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Knowledge Sharing in Higher Education Among Indian Universities – Do Personality Traits, Classroom and Technological Factor Matters?

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Abstract

There are many factors that creates impact on the concept of knowledge sharing in today's world, and every factor has its own importance and significance Factors like Personality traits, perception, attitude, Emotional stability, Classroom factors, Technological factor and many more influence the knowledge sharing environment in universities. Hence, in consideration of this research gap, the current study empirically examines the influence of the dimensions of General Knowledge Sharing Pattern: Emotional stability, Extraversion, Conscientiousness, Agreeableness, Openness, Instructor support, Degree of competition, Technology availability and Technology support, on Graduate and Post Graduate students' intention toward General Knowledge Sharing Pattern. An online based survey method was used to collect data from a sample of 100 students purposively who were studying at different universities in Delhi Region. A Multiple linear regression model using IBM SPSS software was applied to analyse the data and examined the proposed relationships in the conceptual model. The findings reveal that Conscientiousness, Instructor support and Technology Support significantly affect their General Knowledge Sharing Pattern.

INTRODUCTION

Knowledge sharing is a crucial ability in the networked and information- based economy, as much professional work is done in teams with participants who are not geographically co-located and connect with each other through online media. Successful job requires the ability to collaborate and share information effectively. Because students will be the future social and business leaders, it is critical to instill positive knowledge sharing behavior in them in order to increase their chances of finding work in a globalized market and to equip them to play an effective role in the knowledge society. In contrast to an individualistic or competitive atmosphere, this can be accomplished in a constructivist context that is learner-centered and collaborative.

Many studies have shown that sharing of information and knowledge is critical to an individual's learning and growth. Students are required to take ownership of their education proactively, according to Brown (1988), by studying with both individual responsibility and

communal learning. The collective discourse that occurs during the knowledge-sharing process is beneficial in preparing them to learn new information, produce new information, gain skills, and adopt attitudes that are beneficial in a productive society's environment. When kids are confronted with opposing ideas, they learn to think critically and argue persuasively, and all of these activities will considerably improve their learning experience. As a result, many higher education institutions are introducing group discussions, team projects, and other cooperative activities into their teaching methods in order to promote student achievement, communication skills, and a good attitude toward information sharing. According to previous studies, knowledge sharing during collaborative learning leads to reflection and learning, as well as cognitive benefits and favorable learning outcomes. In cooperative engagement, students can achieve more academically and interpersonally than in competitive or individualistic interaction. Because everyone must add their own understanding when sharing knowledge, knowledge sharing also involves knowledge innovation.

In reality, studies on the knowledge-sharing behaviors of university students have been undertaken in the past and recently. In practice, some pupils are unwilling to share their expertise with their classmates. This could be due to a combination of personal, classroom, and technology variables. People's personalities have been identified as a determining element in how they learn. It is frequently believed that for people to be successful in their careers, they must have a mix of personality traits. The effects of personality factors on students' behavior to share knowledge among peers are intriguing issues to explore among educators, researchers, and psychologists because students differ in their personal values and generally acquire and process information differently. The rest of the paper is formatted as follows: The literature review and research hypotheses in connection to personality traits, classroom, and technology aspects are discussed in Section 2. In Section 3, we go over the study's research design and methodology. This section also includes a diagram of our study model. Section 4 follows with a discussion of the findings. Section 5 concludes with a discussion of our major findings, research implications, and research limitation.

LITERATURE REVIEW

Knowledge sharing is the essential component of knowledge management. It is a process of exchanging resources from one person to another or we can say it is a process through which valuable information was disseminated between two parties or more through a reciprocal process. As a result, knowledge sharing encouraged for the reshaping and understanding of new concepts and creation of new information, knowledge sharing could also be viewed as knowledge innovation because people include their perspective when sharing knowledge. Therefore, the more knowledge shared, the greater a high-quality innovation can be achieved. The upside of free knowledge sharing is that it increases its responsiveness and effectiveness and, thus, avoids time wastage when similar departments unknowingly solve the same issues. There are many factors that creates impact on the concept of knowledge sharing in today’s world, and every factor has its own importance and significance Factors like Personality traits, perception, attitude, Emotional stability, Classroom factors, Technological factor and many more influence the knowledge sharing environment in universities. Perception, attitude is factor

that have major influence on the knowledge sharing as the students are the one who should be willing to share their level of knowledge and experience in order to create that knowledge sharing environment. If the students are more closed and are not will the knowledge sharing environment will be compromised.

Further some class room factors like support from instructor and competition among the students these are also important factors if the instructor does not support the knowledge sharing environment or fails to provide open and free space. Students will not be able to conduct the process of knowledge sharing in the universities. The completion among the students to do better also have the similar impact and will create hindrance in the knowledge sharing process.

Bagais et al, 2020 in their paper stated that there are factors that affect knowledge sharing further the paper revealed that the students had a medium to high degree of positive attitude toward knowledge sharing and a positive perception of the use of knowledge sharing in supporting their education. The paper further stated that students want to be in an environment where the right knowledge is supported and created with equal efforts. Further the researchers stated that policymakers at the university and the classroom levels need to be encouraged to organize activities that promote knowledge sharing such as seminars, symposiums, or knowledge sharing exercises during the classroom hours to raise the students' knowledge sharing behavior and enhance education. Similarly, another paper by **Han et al, 2007** stated that knowledge sharing has primary factors which influence the knowledge-sharing behavior among people in different environmental setting like schools, universities, etc. the paper further stated that factors like attitude have a positive impact for creating knowledge sharing environment setting. Another researcher **Matzle et al. 2008** concluded that there are certain factors like technological, psychological, personality, and cultural variables that have significant impact knowledge-sharing patterns among students who are studying in higher educational institutions.

Yuan et al, 2005 in their paper concluded that Active and voluntary information sharing is a critical component of successful collaborative learning and the creation of a positive learning environment. however further they stated that People, on the other hand, are often hesitant to freely offer information or knowledge. Physical, technological, psychological, personality, and cultural variables may have been the reason for the situation to arise. The general knowledge-sharing practices need to be adapted in universities the paper later suggested.

Clark and Schroth 2010 in their research found that when a person believes that they will be replaced by others if they share their expertise, this negative sentiment will influence his or her interactions with others and prevent him from sharing information such feeling of insecurity will affect the concept of knowledge sharing. On the contrary **Gupta 2008**, in his paper stated that postgraduate students often have strong emotional stability are more self-assured and secure, and therefore are less afraid to participate in knowledge-sharing activities. However, findings from **Hsu et al 2007** in their research found that emotional stability had no effect on knowledge sharing among university students.

Teh et al, 2011, concluded in their research paper that students who are extroverted are more likely to share library information with team members in order to complete a group assignment when the group work relies heavily on online sources from the library website. This helps in creating an atmosphere of knowledge sharing in the universities

Gupta 2008, in his paper found that pleasant students are warm, likeable, emotionally supportive, caring, and more interested in knowledge-sharing activities. They are more inclined to assist others by providing ideas for improving performance. By which we can say that Conscientiousness becomes an important factor for the knowledge sharing concept. Further according to **Cabrera et al 2006**, Openness is factor which can be used as a strong predictor of knowledge sharing, as openness is often related to person's curiosity and uniqueness, which can be used as predictors of seeking other people's perspectives. Further the paper stated that through sharing knowledge the students are able to generate new perspective and new intelligence. Further they also concluded that students who have high openness as an attribute are more likely to participate in any official or informal debate to express their views and share their expertise with others at the university.

Wong 2009, in his paper concluded that there are two primary characteristics which he considered in his knowledge-sharing research the factors were instructor support and the degree of rivalry among students. He stated that in an environment where the instructor is supporting the knowledge sharing environment is created automatically. Further he also said that rivalry among students is also a factor which impact the knowledge sharing. Students who perceive the environment competitive are more likely to develop closed sharing environment. Likewise, another research paper by **Chen et al.2007** also concluded similar results. They discovered that an instructor's good attitude toward knowledge sharing is linked to students' knowledge-sharing behaviors. When the instructor communicates knowledge and engages students in intellectual dialogue in the classroom, knowledge sharing takes place. Further **Yuen et al 2007**, in their paper sated that student need to be encouraged to participate in sharing knowledge this can be done by having open platform for discussion. As a result, new information may emerge from the discussion. Further the paper sated that the instructor should be able to create that knowledge sharing climate in the classes.

Another research conducted by **Wei et al 2020** in their paper found that group activities are important in order to encourage knowledge sharing among students. Academics (teachers, lecturers) should encourage their students to share knowledge by means of putting emphasis on collaborative learning to reduce competition among students. The management of universities can promote knowledge sharing by understanding the barriers and motivators of knowledge sharing. Further Wong 2009 concluded that competitiveness among students to outperform their peers was one of the key reasons inhibiting university students' knowledge-sharing habits. Students were unable to share their expertise since they were under pressure to thrive and outperform their peers academically.

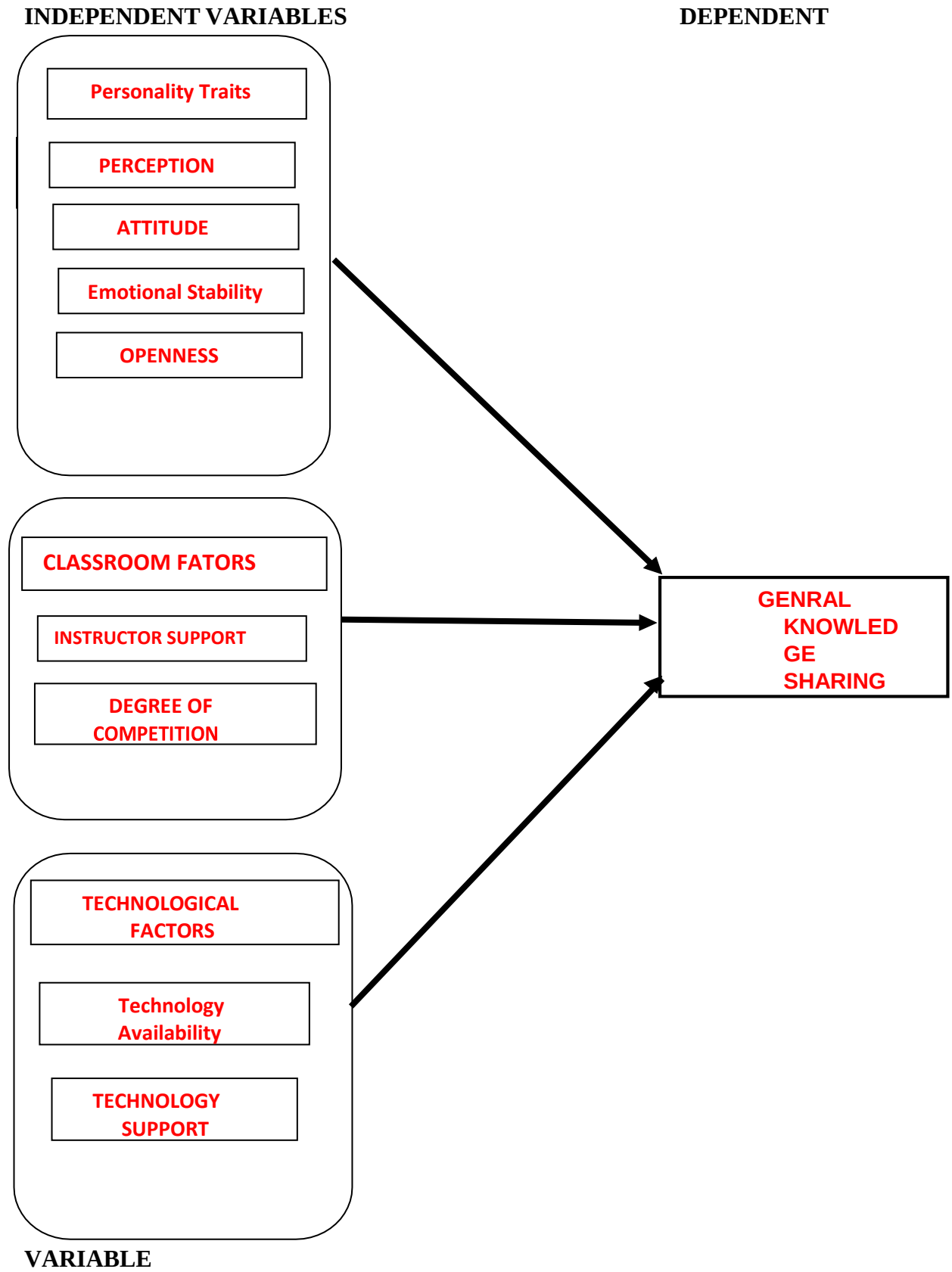
Riege 2005, in his paper listed 7 barriers of technology that can create hindrance in the knowledge sharing process out of seven barriers a few which were most significant were lack

of information technology processing and system integration which limit people to work, lack of internal and external technological support, reluctance to use information technology because of unfamiliarity to it. These barriers and many more do impact and influence the whole Knowledge sharing environment for the people another paper by Wong 2009 referred technology by two factors, which included the technological support and the technological availability further he stated that Technological support had shown a significant influence in knowledge sharing, but the technology availability was not found to have the influence in knowledge sharing among university students Likewise, paper by **Han et al 2007** revealed that the availability and usability of technology have significant influences on knowledge sharing in a large IT organization setting. **Ahmad et al ,2021** in their paper sated that universities should encourage Knowledge Sharing between students by designing course activities and assessment further they sated that appropriate step should be taken to create knowledge sharing environment like incorporate Files-sharing and Information and Communication Technology by fostering enjoyment and creating awareness of Knowledge Sharing's reciprocal benefits.

RESEARCH GAP

During the study of research papers, we found out that there have been various research papers written which talks about the factors that influence the knowledge sharing in the universities The researches were conducted across many countries and schools and there were various factors like Personality traits, perception, attitude, Emotional stability, Classroom factors, Technological factor, etc. which were found to be essential influencers. But there was no study which took into account the students studying in the Delhi NCR region. So in this research paper we would study what impact does the factors like Personality traits, perception, attitude, Emotional stability, Classroom factors, Technological factor create on Knowledge Sharing among the undergraduate and post graduate students studying Delhi NCR colleges and universities

RESEARCH MODEL


INDEPENDENT VARIABLES
DEPENDENT
Personality Traits
PERCEPTION
ATTITUDE
Emotional Stability
OPENNESS
CLASSROOM FATORS
INSTRUCTOR SUPPORT
DEGREE OF COMPETITION
TECHNOLOGICAL FACTORS
Technology Availability
TECHNOLOGY SUPPORT
GENRAL KNOWLED GE SHARING
VARIABLE

HYPOTHESIS OF THE STUDY

On the basis of the Literature review and considering the factors following hypothesis were formed:

Hypothesis 1.1 *Graduate and Post Graduate Students' ES has a significant positive influence on their General Knowledge Sharing Pattern*

Hypothesis 1.2. *Graduate and Post Graduate Students' EV has a significant positive influence on their General Knowledge Sharing Pattern.*

Hypothesis 1.3. *Graduate and Post Graduate Students' CS has a significant positive influence on their General Knowledge Sharing Pattern.*

Hypothesis 1.4*. Graduate and Post Graduate Students' AG has a significant positive influence on their General Knowledge Sharing Pattern.*

Hypothesis 1.5. *Graduate and Post Graduate Students' OP has a significant positive influence on their General Knowledge Sharing Pattern.*

Hypothesis 1.6. *Graduate and Post Graduate Students' IS has a significant positive influence on their General Knowledge Sharing Pattern.*

Hypothesis 1.7*. Graduate and Post Graduate Students' DOC has a significant positive influence on their General Knowledge Sharing Pattern.*

Hypothesis 1.8*. Graduate and Post Graduate Students' TA has a significant positive influence on their General Knowledge Sharing Pattern.*

Hypothesis 1.9*. Graduate and Post Graduate Students' TS has a significant positive influence on their General Knowledge Sharing Pattern.*

RESEARCH METHODOLGY

The study aims to Knowledge sharing among the students, given that the unit of analysis for this study was individual, a survey questionnaire of university students was conducted. The survey was administrated among the students pursuing their graduation and post-graduation in Delhi from various colleges and universities. In view of the heterogeneous background of students and differences in various disciplines offered in the universities. A total of 100 students from different universities in Delhi were selected as the sample population of this study. Study data have been collected between March 2022 and April 2022. A purposive sampling technique was used to select the sample respondents since particular information is required to achieve the objectives of this study.

The current study is conducted through online survey method. To conduct the survey, a typical structured questionnaire was prepared as an instrument of data collection including the validated measures items adopted from prior studies. A total of 27 items under 10 constructs were included in the questionnaire. The construct, namely **emotional stability, Extraversion, Conscientiousness, Instructor support, Technology support** was measured by three items.

The **Degree of competition, Openness, Technology availability was measured by** two items. The final questionnaire consisted of two parts, first part contained the basic demographic information of the respondents, and second part exhibited the statement and description of the notions of General Knowledge Sharing Pattern. All measure items in the questionnaire were rated on a 5- point Likert-type scale (5 = strongly agree, to 1= strongly disagree).

An online-based survey through social media platform was conducted to collect the data using the final questionnaire from the target respondents. Google forms were floated through social media platforms to Business Management Students of different colleges across Delhi. Students of different universities were contacted using social media platform like Whatsapp and LinkedIn. Therefore, first we identified such student who are doing either **Graduation** or **Post Graduation** courses, and after that we requested them to circulate our online survey questionnaire link among their college classmates and informed them that the participation in the survey was totally voluntary. There was a total of 105 responses filled by the students. After scrutinizing online survey forms, 100 responses were deemed as considerable for this research. Being an online-based survey, a brief written introduction about the researchers' background, the aim of the research, and other ethical issues was given to the respondents. Moreover, a short explanation on some notions namely, General Knowledge Sharing Pattern was also given to the respondents so that they could easily comprehend the overall essence of the research and participate more effectively. After collecting the data, necessary data processing activities were performed to make the data suitable for final analysis. Multiple Linear Regression Model with IBM SPSS Software was used to analyze the data. SPSS's Statistics program provides a plethora of basic statistical functions, some of which include frequencies, cross-tabulation, and bivariate statistics. Prior to testing the measurement model, a few initial analyses have been run, such as data normality test and outlier test to confirm that study data did not have any statistical errors. The study results were validated based on conducting the measurement model analysis and estimating path analysis of all Constructs in the structural model.

DATA INTERPRETATION AND ANALYSIS

Demographics:

Qualification:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Graduate	72	72.0	72.0	72.0
	Post Graduate	28	28.0	28.0	100.0
	Total	100	100.0	100.0	

72% percent of the respondents were pursuing **Graduation** while the other 28% percent were pursuing **Post Graduation**.

Regression Model Analysis

Model 1 : To find out the dependency of General Knowledge Sharing Pattern on Emotional stability, Extraversion, Conscientiousness, Agreeableness, Openness, Instructor support, Degree of competition, Technology availability and Technology support,

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.782[a]	.612	.573	.47792

a. Predictors: (Constant), MeanTS, MeanOP, MeanES, MeanAG, MeanDOC, MeanIS, MeanEV, MeanCS, MeanTA

In the above model summary, which measures the dependency of General Knowledge Sharing Pattern on Emotional stability, Extraversion, Conscientiousness, Agreeableness, Openness, Instructor support, Degree of competition, Technology availability and Technology support, Adjusted R square value is 0.573 that is **57.3%** which means our independent variables can appreciably predict the movement of dependent variable.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regressio n	32.442	9	3.605	15.782	<.001[b]
	Residual	20.557	90	.228		
	Total	52.999	99			

a. Dependent Variable: MeanGK

b. Predictors: (Constant), MeanTS, MeanOP, MeanES, MeanAG, MeanDOC, MeanIS, MeanEV, MeanCS, MeanTA

The significance value in Anova Table is **0.001** which is less than **0.05** which implies our model is a good fit.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.614	.428		1.432	.156
	Mean ES	-.122	.061	-.140	-2.014	.047
	Mean EV	.143	.082	.141	1.749	.084
	Mean CS	.252	.078	.277	3.221	.002
	Mean AG	.113	.069	.115	1.639	.105
	Mean OP	-.058	.053	-.075	-1.098	.275
	Mean IS	.228	.064	.258	3.558	<.001
	Mean DO C	-.022	.070	-.021	-.310	.757
	Mean TA	.031	.085	.034	.370	.712
	Mean TS	.300	.088	.345	3.405	<.001

a. Dependent Variable: Mean GK

If Significance value is less than 0.05 then our model is Significant otherwise it is not. Here, Conscientiousness, Instructor support and Technology support has significance value less than 0.05. Therefore, it implies that Conscientiousness, Instructor support and Technology support has the most significance out of all other variables which determines the General Knowledge Sharing Pattern.

DISCUSSION AND CONCLUSION

At the university level, active and voluntary knowledge sharing is a vital component of effective and meaningful learning. The impact of personality qualities, as well as classroom and technical elements, on knowledge-sharing practices is the focus of this research. Knowledge-sharing practices are found to be favorably connected to both extraversion and conscientiousness. Extraverts are more likely to have the social skills and drive to collaborate with others that are required to participate in knowledge- sharing activities. They have a high level of assertiveness and are not afraid to engage in a problem-solving discussion with others. They like to share their viewpoints and life experiences with others. As a result, they are more inclined to share their knowledge and consider sharing to be caring.

Furthermore, in the workplace, conscientiousness has been demonstrated to increase organizational citizenship and work effectiveness. They are also more likely to be dedicated to the task and to be trusted by their coworkers. In the academic setting, consistent findings are obtained. They are naturally focused on achieving goals in a determined and disciplined manner, and they may perform an excellent job of planning for mutual issue solving and mutually seeking solutions that satisfy both sides (e.g., two individuals, two teams). As a result, they are more open to share and learn new things.

It's worth noting, however, that there was no discernible link between agreeableness and knowledge-sharing practices. This demonstrates that whether students have strong social links with their peers and strive for cooperation or have a difficult time getting along with them has little bearing on knowledge-sharing habits. The explanation for this could be the increased usage of non-face-to-face communication, which allows individual participation in knowledge-sharing activities. As a result, this personality trait is less likely to influence individual participation in information sharing. Personality may have less impact in this study since it was performed in educational settings that emphasize reciprocal learning in "strong" environments with many defined roles, norms, and variables, as opposed to weak conditions where personality has the biggest impact. Nonetheless, the low reliability of the two measures could be one cause for the insignificance outcomes of agreeableness and openness. This could be the study's drawback. However, in order to validate these findings, further research may need to replicate this study.

Knowledge-sharing practices are found to be favorably associated to instructor support and technological support. This demonstrates the importance of teachers' support and encouragement, as well as positive reinforcement such as praise and awards, for students to engage in knowledge sharing. Students also agree that technology aids knowledge exchange because the "Y-generation" spends the majority of their time online and interacts through space. It serves as a facilitator, facilitating and supporting knowledge transfer by making it easier and more effective. When it came to technological availability and knowledge-sharing patterns, no significant results were discovered. This could be attributed to the fact that the majority of colleges are already well-equipped with technological devices and systems. As a result, there is no difference in terms of technology availability in universities.

In summary, these findings suggest that instructors could promote knowledge sharing in their classes by using personnel screening when building assignment groups. In the learning process, group discussions and other team activities are generally established to encourage more interaction and collaboration among students. Team members with high extraversion and conscientiousness scores are more inclined to share their knowledge. As a result, successful teams can be formed based on these personality traits, or documentation and sharing tasks within the team can be assigned accordingly. Furthermore, those who are in negative moods should be given more opportunities because they are willing to offer their information. This research also reveals that instructor support and technology support are critical in encouraging university students to share their expertise. Technology can make it easier for students to communicate with one another and share information. Instructors are advised to foster a

reasonable level of rivalry among students so that they are motivated to share more information and expertise.

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Appendix 1. Survey items

Emotional stability

(1) I am seldom sad or depressed.
(2) I rarely feel lonely or blue.
(3) I rarely feel fearful or anxious.

Extraversion

(1) I often feel as if I'm bursting with energy.
(2) I am a cheerful, high-spirited person.
(3) I really enjoy talking to people.

Conscientiousness

(1) I am a productive person who always gets the job done.
(2) I strive for excellence in everything I do.
(3) I try to perform all the tasks assigned to me conscientiously.

Agreeableness

(1) Some people think I'm selfish and egotistical.
(2) I tend to be cynical and skeptical of others' intention.
(3) Some people think of me as cold and calculating.

Openness

(1) Poetry has little or no effect on me.
(2) I have little interest in speculating on the nature of the universe or the human condition.

Instructor support

(1) My instructor supports us in sharing knowledge with other classmates.
(2) My instructor encourages us to discuss with other classmates.
(3) My instructor gives us a reward, such as verbal praise and score, when sharing knowledge with other classmates.

Degree of competition

(1) I feel that my final grade is dependent on a great extent on the relative performance of my classmates.
(2) I feel that my classmates have the potential to perform better than me.

Technology availability

(1) There are some IT tools available for sharing knowledge such as email, web board, and windows live messenger.

(2) I have an access to the Internet either at home or university

Technology support

(1) Information Technology makes it easier for me to share knowledge with my classmates.
(2) Information Technology makes it easier for me to have knowledge that is relevant to me.
(3) Information Technology makes it easier for me to get in contact with my classmates who have knowledge that is important to me.

General knowledge sharing pattern

(1) I feel that it is important to share knowledge with other students for the benefit of all.
(2) Student should voluntarily share their knowledge with peers.
(3) I feel that "sharing is caring."