Knowledge and Information Sharing Practices among Multidisciplinary University Dormitory Residents: Exploring the Influence of Gender, Academic Discipline, and Degree Level

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Abstract. This study investigated the culture of Knowledge and Information Sharing (KIS) among university dormitory students using a quantitative research design based on a survey. Data were collected from 16 dormitories and residential halls in a large-scale public university in Bangladesh, with 343 responses utilized for data analysis. The findings revealed that students engage in sharing knowledge and in-formation with their peers, with male students and those pursuing postgraduate degrees sharing more frequently. The majority of students perceived KIS as crucial for their career development. However, there were significant differences in attitudes towards KIS between male and female students, with male students dis-playing a more positive attitude. The study highlights the importance of fostering a cultural environment that encourages openness and leads to new opportunities and expansion.
Keywords: Knowledge sharing, information sharing, knowledge and infor-mation culture, informational behavior, career information.

1   Introduction

In contemporary times, the pursuit of success has become a common goal among individuals due to the rapidly expanding learning environment and competitive working environment. Keeping pace with the changing times, society has adopted new methods and ways to stay updated. In this fast-growing world, knowledge and infor-mation are considered the most crucial factors for being competent. Educational systems and educators emphasize the significance of Knowledge and Information Sharing (KSI) among students to combine their previously gained understandings, familiarity, and ex-perience of a fact or situation (Yeşil & Hatunoğlu, 2019). By sharing knowledge and

information, students enhance their ability to think critically and create opportunities to impart their ideas in real-time. This sharing of knowledge and information creates opportunities for students to seek study-related help, discuss problems, engage, and debate their thoughts, which facilitates collective learning outcomes (Nisar Ul Haq & Haque, 2018).

Collaboration and collective learning can enhance team cohesion, generate positive evaluations of fellows, and improve performance. Attitudes towards collaboration are important for successful collaboration (OECD, 2017a), which involves more than physically gathering to discuss issues or share information among fellow participants (Li et al., 2021). According to Cheng et al. (2009), open network sharing and closed network sharing are the two non-exclusive ways of sharing knowledge and information. Closed network sharing allows the individual to determine how the information will be shared and select a partner to share the information with, allowing for a more personal touch, and more targeted sharing is expected. Open network sharing deals with sharing information and knowledge among members of a group using a system that allows multiple individuals to share multidimensional knowledge assets through a network.

In Bangladesh, university dormitories consist of a comparatively large number of students as it is one of the most densely populated countries in the world, with more than a thousand people living in every square kilometer (Rahman, 2011). Students from different disciplines like science, humanities, arts, social science, technologies, and business not only stay together in a dormitory but also share rooms, dining, and other educational as well as daily services of a dormitory. This environment creates opportunities for students to learn ideas and gain experiences through sharing knowledge and information among each other (Lewis et al., 2012).

Brodin and Avery (2020) suggest that multidisciplinary environments provide numerous affordances that allow members to learn in a space that can foster interdisciplinary learning, develop networks, and gain scholarly independence. They can also be considered as aspects of the social dynamics at play within epistemic space. The culture of sharing knowledge and information among students within a multidisciplinary environment may enhance their ability to learn and develop critical thinking skills, foster collaboration, and improve academic performance and team cohesion. Therefore, it is essential to explore the factors that can influence knowledge and information sharing among students in university dormitories in Bangladesh. One potential factor is the attitudes and perceptions of students towards collaboration and sharing. Positive attitudes towards collaboration are important for successful knowledge sharing (OECD, 2017a). Another potential factor is the communication channels used for sharing knowledge and information.

Cheng et al. (2009) identified two non-exclusive ways of sharing knowledge and information: open network sharing and closed network sharing. Each of these approaches has its own advantages and disadvantages, and the choice of approach may depend on the preferences and goals of the individuals involved. In addition, it is important to consider the potential barriers to knowledge and information sharing in university dormitories in Bangladesh. For example, cultural factors such as language barriers, social norms, and values may affect the willingness of students to share knowledge and information (Yeşil & Hatunoğlu, 2019). Moreover, power dynamics within groups may also impact knowledge sharing behavior, as students may be hesitant

to share information with those they perceive as having greater power or authority (Li et al., 2021). Understanding these barriers can help to develop strategies to overcome them and promote a culture of collaboration among university students so that they can develop the skills and knowledge needed to be successful in a rapidly changing world. Ultimately, this can help to promote the development of a knowledge-based economy as well as contributing to the growth and success of individual students and the wider society.

2   Research Objectives

- To explore the culture and attitudes of dormitory students towards knowledge and information sharing.
- To discover the knowledge and information sharing patterns in a multidisciplinary learning environment.
- To determine the barriers of knowledge and information sharing and provide recommendations to improve the culture in a multidisciplinary learning environment.
- To find out the differences towards knowledge and information sharing across gender, discipline, and educational level.

3   Literature Review

Information sharing refers to the conscious and deliberate social exchange (Uitdewilligen & Waller, 2018) of individual knowledge and ideas into collaborative space considered vital for development (Gkorezis & Bellou, 2016), builds each oth-er's ideas, and contributes to collaborative performance (Hoch & Kozlowski, 2014). It usually originates through the network of relationships. Information sharing flows from a sense of togetherness, a feeling of belonging, and shared purpose (Nyfoudi et al., 2022) which builds trust among the members with whom information is shared (Mesmer-Magnus et al., 2011). A knowledge sharing activity refers to a process through which knowledge, the majority of it information, skills, and expertise, is shared among people, friends, communities, and families (Nisar Ul Haq & Haque, 2018). In a nutshell, it's the process of arranging and sharing information and knowledge with the purpose of helping others and working together with others to handle problems, come up with new ideas, and implement approaches or strategies together as a team. Even though it cannot be restricted, it needs to be empowered, and encouraged (S. Wang & Noe, 2010).

Taking into account the fact that knowledge sharing involves an element of risk for the information provider, he or she may risk losing a competitive advantage over their competitors by revealing potentially invaluable insights (Khowaja & Fatima, 2020). Moghavvemi et al., (2018) stated that students perceived an equal advantage, a desire for a satisfactory result, and an expectation for rewards for sharing their knowledge between different individuals at the same time as expecting attractive results. Gremm et al., (2017) have argued that knowledge can be exchanged either face-to-face or with the aid of various technology tools, such as data gathering and correspondence

technologies. Based on the user's engagement with the platform, they are more likely to be confident in the platform and more likely to be satisfied with the platform (J. Wang & Xie, 2022). Organizational learning and knowledge production demonstrate that personal cultural values of employees have a substantial impact on information sharing, engagement, and learning in organizations, which plays an important role in the efficiency application of practice (Ardichvili et al., 2006). In order to exchange knowledge, it is required to communicate in a manner that pertains to the acquisition and provision of information between two or more people (Ahmed et al., 2019). It is a core component of group work in terms of discussion and collaborative working (Berraies et al., 2020; Karasneh & Al-zoubi, 2019). Knowledge-sharing behavior refers to how community members transmit knowledge to others in a systematic setting (Le & Lei, 2017; Son et al., 2020; Suti & Sari, 2021).

Sharing knowledge and information has been the critical behavior to improve one's competitiveness, as no one person possesses all required knowledge. Experiencing and learning from positive knowledge sharing in a college class are essential for student success in school and their future career (Han et al., 2022). Knowledge sharing is a complex process of social interaction. It draws on not only formal but also informal and mutual learning processes between individuals (McFadyen & Albert A. Cannella, 2017). Higher learning performance derives from knowledge sharing and collaborative learning from intra- and intergroup networks (Rienties & Héliot, 2018). Knowledge sharing can take place both within and outside the organization, and it can occur across multiple levels of analysis, such as individuals, groups, and organizations (Mesmer-Magnus et al., 2011). Additionally, knowledge sharing can be influenced by factors such as culture, communication technology, social norms, and trust (Wu & Wang, 2020).

Ahn et al. (2019) found that cultural differences play a significant role in knowledge sharing behavior especially collectivist cultures are more likely to engage in knowledge sharing behavior compared to individualistic cultures. Similarly, Khowaja and Fatima (2020) found that trust has a vital role in determining information sharing behavior including perceived advantages of sharing knowledge where trust positively influences willingness to participate in knowledge exchange.

The use of communication technology has also been shown to impact knowledge sharing behavior such the use of social media platforms can facilitate knowledge sharing by providing a space for users to exchange information and ideas (Gkorezis & Bellou, 2016). In contrast, the use of email as a communication tool has been found to have a negative impact on knowledge sharing behavior due to its formal nature, which can limit the exchange of informal knowledge (Wu & Wang, 2020). Finally, it is essential to consider the benefits of knowledge sharing. Knowledge sharing can result in increased innovation, improved problem-solving abilities, and enhanced learning outcomes (Hoch & Kozlowski, 2014). Among students, knowledge sharing can lead to improved academic performance, increased self-confidence, and enhanced employability (Han et al., 2022). Therefore, it is essential to promote a culture of knowledge sharing and encourage the use of communication technology that facilitates knowledge sharing.

4   Methodology

The study adopted a rigorous methodology that incorporates several quantitative approaches and designs. For conducting the research, survey method was chosen as the most effective means of data collection, and a structured questionnaire was developed to capture a range of variables including attitudes, beliefs, and behaviors. The researcher utilized quantitative techniques to analyze the collected data, ensuring a robust and comprehensive approach to the study. This methodology allowed for a thorough investigation of the research objectives and ensured the validity and reliability of the findings.

4.1 Target Population

For the purpose of conducting the study, a sample comprising both undergraduate and postgraduate students was meticulously chosen from University of Dhaka, one of the largest and prominent public university in Bangladesh. This university was chosen as it offered both residency and non-residency facilities to students, which facilitated the research investigation. The sample selection was based on a convenience sampling technique, with the author approaching individuals who were willing to participate in the study. Ensuring the acquisition of data representative of the diverse student body, the author diligently gathered a minimum of 15 responses from each of the 16 distinct residential dormitories.Thereby, the study tried to get information from a wide range of students to make the results more reliable.

4.2 Sample Size Estimation

$$n = \frac{Z^2 p\,(1\text{-}\,p)}{d^2}$$

Here, the number n refers to the estimated sample size; Z refers to the confidence interval (1.96 at 95%); p refers to the estimated prevalence rate (50%) or 0.5; and d refers to the margin of error (considered as 5% or 0.05). Based on this formula, the estimated sample size for this study was 385.

4.3. Data Collection and Analysis

Survey questionnaires were distributed among 385 students of 16 dormitories and residential halls of the university. However, following repeated attempts to reach out to the respondents 343 questionnaires were returned. Among them six incomplete questionnaires were eliminated and 337 were used for final analysis and representation of data. An overall 87.53% of the survey participants responded completely to the survey which was deemed to be sufficient for the purposes of the research study. Data analysis was performed using the Statistical Package for Social Sciences (SPSS v27) to analyze quantitative data. Various descriptive statistical methods were employed to analyze the data.

5   Findings

5.1. Demographic Information

Out of the total 337 respondents, 64.09% were male and 35.91% were female. In addition, 39.47% of students' age ranges between 21 to 23 years, 28.19% ranges between 24 to 26, 20.18% ranges between 16 to 20, and 12.17% students' age ranges between 27 to 30 years. Most of the participants in the survey (69.44%) were pursuing undergraduate degrees while 30.56% of the respondents are pursuing postgraduate degrees. Additionally, the results showed that 42.43% of the respondents were from humanities and social science disciplines, 32.05% from science, and 25.52% were from business discipline. Among the undergraduate students, 16.91% from first year, 12.76% from second year, 19.58% from third year, and 20.18% were from final year students.

Table 1: Demographic information

Respondents	Items	Frequency	Percentage (%)
Gender	Male	216	64.09
	Female	121	35.91
Age	16 to 20 years	68	20.18
	21 to 23 years	133	39.47
	24 to 26 years	95	28.19
	27 to 30 years	41	12.17
Educational level	Undergraduate	234	69.44
	Postgraduate	103	30.56
Academic year	First Year	57	16.91
	Second Year	43	12.76
	Third Year	66	19.58
	Fourth Year	68	20.18
	Masters	103	30.56
Discipline	Science and Technology	108	32.05
	Humanities and Social Sciences	143	42.43
	Business Studies	86	25.52

5.2. Frequency of Sharing Knowledge and Information with Dormitory Fellows

Figure 1 illustrates that 30.27% of the respondents share knowledge and information very often, while 24.04% of the respondents occasionally share knowledge and information and 17.51% fairly-often shares knowledge and information with their fellows. Moreover, results depict that 13.65% of students share knowledge and information all the time. On the other hand, 14.54% of respondents share knowledge and information very few times with their fellow students.
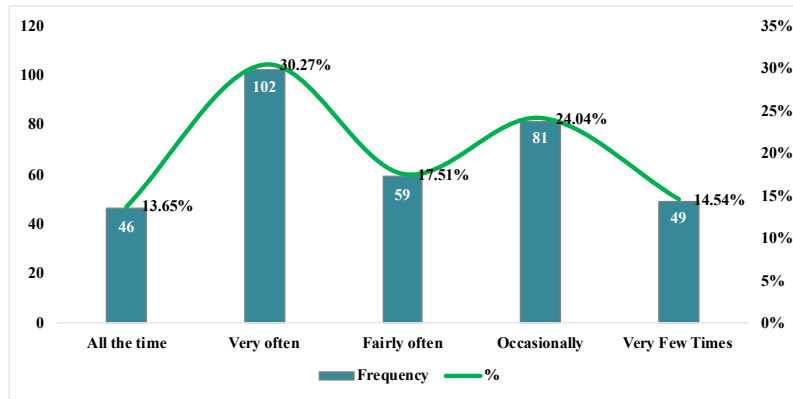
Figure 1: Frequency of sharing knowledge and information with dormitory fellows

5.3. Students' Perception Toward Necessity of KIS For Career Development

Figure 2 demonstrates most of the respondents (85.46%) belief that knowledge and information sharing among dormitory fellow students is important while very few respondents (5.34%) belief that knowledge sharing in not important for career development. Moreover, 9.20% respondents are not sure about the necessity of knowledge and information sharing for their career development.
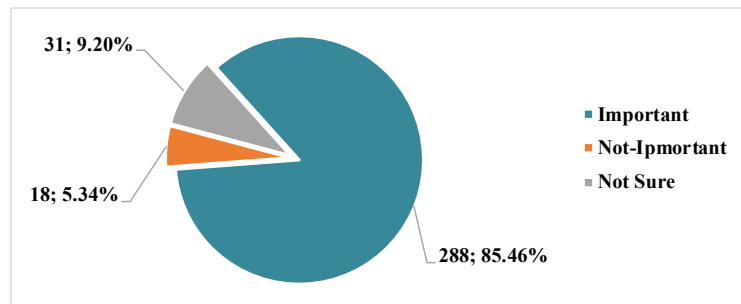

Figure 2: Students' perception toward necessity of KIS for career development

5.4. Reasons Why KIS is Necessary for Career Development

Table 2 shows the mean and standard deviation (SD) for responses of the various reasons why students perceive KIS is crucial to their career development. It was found that the average mean score for all reasons as to why KSI is important for career development fell above the average score on the seven-point Likert scale, which means that the average score felt higher than the average of all reasons. It is evident that all the reasons outlined in Table 1 are important factors that students feel are crucial for the development of career related aspects of KIS when it is conducted in a multidisciplinary

environment. According to the mean score, the building of a strong network/speedy communication, along with making communication decent and easier combined ranked first, learning something new about better career aspects ranked in the second position which is followed by other reasons ranked in Table 2.

Table 2: The reasons why KIS is necessary for career development

Statement	Mean	SD
To build strong network/speedy communication	5.91	1.261
To make communication decent and easier	5.91	1.207
To learn something new about better career	5.88	1.152
To increase awareness regarding study and career	5.84	1.097
To increase innovative capability	5.81	1.241
To create self-awareness	5.80	1.259
To make overall improvement/development	5.74	1.319
To expand knowledge about various jobs	5.72	1.365
To get direct feedback from fellows	5.63	1.018
To differentiate between bad and good job	5.57	1.280
To preserve existing knowledge properly	5.29	1.414

5.5. Fellow Students' Attitude Towards KIS

Figure 3 depicts that out of 337 respondents, the majority (81.01%) of the respondents say that their fellows hold a positive attitude in contrast 14.24% says that their fellow hold a negative attitude toward knowledge and information sharing. In addition, very few (4.75%) respondents were not sure about their fellows' attitude toward knowledge and information sharing.
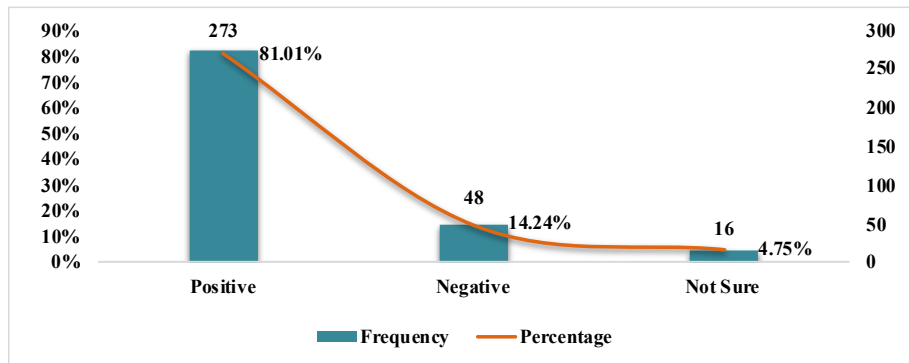

Figure 3: Fellow students' attitude toward KIS

5.6. Ways of Sharing Information and Knowledge among Fellow Students

Table 3 depicts the respondent's information and knowledge sharing patterns and ways among their fellows. It is found that most of the mean scores of these questions fell above the average number except one "Writing personal blogs on websites" whose mean score is 3.76. The results from the study also show that talking with someone who already built his/her good career and group discussion with the seniors ranks higher among the knowledge sharing methods. Students share career related information when they go to library for studying (mean 5.13) ranked in the third position which is followed by other ways ranked in Table 3.

Table 3: Ways of sharing knowledge and information

Statement	Mean	SD
By talking with someone who already built his/her good career	5.64	1.409
Group discussion with senior or knowledgeable person	5.59	2.924
When students go to the library to study	5.13	1.867
Postings on social media about career aspects	4.83	1.921
Sharing through dormitory based social media groups	4.58	1.947
By gossiping when sitting at dining together to eat	4.51	1.736
Open session of career building arranged by dorm authority	4.48	1.972
When students join the TV room to see Show/sports	4.42	1.841
Writing personal blogs on websites	3.76	2.734

5.7. Barriers of KIS at Residential Dormitories

According to Table 4, the highest mean score of 5.73 was obtained for the statement, "Lack of awareness toward KIS". The mean scores for all the remaining statements were higher than the average, coming in at over 4.00. The mean scores for the statements toward barriers of KIS indicated that most of the barriers have been outlined by the respondents affect the KIS. However, respondents outlined that language and local dialect of the fellow student was not the barriers toward KIS with a mean score of 3.81 which is less than the average mean score on a seven-point-Likert scale.

Table 4: Barriers of KIS at residential dormitories

Statement	Mean	SD
Lack of awareness toward KIS	5.73	1.429
Addiction of social media	5.38	1.698
Fear of losing own position	5.17	1.636
Lack of resources to share KIS	5.14	1.693
Unable to find out proper way	4.98	1.518
Cultural differences	4.83	1.372
Lack of proper opportunity to share	4.72	1.98
Doubtful mentality	4.66	1.548
Jealousy attitude among students	4.61	1.773
Lack of sufficient time	4.26	1.884
Language and Dialect of the fellow student	3.81	1.842

5.8. Gender Differences in Sharing of, Perceptions, and Fellow Students' Attitudes Toward KIS

Table 5 represents that there were statistically significant differences of opinion between male and female respondents regarding KIS among fellow students (t= -2.242, p = .026). Therefore, the frequency level of sharing Knowledge and Information (KI) among male and female respondents were different. The male respondents share knowledge and information among their fellow students more frequently than the female students. Additionally, the study found significant difference between female and male students regarding their fellow students' attitude toward KIS (t = -2.674, p = 0.008), indicating that male students perceive more positive attitude toward KIS than female students. Furthermore, results of the study show that there were no statistically significant differences in the perception of KIS held by male and female respondents regarding the necessity of KIS in career development (t = 0.886, p = .376).

Table 5: Gender differences of KIS

Dependent Variables	Gender	Mean	SD	t	Sig.
Sharing frequency of KI	Female	2.83	1.338	-2.242	.026
	Male	3.16	1.256		
Perception toward KIS	Female	2.80	.557	0.886	.376
	Male	2.74	.631		
Fellow students' attitude towards KIS	Female	2.66	.556	-2.674	.008
	Male	2.82	.501		

5.9. Educational Level Differences in Sharing of, Perceptions, and Fellow Students' Attitudes Toward KIS

Table 6 depicts that there were no statistically significant differences between undergraduate and postgraduate students regarding frequency of sharing of knowledge and information (t = -1.319, p = 0.188), perceptions toward KIS necessity in career development (t = -0.478, p = 0.633) and attitudes of fellow students toward KIS (t = -0.775, p = 0.439). However, the mean score of the results indicate that postgraduate students share knowledge and information more frequently than undergraduate students.

Table 6: Educational level differences toward KIS

Dependent Variables	Educational Level	Mean	SD	t	Sig.
Sharing frequency of KI	Undergraduate	2.98	1.297	-1.319	.188
	Postgraduate	3.18	1.281		
Perception toward KIS	Undergraduate	2.75	.613	-.478	.633
	Postgraduate	2.79	.588		
Fellow students' attitude towards KIS	Undergraduate	2.75	.541	-.775	.439
	Postgraduate	2.80	.492		

5.10. Effect of Academic Discipline in Sharing of, Perceptions, and Fellow Students' Attitudes Toward KIS

The ANOVA results presented in Table 7 show that there were no significant differences among students regarding sharing of knowledge and information among fellow students (F = .793, p = .453), their perceptions toward KIS necessity in career development (F = 2.707, p = 0.068) and attitudes of fellow students toward KIS (F = 0.940, p = 0.392) regardless of their academic discipline. Therefore, students from science and technology (mean 3.07), Humanities and social science (mean 3.11) share knowledge and information more frequently than the students from business studies (mean 2.90) students. In addition, students from different academic disciplines possess almost the same level of perception about the necessity of KIS and fellow students' attitude toward sharing of knowledge and information between each other.

Table 7. Discipline differences toward KIS

Dependent Variables	Discipline	Mean	SD	F	Sig.
Sharing frequency of KI	S&T	3.07	1.323	.793	.453
	H&SS	3.11	1.284		
	BS	2.90	1.274		
Perception toward KIS	S&T	2.80	.576	2.707	.068
	H&SS	2.68	.678		
	BS	2.86	.489		
Fellow students' attitude towards KIS	S&T	2.76	.509	.940	.392
	H&SS	2.73	.571		
	BS	2.83	.465		
Note: S&T=Science and Technology, H&SS=Humanities and Social Sciences, BS=Business Studies					

6   Discussions and Conclusions

The present study reflects the knowledge and information sharing culture among students of multidisciplinary dormitory environments. Results of the study showcase that students share knowledge and information with their fellow students. Though, the sharing frequency were higher among male students than the female students. Additionally, those who were pursuing postgraduate degrees share information and knowledge more frequently than the undergraduate students. Furthermore, study found that majority of the students perceive KIS as an important way of their career development. The independent t-test indicates some significant differences between male and female students by factors considered. It is found that male students are more positive toward sharing knowledge and information than the female students (t = -2.242, p = 0.026); likewise, female students perceive that attitude of their fellow students toward KIS is relatively negative (t = -2.674, p = 0.008) than the male students. Previous study

of (Connelly & Kevin Kelloway, 2003) also supported that female perceive knowledge sharing culture differently than their male counterpart. Therefore, findings of the study indicate some social and practical implications. Knowledge and information sharing are necessary to build strong networks and easy communication which leads to better career aspects and awareness. However, lack behind the KIS necessity, social media addiction, fear of losing own position, lack of proper opportunity are the common barriers toward KIS reported by the respondents. Moreover, encouraging and fostering KIS in different areas can lead to a better culture among students.

7   Recommendations

Considering the data analysis, as well as the findings and suggestions that were provided by the respondents, a detailed set of measures can be identified, developed, and implemented to improve the KIS culture in a multidisciplinary learning environment, particularly in students' residences. There are several major recommendations that should be taken into consideration:

1. The culture of knowledge and information sharing at the dormitory level as well as at the university level should be encouraged and fostered by both parties.

2. Students should be able to exchange knowledge and information among themselves in a common space in each residential hall or hostel where they live, so that they can share their learning and experiences with one another. Thus, students can meet and talk to one another, learn from one another's experiences, and teach one another.

3. The involvement in residence-based extracurricular activities as well as the participation in skill development programs that promote knowledge exchange and information sharing should be an important objective.

4. It is important to set and introduce examples that will enable students to recognize the benefits that can be gained from sharing information and learning from each other.

5. There should be a regular session where experts from different disciplines and development sectors are invited to share their expertise and promote knowledge sharing among the participants.

6. A formal knowledge management process should be established in the dormitory environment so that the sharing of knowledge becomes a common task that involves all students regardless of discipline and expertise areas.

7. To build a culture of openness and acceptance among the students, a forum for open discussion and knowledge sharing needs to be provided.

8. Academic departments and university should emphasis on reducing avoid unnecessary competition among students and reconsider their teaching-learning approaches toward collaborative learning (Jer Yuen & Majid, 2007).

8   Limitations and Future Study Direction

There was a limited number of participants in the present study, which was limited to residents of a large public university located in Bangladesh. The result and perspective of non-resident students might be different. Future studies can be done to compare the results with the non-resident students. On the other hand, results of other university students may be generalized with other public university students. Future study on private university students can lead to a clear idea of KIS perspective. It is also important to note that the use of convenient sampling is another limitation. Researchers in the future could consider conducting a study within a larger population using a random sampling process to obtain data from a larger pool of individuals. Alternatively, this study has also proposed a mixed-methods study for exploring aspects of KIS for both resident and non-resident students, as well as student involvement in KIS for academic advancement.

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