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SOME RESULTS OF AN EMPIRICAL STUDY ON THE WILLINGNESS OF UNIVERSITY CITIZENS TO TRANSFER KNOWLEDGE

Abstract

In 2021, a survey was conducted to map the willingness to share knowledge of several students studying at Hungarian universities. The authors of the study wanted to examine how students rate knowledge sharing in the organisation where they study, how open they are to share their knowledge, what informal forms of knowledge sharing exist in the educational institution for academic and non-academic knowledge sharing, with whom they are willing to share their knowledge the most and furthermore what are the most important knowledge transfer problems in their institutions. The respondents filled in a questionnaire during seminars and on the social media platforms. 552 university students participated in the survey. The results show that knowledge sharing is a fundamental feature of the institutional strategy and active knowledge transfer is practised in schools since this is one of the primary tasks of universities, however, it is less common to encourage or reward knowledge sharing. In the study women rated their institution's knowledge management practices stronger than men. Furthermore, the results showed that in institutions where knowledge sharing is an important part of the strategy, there is active knowledge sharing and the more distant the relationship between a student and a student is, the less open they are to sharing information. According to the findings, the closer the relationship is, the more sharing tends to occur within the participants of knowledge transfer. As the issue of knowledge management and knowledge sharing is an inevitable question in corporations' and universities' everyday life, preserving, developing, and transferring knowledge is a primary requirement for the organisations.

Keywords: knowledge transfer; university students; strategy

Literature review

Knowledge sharing is an obvious process in an academic environment such as a university (Dzandu et al., 2014). Knowledge sharing is a process where individuals exchange explicit and tacit knowledge, mutually create new knowledge, and transfer experiences and information (Castaneda & Cuellar, 2021). Knowledge sharing is known as a significant process which helps to build up general knowledge management procedures by being incorporated into both organisational and individual minds to develop their power to learn with the assistance of information technologies. Knowledge sharing is the explicit or implicit knowledge management through which knowledge can be shared, generated, and used (Salloum et al., 2018). Although many benefits of knowledge transfer can be listed, it is not always easy to encourage university students to share knowledge as they are not willing to do so voluntarily. Sie and Wang (2018) stated that knowledge sharing between

students and the university could be promoted by building a conceptual framework that includes a community of practice for university students.

Many researchers investigated the impact of knowledge sharing and collaboration processes (as components of the knowledge management process) on education and educational institutions (Bolisani, 2019). Vătămănescu et al. (2019) emphasised the positive influence of organisational policies in facilitating knowledge sharing and collaboration. Dzandu et al. (2014) investigated the factors influencing the knowledge sharing behaviour of undergraduate students at the University of Ghana. The researchers tested six hypotheses (from cross-sectional data), five of which were supported. Their study revealed a critical relationship between students' knowledge sharing behaviours and both cultural, human, and environmental factors. Ghadirian et al. (2014) examined the knowledge sharing behaviours of students in learning environments. Tan (2015) focused on the influence of knowledge management factors in encouraging knowledge sharing among scholars in research universities and proposed a knowledge management-knowledge sharing-collaboration research model. Sie and Wang (2018) examined the promotion of value co-creation and knowledge sharing between universities and learners. Some researchers focused on collaborative knowledge construction among students (Mayordomo & Onrubia, 2015). Memon et al. (2016) examined the impact of personality traits such as openness to experience and agreeableness on knowledge sharing in the student-instructor relationship. Gurteen (1999) suggested a way of creating a knowledge sharing culture, emphasising the significance of starting knowledge exchange practice at a local level. Sohail and Daud (2009), in their study, identified the measures of knowledge sharing such as knowledge nature; working culture; attitudes of staff; opportunities and motivation to share knowledge. Ozdamli and Cavus (2021) interviewed 69 computer information systems students in Cyrpus and found that they prefer using opportunities provided by technology (microblogging applications, online databases, note-taking applications) to share knowledge. Cabrera and Cabrera (2005) identified crucial people management practices that foster knowledge sharing: work designs that promote collaboration; formalised socialisation programmes and informal social events; a trusting and open culture; information technology that matches organisational culture; development of teamwork skills and capacity to communicate knowledge; and other practices.

Factors influencing knowledge sharing and the willingness of students to share knowledge

There are four main knowledge management factors which are critical for enabling knowledge sharing to occur: individual/personal (trust, knowledge self-efficacy, reciprocity), organisational (top management support, rewards, culture), technological (KM system infrastructure and quality), and face-to-face interaction and open communication (Tan, 2015). Joseph and Jacob (2011) stated that corporate climate and culture are powerful organisational influencing factors. Participants of the research conducted in Innsbruck believe that mutual trust, willingness and motivation on both sides, and an honest and open personality are the most crucial factors that influence the successful integration

of knowledge transfer in an organisation. Referring to other knowledge transfer experiences, aspects such as team spirit, solidarity, open learning culture, and attitude to work also affect the efficient integration of knowledge sharing within an organisation (Schlögl et al., 2018). In the educational sector, influencing factors cover individual, technological, and classroom aspects. Wangpipatwong (2009) claimed that students' ability to share, technological support, and a level of competition with group mates are the factors influencing knowledge sharing. On the other hand, the author stated that instructor support, students' willingness to share, and the availability of technology do not influence knowledge sharing between students. Dzandu et al. (2014) found that the knowledge sharing behaviour of university students is related to environmental and human factors. It is, however, not dependent on the personal characteristics of students. Motivating factors such as normative and community-related considerations and personal benefits define one's willingness to share knowledge with others (Rahman et al., 2014).

Raza et al. (2018) especially focused on the influence of motivation, trust, subjective norms, rewards, and attitudes of students on knowledge sharing behaviour at university. The researchers claimed that a feeling of superiority among others, trust, and motivation increase the willingness of students to share their knowledge with others. Moreover, it has been found that students' attitudes towards knowledge sharing are positive and students are more willing to share knowledge with people they know. Regardless of the importance of knowledge sharing within organisations, attitudes to sharing knowledge may differ. Some people may avoid sharing knowledge as they consider it a risky practice that will lead to their vulnerability (Nugroho, 2012).

The importance and benefits of knowledge sharing

Knowledge sharing is a crucial step and is critical for intellectual discourses (Ghadirian et al., 2014). Sie and Wang (2018) claim that knowledge sharing is an essential part of the learning process in higher education. Previous studies have emphasised the importance of implementation knowledge sharing in universities and organisations (Gurteen, 1999; Rowley, 2000; Sohail & Daud, 2009; Dalkir, 2011; Jones & Sallis, 2013; Dzandu et al., 2014; Mueller, 2015; Javaid, 2020). Cheng et al. (2009) underlined the significance of knowledge sharing in knowledge-based institutions as well as in business organisations. Gurteen (1999) underlined the importance of knowledge sharing, which brings continuous innovation, application of new knowledge, and acceleration of technological, business, and social change.

Knowledge transfer benefits educational institutions and professionals (Salloum et al., 2018). Tan (2016) also described knowledge sharing as the most desired and essential knowledge management process for institutions. Generating innovative ideas, sense of purpose, team building, and not making the same mistakes several times are benefits that are associated with knowledge sharing (Dalkir, 2011). According to Castaneda and Cuellar (2021), knowledge sharing improves the quality of interpersonal relationships, academic achievement, and people's attitudes toward working with others.

Obstacles to sharing knowledge

There are numerous barriers that can hinder the knowledge sharing process in organisations. One of them is the belief that knowledge is a property, and its ownership is essential. Another reason is the uncertainty of the provider about the receiver's understanding and use of knowledge (Dalkir, 2011). Sun and Scott (2005) investigated barriers to knowledge transfer and mentioned fourteen sources that participants in their study agreed on (for instance, individual imperatives, competencies, organisational climate, team relationships, inter-organizational relationships, and other sources). Riege (2005), in his article, reviewed and discussed more than thirty barriers to knowledge sharing by dividing them into three categories: individual, technological, and organisational. Personal or individual factors are lack of social networks and communication skills, overemphasising position status, and cultural differences. Technological factors can be defined as unwillingness to use applications, lack of technology integration and unrealistic expectations of information technology systems. Organisational barriers are lack of infrastructure and resources, and the accessibility of informal and formal meeting spaces. After examining the barriers to knowledge sharing and its effectiveness in Vietnamese higher education institutions, Van Ta and Zyngier (2018) identified three main factors: poor knowledge management, bureaucratic management, which causes a lack of autonomy in decision-making, and weak personal absorptive capacity.

Formal and informal knowledge sharing

Informal knowledge sharing is a process where individuals or group members share, accept information, knowledge, and ideas informally (Nugroho, 2012). Formal knowledge sharing practices include training programs and technology-based systems and are designed to acquire knowledge explicitly, while informal knowledge sharing opportunities incorporate social networks and personal relationships (Ipe, 2003). Ipe (2003) also stated that more knowledge is shared in the informal context and that the process depends on the culture of the organisation. On the other hand, Bencsik et al. (2019) found that members of organisations are more likely to share professional information in a formal context than in private. Nevertheless, informal knowledge-sharing activities, which have no positive effect, such as gossiping, are also popular within organisations. Mueller (2015) investigated formal (training programs and workshops, reports, flagship projects) and informal (meeting by chance, learning from someone's experience, talking with people in elevators or coffee rooms) knowledge sharing practices between project teams. The author also stated that formal practices can facilitate the development of informal practices.

Research methodology and results

In 2021, the authors organised a study to investigate the willingness to share knowledge of several students studying at Budapest Business School. The research ran from January 2021 to October 2021. Students could fill in the questionnaire in class, or other students on campus could fill it in using the snowball method. The largest pro-

portion of students in the analysis were from Budapest (85%), while the smallest proportions of students were from South Transdanubia and Central Transdanubia (0.7% and 0.5% respectively).

During the survey, respondents filled in a questionnaire prepared in advance by the authors during seminars and on the social media platform. Responses were voluntary and anonymous, which the research organisers informed the participants about. Furthermore, the researchers followed the university's ethical code of conduct for ethical research.

A test survey was also organised by the authors of the study before the questionnaire was sent out. Three respondents were asked to fill in the questionnaire, but as there were no problems of interpretability for the respondents, it was posted on the Internet in its unchanged form. The research participants had to answer 27 questions, of which 26 were closed questions and one was open. The questions were typically based on nominal and metric variables.

The questions were divided into several groups of questions, the structure of which is presented in Table 1:

Table 1: The structure of the questionnaire

1st group of questions: Specific questions	2nd group of questions: Ability to cooperate	3rd group of questions: Feedback in specific situations	4th group of questions: Problems of knowledge transfer
Gender of the respondent Age of the respondent Place of residence What subject are you studying? How old is the student? Reasons for choice of institution?	Opportunities for cooperation between institutional citizens Sharing information in different situations (with friends, acquaintances, strangers) With whom do university citizens share information? Informal knowledge sharing arenas in universities?	How do you get back information in each situation? What are the expectations between knowledge sharing participants in each situation?	What problems arise in the transfer of knowledge between university citizens? What are the reasons?

Source: own table

552 people participated in the survey. Responses were analysed using univariate and multivariate data analysis methods using SPSS version 28. These included: frequency tests, analyses of means, ANOVA, T test, correlation analysis.

In the analysis, the authors of the study have set several objectives, and in the present study they have sought to answer the following:

- How do students rate knowledge sharing in the organisation where they study?
- How open are students to each other and teachers to students about knowledge sharing?
- What informal forms of knowledge sharing exist in the educational institution for academic and non-academic knowledge sharing?
- With whom are students willing to share their knowledge?

- What are the most important knowledge transfer problems in the institution where they study?

With these research objectives in mind, the researchers in the present analysis examine the validity of the following two hypotheses:

Hypotheses

H1) The students participating in the research are satisfied with the knowledge transfer practices in the institution, although their perception of the processes depends on the gender of the students and the year in which they study.

H2) In the examined educational institution, informal forms of knowledge transfer play a greater role in the transfer of academic knowledge than in the transfer of non-academic knowledge.

In the study, the authors used the following sample:

Table 2: The specification of the sample (N=552, %)

Specification	Frequency (%)
Gender	45.5% Male 54.5% Female
Field of science that the student is studying	3.5% Health science 4.5% Natural sciences 8.6% Engineering 76.5% Economics 3.4% Humanities 0.6% Arts 1.3% Law 1.5% Pedagogical science 0.2% Humanities
Which academic year the student is in	32.4%First year 18.8% Second year 20.5% Third year 10.0% Fourth year 2.2% Fifth year 16.1% Other (e.g. PhD, second degree, etc.)
Where is the higher education institution where the student is studying?	85% in Budapest 1.8% in Northern Great Plain 2.7% in Southern Great Plain 5.3% in Central Hungary 0.5% in Central Transdanubia 1.6% in Western Transdanubia 0.7% in South Transdanubia 2.4% in Northern Hungary

Source: own table

The average age of respondents was 24.17 years. The sample specification shows that a higher proportion of women were present in the sample. Most of the students in the survey were studying economics, and they were typically studying for a BSc.

In the research, the authors first asked how the students evaluated their own institution's knowledge management practices. They were asked to indicate on a five-point Likert scale how typical the statement was of their own institution. A one indicated not at all typical and a five indicated completely typical. The mean and standard deviation of the responses are shown in Table 3:

Table 3: What are the characteristics of the knowledge management practices of the educational institution? (mean, standard deviation) (N=552)

Characteristics	Mean	Deviation
Knowledge sharing is rewarded in the organisation.	3.38	1.109
Knowledge sharing is encouraged in the organisation.	3.93	0.931
The organisation has tools to support knowledge sharing.	4.07	0.852
The organisation has active knowledge transfer.	4.08	0.853
Knowledge sharing plays a significant role in the organisation's strategy.	4.11	0.869

Source: own table

The results show that knowledge sharing is a fundamental feature of the institutional strategy and is felt by the students. It is no coincidence that active knowledge transfer is therefore also practised in schools since this is one of the primary tasks of universities. However, it is less common for schools to encourage or reward knowledge sharing. These were the questions with the highest scatter, which also shows that respondents were the least unanimous.

The authors examined how women and men perceived these statements, and whether students in different grades held different views on the issue.

For gender, the independent samples T test showed no significant difference. It is however true that, apart from a claim of rewarding knowledge sharing, women rated their institution's knowledge management practices stronger than men.

In terms of years the ANOVA test, already showed a complete difference for all the statements in Table 3. In all cases, students felt the statements more strongly in the first two years, then in the third and fourth years there was a decline in the strength of the knowledge strategy, and then in the fifth year and PhD students again showed a strengthening in their positive perception of the institutions' willingness to share knowledge, strategy, and tools.

The authors also examined the statements in Table 3 in terms of how they relate to each other. The correlation analyses showed that in institutions where knowledge sharing is an important part of the strategy, there is active knowledge sharing (r: .730 p: .001) and a strong supportive instrument (r: .586 p: .001). In schools where knowledge sharing is encouraged, knowledge sharing is typically rewarded (r: .63 sig.: .001). In schools where knowledge sharing is reinforced, knowledge sharing plays a significant role (r: .501 sig.: .001) and active knowledge sharing is also in place (r: .583 sig.: .001).

The study also revealed which students are more open to sharing information with other students. Here again, respondents were asked to rate the options on a five-point Likert scale. One meant no at all, while five meant yes. The mean and variance of the responses are summarised in Table 4:

Table 4: Which students are open with you about sharing information? (mean, standard deviation) (N=552)

Characteristics	Mean	Deviation
Close friends in the institution.	4.61	0.814
Your own group mates.	4.28	0.866
Students in neighbouring groups.	3.35	1.018
Upper year students.	3.26	1.125
Lower year students.	2.71	1.249

Source: own table

The table shows that the more distant the relationship between a student and a student is, the less open they are to sharing information. The standard deviation values also increase in this direction, so that the respondents' opinions on these issues are more divergent from the average.

The independent samples T-test for gender showed a significant difference for only one variable, and that is immediate friends (t: -2.656 $p < 0.05$). Men think that their friends are more willing to share information (mean: 4.52) than women think (mean: 4.70).

When looking at the year groups, it was confirmed that only the lower years were different for students in different years (F: 2.028 df: 8 s.p.: .041 $p < 0.05$). For this group of students, when looking at the averages, the more time one spends within the university walls, the more likely one is to believe that the lower years are more open to passing on information to them. This may reflect a respect for the upper years, which may also motivate newcomers to share knowledge.

Like the openness of students to information, the authors also looked at how students perceive the willingness of teachers in a particular institution to share their knowledge with students. Here again, the authors used a Likert scale of five. A one meant not at all, a five meant yes. The mean and variance of the responses are presented in the table below:

Table 5: Which lecturers are more open with you about sharing information? (mean, standard deviation)(N=552)

Characteristics	Mean	Deviation
Lecturers directly teaching you.	4.63	0.756
Lecturers from other groups, but they know you.	3.73	1.093
Lecturers who do not teach you at all and do not know you.	2.91	1.253

Source: own table

As with student relationships, the relationship between the learner and the teacher has a strong influence on the willingness to transfer knowledge. The closer the relationship is, the more sharing tends to occur. When the independent samples T-test was tested by gender, all three variables were significantly different for women and men. Women perceive direct instructors (mean:4.68) to be more open than men. However, men were more strongly than women

in believing that instructors from other groups (mean:3.84) and foreign teachers (mean:3.07) are willing to share their knowledge with students.

Only for direct instructors did the year groups differ in their opinions (F: 2.426 df: 8 s.p.: 0.014 $p<0.05$). Here, the opinion of first-year students was strongest (mean: 4.75), compared, for example, with fourth-year students (mean: 4.31) or fifth-year students (mean: 4. 58). It is likely that this response may reflect the fact that upper-year students already have more experience in judging the willingness of teachers to teach than students who have left high school and are in their first year of university.

The students had to assess the instructors' willingness to transfer knowledge in different situations. A one was weak and a five was strong. Table 6 shows the mean and standard deviation results:

Table 6: How does the instructor share knowledge in the following situations? (mean, standard deviation)(N=552)

Situations	Mean	Deviation
Transfer of supplementary materials.	3.94	0.923
Sharing up-to-date information.	4.03	0.955
Transfer of practical knowledge.	4.18	0.938
Delivery of compulsory curriculum.	4.31	0.871
Sharing exam dates.	4.38	0.851
Sharing requirements.	4.39	0.843

Source: own table

It can be concluded that the students surveyed are satisfied with the knowledge sharing of teachers at their university. The low value of the standard deviations also confirms that there is unanimity among students.

In terms of gender, they differ in their perception of the knowledge sharing of instructors in terms of sharing requirements (t: -2.616 $p<0.05$) and exam dates (t: -2.637 $p<0.05$). In both situations, women perceive instructors' willingness to share as stronger. A significant difference was identified when looking at all situations in terms of year groups. The first and fifth years felt the strongest in terms of teachers' willingness to share knowledge. Table 7 summarises the ANOVA results and the authors have indicated which year groups felt the strongest teacher knowledge sharing in each situation.

Table 7: Assessment of teachers' knowledge sharing by grade (ANOVA, p=0.05, N=552)

Situations	ANOVA	Which grade rates as the strongest? (average)
Transfer of supplementary materials.	F: 1.649 sign.: 0.049	Fifth-year student (4.17)
Sharing up-to-date information.	F: 2.832 sign.: 0.004	First-year student (4.17)
Transfer of practical knowledge.	F: 4.299 sign.: 0.000	First-year student (4.45)
Transfer of compulsory curriculum.	F: 4.213 sign.: 0.000	Fifth-year student (4.67)
Sharing exam dates.	F: 3.816 sign.: 0.000	Fifth-year student (4.67)
Sharing requirements.	F: 2.793 sign.: 0.005	Fifth-year student (4.67)

Source: own table

The authors also reviewed whether there is a link between the knowledge management system of the institutions and the openness of the teachers to knowledge sharing. Based on the correlation studies, the authors were able to draw the following conclusions:

- In organisations where knowledge sharing is an important part of the organisation's strategy, there is a strong tendency for trainers to share requirements (r: .552) and to transfer practical knowledge (r: .458).
- In organisations where there is active knowledge sharing, there is strong sharing of requirements (r: .450), sharing of compulsory learning (r: .423) and transfer of practical knowledge (r: .461).
- In organisations where knowledge sharing is rewarded, there is a strong preference for sharing up-to-date information (r: .284) and transferring practical knowledge (r: .404).

Overall, students are satisfied with the institutions' knowledge transfer processes, but satisfaction is influenced by the gender of the respondent and the year of study. On this basis, the authors accept their first hypothesis.

The studies also sought to shed light on the role of informal forms of knowledge transfer in the transfer of academic and non-academic knowledge. Respondents were asked to give their opinion on the specific forms of knowledge transfer and how characteristic they were for the type of knowledge they were given. One was not at all typical and five was completely typical:

Table 8: Informal knowledge transfer forms for academic and non-academic knowledge (mean, standard deviation) (N=552)

Forms	Academic knowledge		Non-academic knowledge	
	Mean	Deviation	Mean	Deviation
Educational lessons	4.20	1.019	2.66	1.260
School canteen	2.41	1.216	3.01	1.321
Lunch with students during the day.	2.48	1.205	3.09	1.338
Having coffee and smoking with students.	2.83	1.322	3.27	1.346
Trips with students	2.60	1.250	3.05	1.379
Community portals.	3.91	1.100	3.57	1.276
Through intranet	3.49	1.355	3.07	1.456
At institutional events	2.63	1.266	2.64	1.306
Through video sharing portal	2.88	1.342	2.41	1.317

Source: own table

The main platform for learning knowledge is the classroom and the community portal. While non-study related knowledge is mostly shared in community spaces such as the community portal, the cafeteria, over coffee and lunch. In those forms where students are freer to let go, there is a greater emphasis on non-study knowledge, while in more bounded settings, study knowledge is more prevalent.

Depending on the number of years of study, different forms of learning are preferred. Regardless of the year in which a student is studying, the main field of knowledge transfer is the

classroom. First-years prefer to use a community portal (mean: 4.11), but fifth years also use the school canteen (mean: 3.08), while the same cohort is less likely to share learning while travelling (mean: 1.67). Second, third and fourth years use community portals and intranets, but less so the school

canteen. For non-academic knowledge, the school canteen plays a more significant role for all grades, especially for fourth years (mean: 3.49). At lunches, fourth (mean: 3.49) and third years (mean: 3.17) talk about non-school-related topics.

The analysis also revealed that for some types of information there is a link between different forums. The analyses showed that during lunches, during intranet sessions, at institutional events and on the video-sharing portal, not only professional but also non-academic topics are raised among students in parallel.

Finally, the research asked what the most important problems are related to knowledge transfer in students' institutions. Here the authors focused primarily on academic knowledge. Almost a third of the respondents (30.3%) mentioned that students do not ask questions because they are afraid of being found out not to have enough information, many mentioned a lack of motivation on the part of students (16.3%) or a lack of time to transfer knowledge effectively (14.3%).

In conclusion, there are different forums for knowledge sharing depending on whether it is professional or non-professional knowledge transfer, but that these forums play a significant role for both types of knowledge, and the authors cannot accept their second hypothesis.

Summary

The study presented some of the results of research carried out last year. In the light of the results, knowledge sharing is a fundamental feature of the examined university's institutional strategy, but it is less common for the institutions to encourage or reward knowledge sharing. Students are satisfied with the institutions' knowledge transfer process and students are willing to share their knowledge, but satisfaction is influenced by the gender of the respondent and the year of their study. This is in line with the results of other international and national studies.

Moreover, the results showed that the more distant the relationship between a student and a student is, the less open they are to sharing information. As far as student relationships are concerned, the relationship between the learner and the teacher has a strong influence on the willingness to transfer knowledge, which means the closer the relationship is, the more sharing occurs. There are several forums for knowledge transfer provided by universities, which play a significant role in the knowledge management practices of institutions, regardless of the content of the knowledge.

The results of the study, although not representative, provide information on the willingness to transfer knowledge and on what informal forms of knowledge sharing exist in the educational institution for academic and non-academic knowledge sharing at the examined universities. The results of the study justify the need for further research to understand and map the organisational knowledge sharing practice in our country.

The researchers want to continue their research in the future. Firstly, they want to investigate at international level whether cultural differences influence students' willingness to share knowledge. On the other hand, it would be an interesting approach to look at the question for

students who are specifically facing state exams. How willing they are to share valuable information such as elaborated lists of items, or to collaborate on items. This is also an important question because after the state exams, students need to practice and implement active knowledge sharing in the world of work.

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