	3,094	3,572	1,00	4,00
	Over 21 years	30	3,47	,507	,093	3,277	3,656	3,00	4,00
	Total	98	3,44	,610	,062	3,316	3,561	1,00	4,00
VAR00002	Up till 10 years	29	3,38	,561	,104	3,166	3,593	2,00	4,00
	11 to 20 years	39	3,15	,709	,113	2,924	3,384	2,00	4,00
	Over 21 years	30	3,40	,498	,091	3,214	3,586	3,00	4,00
	Total	98	3,30	,613	,062	3,173	3,419	2,00	4,00
VAR00003	Up till 10 years	29	3,38	,677	,126	3,122	3,637	2,00	4,00
	11 to 20 years	39	2,85	,670	,107	2,629	3,063	2,00	4,00
	Over 21 years	30	3,20	,610	,111	2,972	3,428	2,00	4,00
	Total	98	3,11	,687	,069	2,975	3,250	2,00	4,00
VAR00004	Up till 10 years	29	3,10	,673	,125	2,847	3,360	2,00	4,00
	11 to 20 years	39	2,95	,686	,110	2,726	3,171	2,00	4,00
	Over 21 years	30	3,30	,535	,098	3,100	3,500	2,00	4,00
	Total	98	3,10	,650	,066	2,972	3,232	2,00	4,00
VAR00005	Up till 10 years	29	3,10	,673	,125	2,847	3,360	2,00	4,00
	11 to 20 years	39	2,97	,743	,119	2,734	3,215	1,00	4,00
	Over 21 years	30	3,13	,629	,115	2,899	3,368	2,00	4,00
	Total	98	3,06	,686	,069	2,924	3,199	1,00	4,00
VAR00006	Up till 10 years	29	3,07	,753	,140	2,783	3,355	2,00	4,00
	11 to 20 years	39	2,90	,754	,121	2,653	3,142	1,00	4,00
	Over 21 years	30	3,17	,648	,118	2,925	3,409	2,00	4,00
	Total	98	3,03	,724	,073	2,885	3,176	1,00	4,00
VAR00007	Up till 10 years	29	3,03	,626	,116	2,796	3,273	2,00	4,00
	11 to 20 years	39	2,85	,844	,135	2,573	3,120	1,00	4,00
	Over 21 years	30	3,33	,606	,111	3,107	3,560	2,00	4,00
	Total	98	3,05	,737	,074	2,903	3,199	1,00	4,00
VAR00008	Up till 10 years	29	2,90	,673	,125	2,640	3,153	2,00	4,00
	11 to 20 years	39	2,62	,711	,114	2,385	2,846	1,00	4,00
	Over 21 years	30	2,93	,828	,151	2,624	3,242	1,00	4,00
	Total	98	2,80	,746	,075	2,646	2,945	1,00	4,00
VAR00009	Up till 10 years	29	3,07	,651	,121	2,821	3,317	2,00	4,00
	11 to 20 years	39	3,00	,761	,122	2,753	3,247	1,00	4,00
	Over 21 years	30	3,03	,669	,122	2,784	3,283	2,00	4,00
	Total	98	3,03	,695	,070	2,891	3,170	1,00	4,00
VAR00010	Up till 10 years	29	3,10	,817	,152	2,793	3,414	1,00	4,00
	11 to 20 years	39	2,92	,739	,118	2,683	3,163	1,00	4,00
	Over 21 years	30	3,00	,587	,107	2,781	3,219	2,00	4,00
	Total	98	3,00	,718	,073	2,856	3,144	1,00	4,00
VAR00011	Up till 10 years	29	3,17	,759	,141	2,884	3,461	1,00	4,00
	11 to 20 years	39	2,87	,732	,117	2,635	3,109	1,00	4,00
	Over 21 years	29	3,03	,499	,093	2,845	3,224	2,00	4,00
	Total	97	3,01	,685	,070	2,872	3,148	1,00	4,00
VAR00012	Up till 10 years	29	3,28	,702	,130	3,009	3,543	1,00	4,00
	11 to 20 years	39	2,74	,785	,126	2,489	2,998	1,00	4,00
	Over 21 years	29	2,86	,743	,138	2,580	3,145	2,00	4,00
	Total	97	2,94	,775	,079	2,782	3,094	1,00	4,00
VAR00013	Up till 10 years	29	3,31	,604	,112	3,081	3,540	2,00	4,00
	11 to 20 years	39	3,03	,778	,125	2,774	3,278	1,00	4,00
	Over 21 years	29	3,07	,704	,131	2,801	3,337	2,00	4,00
	Total	97	3,12	,711	,072	2,980	3,267	1,00	4,00
VAR00014	Up till 10 years	29	3,24	,636	,118	3,000	3,483	2,00	4,00
	11 to 20 years	39	2,97	,668	,107	2,758	3,191	2,00	4,00
	Over 21 years	29	3,34	,769	,143	3,052	3,637	2,00	4,00
	Total	97	3,16	,702	,071	3,023	3,307	2,00	4,00

5.4. RESULTS FROM THE ASSESSMENTS CARRIED OUT IN THE PROCESSES OF COLLECTING, SHARING, TRANSFERRING AND MANAGING KNOWLEDGE AND INNOVATION

5.4.1. The ratio of indicators in the processes related to knowledge collection

From the analysis performed (Table 5.4.1.-1 and Table 5.4.1.-2) by applying the Kruskal-WaIIis test, where the differences between the ranges of means (Mean Rank) were determined, it can be noted that significant differences exist only in one and the eighth indicator (VAR00008), Chi-Square = 6,212, df = 2, Sig. = 0,045. Among the three subcomponents (micro, small, medium and large), the highest ranking in the insight indicator with values of 56.54 was determined among the respondents from the medium and large organizations.

Table no. 5.4.1.-1 Rank correlation in the processes of collecting knowledge among the respondents according to the number of employees

Ranks

VAR00010		N	Mean Rank
VAR00001	Micro	31	52,00
	Small	31	50,50
	Medium and Large	36	46,49
	Total	98	
VAR00002	Micro	31	54,24
	Small	31	49,65
	Medium and Large	36	45,29
	Total	98	
VAR00003	Micro	31	50,50
	Small	31	48,52
	Medium and Large	36	49,49
	Total	98	
VAR00004	Micro	31	53,68
	Small	31	48,40
	Medium and Large	36	46,85
	Total	98	
VAR00005	Micro	31	50,11
	Small	31	45,55
	Medium and Large	36	52,38
	Total	98	
VAR00006	Micro	31	51,50
	Small	31	46,35
	Medium and Large	36	50,49
	Total	98	
VAR00007	Micro	31	50,32
	Small	31	42,85
	Medium and Large	36	54,51
	Total	98	
VAR00008	Micro	31	50,26

	Small	31	40,56
	Medium and Large	36	56,54
	Total	98	
VAR00009	Micro	31	53,69
	Small	31	44,73
	Medium and Large	36	50,00
	Total	98	

Table no. 5.4.1.-2 Differences in rank correlations in the processes of collecting knowledge among the respondents according to the number of employees

Test Statistics[a,b]

	VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009
Chi-Square	1,150	2,394	,100	1,284	1,205	,736	3,338	6,212	1,850
df	2	2	2	2	2	2	2	2	2
Asymp. Sig.	,563	,302	,951	,526	,547	,692	,188	,045	,396

From the performed analysis (Table 5.4.1.-3 and Table 5.4.1.-4) by applying the Kruskal-Wallis test where the differences between the mean ranges were determined, it can be noted that significant differences exist in the fifth, fourth and seventh indicators (VAR00005, Chi-Square = 11,729, df = 2, Sig. = 0,003; VAR00006, Chi-Square = 10,601, df = 2, Sig. = 0.005 and VAR00007, Chi-Square = 8.600, df = 2, Sig. = 0.014).

Table no. 5.4.1.-3

Rank correlation in the processes of collecting knowledge among the respondents according to the years of existence of the organization

Ranks

VAR00010		N	Mean Rank
VAR00001	Up till 10 years	29	54,48
	11 to 20 years	39	47,19
	Over 21 years	30	47,68
	Total	98	
VAR00002	Up till 10 years	29	56,67
	11 to 20 years	39	42,92
	Over 21 years	30	51,12
	Total	98	
VAR00003	Up till 10 years	29	47,93
	11 to 20 years	39	48,22
	Over 21 years	30	52,68
	Total	98	
VAR00004	Up till 10 years	29	51,78
	11 to 20 years	39	46,81
	Over 21 years	30	50,80
	Total	98	
VAR00005	Up till 10 years	29	59,67

	11 to 20 years	39	39,10
	Over 21 years	30	53,18
	Total	98	
VAR00006	Up till 10 years	29	57,98
	11 to 20 years	39	39,55
	Over 21 years	30	54,23
	Total	98	
VAR00007	Up till 10 years	29	59,79
	11 to 20 years	39	41,05
	Over 21 years	30	50,53
	Total	98	
VAR00008	Up till 10 years	29	57,57
	11 to 20 years	39	42,68
	Over 21 years	30	50,57
	Total	98	
VAR00009	Up till 10 years	29	57,64
	11 to 20 years	39	45,73
	Over 21 years	30	46,53
	Total	98	

Table no. 5.4.1.-4 Differences in rank correlation in the processes of collecting knowledge among the respondents according to the years of existence of the organization

Test Statistics[a,b]

	VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009
Chi-Square	2,140	5,840	,738	,749	11,729	10,601	8,600	5,476	4,000
df	2	2	2	2	2	2	2	2	2
Asymp. Sig.	,343	,054	,691	,688	,003	,005	,014	,065	,135

5.4.2. The ratio of indicators in the processes related to the storage and transfer of knowledge

From the analysis carried out (Table 5.4.2.-1 and Table 5.4.2.-2) by applying the Kruskal-WaIIis test, where the differences between the ranges of means (Mean Rank) were determined, we can notice that significant differences exist in the fourth, fifth, seventh and eighth indicators (VAR00004, Chi-Square = 20,197, df = 2, Sig. = 0,000; VAR00005, Chi-Square = 7,611, df = 2, Sig. = 0,022, VAR00007, Chi-Square = 6,492, df = 2, Sig. = 0,039 and VAR00008, Chi-Square = 6,183, df = 2, Sig. = 0,045).

Table no. 5.4.2.-1 Rank correlation in the storage and transfer of knowledge, according to the number of employees in the organizations

Ranks

	VAR00014	N	Mean Rank
VAR00001	Micro	31	51,26
	Small	31	46,31
	Medium and Large	36	50,74
	Total	98	
VAR00002	Micro	31	49,32
	Small	31	47,71
	Medium and Large	36	51,19
	Total	98	
VAR00003	Micro	31	56,02
	Small	31	45,31
	Medium and Large	36	47,50
	Total	98	
VAR00004	Micro	31	52,92
	Small	31	32,98
	Medium and Large	36	60,78
	Total	98	
VAR00005	Micro	31	54,19
	Small	31	39,10
	Medium and Large	36	54,42
	Total	98	
VAR00006	Micro	31	52,76
	Small	31	43,06
	Medium and Large	36	52,24
	Total	98	
VAR00007	Micro	31	52,73
	Small	31	39,79
	Medium and Large	36	55,08
	Total	98	
VAR00008	Micro	31	52,65
	Small	31	40,10
	Medium and Large	36	54,89
	Total	98	
VAR00009	Micro	31	51,00
	Small	31	47,84
	Medium and Large	36	49,64
	Total	98	
VAR00010	Micro	31	48,45
	Small	31	46,42
	Medium and Large	36	53,06
	Total	98	
VAR00011	Micro	31	51,85
	Small	31	40,95
	Medium and Large	36	54,83
	Total	98	
VAR00012	Micro	31	51,52
	Small	31	44,98
	Medium and Large	36	51,65
	Total	98	
VAR00013	Micro	31	48,73
	Small	31	45,24
	Medium and Large	36	53,83
	Total	98	

Table no. 5.4.2.-2 Differences in rank correlation in the storage and transfer of knowledge, according to the number of employees in the organizations

Test Statistics[a,b]

	VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013
Chi-Square	1,226	,369	3,570	20,197	7,611	2,922	6,492	6,183	,227	1,204	5,193	1,468	2,072
df	2	2	2	2	2	2	2	2	2	2	2	2	2
Asymp. Sig.	,542	,831	,168	,000	,022	,232	,039	,045	,893	,548	,075	,480	,355

From the analysis carried out (Table 5.4.2.-3 and Table 5.4.2.-4) by applying the Kruskal-WaIIis test where the differences between the mean ranges were determined, it can be noted that significant differences exist in the fifth, sixth, seventh, eighth, ninth, tenth and thirteenth indicators (VAR00005, Chi-Square = 7,524, df = 2, Sig. = 0,023; VAR00006, Chi- 12,324, df = 2, Sig. = 0,002; VAR00007, Chi-Square = 14,006, df = 2, Sig. = 0,001; VAR00008, Chi-Square = 12,123, df = 2, Sig. = 6,214, df = 2, Sig. = 0,045; VAR00010, Chi-Square = 7,425, df = 2, Sig. = 0,024 and VAR00013, Chi-Square = 8,007, df = 2, Sig. = 0,018) between the three subcategories (up to 10 years old, from 11 to 20 years old, over 21 years) were ranked highest in organizations up to ten years of existence (VAR00005 = 60,33; VAR00006 = 61,24; VAR00007 = 64,36; VAR00008 = 62,47 ; VAR00009 = 59,48; VAR00010 = 57,21), while in the thirteenth indicator among organizations with over 21 years of existence (VAR00013 = 57,82).

Table no. 5.4.2.-3 Rank correlation in the storage and transfer of knowledge, according to the years of existence of the organization

Ranks

VAR00014		N	Mean Rank
VAR00001	Up till 10 years	29	54,03
	11 to 20 years	39	49,15
	Over 21 years	30	45,57
	Total	98	
VAR00002	Up till 10 years	29	53,66
	11 to 20 years	39	51,74
	Over 21 years	30	42,57
	Total	98	
VAR00003	Up till 10 years	29	54,91
	11 to 20 years	39	52,14
	Over 21 years	30	40,83
	Total	98	
VAR00004	Up till 10 years	29	57,53
	11 to 20 years	39	42,67
	Over 21 years	30	50,62
	Total	98	
VAR00005	Up till 10 years	29	60,33
	11 to 20 years	39	44,19

	Over 21 years	30	45,93
	Total	98	
VAR00006	Up till 10 years	29	61,24
	11 to 20 years	39	39,55
	Over 21 years	30	51,08
	Total	98	
VAR00007	Up till 10 years	29	64,36
	11 to 20 years	39	41,27
	Over 21 years	30	45,83
	Total	98	
VAR00008	Up till 10 years	29	62,47
	11 to 20 years	39	40,51
	Over 21 years	30	48,65
	Total	98	
VAR00009	Up till 10 years	29	59,48
	11 to 20 years	39	43,97
	Over 21 years	30	47,03
	Total	98	
VAR00010	Up till 10 years	29	57,21
	11 to 20 years	39	41,10
	Over 21 years	30	52,97
	Total	98	
VAR00011	Up till 10 years	29	57,84
	11 to 20 years	39	43,01
	Over 21 years	30	49,87
	Total	98	
VAR00012	Up till 10 years	29	57,28
	11 to 20 years	39	44,26
	Over 21 years	30	48,80
	Total	98	
VAR00013	Up till 10 years	29	52,02
	11 to 20 years	39	41,23
	Over 21 years	30	57,82
	Total	98	

Table no. 5.4.2.-4 Differences in rank correlation in the storage and transfer of knowledge according to the years of existence of the organization

Test Statistics[a,b]

	VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013
Chi-Square	2,797	4,011	5,911	5,690	7,524	12,324	14,006	12,123	6,214	7,425	5,511	4,457	8,007
df	2	2	2	2	2	2	2	2	2	2	2	2	2
Asymp. Sig.	,247	,135	,052	,058	,023	,002	,001	,002	,045	,024	,064	,108	,018

5.4.3. The ratio of indicators related to effective knowledge management and innovation

From the analysis carried out (Table 5.4.3.-1 and Table 5.4.3.-2) by applying Kruskal-Wallis test where the differences between the mean ranges were determined, it can be noted that significant differences exist in the eighth, ninth and fourteenth indicators (VAR00008, Chi-Square = 8,764, df = 2, Sig. = 0,012; VAR00009, Chi-Square = 7,493, df = 2, Sig. = 0.024 and VAR00014, Chi-Square = 7.391, df = 2, Sig. = 0.025). The highest ranking in the three indicators between subcategories (micro, small, medium and large) was observed in medium and large organizations with values of 58.47; 57.43 and 58.36.

Table no. 5.4.3.-1

Rank correlation in the effective knowledge management and innovation among the respondents according to the number of employees in the organizations

Ranks

VAR00015		N	Mean Rank
VAR00001	Micro	31	52,97
	Small	31	46,10
	Medium and Large	36	49,44
	Total	98	
VAR00002	Micro	31	51,13
	Small	31	49,69
	Medium and Large	36	47,93
	Total	98	
VAR00003	Micro	31	53,92
	Small	31	47,42
	Medium and Large	36	47,49
	Total	98	
VAR00004	Micro	31	48,37
	Small	31	46,76
	Medium and Large	36	52,83
	Total	98	
VAR00005	Micro	31	50,58
	Small	31	43,55
	Medium and Large	36	53,69
	Total	98	
VAR00006	Micro	31	49,65
	Small	31	44,87
	Medium and Large	36	53,36
	Total	98	
VAR00007	Micro	31	46,21
	Small	31	44,45
	Medium and Large	36	56,68
	Total	98	
VAR00008	Micro	31	49,13
	Small	31	39,45
	Medium and Large	36	58,47
	Total	98	
VAR00009	Micro	31	49,15
	Small	31	40,53
	Medium and Large	36	57,53
	Total	98	
VAR00010	Micro	31	52,40
	Small	31	43,18
	Medium and Large	36	52,44
	Total	98	
VAR00011	Micro	31	47,63
	Small	31	48,74
	Medium and Large	35	50,44

	Total	97	
VAR00012	Micro	31	49,65
	Small	31	42,84
	Medium and Large	35	53,89
	Total	97	
VAR00013	Micro	31	44,68
	Small	31	46,60
	Medium and Large	35	54,96
	Total	97	
VAR00014	Micro	31	45,05
	Small	31	42,39
	Medium and Large	35	58,36
	Total	97	

Table no. 5.4.3.-2 Differences in rank correlation in the effective knowledge management and innovation, according to the number of employees in the organizations

Test Statistics[a,b]

	VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013	VAR00014
Chi-Square	1,161	,273	1,332	1,013	2,722	1,770	4,361	8,764	7,493	2,877	,221	3,000	3,020	7,391
df	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Asymp. Sig.	,559	,873	,514	,603	,256	,413	,113	,012	,024	,237	,896	,223	,221	,025

From the analysis carried out (Table 5.4.3.-3 and Table 5.4.3.-4) by applying the Kruskal-Wallis test, where the differences between the rank ranges were determined, it can be noted that significant differences exist in the third, seventh and twelfth indicators (VAR00003, Chi-Square = 10,754, df = 2, Sig. = 0,005; VAR00007, Chi-Square = 6,824, df = 2, Sig. = 0.033 and VAR00012, Chi-Square = 9.155, df = 2, Sig. = 0.010). The highest ranking in two indicators (VAR00003, M.Rank = 59,74; VAR00012, M.Rank = 61,07) between subcategories (up to 10 years, from 11 to 20 years, over 21 years) was observed among the organizations with existence of up to 10 years, while in the third indicator (VAR00003, M.Rank = 59,30) for organizations with over 21 years of existence.

Table no. 5.4.3.-3 Rank correlation in the knowladge management and innovation, according to the years of existence of the organization

Ranks

VAR00018		N	Mean Rank
VAR00001	Up till 10 years	29	53,43
	11 to 20 years	39	46,63
	Over 21 years	30	49,43
	Total	98	
VAR00002	Up till 10 years	29	52,57
	11 to 20 years	39	44,53
	Over 21 years	30	53,00
	Total	98	
VAR00003	Up till 10 years	29	59,74
	11 to 20 years	39	39,54
	Over 21 years	30	52,55
	Total	98	

VAR00004	Up till 10 years	29	49,60
	11 to 20 years	39	43,68
	Over 21 years	30	56,97
	Total	98	
VAR00005	Up till 10 years	29	50,83
	11 to 20 years	39	46,69
	Over 21 years	30	51,87
	Total	98	
VAR00006	Up till 10 years	29	50,72
	11 to 20 years	39	45,00
	Over 21 years	30	54,17
	Total	98	
VAR00007	Up till 10 years	29	48,12
	11 to 20 years	39	42,99
	Over 21 years	30	59,30
	Total	98	
VAR00008	Up till 10 years	29	52,71
	11 to 20 years	39	43,45
	Over 21 years	30	54,27
	Total	98	
VAR00009	Up till 10 years	29	50,62
	11 to 20 years	39	48,82
	Over 21 years	30	49,30
	Total	98	
VAR00010	Up till 10 years	29	54,57
	11 to 20 years	39	46,50
	Over 21 years	30	48,50
	Total	98	
VAR00011	Up till 10 years	29	55,59
	11 to 20 years	39	44,28
	Over 21 years	29	48,76
	Total	97	
VAR00012	Up till 10 years	29	61,07
	11 to 20 years	39	42,55
	Over 21 years	29	45,60
	Total	97	
VAR00013	Up till 10 years	29	55,40
	11 to 20 years	39	45,95
	Over 21 years	29	46,71
	Total	97	
VAR00014	Up till 10 years	29	51,48
	11 to 20 years	39	41,82
	Over 21 years	29	56,17
	Total	97	

Table no. 5.4.3.-4

Differences in the rank correlation in the knowladge management and innovation, according to the years of existence of the organization

Test Statistics[a,b]

	VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013	VAR00014
Chi-Square	1,222	2,522	10,754	4,685	,813	2,192	6,824	3,537	,085	1,768	3,629	9,155	2,592	5,521
df	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Asymp. Sig.	,543	,283	,005	,096	,666	,334	,033	,171	,958	,413	,163	,010	,274	,063

5.5. THE RELATIONSHIP BETWEEN THE PROCESSES FOR COLLECTING, SHARING, UTILIZING AND MANAGING KNOWLEDGE AND INNOVATION

5.5.1. Relationship between the indicators in processes related to the collection of knowledge according to the number of employees and the years of existence of organizations

VAR00001	I believe that knowledge as a key resource
VAR00002	I am aware of the need to proactively manage knowledge
VAR00003	Top management in the organization are committed to knowledge management
VAR00004	Top management recognizes KM as an important part of the business strategy
VAR00005	Collecting knowledge is encouraged and rewarded
VAR00006	Intellectual values are recognized and valued
VAR00007	Recording and sharing knowledge is routine and second nature
VAR00008	In the organization there is a system / method of collecting and storing knowledge
VAR00009	Knowledge is stored in archives for further use

The relationship between the variables that indicate the relation of organizations' knowledge-gathering processes by the number of employees (micro, small, medium and large organizations) is calculated using the Pearson correlation coefficient.

According to the table no. 5.5.1.- 1, table no. 5.5.1.-2 and table no. 5.5.1.-3, where the relation was analyzed separately for each subcategory, a low, medium and high positive level was observed.

In micro-organizations, a medium and high positive level was observed. The highest level of relation is observed between the seventh (VAR00007) and insight (VAR00008) indicator, with a correlation coefficient of 0.893 (Pearson correlation, r = .893).

In small organizations, there was an association of insignificant, a low, medium and high positive level. The highest level of relation has been observed between the first (VAR00001) and the second (VAR00002) indicator, with a correlation coefficient of 0.795 (Pearson correlation, r = .795).

In medium and large organizations, a low, medium and high level Relation was observed. The highest level of relation is observed between the eighth (VAR00008) and the ninth (VAR00009) indicator, with a correlation coefficient of 0.862 (Pearson correlation, r = .862).

Table no. 5.5.1.-1 Relation in the processes for collecting and creating knowledge in micro organizations

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009
VAR00001	Pearson Correlation	1	,563**	,635**	,440*	,465**	,401*	,600**	,565**	,632**
	Sig. (2-tailed)		,001	,000	,013	,008	,025	,000	,001	,000
	N	31	31	31	31	31	31	31	31	31
VAR00002	Pearson Correlation	,563**	1	,545**	,354	,453*	,396*	,393*	,351	,411*
	Sig. (2-tailed)	,001		,002	,051	,010	,028	,029	,053	,022
	N	31	31	31	31	31	31	31	31	31
VAR00003	Pearson Correlation	,635**	,545**	1	,805**	,527**	,407*	,511**	,339	,631**
	Sig. (2-tailed)	,000	,002		,000	,002	,023	,003	,062	,000
	N	31	31	31	31	31	31	31	31	31
VAR00004	Pearson Correlation	,440*	,354	,805**	1	,530**	,415*	,421*	,249	,557**
	Sig. (2-tailed)	,013	,051	,000		,002	,020	,018	,177	,001
	N	31	31	31	31	31	31	31	31	31
VAR00005	Pearson Correlation	,465**	,453*	,527**	,530**	1	,863**	,775**	,618**	,584**
	Sig. (2-tailed)	,008	,010	,002	,002		,000	,000	,000	,001
	N	31	31	31	31	31	31	31	31	31
VAR00006	Pearson Correlation	,401*	,396*	,407*	,415*	,863**	1	,761**	,646**	,583**
	Sig. (2-tailed)	,025	,028	,023	,020	,000		,000	,000	,001
	N	31	31	31	31	31	31	31	31	31
VAR00007	Pearson Correlation	,600**	,393*	,511**	,421*	,775**	,761**	1	,893**	,831**
	Sig. (2-tailed)	,000	,029	,003	,018	,000	,000		,000	,000
	N	31	31	31	31	31	31	31	31	31
VAR00008	Pearson Correlation	,565**	,351	,339	,249	,618**	,646**	,893**	1	,802**
	Sig. (2-tailed)	,001	,053	,062	,177	,000	,000	,000		,000
	N	31	31	31	31	31	31	31	31	31
VAR00009	Pearson Correlation	,632**	,411*	,631**	,557**	,584**	,583**	,831**	,802**	1
	Sig. (2-tailed)	,000	,022	,000	,001	,001	,001	,000	,000	
	N	31	31	31	31	31	31	31	31	31

Table no. 5.5.1.-2 Relation in the processes for collecting and creating knowledge in small organizations

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009
VAR00001	Pearson Correlation	1	,795**	,318	,348	,513**	,103	,115	,234	,341
	Sig. (2-tailed)		,000	,081	,055	,003	,583	,537	,205	,060
	N	31	31	31	31	31	31	31	31	31
VAR00002	Pearson Correlation	,795**	1	,235	,335	,375*	,094	,100	,274	,418*
	Sig. (2-tailed)	,000		,203	,066	,037	,616	,594	,136	,019
	N	31	31	31	31	31	31	31	31	31
VAR00003	Pearson Correlation	,318	,235	1	,605**	,674**	,405*	,152	,133	,130
	Sig. (2-tailed)	,081	,203		,000	,000	,024	,416	,475	,487
	N	31	31	31	31	31	31	31	31	31
VAR00004	Pearson Correlation	,348	,335	,605**	1	,479**	,547**	,149	,061	,144
	Sig. (2-tailed)	,055	,066	,000		,006	,001	,422	,745	,439
	N	31	31	31	31	31	31	31	31	31
VAR00005	Pearson Correlation	,513**	,375*	,674**	,479**	1	,500**	,302	,377*	,355
	Sig. (2-tailed)	,003	,037	,000	,006		,004	,098	,037	,050
	N	31	31	31	31	31	31	31	31	31
VAR00006	Pearson Correlation	,103	,094	,405*	,547**	,500**	1	,605**	,323	,355
	Sig. (2-tailed)	,583	,616	,024	,001	,004		,000	,076	,050
	N	31	31	31	31	31	31	31	31	31
VAR00007	Pearson Correlation	,115	,100	,152	,149	,302	,605**	1	,802**	,670**
	Sig. (2-tailed)	,537	,594	,416	,422	,098	,000		,000	,000
	N	31	31	31	31	31	31	31	31	31
VAR00008	Pearson Correlation	,234	,274	,133	,061	,377*	,323	,802**	1	,603**
	Sig. (2-tailed)	,205	,136	,475	,745	,037	,076	,000		,000
	N	31	31	31	31	31	31	31	31	31
VAR00009	Pearson Correlation	,341	,418*	,130	,144	,355	,355	,670**	,603**	1
	Sig. (2-tailed)	,060	,019	,487	,439	,050	,050	,000	,000	
	N	31	31	31	31	31	31	31	31	31

Table no. 5.5.1.-3 Relation in the processes for collecting and creating knowledge in the medium and large organizations

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009
VAR00001	Pearson Correlation	1	,772**	,348*	,398*	,412*	,343*	,483**	,439**	,432**
	Sig. (2-tailed)		,000	,038	,016	,012	,041	,003	,007	,009
	N	36	36	36	36	36	36	36	36	36
VAR00002	Pearson Correlation	,772**	1	,538**	,609**	,568**	,405*	,538**	,437**	,449**
	Sig. (2-tailed)	,000		,001	,000	,000	,014	,001	,008	,006
	N	36	36	36	36	36	36	36	36	36
VAR00003	Pearson Correlation	,348*	,538**	1	,763**	,350*	,266	,118	,175	,191
	Sig. (2-tailed)	,038	,001		,000	,036	,117	,494	,308	,263
	N	36	36	36	36	36	36	36	36	36
VAR00004	Pearson Correlation	,398*	,609**	,763**	1	,530**	,426**	,349*	,245	,195
	Sig. (2-tailed)	,016	,000	,000		,001	,010	,037	,149	,254
	N	36	36	36	36	36	36	36	36	36
VAR00005	Pearson Correlation	,412*	,568**	,350*	,530**	1	,754**	,586**	,413*	,396*
	Sig. (2-tailed)	,012	,000	,036	,001		,000	,000	,012	,017
	N	36	36	36	36	36	36	36	36	36
VAR00006	Pearson Correlation	,343*	,405*	,266	,426**	,754**	1	,723**	,563**	,558**
	Sig. (2-tailed)	,041	,014	,117	,010	,000		,000	,000	,000
	N	36	36	36	36	36	36	36	36	36
VAR00007	Pearson Correlation	,483**	,538**	,118	,349*	,586**	,723**	1	,729**	,705**
	Sig. (2-tailed)	,003	,001	,494	,037	,000	,000		,000	,000
	N	36	36	36	36	36	36	36	36	36
VAR00008	Pearson Correlation	,439**	,437**	,175	,245	,413*	,563**	,729**	1	,862**
	Sig. (2-tailed)	,007	,008	,308	,149	,012	,000	,000		,000
	N	36	36	36	36	36	36	36	36	36
VAR00009	Pearson Correlation	,432**	,449**	,191	,195	,396*	,558**	,705**	,862**	1
	Sig. (2-tailed)	,009	,006	,263	,254	,017	,000	,000	,000	
	N	36	36	36	36	36	36	36	36	36

The relationship between the indicators (variables) that indicate the Relation of the processes for collecting and creating knowledge in organizations by years of existence (up to 10 years, from 11 to 20 years, over 21 years) was calculated using the Pearson coefficient of correlation.

According to table no. 5.5.1.- 4, table no. 5.5.1.-5 and table no. 5.5.1-6 where the Relation is analyzed separately for each sub category, a low, medium and high positive level Relation was observed.

In organizations of 10 years of existence, there is a link between low, medium and high positive level. The highest level of relation was noted between the seventh (VAR00007) and inspection (VAR00008) indicator, with a correlation coefficient of 0.836 (Pearson correlation, r = .836).

In organizations from 11 to 20 years of existence, there is a link between insignificant, low, medium and high positive level. The highest level of relation is observed between the seventh

(VAR00007) and the eighth (VAR00008) indicator, with a correlation coefficient of 0.793 (Pearson correlation, r = .793).

At organizations over 21 years of existence, there is a link between low, middle and high level. The highest level of relation is observed between the first (VAR00001) and the second (VAR00002) indicator, with a correlation coefficient of 0.909 (Pearson correlation, r = .909).

Table no. 5.5.1.-4

Relation in the processes for collecting and creating knowledge in organizations by years of existence - up to 10 years

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009
VAR00001	Pearson Correlation	1	,447*	,511**	,478**	,391*	,340	,581**	,575**	,460*
	Sig. (2-tailed)		,013	,004	,008	,033	,066	,001	,001	,011
	N	30	30	30	30	30	30	30	30	30
VAR00002	Pearson Correlation	,447*	1	,404*	,367*	,437*	,380*	,325	,310	,217
	Sig. (2-tailed)	,013		,027	,046	,016	,038	,080	,096	,250
	N	30	30	30	30	30	30	30	30	30
VAR00003	Pearson Correlation	,511**	,404*	1	,935**	,765**	,526**	,537**	,413*	,616**
	Sig. (2-tailed)	,004	,027		,000	,000	,003	,002	,023	,000
	N	30	30	30	30	30	30	30	30	30
VAR00004	Pearson Correlation	,478**	,367*	,935**	1	,818**	,434*	,453*	,325	,550**
	Sig. (2-tailed)	,008	,046	,000		,000	,016	,012	,080	,002
	N	30	30	30	30	30	30	30	30	30
VAR00005	Pearson Correlation	,391*	,437*	,765**	,818**	1	,591**	,587**	,452*	,477**
	Sig. (2-tailed)	,033	,016	,000	,000		,001	,001	,012	,008
	N	30	30	30	30	30	30	30	30	30
VAR00006	Pearson Correlation	,340	,380*	,526**	,434*	,591**	1	,533**	,484**	,363*
	Sig. (2-tailed)	,066	,038	,003	,016	,001		,002	,007	,048
	N	30	30	30	30	30	30	30	30	30
VAR00007	Pearson Correlation	,581**	,325	,537**	,453*	,587**	,533**	1	,836**	,774**
	Sig. (2-tailed)	,001	,080	,002	,012	,001	,002		,000	,000
	N	30	30	30	30	30	30	30	30	30
VAR00008	Pearson Correlation	,575**	,310	,413*	,325	,452*	,484**	,836**	1	,750**
	Sig. (2-tailed)	,001	,096	,023	,080	,012	,007	,000		,000
	N	30	30	30	30	30	30	30	30	30
VAR00009	Pearson Correlation	,460*	,217	,616**	,550**	,477**	,363*	,774**	,750**	1
	Sig. (2-tailed)	,011	,250	,000	,002	,008	,048	,000	,000	
	N	30	30	30	30	30	30	30	30	30

Table no. 5.5.1.-5

Relation in the processes for collecting and creating knowledge in organizations by years of existence - from 11 to 20 years

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009
VAR00001	Pearson Correlation	1	,692**	,294	,262	,391*	,246	,272	,305	,404*
	Sig. (2-tailed)		,000	,073	,113	,015	,137	,098	,063	,012
	N	38	38	38	38	38	38	38	38	38
VAR00002	Pearson Correlation	,692**	1	,450**	,424**	,395*	,220	,252	,188	,430**
	Sig. (2-tailed)	,000		,005	,008	,014	,183	,127	,258	,007
	N	38	38	38	38	38	38	38	38	38
VAR00003	Pearson Correlation	,294	,450**	1	,780**	,466**	,315	,079	-,026	,061
	Sig. (2-tailed)	,073	,005		,000	,003	,054	,636	,879	,718
	N	38	38	38	38	38	38	38	38	38
VAR00004	Pearson Correlation	,262	,424**	,780**	1	,397*	,409*	,160	-,077	,037
	Sig. (2-tailed)	,113	,008	,000		,014	,011	,337	,646	,825
	N	38	38	38	38	38	38	38	38	38
VAR00005	Pearson Correlation	,391*	,395*	,466**	,397*	1	,614**	,412*	,367*	,253
	Sig. (2-tailed)	,015	,014	,003	,014		,000	,010	,023	,125
	N	38	38	38	38	38	38	38	38	38
VAR00006	Pearson Correlation	,246	,220	,315	,409*	,614**	1	,668**	,437**	,416**
	Sig. (2-tailed)	,137	,183	,054	,011	,000		,000	,006	,009
	N	38	38	38	38	38	38	38	38	38
VAR00007	Pearson Correlation	,272	,252	,079	,160	,412*	,668**	1	,793**	,625**
	Sig. (2-tailed)	,098	,127	,636	,337	,010	,000		,000	,000
	N	38	38	38	38	38	38	38	38	38
VAR00008	Pearson Correlation	,305	,188	-,026	-,077	,367*	,437**	,793**	1	,692**
	Sig. (2-tailed)	,063	,258	,879	,646	,023	,006	,000		,000
	N	38	38	38	38	38	38	38	38	38
VAR00009	Pearson Correlation	,404*	,430**	,061	,037	,253	,416**	,625**	,692**	1
	Sig. (2-tailed)	,012	,007	,718	,825	,125	,009	,000	,000	
	N	38	38	38	38	38	38	38	38	38

Table no. 5.5.1.-6

Relation in the processes for collecting and creating knowledge of organizations by years of existence - over 21 years

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009
VAR00001	Pearson Correlation	1	,909**	,602**	,521**	,439*	,186	,330	,248	,413*
	Sig. (2-tailed)		,000	,000	,003	,015	,326	,074	,187	,023
	N	30	30	30	30	30	30	30	30	30
VAR00002	Pearson Correlation	,909**	1	,602**	,598**	,439*	,186	,330	,399*	,484**
	Sig. (2-tailed)	,000		,000	,000	,015	,326	,074	,029	,007
	N	30	30	30	30	30	30	30	30	30
VAR00003	Pearson Correlation	,602**	,602**	1	,662**	,392*	,299	,178	,190	,379*
	Sig. (2-tailed)	,000	,000		,000	,032	,109	,347	,314	,039
	N	30	30	30	30	30	30	30	30	30
VAR00004	Pearson Correlation	,521**	,598**	,662**	1	,456*	,456*	,308	,376*	,349
	Sig. (2-tailed)	,003	,000	,000		,011	,011	,098	,041	,059
	N	30	30	30	30	30	30	30	30	30
VAR00005	Pearson Correlation	,439*	,439*	,392*	,456*	1	,766**	,675**	,519**	,590**
	Sig. (2-tailed)	,015	,015	,032	,011		,000	,000	,003	,001
	N	30	30	30	30	30	30	30	30	30
VAR00006	Pearson Correlation	,186	,186	,299	,456*	,766**	1	,753**	,589**	,590**
	Sig. (2-tailed)	,326	,326	,109	,011	,000		,000	,001	,001
	N	30	30	30	30	30	30	30	30	30
VAR00007	Pearson Correlation	,330	,330	,178	,308	,675**	,753**	1	,831**	,823**
	Sig. (2-tailed)	,074	,074	,347	,098	,000	,000		,000	,000
	N	30	30	30	30	30	30	30	30	30
VAR00008	Pearson Correlation	,248	,399*	,190	,376*	,519**	,589**	,831**	1	,785**
	Sig. (2-tailed)	,187	,029	,314	,041	,003	,001	,000		,000
	N	30	30	30	30	30	30	30	30	30
VAR00009	Pearson Correlation	,413*	,484**	,379*	,349	,590**	,590**	,823**	,785**	1
	Sig. (2-tailed)	,023	,007	,039	,059	,001	,001	,000	,000	
	N	30	30	30	30	30	30	30	30	30

5.5.2. Assistence of indicators in the processes related to the storage and transfer of knowledge to organizations by number of employees and years of existence

VAR00001	I am not afraid to share knowledge
VAR00002	I share knowledge whenever I can and I'm asked to
VAR00003	Communication and knowledge sharing at the workplace is only done when really necessary
VAR00004	There is a senior level doing review of the effectiveness of knowledge management of the whole company
VAR00005	Knowledge is considered to be the key strategic asset
VAR00006	Employees are motivated to store and share knowledge actively and daily
VAR00007	Negative knowledge management behavior is actively discouraged
VAR00008	Intellectual assets are legally protected
VAR00009	In the day-to-day work, it is easy to find the right information
VAR00010	When a team completes a task, it distils and documents what it has learned
VAR00011	Internal staff rotation is actively encouraged to share best practices and ideas
VAR00012	Technology is a key enabler in ensuring that the right information is available to the right people at the right time
VAR00013	There are complete IT security procedures in place (backup, recovery etc.)

The relationship between the variables that indicate the relation between the processes for storing and transferring knowledge in organizations by the number of employees (micro, small, medium and large organizations) is calculated using the Pearson correlation.

According to table no. 5.5.2.- 1, table no. 5.5.2.-2 and Table no. 5.5.2-3 where the relation is analyzed separately for each sub category, a low, medium and high positive level of relation was observed.

In micro-organizations, there is a link between insignificant, low, medium and high positive level. The highest level of relation has been noted between the tenth (VAR00010) and the eleventh (VAR00011) indicator , with a correlation coefficient of 0.821 (Pearson correlation, r = .821).

In small organizations, there is a link between low, medium and high positive levels. The highest level of relation was noted between the ninth (VAR00009) and the tenth (VAR00010) indicator, with a correlation coefficient from 0.852 (Pearson correlation, r = .852).

In medium and large organizations, a low, medium and high level of relation was observed. The highest level of correlation was observed between the sixth (VAR00006) and the eighth (VAR00008) indicator, with a correlation coefficient of 0.794 (Pearson correlation, r =. 794).

Table no. 5.5.2.-1

Relation in the processes for storing and transferring knowledge in micro organizations

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013
VAR00001	Pearson Correlation	1	,408*	,076	,066	,355	,316	,106	,238	,328	,242	-,036	,115	,261
	Sig. (2-tailed)		,023	,684	,723	,050	,083	,571	,198	,072	,190	,850	,538	,156
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00002	Pearson Correlation	,408*	1	,544**	,428*	,576**	,594**	,354	,358*	,420*	,354	,203	,177	,051
	Sig. (2-tailed)	,023		,002	,016	,001	,000	,051	,048	,019	,051	,273	,341	,785
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00003	Pearson Correlation	,076	,544**	1	,497**	,512**	,642**	,472**	,459**	,463**	,315	,287	,244	,206
	Sig. (2-tailed)	,684	,002		,004	,003	,000	,007	,009	,009	,084	,117	,186	,266
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00004	Pearson Correlation	,066	,428*	,497**	1	,643**	,637**	,660**	,586**	,439*	,587**	,406*	,264	,147
	Sig. (2-tailed)	,723	,016	,004		,000	,000	,000	,001	,013	,001	,024	,151	,430
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00005	Pearson Correlation	,355	,576**	,512**	,643**	1	,680**	,677**	,600**	,568**	,506**	,402*	,449*	,203
	Sig. (2-tailed)	,050	,001	,003	,000		,000	,000	,000	,001	,004	,025	,011	,274
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00006	Pearson Correlation	,316	,594**	,642**	,637**	,680**	1	,815**	,771**	,583**	,545**	,312	,184	,306
	Sig. (2-tailed)	,083	,000	,000	,000	,000		,000	,000	,001	,002	,088	,321	,094
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00007	Pearson Correlation	,106	,354	,472**	,660**	,677**	,815**	1	,895**	,636**	,681**	,566**	,366*	,263
	Sig. (2-tailed)	,571	,051	,007	,000	,000	,000		,000	,000	,000	,001	,043	,153
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00008	Pearson Correlation	,238	,358*	,459**	,586**	,600**	,771**	,895**	1	,714**	,751**	,617**	,410*	,307
	Sig. (2-tailed)	,198	,048	,009	,001	,000	,000	,000		,000	,000	,000	,022	,093
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00009	Pearson Correlation	,328	,420*	,463**	,439*	,568**	,583**	,636**	,714**	1	,763**	,616**	,685**	,508**
	Sig. (2-tailed)	,072	,019	,009	,013	,001	,001	,000	,000		,000	,000	,000	,004
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00010	Pearson Correlation	,242	,354	,315	,587**	,506**	,545**	,681**	,751**	,763**	1	,821**	,689**	,536**
	Sig. (2-tailed)	,190	,051	,084	,001	,004	,002	,000	,000	,000		,000	,000	,002
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00011	Pearson Correlation	-,036	,203	,287	,406*	,402*	,312	,566**	,617**	,616**	,821**	1	,768**	,572**
	Sig. (2-tailed)	,850	,273	,117	,024	,025	,088	,001	,000	,000	,000		,000	,001
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00012	Pearson Correlation	,115	,177	,244	,264	,449*	,184	,366*	,410*	,685**	,689**	,768**	1	,689**
	Sig. (2-tailed)	,538	,341	,186	,151	,011	,321	,043	,022	,000	,000	,000		,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00013	Pearson Correlation	,261	,051	,206	,147	,203	,306	,263	,307	,508**	,536**	,572**	,689**	1
	Sig. (2-tailed)	,156	,785	,266	,430	,274	,094	,153	,093	,004	,002	,001	,000	
	N	31	31	31	31	31	31	31	31	31	31	31	31	31

Table no. 5.5.1.-2

Relation in the processes of storage and knowledge transfer in small organizations

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013
VAR00001	Pearson Correlation	1	,791**	,479**	,367*	,527**	,576**	,431*	,306	,584**	,412*	,418*	,611**	,507**
	Sig. (2-tailed)		,000	,006	,042	,002	,001	,016	,094	,001	,021	,019	,000	,004
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00002	Pearson Correlation	,791**	1	,721**	,467**	,642**	,717**	,550**	,547**	,669**	,455*	,499**	,642**	,493**
	Sig. (2-tailed)	,000		,000	,008	,000	,000	,001	,001	,000	,010	,004	,000	,005
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00003	Pearson Correlation	,479**	,721**	1	,603**	,462**	,510**	,323	,468**	,569**	,415*	,334	,462**	,407*
	Sig. (2-tailed)	,006	,000		,000	,009	,003	,076	,008	,001	,020	,067	,009	,023
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00004	Pearson Correlation	,367*	,467**	,603**	1	,576**	,672**	,537**	,541**	,445*	,494**	,466**	,434*	,363*
	Sig. (2-tailed)	,042	,008	,000		,001	,000	,002	,002	,012	,005	,008	,015	,045
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00005	Pearson Correlation	,527**	,642**	,462**	,576**	1	,738**	,784**	,785**	,643**	,608**	,650**	,584**	,419*
	Sig. (2-tailed)	,002	,000	,009	,001		,000	,000	,000	,000	,000	,000	,001	,019
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00006	Pearson Correlation	,576**	,717**	,510**	,672**	,738**	1	,747**	,639**	,625**	,476**	,543**	,505**	,481**
	Sig. (2-tailed)	,001	,000	,003	,000	,000		,000	,000	,000	,007	,002	,004	,006
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00007	Pearson Correlation	,431*	,550**	,323	,537**	,784**	,747**	1	,760**	,635**	,594**	,572**	,377*	,359*
	Sig. (2-tailed)	,016	,001	,076	,002	,000	,000		,000	,000	,000	,001	,036	,047
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00008	Pearson Correlation	,306	,547**	,468**	,541**	,785**	,639**	,760**	1	,690**	,696**	,564**	,401*	,529**
	Sig. (2-tailed)	,094	,001	,008	,002	,000	,000	,000		,000	,000	,001	,026	,002
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00009	Pearson Correlation	,584**	,669**	,569**	,445*	,643**	,625**	,635**	,690**	1	,852**	,639**	,695**	,547**
	Sig. (2-tailed)	,001	,000	,001	,012	,000	,000	,000	,000		,000	,000	,000	,001
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00010	Pearson Correlation	,412*	,455*	,415*	,494**	,608**	,476**	,594**	,696**	,852**	1	,717**	,608**	,448*
	Sig. (2-tailed)	,021	,010	,020	,005	,000	,007	,000	,000	,000		,000	,000	,011
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00011	Pearson Correlation	,418*	,499**	,334	,466**	,650**	,543**	,572**	,564**	,639**	,717**	1	,774**	,534**
	Sig. (2-tailed)	,019	,004	,067	,008	,000	,002	,001	,001	,000	,000		,000	,002
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00012	Pearson Correlation	,611**	,642**	,462**	,434*	,584**	,505**	,377*	,401*	,695**	,608**	,774**	1	,554**
	Sig. (2-tailed)	,000	,000	,009	,015	,001	,004	,036	,026	,000	,000	,000		,001
	N	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00013	Pearson Correlation	,507**	,493**	,407*	,363*	,419*	,481**	,359*	,529**	,547**	,448*	,534**	,554**	1
	Sig. (2-tailed)	,004	,005	,023	,045	,019	,006	,047	,002	,001	,011	,002	,001	
	N	31	31	31	31	31	31	31	31	31	31	31	31	31

Table no. 5.5.1.-3

Relation in the processes of storage and knowledge transfer in the medium and large organizations

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013
VAR00001	Pearson Correlation	1	,763**	,395*	,196	,243	,140	,112	,181	,237	,156	,171	,020	-,025
	Sig. (2-tailed)		,000	,017	,253	,153	,416	,517	,291	,164	,362	,318	,910	,883
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00002	Pearson Correlation	,763**	1	,482**	,373*	,464**	,232	,109	,237	,264	,283	,245	,205	,000
	Sig. (2-tailed)	,000		,003	,025	,004	,174	,527	,164	,119	,095	,150	,231	1,000
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00003	Pearson Correlation	,395*	,482**	1	,315	,466**	,130	,151	0,000	-,064	-,068	,039	-,007	-,235
	Sig. (2-tailed)	,017	,003		,061	,004	,448	,379	1,000	,712	,693	,820	,967	,168
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00004	Pearson Correlation	,196	,373*	,315	1	,572**	,623**	,503**	,632**	,546**	,449**	,381*	,330*	,230
	Sig. (2-tailed)	,253	,025	,061		,000	,000	,002	,000	,001	,006	,022	,050	,177
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00005	Pearson Correlation	,243	,464**	,466**	,572**	1	,612**	,616**	,428**	,398*	,361*	,536**	,458**	,051
	Sig. (2-tailed)	,153	,004	,004	,000		,000	,000	,009	,016	,031	,001	,005	,766
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00006	Pearson Correlation	,140	,232	,130	,623**	,612**	1	,752**	,794**	,623**	,601**	,599**	,401*	,222
	Sig. (2-tailed)	,416	,174	,448	,000	,000		,000	,000	,000	,000	,000	,015	,192
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00007	Pearson Correlation	,112	,109	,151	,503**	,616**	,752**	1	,646**	,717**	,489**	,678**	,500**	,127
	Sig. (2-tailed)	,517	,527	,379	,002	,000	,000		,000	,000	,002	,000	,002	,462
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00008	Pearson Correlation	,181	,237	0,000	,632**	,428**	,794**	,646**	1	,815**	,738**	,581**	,555**	,210
	Sig. (2-tailed)	,291	,164	1,000	,000	,009	,000	,000		,000	,000	,000	,000	,219
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00009	Pearson Correlation	,237	,264	-,064	,546**	,398*	,623**	,717**	,815**	1	,598**	,626**	,491**	,105
	Sig. (2-tailed)	,164	,119	,712	,001	,016	,000	,000	,000		,000	,000	,002	,541
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00010	Pearson Correlation	,156	,283	-,068	,449**	,361*	,601**	,489**	,738**	,598**	1	,670**	,675**	,488**
	Sig. (2-tailed)	,362	,095	,693	,006	,031	,000	,002	,000	,000		,000	,000	,003
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00011	Pearson Correlation	,171	,245	,039	,381*	,536**	,599**	,678**	,581**	,626**	,670**	1	,729**	,253
	Sig. (2-tailed)	,318	,150	,820	,022	,001	,000	,000	,000	,000	,000		,000	,136
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00012	Pearson Correlation	,020	,205	-,007	,330*	,458**	,401*	,500**	,555**	,491**	,675**	,729**	1	,292
	Sig. (2-tailed)	,910	,231	,967	,050	,005	,015	,002	,000	,002	,000	,000		,084
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
VAR00013	Pearson Correlation	-,025	,000	-,235	,230	,051	,222	,127	,210	,105	,488**	,253	,292	1
	Sig. (2-tailed)	,883	1,000	,168	,177	,766	,192	,462	,219	,541	,003	,136	,084	
	N	36	36	36	36	36	36	36	36	36	36	36	36	36

The relationship between the variables that indicate the relation between the processes for storing and transferring knowledge in organizations by years of existence (up to 10 years, from 11 to 20 years, over 21 years) was calculated using the Pearson coefficient of correlation.

According to table no. 5.5.2.- 4, table no. 5.5.2.-5 and Table no. 5.5.2.-6, where the relation was analyzed separately for each sub category, a low, medium and highly positive level was observed.

In organizations of 10 years of existence, the highest level of correlation is observed between the seventh (VAR00007) and eight (VAR00008) indicator, with a correlation coefficient of 0.833 (Pearson correlation, r = .833).

In organizations from 11 to 20 years of existence, the highest level of relation was noted between the ninth (VAR00009) and the tenth (VAR00010) indicator, with a correlation coefficient from 0.780 (Pearson correlation, r = .780).

At organizations over 21 years of existence, the highest level of relation was observed between the seventh (VAR00007) and the eighth (VAR00008) indicator, with a correlation coefficient of 0.879 (Pearson correlation, r = .879).

Table no. 5.5.2.-4

Relation in the processes of storage and knowledge transfer in organizations by years of existence - up to 10 years

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013
VAR00001	Pearson Correlation	1	,338	-,038	-,038	,079	,007	-,201	-,062	,136	,053	-,019	,115	,380*
	Sig. (2-tailed)		,073	,846	,846	,686	,970	,295	,749	,482	,784	,922	,551	,042
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00002	Pearson Correlation	,338	1	,300	,456*	,508**	,507**	,358	,271	,342	,332	,362	,324	,242
	Sig. (2-tailed)	,073		,114	,013	,005	,005	,056	,155	,069	,079	,054	,087	,206
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00003	Pearson Correlation	-,038	,300	1	,358	,323	,397*	,152	-,123	-,020	-,184	-,078	-,072	-,090
	Sig. (2-tailed)	,846	,114		,056	,088	,033	,431	,524	,918	,340	,686	,712	,641
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00004	Pearson Correlation	-,038	,456*	,358	1	,590**	,520**	,520**	,407*	,269	,319	,354	,256	,048
	Sig. (2-tailed)	,846	,013	,056		,001	,004	,004	,029	,158	,092	,059	,180	,807
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00005	Pearson Correlation	,079	,508**	,323	,590**	1	,704**	,577**	,395*	,444*	,383*	,276	,263	,045
	Sig. (2-tailed)	,686	,005	,088	,001		,000	,001	,034	,016	,040	,147	,168	,818
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00006	Pearson Correlation	,007	,507**	,397*	,520**	,704**	1	,766**	,580**	,391*	,477**	,345	,097	,254
	Sig. (2-tailed)	,970	,005	,033	,004	,000		,000	,001	,036	,009	,066	,616	,184
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00007	Pearson Correlation	-,201	,358	,152	,520**	,577**	,766**	1	,833**	,483**	,573**	,552**	,201	,122
	Sig. (2-tailed)	,295	,056	,431	,004	,001	,000		,000	,008	,001	,002	,295	,527
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00008	Pearson Correlation	-,062	,271	-,123	,407*	,395*	,580**	,833**	1	,604**	,755**	,697**	,288	,221
	Sig. (2-tailed)	,749	,155	,524	,029	,034	,001	,000		,001	,000	,000	,130	,250
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00009	Pearson Correlation	,136	,342	-,020	,269	,444*	,391*	,483**	,604**	1	,769**	,673**	,767**	,554**
	Sig. (2-tailed)	,482	,069	,918	,158	,016	,036	,008	,001		,000	,000	,000	,002
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00010	Pearson Correlation	,053	,332	-,184	,319	,383*	,477**	,573**	,755**	,769**	1	,772**	,632**	,473**
	Sig. (2-tailed)	,784	,079	,340	,092	,040	,009	,001	,000	,000		,000	,000	,010
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00011	Pearson Correlation	-,019	,362	-,078	,354	,276	,345	,552**	,697**	,673**	,772**	1	,664**	,489**
	Sig. (2-tailed)	,922	,054	,686	,059	,147	,066	,002	,000	,000	,000		,000	,007
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00012	Pearson Correlation	,115	,324	-,072	,256	,263	,097	,201	,288	,767**	,632**	,664**	1	,675**
	Sig. (2-tailed)	,551	,087	,712	,180	,168	,616	,295	,130	,000	,000	,000		,000
	N	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00013	Pearson Correlation	,380*	,242	-,090	,048	,045	,254	,122	,221	,554**	,473**	,489**	,675**	1
	Sig. (2-tailed)	,042	,206	,641	,807	,818	,184	,527	,250	,002	,010	,007	,000	
	N	29	29	29	29	29	29	29	29	29	29	29	29	29

Table no. 5.5.2.-5

Relation in the processes of storage and knowledge transfer organizations by years of existence - from 11 to 20 years

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013
VAR00001	Pearson Correlation	1	,669**	,185	-,095	,431**	,221	,273	,103	,342*	,194	,152	,170	,040
	Sig. (2-tailed)		,000	,259	,565	,006	,176	,093	,534	,033	,237	,356	,301	,810
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00002	Pearson Correlation	,669**	1	,431**	,049	,486**	,411**	,259	,331*	,432**	,331*	,199	,113	-,078
	Sig. (2-tailed)	,000		,006	,767	,002	,009	,112	,040	,006	,040	,225	,495	,635
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00003	Pearson Correlation	,185	,431**	1	,267	,279	,210	,090	,188	,210	,122	,107	,016	-,028
	Sig. (2-tailed)	,259	,006		,100	,085	,200	,587	,253	,199	,459	,516	,924	,863
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00004	Pearson Correlation	-,095	,049	,267	1	,370*	,414**	,444**	,547**	,226	,440**	,462**	,239	,159
	Sig. (2-tailed)	,565	,767	,100		,021	,009	,005	,000	,166	,005	,003	,143	,334
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00005	Pearson Correlation	,431**	,486**	,279	,370*	1	,617**	,537**	,496**	,246	,318*	,487**	,322*	,005
	Sig. (2-tailed)	,006	,002	,085	,021		,000	,000	,001	,132	,049	,002	,045	,975
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00006	Pearson Correlation	,221	,411**	,210	,414**	,617**	1	,744**	,640**	,511**	,402*	,464**	,226	,021
	Sig. (2-tailed)	,176	,009	,200	,009	,000		,000	,000	,001	,011	,003	,166	,900
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00007	Pearson Correlation	,273	,259	,090	,444**	,537**	,744**	1	,579**	,477**	,406*	,521**	,261	,075
	Sig. (2-tailed)	,093	,112	,587	,005	,000	,000		,000	,002	,010	,001	,108	,649
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00008	Pearson Correlation	,103	,331*	,188	,547**	,496**	,640**	,579**	1	,675**	,736**	,517**	,436**	,354*
	Sig. (2-tailed)	,534	,040	,253	,000	,001	,000	,000		,000	,000	,001	,006	,027
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00009	Pearson Correlation	,342*	,432**	,210	,226	,246	,511**	,477**	,675**	1	,780**	,486**	,558**	,330*
	Sig. (2-tailed)	,033	,006	,199	,166	,132	,001	,002	,000		,000	,002	,000	,040
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00010	Pearson Correlation	,194	,331*	,122	,440**	,318*	,402*	,406*	,736**	,780**	1	,575**	,603**	,473**
	Sig. (2-tailed)	,237	,040	,459	,005	,049	,011	,010	,000	,000		,000	,000	,002
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00011	Pearson Correlation	,152	,199	,107	,462**	,487**	,464**	,521**	,517**	,486**	,575**	1	,759**	,441**
	Sig. (2-tailed)	,356	,225	,516	,003	,002	,003	,001	,001	,002	,000		,000	,005
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00012	Pearson Correlation	,170	,113	,016	,239	,322*	,226	,261	,436**	,558**	,603**	,759**	1	,412**
	Sig. (2-tailed)	,301	,495	,924	,143	,045	,166	,108	,006	,000	,000	,000		,009
	N	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00013	Pearson Correlation	,040	-,078	-,028	,159	,005	,021	,075	,354*	,330*	,473**	,441**	,412**	1
	Sig. (2-tailed)	,810	,635	,863	,334	,975	,900	,649	,027	,040	,002	,005	,009	
	N	39	39	39	39	39	39	39	39	39	39	39	39	39

Table no. 5.5.2.-6

Relation in the processes of storage and knowledge transfer to organizations by years of existence - over 21 years

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013
VAR00001	Pearson Correlation	1	,839**	,597**	,624**	,457*	,588**	,403*	,500**	,573**	,607**	,435*	,435*	,459*
	Sig. (2-tailed)		,000	,000	,000	,011	,001	,027	,005	,001	,000	,016	,016	,011
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00002	Pearson Correlation	,839**	1	,731**	,728**	,681**	,681**	,520**	,610**	,621**	,672**	,573**	,655**	,641**
	Sig. (2-tailed)	,000		,000	,000	,000	,000	,003	,000	,000	,000	,001	,000	,000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00003	Pearson Correlation	,597**	,731**	1	,674**	,651**	,596**	,513**	,528**	,520**	,583**	,453*	,555**	,524**
	Sig. (2-tailed)	,000	,000		,000	,000	,001	,004	,003	,003	,001	,012	,001	,003
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00004	Pearson Correlation	,624**	,728**	,674**	1	,838**	,838**	,728**	,738**	,666**	,566**	,503**	,542**	,593**
	Sig. (2-tailed)	,000	,000	,000		,000	,000	,000	,000	,000	,001	,005	,002	,001
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00005	Pearson Correlation	,457*	,681**	,651**	,838**	1	,773**	,841**	,760**	,690**	,661**	,670**	,670**	,659**
	Sig. (2-tailed)	,011	,000	,000	,000		,000	,000	,000	,000	,000	,000	,000	,000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00006	Pearson Correlation	,588**	,681**	,596**	,838**	,773**	1	,795**	,807**	,736**	,661**	,622**	,622**	,659**
	Sig. (2-tailed)	,001	,000	,001	,000	,000		,000	,000	,000	,000	,000	,000	,000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00007	Pearson Correlation	,403*	,520**	,513**	,728**	,841**	,795**	1	,879**	,814**	,725**	,708**	,620**	,616**
	Sig. (2-tailed)	,027	,003	,004	,000	,000	,000		,000	,000	,000	,000	,000	,000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00008	Pearson Correlation	,500**	,610**	,528**	,738**	,760**	,807**	,879**	1	,785**	,681**	,633**	,533**	,542**
	Sig. (2-tailed)	,005	,000	,003	,000	,000	,000	,000		,000	,000	,000	,002	,002
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00009	Pearson Correlation	,573**	,621**	,520**	,666**	,690**	,736**	,814**	,785**	1	,718**	,675**	,617**	,505**
	Sig. (2-tailed)	,001	,000	,003	,000	,000	,000	,000	,000		,000	,000	,000	,004
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00010	Pearson Correlation	,607**	,672**	,583**	,566**	,661**	,661**	,725**	,681**	,718**	1	,796**	,750**	,678**
	Sig. (2-tailed)	,000	,000	,001	,001	,000	,000	,000	,000	,000		,000	,000	,000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00011	Pearson Correlation	,435*	,573**	,453*	,503**	,670**	,622**	,708**	,633**	,675**	,796**	1	,829**	,672**
	Sig. (2-tailed)	,016	,001	,012	,005	,000	,000	,000	,000	,000	,000		,000	,000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00012	Pearson Correlation	,435*	,655**	,555**	,542**	,670**	,622**	,620**	,533**	,617**	,750**	,829**	1	,735**
	Sig. (2-tailed)	,016	,000	,001	,002	,000	,000	,000	,002	,000	,000	,000		,000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30
VAR00013	Pearson Correlation	,459*	,641**	,524**	,593**	,659**	,659**	,616**	,542**	,505**	,678**	,672**	,735**	1
	Sig. (2-tailed)	,011	,000	,003	,001	,000	,000	,000	,002	,004	,000	,000	,000	
	N	30	30	30	30	30	30	30	30	30	30	30	30	30

5.5.3. Relationship between indicators for effective knowledge management and innovation according to the number of employees and years of existence

VAR00001	Employees are motivated to be committed to continual improvement
VAR00002	Employees have a clear picture about the work tasks in their work place
VAR00003	Employees have access to data connected to problem solving
VAR00004	Employees have an opportunity for promotion
VAR00005	Employees are committed to continual improvement and are constantly generating new ideas within the organizational context
VAR00006	Individuals are encouraged to think creatively
VAR00007	Effective solutions are encouraged and rewarded
VAR00008	The organization has developed enough " reserves " which in case of employee absence will allow no changes in work
VAR00009	Employees with creative ideas are encouraged to share their ideas
VAR00010	There is a good team intra- communication and sharing of knowledge
VAR00011	Rapid response and problem solving is encouraged and rewarded
VAR00012	Failure is seen as an opportunity to learn
VAR00013	Change is accepted as part of working life
VAR00014	The processes and the organizational structure are harmonized and guarantee effective and efficient functioning

The relationship between the variables pointing to the link between the knowledge management and innovation by the number of employees (micro, small, medium and large organizations) is calculated using the Pearson correlation coefficient.

According to table no. 5.5.3.- 1, table no. 5.5.3.-2 and table no. 5.5.3.-3 where the relation was analyzed separately for each sub category, a low, medium and high positive level was observed.

In micro-organizations, a medium and high positive level was observed. The highest level of correlation is observed between the third (VAR00003) and the fourth (VAR00004) indicator, with a correlation coefficient of 0,900 (Pearson correlation, r = .900).

In small organizations, there is a link between insignificant, low, medium and high level. The highest level of correlation has been noted between the fourth (VAR00004) and the seventh (VAR00007) indicator, with a correlation coefficient of 0.822 (Pearson correlation, r = .822).

In medium and large organizations, a low, medium and high level relation was observed. The highest level of correlation is observed between the ninth (VAR00009) and the eleventh (VAR00011) indicator, with a correlation coefficient of 0.902 (Pearson correlation , r = .902).

Table no. 5.5.3.-1

Relation in processes for effective knowledge management and innovation in micro organizations

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013	VAR00014
VAR00001	Pearson Correlation	1	,670**	,617**	,528**	,504**	,604**	,646**	,615**	,540**	,573**	,479**	,505**	,481**	,507**
	Sig. (2-tailed)		,000	,000	,002	,004	,000	,000	,000	,002	,001	,006	,004	,006	,004
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00002	Pearson Correlation	,670**	1	,572**	,566**	,601**	,603**	,683**	,693**	,609**	,572**	,410*	,419*	,426*	,581**
	Sig. (2-tailed)	,000		,001	,001	,000	,000	,000	,000	,000	,001	,022	,019	,017	,001
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00003	Pearson Correlation	,617**	,572**	1	,900**	,639**	,689**	,697**	,722**	,516**	,545**	,626**	,732**	,670**	,590**
	Sig. (2-tailed)	,000	,001		,000	,000	,000	,000	,000	,003	,002	,000	,000	,000	,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00004	Pearson Correlation	,528**	,566**	,900**	1	,743**	,725**	,780**	,755**	,615**	,635**	,710**	,697**	,651**	,668**
	Sig. (2-tailed)	,002	,001	,000		,000	,000	,000	,000	,000	,000	,000	,000	,000	,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00005	Pearson Correlation	,504**	,601**	,639**	,743**	1	,687**	,796**	,817**	,755**	,706**	,503**	,603**	,607**	,613**
	Sig. (2-tailed)	,004	,000	,000	,000		,000	,000	,000	,000	,000	,004	,000	,000	,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00006	Pearson Correlation	,604**	,603**	,689**	,725**	,687**	1	,710**	,779**	,731**	,632**	,487**	,529**	,530**	,675**
	Sig. (2-tailed)	,000	,000	,000	,000	,000		,000	,000	,000	,000	,005	,002	,002	,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00007	Pearson Correlation	,646**	,683**	,697**	,780**	,796**	,710**	1	,799**	,645**	,730**	,573**	,612**	,628**	,729**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000		,000	,000	,000	,001	,000	,000	,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00008	Pearson Correlation	,615**	,693**	,722**	,755**	,817**	,779**	,799**	1	,778**	,686**	,582**	,661**	,649**	,715**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000		,000	,000	,001	,000	,000	,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00009	Pearson Correlation	,540**	,609**	,516**	,615**	,755**	,731**	,645**	,778**	1	,809**	,592**	,576**	,517**	,663**
	Sig. (2-tailed)	,002	,000	,003	,000	,000	,000	,000	,000		,000	,000	,001	,003	,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00010	Pearson Correlation	,573**	,572**	,545**	,635**	,706**	,632**	,730**	,686**	,809**	1	,719**	,652**	,559**	,641**
	Sig. (2-tailed)	,001	,001	,002	,000	,000	,000	,000	,000	,000		,000	,000	,001	,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00011	Pearson Correlation	,479**	,410*	,626**	,710**	,503**	,487**	,573**	,582**	,592**	,719**	1	,615**	,574**	,443*
	Sig. (2-tailed)	,006	,022	,000	,000	,004	,005	,001	,001	,000	,000		,000	,001	,013
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00012	Pearson Correlation	,505**	,419*	,732**	,697**	,603**	,529**	,612**	,661**	,576**	,652**	,615**	1	,953**	,795**
	Sig. (2-tailed)	,004	,019	,000	,000	,000	,002	,000	,000	,001	,000	,000		,000	,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00013	Pearson Correlation	,481**	,426*	,670**	,651**	,607**	,530**	,628**	,649**	,517**	,559**	,574**	,953**	1	,796**
	Sig. (2-tailed)	,006	,017	,000	,000	,000	,002	,000	,000	,003	,001	,001	,000		,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR00014	Pearson Correlation	,507**	,581**	,590**	,668**	,613**	,675**	,729**	,715**	,663**	,641**	,443*	,795**	,796**	1
	Sig. (2-tailed)	,004	,001	,000	,000	,000	,000	,000	,000	,000	,000	,013	,000	,000	
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31

Table no. 5.5.3.-2

Relation in processes for effective knowledge management and innovation in small organizations

Correlations

		VAR000	VAR000	VAR000	VAR000	VAR000	VAR000	VAR000	VAR000	VAR000	VAR000	VAR000	VAR000	VAR000	VAR000
VAR000 01	Pearson Correlat	1	,622**	,602**	,221	,116	,034	,005	-,241	-,206	-,189	,065	,228	,112	,099
	Sig. (2-		,000	,000	,233	,534	,855	,980	,192	,267	,309	,730	,217	,547	,597
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 02	Pearson Correlat	,622**	1	,677**	,542**	,397*	,397*	,338	-,126	,006	-,044	,265	,315	,125	,229
	Sig. (2-	,000		,000	,002	,027	,027	,063	,499	,975	,814	,150	,084	,504	,215
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 03	Pearson Correlat	,602**	,677**	1	,584**	,340	,422*	,376*	,126	,025	,121	,400*	,344	,170	,296
	Sig. (2-	,000	,000		,001	,062	,018	,037	,498	,895	,516	,026	,058	,362	,106
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 04	Pearson Correlat	,221	,542**	,584**	1	,539**	,539**	,822**	,116	,375*	,205	,368*	,242	,237	,407*
	Sig. (2-	,233	,002	,001		,002	,002	,000	,533	,038	,269	,042	,189	,200	,023
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 05	Pearson Correlat	,116	,397*	,340	,539**	1	,778**	,574**	,280	,602**	,387*	,285	,362*	,416*	,520**
	Sig. (2-	,534	,027	,062	,002		,000	,001	,127	,000	,031	,121	,045	,020	,003
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 06	Pearson Correlat	,034	,397*	,422*	,539**	,778**	1	,574**	,428*	,602**	,479**	,194	,362*	,258	,454*
	Sig. (2-	,855	,027	,018	,002	,000		,001	,016	,000	,006	,297	,045	,162	,010
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 07	Pearson Correlat	,005	,338	,376*	,822**	,574**	,574**	1	,156	,561**	,364*	,416*	,277	,227	,588**
	Sig. (2-	,980	,063	,037	,000	,001	,001		,403	,001	,044	,020	,132	,220	,001
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 08	Pearson Correlat	-,241	-,126	,126	,116	,280	,428*	,156	1	,481**	,519**	,230	,262	,243	,095
	Sig. (2-	,192	,499	,498	,533	,127	,016	,403		,006	,003	,213	,155	,188	,610
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 09	Pearson Correlat	-,206	,006	,025	,375*	,602**	,602**	,561**	,481**	1	,582**	,345	,249	,416*	,288
	Sig. (2-	,267	,975	,895	,038	,000	,000	,001	,006		,001	,057	,176	,020	,116
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 10	Pearson Correlat	-,189	-,044	,121	,205	,387*	,479**	,364*	,519**	,582**	1	,359*	,401*	,135	,311
	Sig. (2-	,309	,814	,516	,269	,031	,006	,044	,003	,001		,048	,025	,468	,089
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 11	Pearson Correlat	,065	,265	,400*	,368*	,285	,194	,416*	,230	,345	,359*	1	,560**	,478**	,489**
	Sig. (2-	,730	,150	,026	,042	,121	,297	,020	,213	,057	,048		,001	,006	,005
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 12	Pearson Correlat	,228	,315	,344	,242	,362*	,362*	,277	,262	,249	,401*	,560**	1	,662**	,634**
	Sig. (2-	,217	,084	,058	,189	,045	,045	,132	,155	,176	,025	,001		,000	,000
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 13	Pearson Correlat	,112	,125	,170	,237	,416*	,258	,227	,243	,416*	,135	,478**	,662**	1	,427*
	Sig. (2-	,547	,504	,362	,200	,020	,162	,220	,188	,020	,468	,006	,000		,017
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31
VAR000 14	Pearson Correlat	,099	,229	,296	,407*	,520**	,454*	,588**	,095	,288	,311	,489**	,634**	,427*	1
	Sig. (2-	,597	,215	,106	,023	,003	,010	,001	,610	,116	,089	,005	,000	,017	
	N	31	31	31	31	31	31	31	31	31	31	31	31	31	31

Table no. 5.5.3.-3

Relation in processes for effective knowledge management and innovation in middle and large organizations

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013	VAR00014
VAR00001	Pearson Correlation	1	,645**	,606**	,570**	,545**	,586**	,560**	,466**	,537**	,394*	,516**	,176	,066	,259
	Sig. (2-tailed)		,000	,000	,000	,001	,000	,000	,004	,001	,018	,002	,312	,707	,133
	N	36	36	36	36	36	36	36	36	36	36	35	35	35	35
VAR00002	Pearson Correlation	,645**	1	,818**	,809**	,823**	,749**	,714**	,512**	,671**	,576**	,709**	,523**	,501**	,411*
	Sig. (2-tailed)	,000		,000	,000	,000	,000	,000	,001	,000	,000	,000	,001	,002	,014
	N	36	36	36	36	36	36	36	36	36	36	35	35	35	35
VAR00003	Pearson Correlation	,606**	,818**	1	,842**	,697**	,724**	,582**	,488**	,638**	,611**	,611**	,620**	,573**	,396*
	Sig. (2-tailed)	,000	,000		,000	,000	,000	,000	,003	,000	,000	,000	,000	,000	,019
	N	36	36	36	36	36	36	36	36	36	36	35	35	35	35
VAR00004	Pearson Correlation	,570**	,809**	,842**	1	,789**	,839**	,689**	,605**	,777**	,734**	,735**	,614**	,608**	,549**
	Sig. (2-tailed)	,000	,000	,000		,000	,000	,000	,000	,000	,000	,000	,000	,000	,001
	N	36	36	36	36	36	36	36	36	36	36	35	35	35	35
VAR00005	Pearson Correlation	,545**	,823**	,697**	,789**	1	,707**	,758**	,650**	,588**	,599**	,659**	,662**	,507**	,588**
	Sig. (2-tailed)	,001	,000	,000	,000		,000	,000	,000	,000	,000	,000	,000	,002	,000
	N	36	36	36	36	36	36	36	36	36	36	35	35	35	35
VAR00006	Pearson Correlation	,586**	,749**	,724**	,839**	,707**	1	,736**	,620**	,756**	,685**	,738**	,485**	,418*	,445**
	Sig. (2-tailed)	,000	,000	,000	,000	,000		,000	,000	,000	,000	,000	,003	,012	,007
	N	36	36	36	36	36	36	36	36	36	36	35	35	35	35
VAR00007	Pearson Correlation	,560**	,714**	,582**	,689**	,758**	,736**	1	,746**	,791**	,652**	,768**	,512**	,457**	,513**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000		,000	,000	,000	,000	,002	,006	,002
	N	36	36	36	36	36	36	36	36	36	36	35	35	35	35
VAR00008	Pearson Correlation	,466**	,512**	,488**	,605**	,650**	,620**	,746**	1	,705**	,667**	,634**	,543**	,417*	,420*
	Sig. (2-tailed)	,004	,001	,003	,000	,000	,000	,000		,000	,000	,000	,001	,013	,012
	N	36	36	36	36	36	36	36	36	36	36	35	35	35	35
VAR00009	Pearson Correlation	,537**	,671**	,638**	,777**	,588**	,756**	,791**	,705**	1	,826**	,902**	,462**	,529**	,428*
	Sig. (2-tailed)	,001	,000	,000	,000	,000	,000	,000	,000		,000	,000	,005	,001	,010
	N	36	36	36	36	36	36	36	36	36	36	35	35	35	35
VAR00010	Pearson Correlation	,394*	,576**	,611**	,734**	,599**	,685**	,652**	,667**	,826**	1	,758**	,453**	,518**	,291
	Sig. (2-tailed)	,018	,000	,000	,000	,000	,000	,000	,000	,000		,000	,006	,001	,090
	N	36	36	36	36	36	36	36	36	36	36	35	35	35	35
VAR00011	Pearson Correlation	,516**	,709**	,611**	,735**	,659**	,738**	,768**	,634**	,902**	,758**	1	,537**	,593**	,431**
	Sig. (2-tailed)	,002	,000	,000	,000	,000	,000	,000	,000	,000	,000		,001	,000	,010
	N	35	35	35	35	35	35	35	35	35	35	35	35	35	35
VAR00012	Pearson Correlation	,176	,523**	,620**	,614**	,662**	,485**	,512**	,543**	,462**	,453**	,537**	1	,822**	,538**
	Sig. (2-tailed)	,312	,001	,000	,000	,000	,003	,002	,001	,005	,006	,001		,000	,001
	N	35	35	35	35	35	35	35	35	35	35	35	35	35	35
VAR00013	Pearson Correlation	,066	,501**	,573**	,608**	,507**	,418*	,457**	,417*	,529**	,518**	,593**	,822**	1	,510**
	Sig. (2-tailed)	,707	,002	,000	,000	,002	,012	,006	,013	,001	,001	,000	,000		,002
	N	35	35	35	35	35	35	35	35	35	35	35	35	35	35
VAR00014	Pearson Correlation	,259	,411*	,396*	,549**	,588**	,445**	,513**	,420*	,428*	,291	,431**	,538**	,510**	1
	Sig. (2-tailed)	,133	,014	,019	,001	,000	,007	,002	,012	,010	,090	,010	,001	,002	
	N	35	35	35	35	35	35	35	35	35	35	35	35	35	35

The relationship between the variables that indicate the link between the processes of knowledge management and innovation in organizations according to years of existence (up to 10 years, from 11 to 20 years, over 21 years) was calculated using the Pearson coefficient of correlation.

According to table no. 5.5.3.- 4, table no. 5.5.3.-5 and Table no. 5.5.3.-6, where the relation was analyzed separately for each sub category, a low, medium and high positive level was observed.

In organizations of 10 years of existence, there is an medium and high level relation. The highest level of relation was observed between the twelfth (VAR00012) and the thirteenth (VAR00013) indicator, with a correlation coefficient of 0.971 (Pearson correlation, r = .971) .

In organizations from 11 to 20 years of existence, there is a link between insignificant, low, medium and high positive level. The highest level of correlation is observed between the ninth (VAR00009) and the tenth (VAR00010) indicator, with a correlation coefficient of 0.889 (Pearson correlation, r = .889).

At organizations over 21 years of existence, there is a link between low, middle and high level. The highest level of relation was observed between the twelfth (VAR00012) and the eleventh (VAR00013) indicator, with a correlation coefficient of 0.839 (Pearson correlation, r = .839) .

Table no. 5.5.3.-4

Relation in processes for effective knowledge management and innovation in organizations by years of existence - up to 10 years

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013	VAR00014
VAR00001	Pearson Correlation	1	,620**	,723**	,560**	,560**	,740**	,502**	,488**	,531**	,462*	,394*	,361	,355	,459*
	Sig. (2-tailed)		,000	,000	,002	,002	,000	,006	,007	,003	,012	,034	,055	,059	,012
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00002	Pearson Correlation	,620**	1	,642**	,459*	,554**	,612**	,470*	,580**	,512**	,456*	,344	,359	,378*	,535**
	Sig. (2-tailed)	,000		,000	,012	,002	,000	,010	,001	,005	,013	,068	,056	,043	,003
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00003	Pearson Correlation	,723**	,642**	1	,773**	,773**	,788**	,558**	,638**	,506**	,443*	,424*	,524**	,488**	,527**
	Sig. (2-tailed)	,000	,000		,000	,000	,000	,002	,000	,005	,016	,022	,004	,007	,003
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00004	Pearson Correlation	,560**	,459*	,773**	1	,842**	,761**	,754**	,734**	,554**	,564**	,593**	,542**	,533**	,524**
	Sig. (2-tailed)	,002	,012	,000		,000	,000	,000	,000	,002	,001	,001	,002	,003	,004
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00005	Pearson Correlation	,560**	,554**	,773**	,842**	1	,761**	,754**	,734**	,635**	,564**	,523**	,467*	,445*	,524**
	Sig. (2-tailed)	,002	,002	,000	,000		,000	,000	,000	,000	,001	,004	,011	,015	,004
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00006	Pearson Correlation	,740**	,612**	,788**	,761**	,761**	1	,677**	,719**	,646**	,569**	,541**	,436*	,423*	,561**
	Sig. (2-tailed)	,000	,000	,000	,000	,000		,000	,000	,000	,001	,002	,018	,022	,002
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00007	Pearson Correlation	,502**	,470*	,558**	,754**	,754**	,677**	1	,857**	,695**	,761**	,664**	,547**	,538**	,517**
	Sig. (2-tailed)	,006	,010	,002	,000	,000	,000		,000	,000	,000	,000	,002	,003	,004
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00008	Pearson Correlation	,488**	,580**	,638**	,734**	,734**	,719**	,857**	1	,750**	,669**	,665**	,592**	,609**	,561**
	Sig. (2-tailed)	,007	,001	,000	,000	,000	,000	,000		,000	,000	,000	,001	,000	,002
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00009	Pearson Correlation	,531**	,512**	,506**	,554**	,635**	,646**	,695**	,750**	1	,792**	,698**	,582**	,580**	,649**
	Sig. (2-tailed)	,003	,005	,005	,002	,000	,000	,000	,000		,000	,000	,001	,001	,000
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00010	Pearson Correlation	,462*	,456*	,443*	,564**	,564**	,569**	,761**	,669**	,792**	1	,776**	,634**	,584**	,569**
	Sig. (2-tailed)	,012	,013	,016	,001	,001	,001	,000	,000	,000		,000	,000	,001	,001
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00011	Pearson Correlation	,394*	,344	,424*	,593**	,523**	,541**	,664**	,665**	,698**	,776**	1	,712**	,736**	,503**
	Sig. (2-tailed)	,034	,068	,022	,001	,004	,002	,000	,000	,000	,000		,000	,000	,005
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00012	Pearson Correlation	,361	,359	,524**	,542**	,467*	,436*	,547**	,592**	,582**	,634**	,712**	1	,971**	,646**
	Sig. (2-tailed)	,055	,056	,004	,002	,011	,018	,002	,001	,001	,000	,000		,000	,000
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00013	Pearson Correlation	,355	,378*	,488**	,533**	,445*	,423*	,538**	,609**	,580**	,584**	,736**	,971**	1	,635**
	Sig. (2-tailed)	,059	,043	,007	,003	,015	,022	,003	,000	,001	,001	,000	,000		,000
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00014	Pearson Correlation	,459*	,535**	,527**	,524**	,524**	,561**	,517**	,561**	,649**	,569**	,503**	,646**	,635**	1
	Sig. (2-tailed)	,012	,003	,003	,004	,004	,002	,004	,002	,000	,001	,005	,000	,000	
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29

Table no. 5.5.3.-5

Relation in processes for effective knowledge management and innovation in organization by years of existence - from 11 to 20 years

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013	VAR00014
VAR00001	Pearson Correlation	1	,705**	,692**	,451**	,400*	,489**	,423**	,401*	,422**	,434**	,423**	,197	,031	,125
	Sig. (2-tailed)		,000	,000	,004	,012	,002	,007	,011	,007	,006	,007	,230	,853	,450
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00002	Pearson Correlation	,705**	1	,771**	,666**	,658**	,622**	,569**	,382*	,537**	,526**	,496**	,357*	,231	,231
	Sig. (2-tailed)	,000		,000	,000	,000	,000	,000	,017	,000	,001	,001	,026	,156	,157
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00003	Pearson Correlation	,692**	,771**	1	,783**	,520**	,645**	,608**	,424**	,516**	,506**	,602**	,523**	,412**	,285
	Sig. (2-tailed)	,000	,000		,000	,001	,000	,000	,007	,001	,001	,000	,001	,009	,079
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00004	Pearson Correlation	,451**	,666**	,783**	1	,617**	,651**	,804**	,498**	,655**	,614**	,668**	,512**	,496**	,513**
	Sig. (2-tailed)	,004	,000	,000		,000	,000	,000	,001	,000	,000	,000	,001	,001	,001
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00005	Pearson Correlation	,400*	,658**	,520**	,617**	1	,747**	,749**	,578**	,745**	,715**	,478**	,485**	,411**	,582**
	Sig. (2-tailed)	,012	,000	,001	,000		,000	,000	,000	,000	,000	,002	,002	,009	,000
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00006	Pearson Correlation	,489**	,622**	,645**	,651**	,747**	1	,678**	,612**	,780**	,694**	,500**	,355*	,319*	,465**
	Sig. (2-tailed)	,002	,000	,000	,000	,000		,000	,000	,000	,000	,001	,027	,048	,003
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00007	Pearson Correlation	,423**	,569**	,608**	,804**	,749**	,678**	1	,600**	,697**	,655**	,606**	,415**	,367*	,506**
	Sig. (2-tailed)	,007	,000	,000	,000	,000	,000		,000	,000	,000	,000	,009	,022	,001
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00008	Pearson Correlation	,401*	,382*	,424**	,498**	,578**	,612**	,600**	1	,681**	,693**	,560**	,384*	,399*	,366*
	Sig. (2-tailed)	,011	,017	,007	,001	,000	,000	,000		,000	,000	,000	,016	,012	,022
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00009	Pearson Correlation	,422**	,537**	,516**	,655**	,745**	,780**	,697**	,681**	1	,889**	,614**	,308	,311	,362*
	Sig. (2-tailed)	,007	,000	,001	,000	,000	,000	,000	,000		,000	,000	,056	,054	,023
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00010	Pearson Correlation	,434**	,526**	,506**	,614**	,715**	,694**	,655**	,693**	,889**	1	,662**	,418**	,370*	,369*
	Sig. (2-tailed)	,006	,001	,001	,000	,000	,000	,000	,000	,000		,000	,008	,021	,021
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00011	Pearson Correlation	,423**	,496**	,602**	,668**	,478**	,500**	,606**	,560**	,614**	,662**	1	,491**	,468**	,316
	Sig. (2-tailed)	,007	,001	,000	,000	,002	,001	,000	,000	,000	,000		,002	,003	,050
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00012	Pearson Correlation	,197	,357*	,523**	,512**	,485**	,355*	,415**	,384*	,308	,418**	,491**	1	,744**	,589**
	Sig. (2-tailed)	,230	,026	,001	,001	,002	,027	,009	,016	,056	,008	,002		,000	,000
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00013	Pearson Correlation	,031	,231	,412**	,496**	,411**	,319*	,367*	,399*	,311	,370*	,468**	,744**	1	,406*
	Sig. (2-tailed)	,853	,156	,009	,001	,009	,048	,022	,012	,054	,021	,003	,000		,010
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
VAR00014	Pearson Correlation	,125	,231	,285	,513**	,582**	,465**	,506**	,366*	,362*	,369*	,316	,589**	,406*	1
	Sig. (2-tailed)	,450	,157	,079	,001	,000	,003	,001	,022	,023	,021	,050	,000	,010	
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39

Table no. 5.5.3.-6

Relation in processes for effective knowledge management and innovation in organizations by years of existence - over 21 years

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013	VAR00014
VAR00001	Pearson Correlation	1	,600**	,468**	,356	,447*	,175	,149	,159	,156	0,000	,073	,372*	,303	,290
	Sig. (2-tailed)		,000	,009	,054	,013	,355	,431	,402	,411	1,000	,707	,047	,110	,127
	N	30	30	30	30	30	30	30	30	30	30	29	29	29	29
VAR00002	Pearson Correlation	,600**	1	,635**	,569**	,594**	,534**	,342	,234	,269	,236	,369*	,542**	,423*	,265
	Sig. (2-tailed)	,000		,000	,001	,001	,002	,064	,213	,150	,210	,049	,002	,022	,164
	N	30	30	30	30	30	30	30	30	30	30	29	29	29	29
VAR00003	Pearson Correlation	,468**	,635**	1	,760**	,557**	,523**	,280	,300	,321	,481**	,438*	,607**	,539**	,370*
	Sig. (2-tailed)	,009	,000		,000	,001	,003	,135	,107	,084	,007	,017	,000	,003	,049
	N	30	30	30	30	30	30	30	30	30	30	29	29	29	29
VAR00004	Pearson Correlation	,356	,569**	,760**	1	,595**	,746**	,531**	,514**	,549**	,549**	,488**	,732**	,598**	,420*
	Sig. (2-tailed)	,054	,001	,000		,001	,000	,003	,004	,002	,002	,007	,000	,001	,023
	N	30	30	30	30	30	30	30	30	30	30	29	29	29	29
VAR00005	Pearson Correlation	,447*	,594**	,557**	,595**	1	,621**	,512**	,680**	,481**	,467**	,432*	,793**	,613**	,554**
	Sig. (2-tailed)	,013	,001	,001	,001		,000	,004	,000	,007	,009	,019	,000	,000	,002
	N	30	30	30	30	30	30	30	30	30	30	29	29	29	29
VAR00006	Pearson Correlation	,175	,534**	,523**	,746**	,621**	1	,644**	,536**	,544**	,453*	,525**	,708**	,513**	,513**
	Sig. (2-tailed)	,355	,002	,003	,000	,000		,000	,002	,002	,012	,003	,000	,004	,004
	N	30	30	30	30	30	30	30	30	30	30	29	29	29	29
VAR00007	Pearson Correlation	,149	,342	,280	,531**	,512**	,644**	1	,664**	,737**	,484**	,556**	,736**	,620**	,761**
	Sig. (2-tailed)	,431	,064	,135	,003	,004	,000		,000	,000	,007	,002	,000	,000	,000
	N	30	30	30	30	30	30	30	30	30	30	29	29	29	29
VAR00008	Pearson Correlation	,159	,234	,300	,514**	,680**	,536**	,664**	1	,752**	,568**	,535**	,741**	,572**	,457*
	Sig. (2-tailed)	,402	,213	,107	,004	,000	,002	,000		,000	,001	,003	,000	,001	,013
	N	30	30	30	30	30	30	30	30	30	30	29	29	29	29
VAR00009	Pearson Correlation	,156	,269	,321	,549**	,481**	,544**	,737**	,752**	1	,615**	,766**	,661**	,698**	,568**
	Sig. (2-tailed)	,411	,150	,084	,002	,007	,002	,000	,000		,000	,000	,000	,000	,001
	N	30	30	30	30	30	30	30	30	30	30	29	29	29	29
VAR00010	Pearson Correlation	0,000	,236	,481**	,549**	,467**	,453*	,484**	,568**	,615**	1	,637**	,583**	,455*	,357
	Sig. (2-tailed)	1,000	,210	,007	,002	,009	,012	,007	,001	,000		,000	,001	,013	,058
	N	30	30	30	30	30	30	30	30	30	30	29	29	29	29
VAR00011	Pearson Correlation	,073	,369*	,438*	,488**	,432*	,525**	,556**	,535**	,766**	,637**	1	,592**	,604**	,434*
	Sig. (2-tailed)	,707	,049	,017	,007	,019	,003	,002	,003	,000	,000		,001	,001	,019
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00012	Pearson Correlation	,372*	,542**	,607**	,732**	,793**	,708**	,736**	,741**	,661**	,583**	,592**	1	,839**	,649**
	Sig. (2-tailed)	,047	,002	,000	,000	,000	,000	,000	,000	,000	,001	,001		,000	,000
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00013	Pearson Correlation	,303	,423*	,539**	,598**	,613**	,513**	,620**	,572**	,698**	,455*	,604**	,839**	1	,615**
	Sig. (2-tailed)	,110	,022	,003	,001	,000	,004	,000	,001	,000	,013	,001	,000		,000
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VAR00014	Pearson Correlation	,290	,265	,370*	,420*	,554**	,513**	,761**	,457*	,568**	,357	,434*	,649**	,615**	1
	Sig. (2-tailed)	,127	,164	,049	,023	,002	,004	,000	,013	,001	,058	,019	,000	,000	
	N	29	29	29	29	29	29	29	29	29	29	29	29	29	29

5.6. INTERPRETATION OF THE OBTAINED RESULTS

5.6.1. Interpretation of the obtained results for the processes of collecting, storing and transfering knowledge

According to the obtained results from the qualitative and quantitative indicators in the survey, where an analysis from the obtained indicators was performed, the results show that the respondents (top managers, middle managers and employees) have different views regarding the strategies, approaches and processes.

Attributive indicators in the research indicate that knowledge management is well recognized in organizations. It is known what the significance of intellectual capital represents and most of the respondents have high appreciation for the need of knowledge management, which is a very positive information to know.

Employee access to information through online platforms and transparency of organizations are just one of the segments that can enable them a more efficient growth and development, and thus a competitive advantage on the market.

The obtained quantitative (numerical) indicators indicate that processes for creating and collecting knowledge are generally positive. From the analyzed indicators it can be noted that it ranges within the limits of 2.83 in the seventh indicator "VAR00007- Collecting and storing knowledge is a regular and routine procedure" (between level to or less than one third -33.33% and to a stronger degree or 33.3% -66.6%)., up to 3.69 in the first indicator "VAR00001- I believe that knowledge is a key resource in the organization" (between a level to a stronger degree or 33.3-66.6 to strongly agree or 66.6% -100%).

According to the obtained results, the organizations know that there is a need for proactive management of knowledge, for which top management knows how important it is to build the strategy and is committed to managing it. Therefore, knowledge-gathering is encouraged and rewarded and intellectual values are acknowledged and valued.

According to research findings in most organizations there are systems for collecting knowledge and there are efforts on saving it for future use.
According to the obtained quantitative indicators on the processes and conditions for storing and transferring knowledge, it can be noted that there is a high level of indication that the internal staff is actively encouraged in order to strengthen good practices and ideas. According to the obtained results, knowledge is shared whenever there is a possibility and there is good communication between the employees. Larger part of the organizations have specially trained individuals that work on tasks related to classifying and storing knowledge. Employees are motivated to store knowledge, making it easy to find the necessary information in everyday work, and there is also a regular documentation both by individuals and teams.
Information systems greatly help to make knowledge available to everyone, and it is becoming more and more safe to use them.

Furthermore, it can be noted that there is a visible difference between organizations in terms of their use of knowledge for innovative purposes. Despite the fact that organizations understand the value of knowledge for the organization, they do have a different approach towards utilizing it.

It was seen that younger organizations are more eager to create, store and multiply knowledge. Mature organizations, tend to experience a period of comfort, so they tend to be less eager to learn. And interestingly enough, the oldest surveyed organizations showed that they have almost the same relationship with knowledge creation and transfer as the young ones.

5.6.2. Interpretation of the obtained results for effective knowledge management and innovation

The attributive indicators in the survey indicate that organizations do see the need for innovation both in products and services. They also see the need for innovation in organizational structures and functioning. Most often, the needs are in terms of technology, creating a better working atmosphere, increasing the competitiveness, as well as getting more customers.

In terms of innovation, the most common reason for the lack of innovation is seen to be the lack of finances, and ideas are observed to be rarely missing. Innovative ideas are mostly the product of conducted market research, but often also result from groups generating new ideas, continuous learning of employees and pre-stored knowledge. According to the results of the analysis, a good part of the organizations have their own teams and direct the employees to work on innovative ideas and projects, which is mostly supported by the management. Depending on the needs of the organizations, workshops are organized, educational programs as well as internal trainings, which are financially funded by the organizations themselves.

Regarding decision-making, the largest part of the respondents confirm that it is done mostly at the top management level, confirming the hierarchy.

According to the obtained results, there is a clear picture of the work and open access to the problem solving. In a larger number of organizations there are opportunities for advancement and creative problem solving. Employees are often encouraged and rewarded.

It can be seen that the older the organization is, the better it distils and documents what it has learned, and is more probable to do internal staff rotation.
The younger the organization is, the more often it is that they see technology as a key enabler in ensuring that the right information is available to the right people at the right time.

5.6.3. Verification of hypotheses

- According to the obtained indicators from the analysis, the special hypothesis X-1 is accepted. This is done by observing statement-3 to statement-9 and statement 12 from the attributive indicators in the questionnaire part for effective knowledge management; as well as statements 5 to 9 from the numerical indicators of the same package of questions.
- According to the obtained indicators from the analysis, the special hypothesis X-2 is accepted. This is done by observing statement-1 to statement-4 from the questionnaire part regarding information on knowledge collecting; as well as statements 5 and 13 from the questionnaire part regarding information on the storage and transfer of knowledge.
- According to the obtained indicators from the analysis, the special hypothesis X-3 is partially accepted. This is concluded by taking into account the answers to statements 1 to 9 regarding the collection of knowledge; statements 1 to 8, from the questionnaire

part related to storing and transferring knowledge, as well as statements 9 and 10 from the questionnaire part regarding effective knowledge management and innovation.

- According to the obtained indicators from the analysis, the special hypothesis X-4 is partially accepted. This is concluded by taking into account the answers to statements 1 to 9 regarding the collection of knowledge; statements 1 to 8, 10 and 13 from the questionnaire part related to storing and transferring knowledge; as well as statements 9 and 10 from the the numerical indicators of questionnaire part regarding effective management of knowledge and innovation.
- According to the obtained indicators from the analysis, the special hypothesis X-5 is partially accepted. This is concluded by taking into account the answers to statements 5, 6, 7, 9, 11 and 13 from the questionnaire part regarding effective knowledge management and innovation.
- According to the obtained indicators from the analysis, the special hypothesis X-6 is accepted. This is concluded by taking into account the answers to statements 1, 2, 3, 4 and 6 from the questionnaire part related to storing and transferring knowledge, as well as statements 9 and 10 from the questionnaire part regarding effective management of knowledge and innovation.
- According to the obtained indicators from the analysis, the special hypothesis X-7 is accepted. This is concluded by taking into account the answers to statement 6 regarding the collection of knowledge; statements 2, 3 and 6, from the questionnaire part related to storing and transferring knowledge, as well as statements 7, 8, 10, 11 and 13 from the questionnaire part regarding effective management of knowledge and innovation.
- According to the obtained indicators from the analysis, the special hypothesis X-8 is accepted. This is concluded by taking into account the answers to 4, 5 and 6 from the questions regarding the collection of knowledge; statement 6 from the questionnaire part related to storing and transferring knowledge, as well as statements 1, 4, 10, 11, 12, 13 from the questionnaire part regarding effective management of knowledge and innovation.
- According to the obtained indicators from the analysis, the special hypothesis X-9 is accepted. This can be seen from observing the answers to survey statements 1, 2, 3 and 6 from the questionnaire part regarding collection of knowledge; as well as statements 2, 9 and 10 from the numerical indicators regarding effective knowledge management and innovation.

In summary, taking into account the specific hypotheses from X-1 to X-9, as well as the obtained indicators from the questionnaires, other indicators from the performed research and the analyzed theoretical and bibliographic indicators, the general (basic) hypothesis **X-0 is accepted**.

6. CONCLUSION

In order to see the significance of this work, it is necessary to separate several theoretical and practical aspects.

6.1. THEORETHICAL IMPLICATIONS

The theoretical significance is perceived in the confirmation of the conclusions from numerous scientific studies (part indicated in the theoretical framework) that point to the significance of the processes that occur with the management of knowledge. The research so far indicates that a growing number of organizations are focused on integrating knowledge management, as well as seeking help and looking for new knowledge that is essential for the growth and development of organizations and the acquisition of competitive advantage over others.

6.2. PRACTICAL IMPLICATIONS

The practical meaning can be seen in the immediate application of the data that came during the survey. In accordance with the results obtained from the respondents in the research, we are given the opportunity to get an idea of several aspects of the processes that are taking place in the knowledge management and the effects of knowledge management. The given assertions and the carried out assessment of the applied indicators in the survey determined several conclusions and recommendations that should be taken into consideration, and they characterize modern approaches to knowledge management in organizations, such as:

- Significance of intellectual capital and human resources for the processes taking place;
- The need for proactive knowledge management;
- Full commitment and building a strategy for managing the knowledge gained in organizations;
- Validation and recognition of intellectual and common knowledge;
- Stimulating and creating systems for creating, collecting, transmitting and implementing knowledge;
- Improving and developing technologies and systems in order to ensure greater security and availability;
- Emphasizing the need for innovation in both products and services as well as in organizational structures and functioning;
- The focus of the employees on greater development, creating a better working atmosphere, increasing the competitiveness, as well as the benefit of a larger number of clients;
- Innovative ideas are a product of market research, group generation of new ideas, or continuous learning of employees and pre-stored knowledge;

According to the performed analyzes on using the systems and processes for creating, storing and transferring knowledge, as well as the effects of knowledge management and innovation, it can be concluded that the performed estimates have reached the high level or the largest number of results obtained between a 'to a stronger degree' (33.3% -66.6) and 'strongly agree' (66.6% -100%).

In conclusion, despite still having a centralized decision making and a more traditional organizational environment with noticeable hierarchy, manufacturing organizations in the Balkan Region today have a high level of recognition for the need of Knowledge Management, according to the surveyed sample.

7. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE WORKS

There are a number of limitations that can be pointed out in terms of the conducted work. As the main ones, the following can be outlined:

- The sample was relatively small.

  The significance of this study would have been higher if the survey included a larger number of organizations and individual respondents.

- The type of analysis was relatively broad.

  With an attempt to have a wider view of the way manufacturing organizations manage their knowledge, it got to a point where the ends following the anlysis are too general, making it harder to draw a specific conlusion.

- Inability to compare the situation with other industries.

  Having only observed manufacturing organizations, it is not possible to have a comparison between industries. It would have been interesting to be able to compare the results to other industries in the same region. This would have given more value to this research and would have contributed to a better understanding.

- Lack of previos information on this particular subject.

  It would have been also of significance to be able to compare the results with a similar research in this same industry and region from the past. That way we could be able to understand more about the progress in Knowladge Management as well as how and when its importance increased in manufacturing organizations in the Balkan region.

In terms of recommendations for future work, it would be significant to conduct the same research, more in depth, in other European regions and then be able to compare the results and come to a more insightful conclusion. In order to get better results in future works, the following recommendations can be outlined:

- Narrowing the focus on a specific processes or operations.

  Putting the focus on one particular Knowledge Management process, would allow for an improved analysis and interpretation of results.

- Conducting the survey in other industries

  Having survey results from other industries and regions, as afore mentioned, would significantly increase the importance of this research.

- Comparing the results between industries and regions.

  In order to draw a conclusion that can be reliable for all, is is needed a more in depth analysis with a much larger sample size.

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9. APPENDIX

QUESTIONNAIRE

Respectful,

This research is focused on Knowledge Management as well as Knowledge Management Systems and the impact they have on organizational effectiveness and innovation.

Knowledge management is the process of creating, identifying, collecting, sharing, practicing and applying knowledge in an organization. The goal of knowledge management is to improve organizational effectiveness by proper dissemination of the knowledge that an organization owns and utilizes.

Depending on the activities of an organization, knowledge can be classified into several categories, such as:

• Intellectual capital that relates to processes and services;

• Knowledge in terms of the customers and the market;

• Transfer of good practices;

• Individual expertise of employees.

I believe that the use of information management systems for knowledge management facilitates and improves the storage, sharing and discovery of the possessed organizational knowledge. Furthermore, its application has a fundamental impact on the organizational effectiveness and innovation of any modern organization.

The purpose of this research is to inspect the impact of information systems for knowledge management on organizational effectiveness and innovation in manufacturing companies.

The information gathered from this research will be used in the conducting of a dissertation paper.

This questionnaire is anonymous. Your answers should be your personal views on the real situation in the organization you work in.

Thank you in advance for your contribution and time!

INSTRUCTIONS

Please make sure you read all of the questions carefully. Select one of the offered answers or fill in the empty spaces with your response.

I. Information about the organization and the respondent

1. Organization (optional) _____

2. Geographic area in which the organization primarily works in
   a) National
   b) Multinational
   c) Global

3. Work position

   a) Top management
   b) Middle management
   c) Employee

4. How many employees are in your organization?

a) Up to 20
b) Up to 50
c) Up to 100
d) Up to 500
e) Up to 1000
f) Over 1000

5. How old is your organization?

   a) 1-5
   b) 6-10
   c) 11-20
   d) 21-30
   e) 31-40
   f) 41 +

II. Information about strategies, approaches and processes related to collection of knowledge

Please answer the following questions by selecting one of the offered answers:

1. If you do not use the term Knowledge Management in your organization, is there another term or definition used for the initiatives connected to knowledge?

a) Yes
b) No
c) I do not know

2. If you answered the previous question with **Yes** , then which of the following terms do you use in connection to the initiatives related to knowledge?

a) Intellectual capital
b) Patent management
c) Learning organization
d) Other _____

3. Most often, where can you say that the knowledge of your organization resides?

a) In the memory of the people
b) On paper documents
c) In the memory of computers
d) It's built-in in products and services
e) Other _____

4. Does your organization have an online platform for employees?

a) Yes
b) No

5. If your organization has an online platform, what information does it have on it? (You can select multiple answers)

a) Information about products and technology
b) Information about the organizational structure
c) Market analysis reports
d) Academic and scientific research
e) History of the firm
f) Archive of good practices
g) Processes, rules and standards of the organization
h) Innovative ideas of employees
i) Online training
j) News
k) Other

6. What percentage of employees has access to the organizational online platform?

a) 0% - 25%
b) 26% - 50%
c) 51% -75%
d) 76% -100%

7. How often do you personally use the organizational online platform?

a) Every day
b) Once a week
c) Several times per month
d) Once in few months
e) Once a year
f) Never

Given your experience, please answer the following by choosing the rate of your agreement with the statements.

	1 Not applicable/ I don't know	**2** To a degree (or less than a third - 33.3%)	**3** To a stronger degree (or 33.3% - 66.6%)	4 Very strong (or 66.6% - 100%)
1. I believe that knowledge as a key resource				
2. I am aware of the need to proactively manage knowledge				
3. Top management in the organization are committed to knowledge management				
4. Top management recognizes KM as an important part of the business strategy				
5. Collecting knowledge is encouraged and rewarded				
6. Intellectual values are recognized and valued				
7. Recording and sharing knowledge is routine and second nature				
8. In the organization there is a system / method of collecting and storing knowledge				
9. Knowledge is stored in archives for further use				

III. Information about strategies, approaches, and processes related to storing and transmitting knowledge

Given your experience, please answer the following by choosing the rate of your agreement with the statements.

	1 Not applicable/ I don't know	**2** To a degree (or less than a third - 33.3%)	**3** To a stronger degree (or 33.3% - 66.6%)	4 Very strong (or 66.6% - 100%)
1. I am not afraid to share knowledge				
2. I share knowledge whenever I can and I'm asked to				
3. Communication and knowledge sharing at the workplace is only done when really necessary				
4. There is a senior level doing review of the effectiveness of knowledge management of the whole company				
5. Knowledge is considered to be the key strategic asset				
6. Employees are motivated to store and share knowledge actively and daily				
7. Negative knowledge management behavior is actively discouraged				
8. Intellectual assets are legally protected				
9. In the day-to-day work, it is easy to find the right information				
10. When a team completes a task, it distils and documents what it has learned				
11. Internal staff rotation is actively encouraged to share best practices and ideas				
12. Technology is a key enabler in ensuring that the right information is available to the right people at the right time				
13. There are complete IT security procedures in place (backup, recovery etc.)				

IV. Information about effective knowledge management and innovation

Please answer the following questions by selecting one of the offered answers:

* In the following questions, the term **innovation** (action or process of innovating) refers to any change, transformation, reorganization, introduction of a new method, idea, product, device, etc.

1. Do you think that your organization needs innovation in terms of the products or services it offers?

a) Yes
b) No
c) I do not know

2. Do you think that your organization needs innovation in organizational structures and functioning?

a) Yes
b) No
c) I do not know

3. Which of the following opportunities do you consider that innovation in an organization can offer? (You can select multiple answers)

a) Better working atmosphere
b) Increased employee focus on company development
c) Improved operations due to technology
d) New customers
e) More satisfied existing customers
f) Improved brand image of the business
g) Greater competitiveness on the market
h) Increased profit
i) Increase in sharing knowledge

4. Which of the following do you think is the main reason for lack of innovation?

a) Lack of finances
b) Lack of knowledge
c) Lack of ideas
d) Other _____

5. The innovative ideas in your company come from?

a) Market research
b) Group generating of new ideas
c) Previous knowledge storing
d) Knowledge gained from educational programs
e) Employee surveys
f) Archived ideas
g) Continuous learning of employees
h) Other _____

6. Are there employees that work on innovative projects in your organization?

a) Yes
b) No
c) I'm not informed

7. Is there an Innovation team in your organization?

a) Yes
b) No
c) Only when necessary

8. How often does your organization have specific work-shops for innovating purposes?

a) Never
b) Only when necessary
c) Once per month
d) Every week

9. Does the management board support innovative ideas?

1) Never
2) Rarely
3) Sometimes
4) Most often
5) Always

10. Does the organization have a system for internal training of employees?

a) Yes
b) No
c) When needed
d) I am not informed

11. If there is a system for internal training, who conducts the trainings?

a) Other employees
b) Human Resources
c) The Management
d) Other

12. Are there employees who analyze the achievements of innovation inside and outside of the organization?

a) Yes
b) No
c) I do not know

13. How often do your employees attend educational programs outside of the organization?

a) Once a month
b) Several times a year
c) Once a year
d) Only when needed

14. Has your organization submitted a patent application in the last two years?
    a) Yes
    b) No
    c) I do not know

15. At which level of the organization is most of the decision making done?
a) Top Management
b) Middle Management
c) Employees
d) Everyone has a role in decision making

16. Trainings for employees in your organization are funded by

    a) The organization
    b) Individuals
    c) Sponsorships
    d) Other

Given your experience, please answer the following by choosing the rate of your agreement with the statements.

	1 Not applicable/ I don't know	**2** To a degree (or less than a third - 33.3%)	**3** To a stronger degree (or 33.3% - 66.6%)	4 Very strong (or 66.6% - 100%)
1. Employees are motivated to be committed to continual improvement				
2. Employees have a clear picture about the work tasks in their work place				
3. Employees have access to data connected to problem solving				
4. Employees have an opportunity for promotion				
5. Employees are committed to continual improvement and are constantly generating new ideas within the organizational context				
6. Individuals are encouraged to think creatively				
7. Effective solutions are encouraged and rewarded				
8. The organization has developed enough " reserves " which in case of employee absence will allow no changes in work				
9. Employees with creative ideas are				

encouraged to share their ideas				
10. There is a good team intra- communication and sharing of knowledge				
11. Rapid response and problem solving is encouraged and rewarded				
12. Failure is seen as an opportunity to learn				
13. Change is accepted as part of working life				
14. The processes and the organizational structure are harmonized and guarantee effective and efficient functioning				