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## KNOWLEDGE TRANSFER PROCESS IN VETERINARY INSTITUTES: EXPLORATION OF ENHANCING FACTORS

**Abstract:** *In the past three decades knowledge transfer process has been recognized as one of the main drivers of a company's success through raising its learning and decision-making capabilities, and contributing to innovation and growth. For this reason, a very important part of organisational activities is enhancing the knowledge transfer process. In this empirical study, five factors were chosen and tested, on all 12 veterinary institutes in Serbia, to show if these contribute to the process, and also to show if there are any differences among the two types of institutes on an individual, organisational and technological level. Three hypotheses were tested. Two, related to the differences among institutes and factors, were proved, and the one, related to the association of individual level and number of years of work experience and professional rank, was rejected. This study is one of the first to cover this area of interest and also points to the path for future research.*

**Keywords:** *knowledge transfer, intrinsic motivation, individual perception, organisational culture, management support, IT support.*

### 1. Introduction

In the world of constant change, turbulent environments, and increasing competition, knowledge has been recognized as the core intangible asset of any organisation and due to this fact, our economies have become knowledge-based economies (Lopes & do Rosario Martins, 2006; Abualloush, Bataineh & Aladwan, 2017). Since organisation's tangible and intangible assets need to be managed, knowledge management (KM), as a specialised discipline of management, has been gaining increasing importance. This is due to extensive contribution of knowledge to the overall organisational performance (Alavi & Leidner, 2001), but also due to the fact that it is closely linked to innovation management.

According to Rahimi et al. (2017), KM and innovation management represent essential components of any modern organisation, which constantly seeks sources of competitive advantage. According to Chang and Lin (2015), knowledge resources and intellectual capital are currently the most important organisational assets and both have been used by organisations seeking competitive advantage.

KM process as a whole consists of processes of knowledge creation, knowledge storage, knowledge transfer, and knowledge application. In this study, knowledge transfer will be in focus.

Establishing and supporting knowledge infrastructure is the key for innovations, growth, sustainability, and competitiveness.

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The government of Serbia has been adapting the environment for accelerating scientific development but also the commercialisation of it. The national smart specialization strategy of Serbia (S4) defines the plan ("Smart specialization", 2020) for four vertical priorities: food for the future (sustainability development goals - SDG 2), future machines and manufacturing systems (SDG 9), ICT and creative industries (SDG 8), and also for horizontal, which are enabling technologies, energy-efficient and eco-smart solutions (SDG 7).

In achieving strategic goals, it is important to engage higher education and scientific infrastructure in the recognized industries, where the interest of the economy is the greatest, in order to provide all the necessary conditions for the development of a knowledge-based economy and society.

This process requires the encouragement of excellence in the scientific results in the public scientific and research sector.

Smart specialization strategy of Serbia implies intense cooperation and exchange between research institutions, businesses, and society, all leading to a more competitive economy.

Due to ongoing smart specialization implementation, on one side, and the close contact and interaction between one of the authors of the study and veterinary institutes, through the Veterinary Directorate in the Ministry of Agriculture, Forestry and Water Economy, the authors' envisioned the contribution of the study in the area of "current state findings". The potential was foreseen in the use of the study results for further improvements in the internal infrastructure of veterinary institutes, but also to the society through the commercialisation of their research, with the knowledge transfer process being more intense both internally and externally.

The goal of the study, presented in this paper, was to explore enhancing factors of the knowledge transfer process. Knowledge transfer is important, because it provides the

means for the exploitation and application of existing knowledge for the accomplishment of organisational objectives. The objective of the study was to assess the existing infrastructure, and also to raise the awareness of the importance of knowledge transfer in all directions. The results could lead to improvement of the process, as a mean of raising organisational performance.

The study focused on all veterinary institutes, 10 specialist and 2 scientific ones. The veterinary institutes were used for implementing the research instrument. The results revealed can be used for the implementation of changes in identified gaps.

The five assessed factors are: individual perception, intrinsic motivation, organisational culture, IT support, and management. These are not the sole factors contributing and providing support to the knowledge transfer process, but are definitely among the most important ones.

The empirical study was conducted and three hypotheses were tested.

Sections to follow in this paper are: 2. Literature review, 3. Research methodology, 4. Results, 5. Discussion, and 6. Conclusion.

## **2. Literature Review**

The literature review will show a conceptual framework, followed by a theoretical and empirical one.

The conceptual part of the study and relevant literature reviewed referred to defining what can strengthen the framework to enhance the knowledge transfer process. The main research questions were:

1. What factors enhance knowledge transfer in veterinary institutes in Serbia?
2. Do specialists and scientific veterinary institutes provide different level of support to the knowledge transfer process?

The concept, enhancing knowledge transfer process, emerged in 1990s. Three groups of factors, individual, organisational and technical one, that enhance knowledge transfer process were adopted from Noor et al. (2014). Specific organisational factor – management support was taken from Meddour et al. (2019) and was combined in this study together with individual factors, such as intrinsic and extrinsic motivation provided by Cruz et al. (2009).

From theoretical perspective, knowledge management infrastructure is considered a prerequisite to reinforce KM processes inside an organisation (Abualoush, Batatineh, & Alrowwad, 2018).

Kushwaha and Rao (2015) argued that KM infrastructure contains two main elements: technical infrastructure and social infrastructure. They suggested that the technical infrastructure includes information technology infrastructures, tools, and hardware, while the social infrastructure includes organisational culture, organisation structure, and human resources.

KM as a whole process is influenced by the same factors as all the subprocesses including knowledge transfer.

The process of knowledge transfer is an important component of the success of KM. It is also crucial for the proper utilization and use of knowledge assets. As identified by Witherspoon et al. (2013), knowledge transfer is a building block for the success of the organisation and it is being adopted as a survival strategy.

Tong et al. (2011) stated that the present literature on this subject put emphasis on two aspects concerning knowledge transfer. From one perspective the focus is at various strategies or mechanisms that can enable and enhance knowledge transfer, such as setting communities of practice and implementing knowledge maps. The second literature perspective emphasizes key enabling factors of the knowledge transfer process, such as trust and cultural issues.

Noor et al. (2014) argued that three groups of factors influence the success of knowledge transfer: “organisational factors (organisational support, trust, organisational culture, reward system, organisational structure), individual factors (self-efficiency, and subjective norm), and IT related factors (information system, technical infrastructure, and usage of social media)” (Noor et al. (2014, p. 1314).

The next three literature review findings will be linked to factors chosen by study in relation with enhancing knowledge transfer process.

The first literature survey is in the domain of the organisational factors. Tong et al. (2011) state that knowledge transfer is badly influenced by the organisational culture in many organisations in developing countries with emerging knowledge economies. These cultural problems are frequently present in these countries, while the same could be linked to many organisations in Serbia.

The visible aspect of organisational culture can be seen in the adopted values, philosophy, and mission of the company, while the invisible aspect lies in the unspoken set of values that guides employees’ actions and perceptions in the organisation (McDermott & O’Dell, 2001).

Concerning the management support role in the knowledge transfer process, Meddour et al. (2019) showed the importance of understanding and facilitating the knowledge transfer by the top management.

Management support should be such that employees are motivated and rewarded for engaging themselves in KM processes, creating new knowledge, sharing their knowledge, and supporting the KM system (Eisenhardt & Santos, 2002). These initiatives have to come from managers and can be supported by the general appraisal and compensation system. Both financial and nonfinancial motivational factors can be used in order to bring KM processes and practice to a higher level. This should result

in more intense knowledge transfer (Yahya & Goh, 2002).

Next literature survey covers individual factors which enhance knowledge transfer. Going to the level of individuals, perception and intrinsic motivation should be explored. Perception is a stimulus-driven process (Cermeño-Aínsa, 2021) that is subjectively perceived and understood as important by the person (Milivojevic, 2018).

Besides perception of the importance, intrinsic motivation to accept and apply the KM process is also very important. A key source of intrinsic motivation is learning, according to psychologists and neuroscientists. Gibbs (2021) implies that intrinsic motivation may be a key method by which companies can intensify knowledge transfer. It is a lot more important than extrinsic motivation coming from financial reward (Cruz, Perez, & Cantero, 2009). In other words, effective use of knowledge in the company, cannot be found without intrinsic motivation.

It has been noted that certain inherent qualities of the individuals (Cabrera, Collins & Salgado, 2006) and their attitude toward knowledge transfer (Bock & Kim, 2002) are important in good practices of knowledge transfer.

The third literature survey provides findings about IT support towards the knowledge transfer process. IT has an important role in integrating knowledge and creating networks (Noor et al., 2014). KM systems belong to a class of information systems used to manage organisational knowledge. These are systems that are designed to support and enhance processes of knowledge creation, storage, transfer, and application. While some authors (Davenport & Prusak, 1998) emphasize, that IT support should not be considered as an essential part of the KM systems, it is obvious that in the era of digitalisation, it has been relevant more than ever before.

Azevedo et al. (2018) state that ICTs are very important organisational assets that are

used to enlarge overall knowledge assets. These tools are widely used for the transfer of tacit and explicit knowledge. The authors state that the development of these tools helped organizations promote knowledge transfer.

Complementarity between these factors can create a synergistic effect on the KM processes for continuous improvement and sustainability.

Empirical literature review findings provide results of original experiments or observations.

Ajmal and Helo (2010) conducted an empirical study on 400 project managers and project assistant managers from Finnish Project Management Association. They proved the existence of a positive relationship between the intangibility of cultural artifacts, such as traditions, norms, and values, in the organisation and the importance of knowledge. When employees feel that the organisational culture is in the shape of intangible objects, they feel that these are more important than IT, for KM processes to occur, and this presents a source of motivation.

On the contrary, if the employees feel that the organisational culture is in the tangible objects, such as dress, sitting arrangement, and equipment used, they feel that IT plays a more important role than the objects in KM processes and they lose motivation.

Susanty et al. (2012) conducted an empirical study on SMEs in Indonesia showing the positive significant impact of organisational culture on the effectiveness of knowledge transfer but on the other side negative significant impact of centralized organisational structure on knowledge transfer.

According to Tenopir et al. (2020) 87% out of 2184 researchers said they would use knowledge if it would be easily available and 86.7% of them said they are willing to transfer knowledge. According to respondents, academia is the least involved at an organisational level in short-term

knowledge transfer and only about a third of respondents said to have had a formal implementation of KM at the organizational level, meaning academic institutions are less engaged in providing the framework for the process while relying on individuals.

There is a wide-ranging collection of technologies that support KM, which can be implemented and integrated into an organisation's technological platform (Wong, 2005). Some technological infrastructures, that have become very popular in "new normality", can be useful in improving KM processes. Some elements of these infrastructures are: video conferences, collaboration platforms, instant messaging, chat rooms, and can be used effectively for transferring of knowledge.

Some empirical studies regarding KM in veterinary institutes can be found in the work of Ogara et al. (2010), and Lammers & Garcia (2009).

Ogara et al. (2010) focus its study on applying the KM concept to the delivery of veterinary services in Kenya.

Lammers & Garcia (2009) conducted an empirical study on a veterinary call center in a small U.S. city, which included 25 veterinarians and veterinary toxicologists as well as 25 veterinary assistants and a fluctuating number of veterinary students. Among others, knowledge providing, seeking, and sharing; intrinsic motivation; and participation in a knowledge community beyond the workplace were found to be important institutional influentials on the workplace at a veterinary call center.

Theoretical and empirical studies regarding knowledge transfer conducted in Serbia are almost non-existing, except study on knowledge transfer in banks in Serbia (Tornjanski et al., 2020). No study concerning the enhancement of knowledge transfer in veterinary institutes in Serbia has been performed yet.

### **3. Research methodology**

The research methodology relies on the instrument, prepared for the purpose of this study, in the form of a questionnaire divided in six sections with 40 questions, 7 demographic and 33 research questions, presented to participants. Participants were not able to see the titles, referring to factors, of each section in order to avoid biases.

The first section was related to demographic questions being: type of the veterinary institute, gender, age, number of employees in the institute, level of education, organisation position, and work experience.

The next five sections were related to five different factors to be tested, which are expected to provide relevant support to the knowledge transfer process. These five factors are: individual perception of the importance of knowledge transfer, intrinsic motivation for the knowledge transfer, organisational culture in the institute and how supportive it is to knowledge transfer, IT support provided by the institute, and management support.

Prior to starting of the research, validation of the instrument was conducted and findings were included in the final form presented in the paper.

#### **3.1. Selection of participants**

In this study, empirical findings were obtained from 48 employees of all 12 veterinary institutes registered in the Republic of Serbia, out of which 10 are specialist institutes and 2 are scientific institutes (see Table 1). Both types of institutes have scientific and commercial, market-related activities.

The questionnaire was sent to preselected 68 participants, randomly picked from the contact list, of those with a bachelor's degree or above, out of which 48 responded, which is a 70.59% response rate.

39 employees from specialist institutes and 9 from scientific responded giving an average of 4 responses per institute. All participants responded to all given questions.

**Table 1.** List of all veterinary institutes in Serbia

Veterinary institutes
Veterinary specialist institute „Pančevo“
Veterinary specialist institute „Zrenjanin“
Veterinary specialist institute „Subotica“
Veterinary specialist institute „Sombor“
Veterinary specialist institute „Kraljevo“
Veterinary specialist institute „Zaječar“
Veterinary specialist institute „Niš“
Veterinary specialist institute „Šabac“
Veterinary specialist institute „Jagodina“
Veterinary specialist institute „Požarevac“
Scientific veterinary institute Belgrade
Scientific veterinary institute Novi Sad

These institutes partly perform tasks appointed to them by the Ministry of Agriculture – Veterinary Directorate and are partly financed by performing sampling services, providing expert opinion, applying expertise to problem-solving, delivering professional training and consultation in the areas of implementation and maintenance of HACCP, animal health and livestock production. They are also engaged in a broad spectrum of laboratory analysis offered publicly, since all laboratories are accredited according to applicable standards.

### 3.2. Hypotheses

There are three hypotheses tested in the presented study, which were meant to provide awareness and address improvement areas in the future for the knowledge transfer

process in the veterinary institutes in the Republic of Serbia.

The following three hypotheses were tested in this research:

Hypothesis 1: The difference exists between specialist and scientific veterinary institutes in factors representing support for the knowledge transfer process.

This hypothesis was used to test if there are differences between specialist and scientific veterinary institutes in the support provided to the knowledge transfer process, on the individual, organisational and technical level.

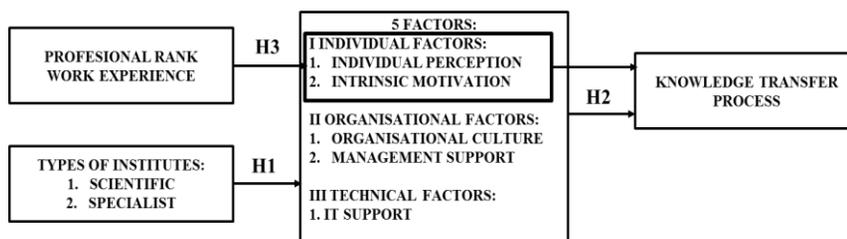
Hypothesis 2: Five factors do not equally support the knowledge transfer process in veterinary institutes.

This hypothesis was used to test if there are differences between five factors, with the aim to show which ones are strong, and which ones are weak points in the support of the knowledge transfer process.

Hypothesis 3: Professional rank and work experience are associated with individual perception and intrinsic motivation in the knowledge transfer process.

This hypothesis was used to test if work experience and professional rank contribute to the individual perception and intrinsic motivation for the knowledge transfer process. The intention was also to test if participants with more years of work experience and at managerial levels show higher levels in their responses to scales for individual perception and intrinsic motivation towards knowledge transfer.

In Figure 1 a research framework is presented.



**Figure 1.** A research framework

## **4. Results**

### **4.1. Descriptive statistics**

All 48 employees answered to 7 demographic questions. According to gender, there is a relatively balanced percentage of males, 58.3%, and females, 41.7%, participants in this field research. This is a contribution to SDG 5 aiming to achieve gender equality, which is the precondition for realizing the goals in the 2030 Sustainable Development Agenda.

Most of the employees, 43%, are in the group between the age of 35 and 50, followed by the group of 31.3%, who are above the age of 50, and 25% below the age 35. This means that 78% are in the most productive years of life, which is beneficial for transformative change of the veterinary institutes.

Concerning the level of education, most of the participants, 56.3%, have a specialist degree, distributed in all three age groups. This is followed by the group of those who have Ph.D. degrees, 29.2%, distributed in all three age groups. Participants with Ph.D. degrees are equally distributed among specialist and scientific veterinary institutes. The lowest percentage, 4.2%, has a master's degree. Seeing the level of education through a gender lens, there is only one spotted difference. There are more females with Ph.D. degrees, 35% against 25% of males with Ph.D. degrees, pointing to the contribution of women to the highest level of education in the country.

Out of 48, 81.3% are employed in the specialist type of institute. Concerning the number of employees' institutes have, the largest percentage, 52.1% of the institutes, have less than 20 employees. This could contribute to agile and adaptable approaches in the managing veterinary institutes. It is followed by the group of institutes, 29.2%, which have 20 to 50 employees. Only 18.8% institutes have more than 50 employees.

Out of 48, 66.7% of the participants have more than 10 years of experience. It is followed with 20.8% of those who have less than 5 years of work experience. Ratio between non-managerial and managerial level is 64.6% vs. 35.4%. It can be seen that 71.4% of male participants are on non-managerial organisation position. Almost 50% of female participants are equally on non-managerial and on managerial organisation position. 66.7% of the participants on managerial level are in the age group 50 and above. Under the age of 35, 100% of them are on non-managerial organisation position.

The descriptive statistics shows that on average, veterinary institutes in Serbia have less than 20 employees. Almost half of them are in the most productive years of life (35-50), with specialist degree obtained, and with minimum 10 years of experience. Institutes have predominantly male managers, above 50 years.

Gender equality in Serbian veterinary institutes are on average balanced. Women are in the same percentages on managerial and non-managerial positions, with 1.4 times more obtained Ph.D. degrees than men.

### **4.2. Reliability statistics**

Cronbach's Alpha was used to show internal consistency in scales, for all five factors, since all of the answers in a questionnaire, are based on Likert scale from 1 to 5. The results provided show that scales are reliable. Scales have from 5 to 8 questions, as shown in the Table 2 presented below. Two questions, no. 3 and no. 5, were excluded from the factor "individual perception", while three questions, no. 2, 3 and 6, were excluded from the factor "intrinsic motivation", due to inconsistency.

All obtained results for Cronbach's Alpha for the scales testing all five factors are above 0.7, which proves the strong reliability of each scale, used in the instrument prepared for this study. The strongest reliability, as presented in Table 2, is on the

scale of seven questions related to organisational culture.

**Table 2.** Reliability of scales used in the research

Reliability Statistics			
Scale	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
Individual perception	0.763	0.781	5
Intrinsic motivation	0.687	0.712	8
Organisational culture	0.940	0.938	7
IT support	0.830	0.834	6
Management support	0.843	0.840	7

The scales for IT and management support show very similar reliabilities, followed by individual perception and ending with intrinsic motivation, which has the weakest reliability as a scale. This may be due to the

fact that this scale has the most questions, while the sample is not as big.

### 4.3. Hypotheses testing and proofs

Two tests were used in hypotheses testing, t-test of independence and repeated measures ANOVA. Box plots were used to show the difference in factors between institutes. Data collected was analysed with Statistical package for social sciences (SPSS) software, version 26.0.

Hypothesis 1 was tested using a t-test of independence, to see if two groups, in this case, specialist and scientific institutes, are different in factors related to the enhancement of knowledge transfer.

In Table 3 Sig. (2-tailed) shows that it is less than 0.05 for organisational culture, management and IT support. It means that there is a significant difference in means between two sets of data, in this case, one set represented by specialist institutes, and other set represented by scientific institutes.

**Table 3.** Independent t-test for specialist and scientific veterinary institutes

Factors	Type of institute	N	Mean	Std. Deviation	t (46)	Sig. (2-tailed)
Individual perception	Specialist	39	4.5897	.39722	-0.220	0.827
	Scientific	9	4.6222	.40552		
Intrinsic motivation	Specialist	39	4.3686	.37931	-1.216	0.230
	Scientific	9	4.5417	.40984		
Organisational culture	Specialist	39	4.0476	.79224	2.961	0.005
	Scientific	9	3.2063	.64330		
IT support	Specialist	39	3.6538	.84758	2.885	0.006
	Scientific	9	2.7778	.68211		
Management support	Specialist	39	4.0586	.68254	2.101	0.041
	Scientific	9	3.5238	.71429		

On the other hand, there is no difference between factors of individual perception and intrinsic motivation.

This is the proof for hypothesis 1 that there are differences between the two types of institutes and these are in factors of

organisational culture, management and IT support.

All the findings explained above are supported by the box plots shown in Figure 2, where these differences can clearly be seen.

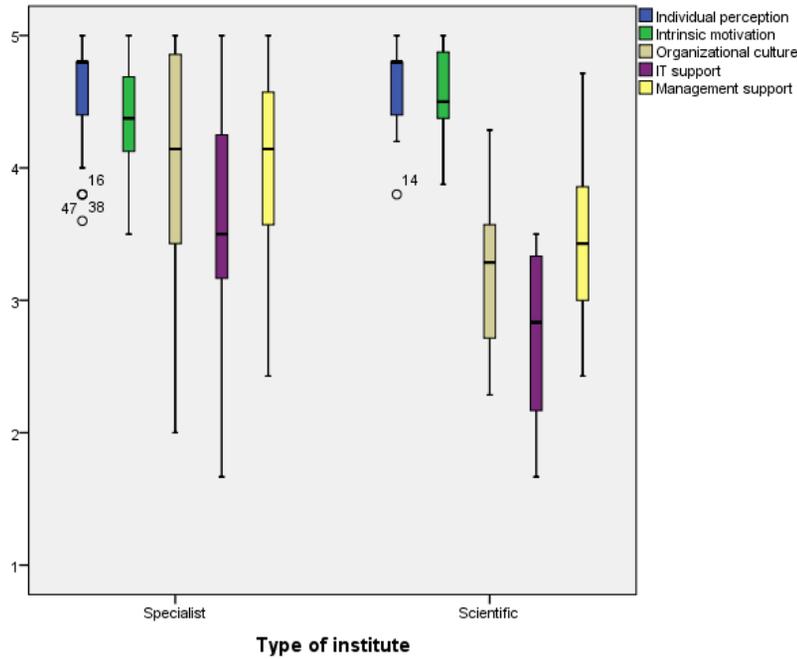


Figure 2. Box plots for five factors

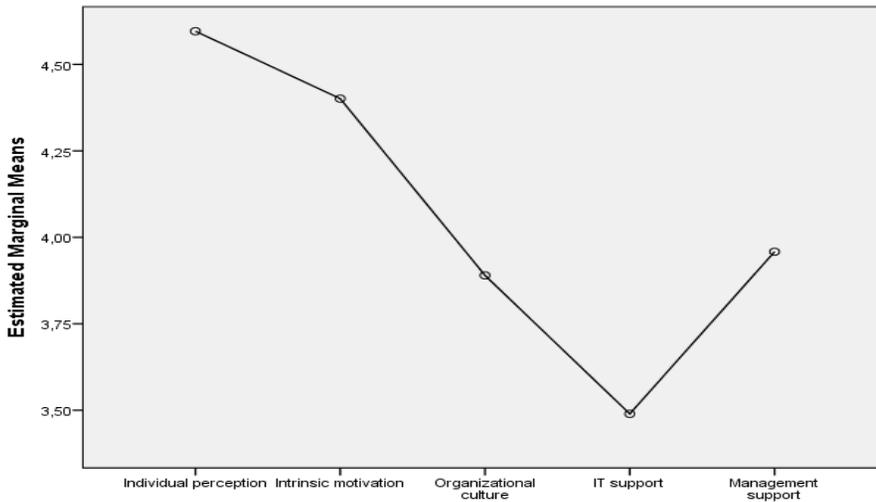
Hypothesis 2 was tested using repeated measures ANOVA, which is the equivalent of the one-way ANOVA, for related groups and is the extension of the dependent t-test. It was used for detecting any overall differences between the means of five factors related to the support of knowledge transfer process. The third and the fifth factor do not show a significant difference. The results in Table 4 show significant difference between means of five factors in

both types of institutes. The highest mean, 4.5958, for the level of support to the knowledge transfer is for the individual perception of participants, then for intrinsic motivation, followed by management support and organisational culture, and finally IT support being the weakest aspect. Repeated measures ANOVA was performed for all 48 study participants, regardless of the institute they work in.

Table 4. Repeated measures ANOVA for five factors

N=48	Mean	Std. Deviation	Wilks' Lambda	F (4. 44)	Sig.	Partial Eta Squared
Individual perception	4.5958	.39462	.313	24.175	.000	.687
Intrinsic motivation	4.4010	.38675				
Organisational culture	3.8899	.82946				
IT support	3.4896	.88286				
Management support	3.9583	.71274				

In Figure 3 graphical representation of the level of support provided to the knowledge transfer by each of five factors is shown.



**Figure 3.** Comparison in the support provided by each of the five factors

Hypothesis 3 was rejected, using independent samples t-test, to show if differences exist in individual perception and intrinsic motivation related to the number of years of work experience and professional rank.

In Table 5 results show that no statistically significant, with p-value greater than 0.05, association can be seen between the professional rank of employees and their individual perception and intrinsic motivation for the knowledge transfer.

**Table 5.** Differences in organisational levels' relation to two factors

	Organisational level	N	Mean	Std. Deviation	t (46)	Sig. (2-tailed)
Individual perception	Non-managerial	31	4.5677	.39360	-.662	0.511
	Managerial	17	4.6471	.40330		
Intrinsic motivation	Non-managerial	31	4.3306	.36735	-1.739	0.089
	Managerial	17	4.5294	.39905		

In Table 6 results show no statistically significant association, with a p-value greater than 0.05, can be seen between the number of years of work experience of

employees and their individual perception and intrinsic motivation for the knowledge transfer.

**Table 6.** Differences in work experience relationship to two factors

	Work experience	N	Mean	Std. Deviation	F	Sig.
Individual perception	< 5	10	4.5000	.54365	.699	.503
	5-10	6	4.5000	.48580		
	> 10	32	4.6438	.32422		
Intrinsic motivation	< 5	10	4.2375	.47306	1.341	.272
	5-10	6	4.3542	.38256		
	> 10	32	4.4609	.35418		

These results show that hypothesis 3 needs to be rejected because there is no significant difference in the support of knowledge transfer that is related to the professional rank or to the number of years of work experience. Hypothesis 3 was tested for two factors, individual perception and intrinsic motivation. This means that on contrary to what was assumed, individual perception of the importance of knowledge transfer and intrinsic motivation does not change, neither with the number of years of work experience nor with the professional rank.

## **5. Discussion**

In hypothesis 1 based on the obtained results, a significant difference in the support of the knowledge transfer was found in two types of veterinary institutes. While the difference does not exist on the individual level, it does exist on the organisational level. This is in accordance with the empirical data from Tenopir et al. (2020) showing that academia relies on individuals for the knowledge transfer while institutions provide different levels of support.

The findings of the study show that support to the process from the management, the IT and the organisational culture is significantly greater in specialist institutes. The explanation can be found in the description of their scope of work, stating that they are smaller and more market-oriented, which implies they are more agile and adaptable, and also more supportive to the knowledge transfer process.

In hypothesis 2 the differences between five factors were examined in supporting the knowledge transfer process, for both types of institutes. The differences do exist, with the results shown and again the strongest points coming from the individual level in the form of perception and intrinsic motivation, followed by management support, organisational culture, and IT support. This means that the greatest support for the knowledge transfer is provided by the

individuals and not by the institutions complying with the findings of Tenopir et al. (2020). Since it was shown that IT support is the weakest point, this is most probably due to the fact of the limited budget for IT infrastructure, which points to the area of possible improvement. Sufficient resources need to be available for up-to-date collaborative platforms and tools and also trained KM practitioners who would be dealing with the implementation process of new technologies with the necessary time for adoption.

This does not comply with the literature suggestions by Azevedo et al. (2018) pointing to the importance of IT tools implementation in enhancing knowledge transfer in the organisation. For this reason, there is an increasing number of companies investing more and more in IT tools while this is not the case in veterinary institutes in Serbia.

In hypothesis 3, it was assumed that there are differences at the individual level being linked to the number of years of work experience and professional rank. This hypothesis was rejected because results showed no association between the years of work experience and professional rank with individual perception and intrinsic motivation.

This finding complies with the empirical data from Tenopir et al. (2020) showing researchers being in generally interested in the knowledge transfer.

In research organisations, such as veterinary institutes, the level of education, is high and above the average when compared to the average level of most organisations in Serbia. This means that researchers' awareness and understanding of the importance of this process and their willingness to share the knowledge with their co-workers is on a high level from the very beginning of their careers and it does not change with the number of years spent in the institute, nor with their professional rank.

## 6. Conclusion

Our complex business environments and intensive competition made organisations realize that their intangible assets, in the form of tacit and explicit knowledge and its' transfer are critical for success, competitiveness and survival.

This is the case with all organisations in private, as well, as in the public sector. In this study the knowledge transfer process was analysed, the factors contributing to it, and the differences existing among veterinary institutes in Serbia, on individual, organizational, and technical level.

All 12 veterinary institutes in the Republic of Serbia were included in the study. Having in mind the importance of this process, as already explained, and the fact that there are no data in the literature related to practices and findings in Serbian veterinary institutes, this is a topic challenging to be further explored.

The five selected factors were chosen from the literature as important and those that should contribute positively to the knowledge transfer.

Results obtained are in favor of existing solid infrastructure for the support of the knowledge transfer process in these institutes. This implies a high level of personal motivation and understanding of individuals, together with the will to contribute to the knowledge transfer, regardless of the type of the institute, years of work experience, and professional rank.

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When two types of veterinary institutes were compared, the results showed that a higher level of organisational support is present in specialist compared to scientific institutes. This implies that specialist veterinary institutes provide better support to the knowledge transfer which is probably due to the fact that they are more market-oriented. That means that external demand pushes the establishment of better infrastructure for the knowledge transfer.

Study reveals as well, that when five factors were compared, IT support is the weakest point in all institutes, perception and intrinsic motivation are the strongest, while management support and organisational culture are in between.

These findings present novelty because similar research has never been done in Serbia.

Results of this study can be used by veterinary institutes to further develop the knowledge transfer process, especially in the domain of IT support, which would result in their higher performance both scientifically and commercially leading to overall improved sustainability.

This study may open the path for future research where each of the factors examined can be analyzed in greater depth.

The limitation of this study is the specific area of expertise, but it may be relevant for other institutes as well, providing the option for the comparison of the results and future exchange of good practices.

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