

FROM CLASSROOM TO CAREER: THE BENEFITS OF KNOWLEDGE SHARING FOR UNIVERSITY STUDENTS

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Abstract: Universities are increasingly encouraging practices typical of contemporary work settings to support students in acquiring the skills and behaviors they need for future employment. One such practice is knowledge sharing, which includes exchanging ideas, experiences, and information within the observed entity. This process has been extensively studied in organizational contexts, where research has demonstrated its positive effects on both work performance and the well-being of employees. Following these findings, researchers have started investigating knowledge sharing within academic settings. This article provides a review of knowledge-sharing literature, and the pioneering studies related to university environments. Additionally, it presents empirical data from a study involving Serbian students, exploring their knowledge-sharing behaviors. The findings reveal that the examined students are inclined to donate as well as collect knowledge, that these two knowledge-sharing behaviours are significantly connected, and that they positively influence students' perceived academic performance.

Keywords: knowledge sharing, knowledge donation, knowledge collection, university students, collaborative learning, academic performance, knowledge management

1. INTRODUCTION

Knowledge sharing represents a vital component of knowledge management receiving significant attention from both researchers and professionals around the world. Numerous studies discovered its positive effects on work outcomes [1], including employees' well-being and success [2]. At the same time, universities have begun encouraging behaviors common in contemporary workplaces to assist students in developing the skills and attitudes necessary for their future careers [3]. One of these behaviours is the exchange of knowledge [4]. Despite being the common daily practice of university students, there are limited findings concerning knowledge-sharing dynamics and outcomes within an academic setting. Therefore, to raise awareness regarding the benefits of knowledge-sharing practices and support its promotion among the student population, this article briefly outlines knowledge management, explores the concept of knowledge sharing, reviews the existing literature on its impact on student outcomes, and presents empirical data from a study on Serbian students.

2. KNOWLEDGE MANAGEMENT

Even though human society has been managing and preserving knowledge for millennia, knowledge management as a distinct scientific discipline is relatively young. It appeared in the last decade of the twentieth century as a reaction to the soaring pressure placed on organizations to optimize their knowledge usage [5]. This involved taking proactive steps and enhancing their performance by more effective management of their collected knowledge [6], [7]. Since then, the authors have proposed numerous definitions of knowledge management, with most of them emphasizing the applied and practical aspect of the discipline [5] and conceptualizing knowledge management as a set of processes focused on creating, disseminating, and utilizing knowledge to achieve organizational goals [8]. In such conceptualization, authors identify different knowledge management sub-processes, including knowledge creation, knowledge retention, and knowledge sharing [9]; knowledge acquisition, knowledge sharing, and knowledge utilization [10] or knowledge recognition, knowledge sharing, knowledge usage, and practice within an institution [11]. Regardless of the specific framework, knowledge sharing is perceived as a crucial element in most conceptions of knowledge management.

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3. KNOWLEDGE SHARING

Knowledge sharing may be depicted in various ways. Typically, it is regarded as a process of collaboration in which individuals exchange information, skills, and expertise [12], which leads to forming new knowledge [13] or new insights, as described by Van den Hooff and de Ridder's [14]. It can involve the sharing of personal, implicit knowledge, as described by Yun & Lee [13], as well as exchanging ideas, recommendations, and information related to tasks, as noted by Eze et al. [15]. Additionally, researchers are increasingly adopting Van den Hooff and de Ridder's [14] conception of knowledge sharing construct as including two dimensions – knowledge collection and knowledge donation [2]. The former entails individuals acquiring knowledge and intellectual capital from other participants of the observed entity, while the latter involves individuals sharing their own intellectual capital with others. These two dimensions frequently occur together, and a person who donates knowledge may also be involved in collecting knowledge [2].

3.1. Knowledge Sharing within a University Context

While most research on knowledge management as well as knowledge sharing focuses on employees and organizations, there is a growing interest in studying knowledge sharing among the student population [16]. Knowledge sharing is a regular part of student life, as they often exchange information with peers and faculty, and its significance for future career success and employment opportunities is gaining acknowledgment [16]. In this respect, it has been found that competencies and skills, such as teamwork, communication, negotiation, problem-solving, critical as well as creative thinking, decision-making, and leadership, can be cultivated through the practice of knowledge sharing during individuals' university education [17]. Moreover, it has been confirmed that effective collaborative learning relies on students actively and willingly sharing knowledge [16]. Dezdar [18] has found that factors affecting students' willingness to share knowledge include humility, self-efficacy, trust, enjoyment from assisting others as well as reputation, whereas Brouwer and Jansen [19] have found that trust, altruism, and a sense of belonging indirectly impact students' personal gains derived from sharing knowledge. Contrarily, obstacles preventing students from sharing knowledge include students' tendency to hoard knowledge because they view it as a competitive edge over their peers, particularly when their academic achievement is rewarded significantly [16]. Also, high-performing students may have concerns about sharing knowledge when assigned collaborative activities, fearing an unequal workload distribution but a common grade [20].

3.2. Knowledge Sharing in the Digital Age

In contrast to previous generations who dominantly shared knowledge in person or 'offline', generations of digital natives who constitute the current population of students have different communication habits and dynamics [21], [22], [23]. Today, students' interactions can happen either face-to-face or through virtual communication tools [24], and academic institutions increasingly utilize modern technologies for collaborative learning activities [17]. Indeed, studies confirm that social media present the most efficient means for sharing knowledge [25], with platforms like Facebook offering resources necessary for participating in knowledge exchange. In relation to that, studies have found that digital illiteracy and low self-esteem of students can present barriers to sharing knowledge with others in the online environment [25]. Finally, authors have noticed different relational dynamics between these two knowledge-sharing environments. Specifically, face-to-face knowledge sharing is found to be shaped by existing social relationships, while online sharing, such as through blogging, can foster new connections, and students who are not acquainted with each other initially can develop personal relations by exchanging knowledge related to their experiences and interests [25].

4. EMPIRICAL RESEARCH – KNOWLEDGE SHARING AMONG SERBIAN STUDENTS

To map the knowledge-sharing behaviours of Serbian students, empirical research was conducted⁵. The research aim was to provide answers to the following research questions: whether Serbian

⁵ The research was conducted within the project SHINE, grant agreement number 7754305. A subset of research results regarding students' knowledge-sharing behaviours is presented in the article titled 'The Role of

students engage in knowledge-sharing behaviours, whether they are more inclined to donate or collect knowledge, whether there is a connection between knowledge collection and knowledge donation among the observed student population, and whether knowledge collection and knowledge donation are related to students' objective and perceived academic performance. The study population consisted of students from the University of Belgrade. For the purpose of the research, a questionnaire was designed and included demographic questions, questions regarding students' objective and perceived academic performance, and questions related to their knowledge-sharing behaviors. The online questionnaire was distributed to students by teaching staff during classes, and they completed it on-site using their mobile phones. Following data collection, statistical analysis was conducted using SPSS 21.

4.1. Measures

Knowledge sharing is observed and assessed through two dimensions: knowledge donating and knowledge collecting. These dimensions are measured using two scales of the same names, validated by Prentice et al. [2]. Each tree-item scale is assessed using a 5-point Likert scale (1 = Strongly disagree to 5 = Strongly agree). In Prentice et al.'s study the internal consistency (measured by Cronbach's Alpha) of the Knowledge donating scale was 0.84, and the internal consistency of the Knowledge collecting scale was 0.82 [2]. In our study, the values of Cronbach's Alpha of the two scales are 0.78 and 0.83, respectively. *Objective academic performance* is assessed through students' GPA or Grade Point Average, presenting the relative level of students' achievement across a variety of academic subjects. *Perceived academic performance* is measured using a modified job performance scale, utilized and verified by Prentice et al. [2]. The three-item scale is modified for the student population and assessed using a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree). In the original study, the internal consistency of the observed scale is 0.91 [2], whereas in our study it is 0.85.

4.2. Sample characteristics

The sample included 363 students from the University of Belgrade. The sample encompasses 236 (65%) female students and 127 (35%) male students, mirroring the gender disparity at the University of Belgrade. The students' age ranges from 19 to 43, with a median value of 22. The sample predominantly includes bachelor's degree students with 30.9% in their first academic year, 15.4% in their second academic year, 28.7% in their third academic year, and 22.6% in their fourth academic year. A small percentage of participants (2.5%) are enrolled in master's or doctoral studies. The respondents' mean GPA is 8.36, with a standard deviation being of 0.715 and a median of 8.33, indicating that the study primarily involves students with good academic grades.

4.3. Results and analysis

To better understand the collected data as well as respondents' behavior, Table 1 will present the descriptive statistics for each scale, along with their internal consistency values.

Table 1. Descriptive statistics per scale, number of items per scale, and Cronbach's alpha per scale

Scale	Min	Max	Mean	Std	Median	Number of items	Cronbach's Alpha
Knowledge donating	1.00	5.00	4.27	0.75	4.33	3	0.78
Knowledge collecting	1.00	5.00	3.58	0.98	3.67	3	0.83
Perceived academic performance	1.33	5.00	4.04	0.84	4.33	3	0.85

Academic Performance, Knowledge Sharing and Participation in Academic Activities in Enhancing Student Life Satisfaction and Reducing Academic Burnout' (accepted for publication in the *International Journal of Engineering Education*), and other results will be presented herein.

According to the values provided in Table 1, it may be concluded that all scales show Cronbach's Alpha values above 0.7, indicating good internal consistency. The Alpha values range from 0.78 (for the Knowledge donating scale) to 0.85 (for the Perceived academic performance scale). The Knowledge donating scale has an overall mean score of 4.27, a standard deviation of 0.75, and a high median value of 4.33. The Knowledge collecting scale has a lower mean of 3.58, a higher standard deviation of 0.98, and a lower median value of 3.67. Finally, the Perceived academic performance scale has a mean value of 4.04, with a standard deviation of 0.84, and a median value of 4.33, showing that the respondents rate their academic performance highly. This is not surprising, given that the mean GPA of the examined students is 8.36, which suggests that their high objective academic performance aligns with their perceived academic achievement.

Next, the relationship between the two knowledge-sharing dimensions is explored. Specifically, the relationship between knowledge donating (measured as a mean score of the Knowledge donating scale) and knowledge collecting (measured as a mean score of the Knowledge collecting scale) is examined using the Spearman's rank correlation, as preliminary analyses indicated that the distribution of the data was not normal. Table 2 presents the results.

Table 2. Correlation between knowledge donating and knowledge collecting

	Knowledge donating	Knowledge collecting
Knowledge donating	.	
Knowledge collecting	.60**	.

Note**. Correlation is significant at the .01 level (2-tailed).

According to the obtained results ($p = .60$, $n = 363$, $p < .0005$), we may state that there is a statistically significant strong, positive relation between the observed variables, with high levels of knowledge donating being followed by high levels of knowledge collecting.

Finally, we explored the connection between two knowledge-sharing dimensions and student's perceived and objective academic performance. In specific, the relation between knowledge donation and knowledge collection (measured as mean scores of the respective scales) on one side and students' objective academic performance (measured through their GPA) and perceived academic performance (measured as a mean score of the Perceived academic performance scale) on the other is also examined using the Spearman's rank correlation, as preliminary analyses indicated that the distribution of the data was not normal. The results are presented in Table 3.

Table 3. Correlation between knowledge donating, knowledge collecting, GPA, and perceived academic performance

	Knowledge donating	Knowledge collecting
GPA	.10	-.03
Perceived academic performance	.35**	.22**

Note**. Correlation is significant at the .01 level (2-tailed).

According to the obtained results, we may reach the conclusion that there is no statistically significant relation between knowledge donating and students' GPA ($p = .10$, $n = 363$, $p = .06$), nor between knowledge collecting and students' GPA ($p = -.03$, $n = 363$, $p = .63$). In contrast, the results reveal a statistically significant moderate positive relations between knowledge donating and students' perceived academic performance ($p = .35$, $n = 363$, $p < .0005$), and statistically significant weak positive relationship between knowledge collecting and students' perceived academic performance ($p = .22$, $n = 363$, $p < .0005$). These findings suggest that the more students engage in knowledge sharing with their peers, the higher they tend to rate their academic performance.

To summarize, the empirical data indicate that the majority of the examined students believe they donate knowledge to their peers. The findings also suggest that students have a stronger tendency to donate knowledge than to collect it, although more than half of the students still engage in collecting

knowledge from their peers. Therefore, it may be concluded that, in general, the examined Serbian students participate in both forms of knowledge-sharing behaviours. The correlation analysis further discovered a statistically significant strong and positive relation between knowledge sharing and knowledge collecting. The connection can be understood through the Norm of reciprocity [26], which suggests that individuals will be prone to sharing knowledge if they anticipate a balanced exchange in return. Our findings support the presence of this dynamic in the academic setting, where students who donate knowledge are frequently reciprocated by their peers. This cycle of exchange enhances the flow of information and plays a significant role in helping students achieve their goals and improve their performance. This leads us to our final analyses which show that while neither knowledge sharing nor knowledge collecting is significantly related to students' GPA, both are significantly related to students' self-reported academic success. These results are in congruence with employee-related studies linking knowledge sharing and perceived job performance [2], and confirm that acts of sharing positively influence an individual's sense of achievement, which is important as it is found to be connected to one's positive emotions, satisfaction, mental health, and overall well-being [2].

5. CONCLUSION

This article addresses the important topic of knowledge sharing. Being part of the knowledge management process, it has been extensively examined within the work context, whereas its more dedicated exploration within the academic environment has started recently. The impetus for such studies stems from the recognition that knowledge-sharing behaviours have become extremely desirable in the workplace, positively affecting both companies' and individuals' performance and that they should be encouraged from an early stage – during one's education. To explore such behaviours among Serbian students, we conducted empirical research and revealed that most of the examined students are inclined to both donate and collect knowledge. Furthermore, we discovered that these two dimensions of knowledge sharing are significantly connected, with both positively affecting students' perceived academic performance. These findings, along with those from previous studies, confirm the value of knowledge sharing in enhancing academic outcomes and preparing students for future careers. Future research could explore its connection to students' well-being and related issues [27].

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