Knowledge Management: Determine the Influencing Factors for Practicing at the Libraries in Bangladesh

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Abstract

Aim. The main objective of this research is to know the influencing factors for KM practices in the library field of Bangladesh from the user's point of view. Therefore, the study examines the elements influencing Knowledge Management (KM) practice in Bangladeshi university libraries.

Methods. Present research used a quantitative approach, by adopting printed survey questionnaire for data collection from the users of the University of Dhaka (DU) and the University of Rajshahi (RU) in Bangladesh. Statistical software IBM®-SPSS® was used for data analysis, and the "partial least squares" (PLS) method was used to test the proposed hypothesis.

Results. The findings revealed that KM familiarity and perceptions in gender and current study level varied across users. This study found that all the proposed hypotheses are supported, i.e., the service quality and critical success factors are the most influencing factors for practicing KM in the DU and RU library.

Conclusions. The findings provide valuable insights regarding awareness about KM practices and assist university authorities in formulating relevant policies and taking necessary actions for KM practices in libraries.

Originality. The present research is one of the first research in Bangladesh that identified the influencing factors of KM from the user's point of view.

Keywords: Libraries, knowledge management, critical success factors, knowledge management practice, Bangladesh

Introduction

Libraries are continuously facing challenges in adapting new technologies for information resources. Such technological improvements now force libraries to reconsider the programmes they provide (Musangi et al., 2019). Libraries are a focal point for knowledge and should provide resources for exam preparation, group projects, seminars, symposiums, etc. Various library resources are used to write a literature review for research purposes and aid students in the most desirable ways with the changing information. They should assist as open access for gathering reading materials about the latest technological advancements (James & John, 2018). Learning something new is one of the most precise human endeavours, and knowledge is its outcome. So, it means that knowledge has been the subject of human inquest from antique times, and what we get from the straight connection with the situation through our sensory system, which is dealt with by the brain, is called knowledge (Bolisani & Bratianu, 2018). KM, is an enterprise, as well as knowledge itself (Zimmer & Madeja, 2019), which in higher education has extended its reputation as a management concept with a lot to benefit (Odor, 2018). KM is a vital element and it widens the acquired knowledge by increasing the capability of institutions to be more innovative and setting them in a gainful position (Omotayo, 2015). KM could hold great potential for providing service value to its users for libraries in developing countries. Service value includes value development by designing and delivering better services, and improving institutional and consumer operational innovation (Islam et al., 2015a). As society is improved, librarians need to explain their current status and how to tackle the new knowledge society (Siddike & Munshi, 2012).

An emerging nation like Bangladesh has yet to recognize the concept of KM and benefits from such an effort. In Bangladesh, there are inadequate library personnel, insufficient library facilities, lack of financial support, absence of government and non-governmental organization patronage, and trained users that would play the proper roles in making libraries a central of KM initiatives (Siddike & Munshi, 2012). Therefore, this research is helpful to know the influencing factors for KM practices in the library field of Bangladesh from the user's point of view.

Literature Review

This section discusses the previous literature related to the concept of KM, KM in Library and Information Science (LIS), KM in Bangladesh, and the influencing factors of KM. These four major themes that make up the structure of the literature review are given below.

Concept of KM

KM is an established standardised policy for business organisations in the 21st century (Shropshire et al., 2020). Like other organisations, libraries can be perceived as a set of integrative processes that work together to achieve overall organisational objectives. It is the technique of creating, coordinating, exchanging, transferring, and exploiting tacit and explicit knowledge for the organisation's success. KM is as important for libraries as for business, excluding competitive ownership and money-making issues (Pathak, 2014). KM in higher education is designed to humanise the flow of knowledge attainment and allocation for organisational success (Kidwell et al., 2000; Williams, 2004). KM is the operative application of knowledge-based performance upon knowledge resources to improve the organisation (Shropshire et al., 2020).

KM in LIS

In LIS, there are close relations and well-established interactions with KM procedures. Some experts also state that KM is a new name for the LIS sector that professionals have used for many years (Ahmad, 2017). However, KM in libraries can expand communication among users and staff and encourage KS. Allowing user-oriented solutions can make libraries more involved, and reducing reply time can help increase performance. These lead to lower costs, better efficiency, and satisfied library employees and customers (Islam et al., 2015b). The importance of KM is growing every year. KM practices help make good decisions and achieve the value of organisational knowledge (Sinclair, 2006). KM is vital in a library because it improves the effectiveness of a librarian's sense-making capability. Library users may also benefit from the best practices of KM in the library, so improvement is easier to adopt within the library.

KM in Bangladesh

Nazmul Islam et al. (2020), Sk Mamun Mostofa and Mezbah-ul-Islam (2015), Nazmin Sultana and Sk Mamun Mostofa (2018), Saiful Islam et al. (2015), Kazi Mostak Gausul Hoq and Rowshan Akter (2012), Md. Abul Kalam Siddike and Nasiruddin Munshi (2012), Md. Abul Kalam Siddike and Md. Saiful Islam (2011) have conducted the latest and essential research into KM in Bangladesh. Islam, Siddkie et al. (2015) showed that document management, intranet, instantaneous messaging, digital warehouse, and video conferencing, is an excessively used KM tools in libraries in Bangladesh.

Using KM in LIS has also shown that it has helped access information services, created awareness for IT practitioners, improved the KS culture situation, and changed librarian work responsibilities. The study acknowledges that the major obstacles to KM use and implementation include a lack of KM awareness, the lack of experienced personnel, communication gaps, and KS's nonexistence culture. Sultana and Mostofa (2018), found that the working environment in NLB supports the implementation of KM but that some policy changes are required. Finally, the analysis revealed that NLB is an ideal location for KM implementation and offers numerous opportunities. The successful application of the KM system in Bangladeshi libraries is obstructed by many obstacles and is seriously impeded by institutional, organisational, and psychological barriers.

Influencing Factors of KM

Md Anwarul Islam et al. (2015b) stated that incorporating KM will contribute to the development and creativity in academic libraries, with new service outcomes. Providing a more comprehensive and intentional analysis of the critical success factors for implementing KM is essential. Organisations need to be conscious of the factors that will influence the efficiency of a KM initiative and be aware of them (Migdadi, 2009). KM achievement can be described as capturing and achieving the exact information to the accurate user and utilising this information to develop personal management. Thinking about the numerous perspectives on KM, the success of KM implies to the institutional staff how they can use the knowledge which leads to the organisational aids, i.e., decision-making process, enhancing production and business efficiency, and others (Muttaqi, 2020). In organisations, several problems influence KM (Mahmood et al., 2020). Similarly, Maria Koloniari et al. (2015) identified that KM strategy, culture, structures of the organisation, and human resources management are the most important critical success factors of educational libraries in Greek. Siddike and Islam (2011) identified nine critical factors, i.e., organisational culture, IT, KM process, administration, KM strategy, etc., which would assist in building a proper KM application in Bangladesh libraries.

Research Questions

The research was directed by the following research questions (RQs). The RQs were answered using the data collected from the questionnaire survey.

- RQ1: What are the influencing factors for the KM practices at the DU and RU libraries in Bangladesh?
- RQ2: To what extent are users' demographics associated with KM familiarities?
- RQ3: What are the challenges with KM practices at Bangladesh's DU and RU libraries?

Methodology

This study was conducted in Bangladesh from October 2021 to December 2021 at the DU and the RU. Both universities continue to have a strong character in meeting the higher education needs of a considerable percentage of Bangladesh's population. This study adopted a quantitative approach with a survey questionnaire design. For the collection of quantitative data, a simple random sample was used. Each active user of the respective library in different categories had an equivalent possibility of being chosen as a part of the sample. 600 printed questionnaires were sent to library users of the DU and the RU in Bangladesh. The study found 499 valid responses (fully filled questionnaires by the users) for data analysis, with a response rate of 83.1%. The instrument employed for this purpose was a self-administered survey questionnaire and a 1-5 point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*) and 1 (*very low*) to 5 (*very high*). The first section of the questionnaire focused on demographic information, while the second section asked about research questions. A printed copy of the questionnaire was provided to the participants. A completed questionnaire was collected from the users by the nominated persons by the researchers with the library staff's help. Finally, the data were inserted into the statistical software IBM®SPSS® 20 for final analysis. Cronbach's alpha was used to determine the questionnaire items' reliability. The final alpha value was .94, indicating that the questionnaire was reliable. We also checked the internal consistency of the instrument. As shown in Table 3, Cronbach's alpha (*a*) of the variables varied from .84 to .93. Descriptive statistics were used to analyse the demographic information of the students. Mean, and *SD* were also derived from the users' responses. To see the differences among gender, and current study level in terms of KM familiarity and perceptions, non-parametric Mann–Whitney *U* and Kruskal–Wallis *H* tests were carried out, and a *p*-value of <.05 was considered significant. The Mann-Whitney *U* test is used to test whether two samples are likely to derive from the same population. The Kruskal-Wallis *H* test is a rank-based non-parametric test. It's an extension of the Mann-Whitney *U* test that allows comparing more than two groups. The hypotheses of the study were tested with SmartPLS 3. SmartPLS is software that uses the partial least squares (PLS) path modeling method to do variance-based structural equation modeling (SEM) (Hair et al., 2022). One of the most extensively utilised multivariate data analysis methods among business and social science experts is "partial least squares-structural equation modeling" (PLS-SEM), also known as PLS Path Modeling (Memon et al., 2021). Researchers can use SEM to evaluate a model's overall fit and to examine the structural model (Chin, 1998).

Research Conceptual Model and Hypothesis

A conceptual model was developed for DU and RU in Bangladesh to illustrate the relationship among the various factors for KM implementation in libraries. The proposed intuitive model is made up of five components. These components will assist in finding out which are the most influential factors for practising KM in libraries. Figure 1 displays the model that provides the basis for analysing the structural equation model (SEM). In the model, the quality of the library service, familiarity with KM, critical success factors, and challenges faced by the library are considered independent variables, and KM practice is regarded as the dependent variable.
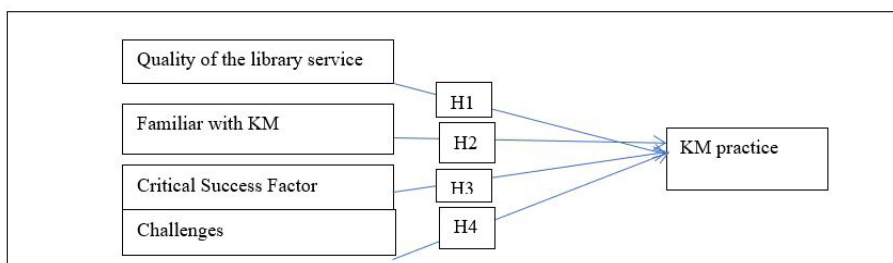

Figure 1
Research Conceptual Model
Note. H – Hypothesis.
Source. Own research.

The research sought to test the four hypotheses based on the research questions, conceptual framework (see Figure 1), and the literature reviewed. Survey data tested the hypothesis to demarcate what factors are significantly associated with KM implementation in the library. Both path estimates and *t*-statistics were used to test the hypotheses. The PLS algorithm test was used to look at path coefficients, while the bootstrapping test was used to look at *t*-statistics. The bootstrapping test is a resample based on the existing data (Rijlaarsdam, 2007). The following hypotheses were tested;

- Hypothesis 1: There is a significant relationship between the quality of the library service with KM practice.
- Hypothesis 2: There is a significant relationship between KM familiarity issues with KM practice.
- Hypothesis 3: There is a significant relationship between critical success factors with KM practice.
- Hypothesis 4: There is a significant relationship between challenges faced by the library with KM Practice.

Results

Variables, Coding, and Items of the Questionnaire

To ensure the validity of the research, the measurement items and variables were developed from prior studies. Some measurement items also were self-developed. The variables, coding, and items are listed in Table 1.

Table 1

Variables, Coding, and Items of the Questionnaire

Variables	Coding and Items Statements
Quality of the Library Services (QLS)	QLS1 – The membership process to this library is easy
	QLS2 – Service of the library is very good
	QLS3 – Staff are actively involved in the better service of the library
Familiar with KM (FKM)	FKM1 – Your familiarity with KM
	FKM2 – Relationship between KM familiarity issue and service value
	FKM3 – Relationship between KM familiarity issue and critical success factors
	FKM4 – Library needs to be conscious of critical success factors that will influence the implementation of KM.
Critical Success Factors (CSF)	CSF1 – Leadership.
	CSF2 – Continuous training programmes
	CSF3 – Utilising technology accurately
	CSF4 – Organisational ICT structure
	CSF5 – Organisational culture
	CSF6 – Knowledge storage and knowledge capturing
	CSF7 – Respecting users' demand
	CSF8 – Establishing a solid infrastructure
Challenges for Implementing KM(CIKMS)	CIKMS1 – Unwillingness to explore the difficulties associated with KM
	CIKMS2 – Problems with organisational culture
	CIKMS3 – Inadequate support from management
	CIKMS4 – Feeling shies in nature of the employee to share knowledge
	CIKMS5 – Do not find the KM process as interesting
	CIKMS6 – Improper technology deployment
	CIKMS7 – Losing information from an employee's resignation and retirement
	CIKMS8 – Lack of awareness

Variables	Coding and Items Statements
Relevance of KM on Library Practice (RKMLP)	RKMLP1 – An important ingredient of KM is the expertise of LIS specialists in librarianship
	RKMLP2 – Activities in a library's readers' service section, such as distribution of books, reference services, etc., are synonymous with sharing KM awareness
	RKMLP3 – KM helps in enhanced productivity or service quality

Source. Own research.

Reliability Statistics

We checked the questionnaire's reliability using IBM®SPSS® Statistics. The questionnaire's reliability coefficient is shown in Table 2. The Cronbach's alpha test is 0.94, which is considered reliable because it is greater than .05.

Table 2
Reliability statistics

Cronbach's Alpha	No. of Items
.94	26

Source. Own research

Internal Consistency for the Variables

Cronbach's alpha (*a*) value was the proper index to measure the instrument›s internal consistency because this research employed 1-5 point Likert scale 1 (*strongly disagree*) to 5 (*strongly agree*) questions for survey questionnaires. Table 3 shows the internal consistency of the variables. As shown in the following table, Cronbach's alpha (*a*), the instrument›s internal consistency varied from .84 to .93. The reliability test result showed high internal consistency as Eric G. Lambert et al. (2007) indicated that alpha values of .6 or higher are acceptable.

Table 3
Internal consistency for the variables

Variables and Coding	Valid Items	Cronbach's Alpha (α)
Quality of the Library Services (QLS)	3	.84
Familiar with KM (FKM)	4	.87
Critical Success Factors (CSF)	8	.93
Challenges for Implementing KM (CIKMS)	8	.92
Relevance of KM on Library Practice (RKMLP)	3	.87

Source. Own research.

Demographic Profile of the Respondent

Among the 499 respondents, 361 (72.3%) were male, and 138 (27.7%) were female. Table 4 shows that male students are higher than female students. Table 4 also shows that more than half of the respondents, 256 (51.3%), were from 18-21 years. Less than half of the respondents, 226 (45.3%), were from 22-25 years. The rest, 17 (3.4%), were from the age group of 26-29. The researcher wanted to know the current study level of the active users in the library. The educational status of the respondents revealed that among the 499 users, 139 (27.9%) were 1st-year students (undergraduate), 188 (37.7%) 2nd-year (undergraduate), 91 (18.2%) were 3rd-year (undergraduate), 38 (7.6%) were 4th-year (undergraduate) students. Rest 43 (8.6%) users were master's students (postgraduate). The distribution of respondents' current study level shows that most of the respondents were undergraduate 2nd--year students (Table 4).

Table 4

Demographic profile of the respondent

Demographic	Frequency (N=499)	Percentage (%)
Gender		
Male	361	72.3
Female	138	27.7
Age group		
18 – 21 years	256	51.3
22 – 25 years	226	45.3
26 – 29 years	17	3.4
Current Study level		
Undergraduate		
1st year	139	27.9
2nd year	188	37.7
3rd year	91	18.2
4th year	38	7.6
Postgraduate	43	8.6
Total	499	100

Source: Own research.

Quality of the Library Services

The findings, presented in Table 5, noted the following results when the users were asked about the quality of the library services. The study found that most users agreed with the statement "Service of the library is very good" (M = 3.02; SD = 1.29). Where a significant number of the students agreed the "Membership process to this library is easy" (M = 2.86; SD = 1.42). Most users also agreed that "Staff is actively involved in better service of the library" (M = 3.05; SD = 1.24). Overall, it can be said that the majority of this question's mean score above three indicates a high degree of

agreement among the users. Meanwhile, the value of SD obtained from the items noted that the findings were significant.

Table 5
Quality of the Library Services (N = 499)

Statements	M	SD
The membership process to this library is easy	2.86	1.42
The service of the library is very good	3.02	1.29
Staff is actively involved in the better service of the library.	3.05	1.24

Source. Own research.

Familiarity with KM

The research noted the following results when the users were asked about the user's familiarity with KM. Present research findings indicated that the "Library needs to be conscious of critical success factors that would influence the implementation of KM" obtained the highest mean score (*M* = 2.76) with a *SD* of 1.17. Where "Relationship between KM familiarity issue and critical success factors" obtained the second highest mean score of (*M* = 2.55) with a *SD* of 1.09. "Relationship between KM familiarity issue and service value" obtained the third position with an overall average (*M* = 2.44) with a *SD* of 1.05. "Familiarity with KM" achieved the lowest mean score (*M* = 2.11) with a *SD* of 1.08. All these findings ranked on a 1-5 point Likert scale 1 (*very low*) to 5 (*very high*). The results showed that students of various departments have moderately low familiarity with KM (Table 6).

Table 6
Familiarity with KM (N = 499)

Statements	M	SD
Familiarity with KM	2.11	1.08
Relationship between KM familiarity issue and service value	2.44	1.05
Relationship between KM familiarity issue and critical success factors	2.55	1.09
The library needs to be conscious of critical success factors that would influence the implementation of KM	2.76	1.17

Source. Own research.

Critical Success Factors

The findings in Table 7 show the frequency and percentage of the critical success factors measured on a 1-5 point Likert scale 1 (*strongly disagree*) to 5 (*strongly agree*). The research noted the following results when the users were asked about the critical success factors. The highest number of participants strongly agreed with the statements such as "Establishing a solid infrastructure for future development" (*M* = 3.55; *SD* = 1.32) is the most

important critical success factor, followed by the "Knowledge storage and capturing" (*M* = 3.48; *SD* = 1.30). Where "Organisational ICT structure" (*M* = 3.34; *SD* = 1.24) and "Organisational culture" (*M* = 3.40; *SD* = 1.30) are considered the 3rd and 4th critical success factors. "Utilising technology accurately" (*M* = 3.30; *SD* = 1.20) was considered another success factor, followed by "Respecting user's demand" (*M* = 3.38; *SD* = 1.28) and "Continuous training programmes" (*M* = 3.17; *SD* = 1.24). Leadership (*M* = 2.91; *SD* = 1.41) was considered the minor critical success factor for KMS implementation in the library. Overall, it can be said that most of the mean values above three indicate a high rate of agreement among the users regarding the challenges. Meanwhile, the low value of *SD* indicated that the findings were substantial.

Table 7
Critical success factors (N = 499)

Statements	M	SD
Leadership	2.91	1.41
Continuous training programmes	3.17	1.24
Utilising technology accurately	3.30	1.20
Organisational ICT structure	3.34	1.24
Organisational culture	3.40	1.30
Knowledge storage and knowledge capturing	3.48	1.30
Respecting users' demand	3.38	1.28
Establishing a solid infrastructure	3.55	1.32

Source. Own research.

Challenges to KM Practices in the Library

Table 8 indicates that the highest number of participants agreed with the statements such as "Lack of awareness" (*M* = 3.37; *SD* = 1.37), "Improper technology deployment" (*M* = 3.22; *SD* = 1.29), and "Losing information from employees resignation and retirement" (*M* = 3.26; *SD* = 1.30) are the significant challenges for KM practice. The other significant challenges identified as "Feeling shy in nature of the employee to share knowledge" (*M* = 3.19; *SD* = 1.24), "Inadequate support from management" (*M* = 3.12; *SD* = 1.26), and "Do not find KM process as interesting" (*M* = 3.13; *SD* = 1.30). "Problems with organisational culture" (*M* = 2.96; *SD* = 1.20) and "Unwillingness to explore the difficulties" associated with KM (*M* = 2.61; *SD* = 1.33) were considered minor challenges for implementing KM. All these findings ranked on a 1-5 point Likert scale 1 (*strongly disagree*) to 5 (*strongly agree*). Overall, it can be said that the mean values above three indicate a high rate of agreement among the users regarding the challenges. Meanwhile, the low value of *SD* indicated that the findings were significant. These are key challenges in the implementation of KM.

Table 8

Challenges to KM practices in the library (N = 499)

Statements	M	SD
Unwillingness to explore the difficulties associated with KM.	2.61	1.33
Problems with organisational culture.	2.96	1.20
Inadequate support from management.	3.12	1.26
Feeling shy in the nature of the employee to share knowledge.	3.19	1.24
Do not find the KM process as interesting.	3.13	1.30
Improper technology deployment.	3.22	1.29
Losing information from employees' resignations and retirement.	3.26	1.30
Lack of awareness.	3.37	1.37

Source. Own research.

KM Practices in the Library

The findings, presented in Table 9, show the frequency and percentage of the relevance of KM on library practice measured on a 1-5 point Likert scale 1 (*strongly disagree*) to 5 (*strongly agree*). The research distinguished the following results when the users were asked about the relevance of KM to library practice. The study identified "KM helps in enhanced service quality" as obtained the highest mean score (*M* = 3.36) with a *SD* of 1.17 for the relevance of KM on library practice, followed by the "Activities in a library's readers' service section" with the mean score of (*M* = 3.06) with a *SD* of 1.13. "An important ingredient of KM is the expertise of LIS specialists in librarianship" was considered less relevant by the users with an overall average (*M* = 2.76) with a *SD* of 1.29. Overall, it can be said that most of the mean values above three indicate a high rate of consent among the users. Meanwhile, the low value of *SD* indicated that the findings were considerable.

Table 9

KM practice in the library (N = 499)

Statements	M	SD
An important ingredient of KM is the expertise of LIS specialists in librarianship	2.76	1.29
Activities in a library's readers' service section	3.06	1.13
KM helps in enhanced service quality	3.36	1.17

Source. Own research.

Mann-Whitney U Test for User's Gender and Personal Characteristics

The results of the "Mann–Whitney *U* Test" found statistically significant differences between gender and KM familiarity and KM perceptions

for "How much familiarity with KM?" (Mann–Whitney U = 21193.00, p <.05). "Relationship between KM familiarity issue" (Mann–Whitney U = 21813.00, p <.05). Significant differences were not found between gender and KM familiarity and KM perceptions for "Relationship issue and critical success factors?" (Mann–Whitney U = 22668.50, p>.05), "Library conscious of critical success factor?" (Mann–Whitney U = 24615.50, p >.05) (Table 10).

Table 10

Mann-Whitney U Test for users' gender and personal characteristics (N = 499)

	Gender	Mean Rank	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
How many familiarities with KM	Male (n = 361)	239.71	21193.00	86534.00	-2.70	.007
	Female (n = 138)	276.93				
Relationship between KM familiarity issue	Male (n = 361)	241.42	21813.00	87154.00	-2.23	.026
	Female (n = 138)	272.43				
Relationship issues and critical success factors	Male (n = 361)	243.79	22668.50	88009.50	-1.61	.107
	Female (n = 138)	266.24				
The library needs to be conscious of critical success factors	Male (n = 361)	250.81	24615.50	34206.50	-.21	.834
	Female (n = 138)	247.87				

Note. Asymp. Sig., Asymptotic Significance.

Source. Own research.

The Kruskal Wallis H Test for the Current Study Level of Users with KM Familiarity and Perceptions

The result of the Kruskal Wallis test from Table 11 found that the statement "How much familiarity with KM" (p <.05),) and "Relationship between KM familiarity issue" (p <.05), and "Relationship issue and critical success factors" (p <.05) has a significant difference with the current study level. Table 11 also revealed that no significant difference was found with "Library conscious of critical factors that would influence the implementation of KM" (p >.05).

Table 11

The Kruskal Wallis for Current Study level with (N = 499)

Statements	Current Study level	Mean Rank	Chi-Square	Df	Asymp. Sig
How much familiarity with KM	Undergraduate(1st) = 139	269.90			
	Undergraduate(2nd) = 188	221.38			
	Undergraduate(3rd) = 91	260.54	13.50	4	.009
	Undergraduate(4th) = 38	264.16			
	Masters = 43	276.00			
Relationship between KM familiarity issue	Tools	286.04			
	Undergraduate(2nd) = 188	219.55			
	Undergraduate(3rd) = 91	258.04	21.83.	4	.000
	Undergraduate(4th) = 38	278.89			
	Masters = 43	224.07			
Relationship issues and critical success factors	Undergraduate(1st) = 139	280.35			
	Undergraduate(2nd) = 188	236.75			
	Undergraduate(3rd) = 91	245.71	9.63	4	.047
	Undergraduate(4th) = 38	238.67			
	Masters = 43	228.91			
The library needs to be conscious of critical success factors that would influence the implementation of KM	Undergraduate(1st) = 139	267.82			
	Undergraduate(2nd) = 188	242.75			
	Undergraduate(3rd) = 91	243.22	4.31	4	.365
	Undergraduate(4th) = 38	261.86			
	Masters = 43	227.97			

Note. Asymp. Sig. Asymptotic Significance.

Source. Own research.

Internal consistency and convergent and discriminant validity

Table 12 shows a reliable and valid measurement model. All parameters were above the acceptable value of .6, indicating that the indications were reliable. The composite reliability and Cronbach's alpha values for the constructs were higher than the suggested value of .7, showing excellent internal consistency dependability. The constructs' AVEs were greater than the recommended value of .5, indicating that convergent validity was sufficient. The square root of the constructions' AVE values was greater than the correlations between the constructs, and all indicators loaded higher on their respective constructs, indicating appropriate discriminant validity.

Table 12

Internal consistency and convergent and discriminant validity

Construct	Loadings	Cronbach's Alpha	rho_A	Composite reliability	Average Variance	√AVE
QLS1	.87					
QLS2	.92	.84	.86	.90	.76	.87
QLS3	.81					
FKM1	.81					
FKM2	.91					
FKM3	.86	.87	.87	.91	.72	.85
FKM4	.80					
CSF1	.79					
CSF2	.85					
CSF3	.86					
CSF4	.86					
CSF5	.79	.93	.93	.94	.68	.82
CSF6	.81					
CSF7	.80					
CSF8	.79					
CIKMS1	.79					
CIKMS2	.84					
CIKMS3	.85					
CIKMS4	.79					
CIKMS5	.75	.92	.93	.93	.65	.80
CIKMS6	.82					
CIKMS7	.79					
CIKMS8	.80					
RKMLP1	.88					
RKMLP2	.92	.88	.88	.92	.80	.89
RKMLP3	.87					

Note. QLS – Quality of the Library Services; FKM – Familiar with KM; CSF – Critical Success Factors; CIKMS – Challenges for Implementing KM Services; RKMLP – Relevance of KM on Library Practice.

Source. Own research.

Fornell & Larcker Criterion

Discriminant validity was also tested using the criterion suggested by Fornell and Larcker (1981). The results of both tests are reported in Table 13.

Table 13

Fornell & Larcker Criterion

	CIKMS	CSF	FKM	QLS	RKMLP
CIKMS	*0.80*				
CSF	0.54	*0.82*			
FKM	0.34	0.39	*0.85*		
QLS	0.49	0.47	0.37	*0.87*	
RKMLP	0.49	0.55	0.40	0.55	*0.89*

Note. CIKMS – Challenges for Implementing KM Services; CSF – Critical Success Factors; FKM – Familiar with KM; QLS – Quality of the Library Services; RKMLP – Relevance of KM on Library Practice; Values in italics represent the square root of AVE.

Source. Own research.

Assessment of the Measurement Model

As shown in Figure 2, the measurement model consists of an indicator and a path that relates to the latent variables they want to measure. According to Jörg Henseler et al. (2009), the goal of assessing the measurement model is to evaluate its reliability and validity and, consequently, inner path estimations. To determine indication reliability, calculate the factor loading of each manifest variable, which should be more than .4 (Hair et al., 2010). Internal uniformity Composite reliability and Cronbach's alpha, both of which should be .7 or greater, are used to determine reliability (Hair et al., 2010). The AVE, which must be larger than .5, determines convergent validity (Fornell & Larcker, 1981). Using Claes Fornell and David F. Larcker's (1981) criterion, discriminant validity is defined as the square root of the AVE for each construct exceeding the correlations between the construct and all other constructs (Henseler et al., 2009).

Assessment of the Structural Model

The purpose of assessing the structural model is to evaluate its validity and test the hypotheses. The constructs, also known as the latent variable, and the path that connects them make up the structural model, as shown in Figure 3. The path significance of the structural model is estimated by bootstrapping, a resampling technique. The bootstrap procedure produces t-values for each path in the model. The coefficient of determination (R^2) is obtained by calculating the amount of explained variance of each latent variable, which should be .01, .09, and .25, respectively, to indicate small, medium, and large exploratory power (Mitchell et al., 2013). The path coefficient is derived by adding the path estimates and *t*-statistics, which should be .02, .15, and .35 for small, medium, and significant relationships, respectively (Henseler et al., 2009). The relative impact of a given exogenous latent variable on an endogenous latent variable is measured by changes in the latent variable's R^2, which should be .02, .15, and .35, respec-
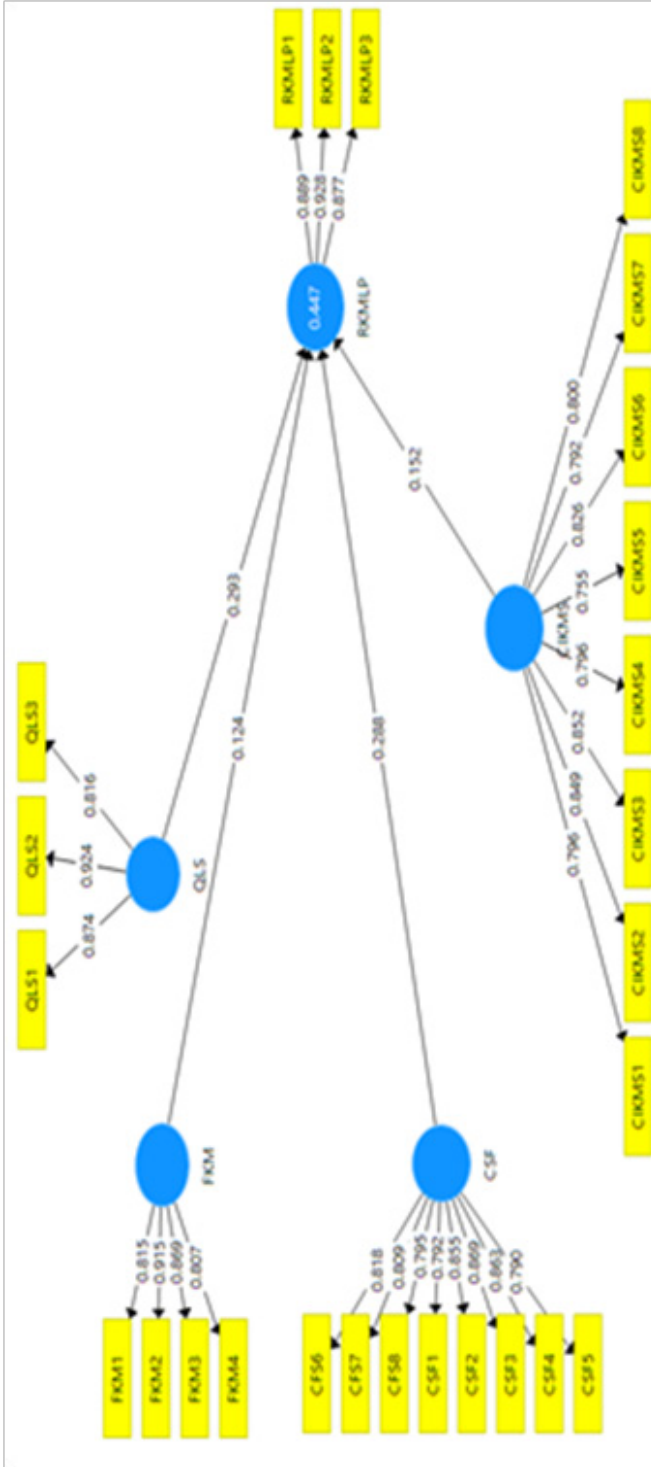
Figure 2
Measurement Model

Note. QLS – Quality of the Library Services; FKM – Familiar with KM; CSF – Critical Success Factors; CIKMS – Challenges for Implementing KM Services; RKMLP – Relevance of KM on Library Practice.

Source. Own research.

tively, indicating modest, medium, and high effect sizes (Henseler et al., 2009), and The model's and parameter estimates' predictive relevance (Q^2) are measured by how well they rebuilt observed values, which should be greater than zero (Chin, 2010).

Examining the structural model revealed an adequate and valid model, as shown in Tables 14 and 15 and Figure 3. According to William W. Chin (1998), an R^2 value of .67 is considered significant, whereas values of .33 are medium, and values of .19 are weak. The R^2 values for RKMLP were large, demonstrating strong explanatory power. The dependent variables› predictive relevance (Q^2) values were higher than the suggested value of zero, indicating that the model's predictive relevance was appropriate. A value less than .10 or .08 in SRMR and NFI values between 0 and 1 (Hu & Bentler, 1999) is considered a good fit. The study shows a good fit of the model (SRMR = .07; NFI = .78) because it is less than the recommended value of Linden T. Hu and Peter M. Bentler (1999). The effect size (f^2) values were within the recommended values ranging from .001 to .119, demonstrating the independent variables' small and medium effect sizes.

Table 14

Coefficient of determination and predictive relevance

Construct	R^2	Q^2
RKMLP	.44	.35

Note. RKMLP – Relevance of KM on Library Practice.

Source. Own research.

Table 15

Effect size

Path	f^2	Effect size
QLS → RKMLP	.10	Medium
FKM → RKMLP	.02	Small
CSF → RKMLP	.09	Small
CIKMS → RKMLP	.02	Small

Notes. QLS – Quality of the Library Services; FKM – Familiar with KM; CSF, Critical Success Factors; CIKMS – Challenges for Implementing KM Services; RKMLP – Relevance of KM on Library Practice.
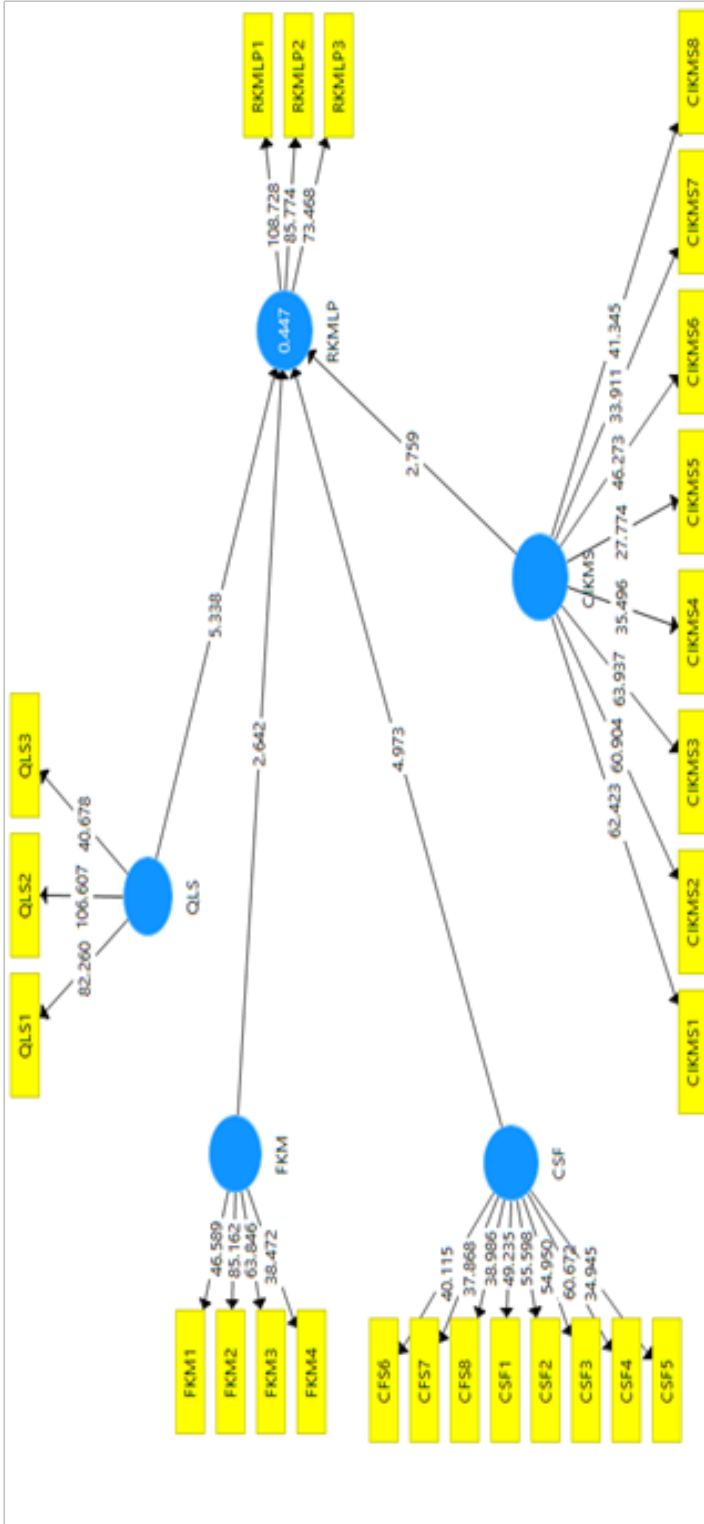
Source. Own research.

Figure 3
Structural Model

Notes. QLS – Quality of the Library Services; FKM – Familiar with KM; CSF – Critical Success Factors; CIKMS – Challenges for Implementing KM Services; RKMLP – Relevance of KM on Library Practice.

Source. Own research.

Hypotheses Testing

Path coefficients between latent variables are calculated to test the suggested hypotheses and the structural model. A path coefficient value of at least .1 is necessary to account for a particular influence within the model (Alnakhli, 2019; Hair et al., 2011; Wetzels et al., 2009). These path coefficients support all four hypotheses (H1-H4) in this model. Supported hypotheses are statistically significant at the .05 level, have signed in the predicted directions, and have a route coefficient value of .123 to .293. The route coefficients showed significant levels that exceeded the proposed value of .1 at t-statistics values ranging from 2.642 to 5.338. The result of the testing is explained below:

- H1: Quality of the library service has a significant positive relationship with KM practice (β = .293; t-value = 5.338; p-value = .000). Thus, H1 is supported.
- H2: KM familiarity issues have a significant positive relationship with KM practice (β = .123; t-value = 2.642; p-value = .008). So, H2 is supported.
- H3: Critical success factors with having a significant positive relationship with KM practice (β = .288; t-value = 4.973; p-value = .000). Thus, H3 is supported.
- H4: Challenges faced by the library has a significant relationship with KM practice (β = .152; t-value = 2.759; p-value = .006). Therefore, H4 is supported.

Discussions and Major Findings

This paper sought to address three RQs. The first question was, what are the influencing factors for the KM practices at the DU and RU libraries in Bangladesh? Present study findings indicate that the Quality of the library service (β = .293; t-value = 5.338; p-value = .000), KM familiarity issues (β = .123; t-value = 2.642; p-value = .008), Critical success factors (β = .288; t-value = 4.973; p-value = .000) and Challenges faced by the library has a significant positive relationship with KM practice (β = .152; t-value = 2.759; p-value = .006) at the DU and RU libraries in Bangladesh. The highest number of participants strongly agreed with the statements such as "Establishing a solid infrastructure for future development" (M = 3.55; SD = 1.32) and "Knowledge storage and capturing" (M = 3.48; SD = 1.30) are considered the important critical success factors. The findings align with past studies, e.g., Jutharat Sarawanawong et al. (2009) identified nine critical success factors for KM implementation in the library. The result of the SEM shows that significant relationship exists between critical success factors with KM practice (β = 0.288; t-value = 4.973; p-value = .000).

The second question was, to what extent have users' demographics been associated with KM familiarities? The results of the Mann–Whitney test

found statistically significant differences between gender and KM familiarity and KM perceptions for "How much familiarity with KM?" (Mann–Whitney U = 21193.00, p <.05). "Relationship between KM familiarity issue and service value" (Mann–Whitney U = 21813.00, p <.05). From the Kruskal Wallis test, the study also found that the statement "How much familiarity with KM" (P<.05), "Relationship between KM familiarity issue and service value" (P <.05), and "Relationship between KM familiarity issue and critical success factors" (P <.05) has a significant difference with the current study level. The third question was, what are the challenges with KM practices in DU and RU libraries in Bangladesh? From the findings of the study, it is indicated that the highest number of participants agreed with the statements such as "Lack of awareness" (M = 3.37; SD = 1.37), and "Losing information from employee's resignation and retirement" (M = 3.26; SD = 1.30) are the major challenges for KM practice at DU and RU libraries. At the same time, Islam et al. (2014) identified that lack of awareness is an important barrier to implementing KM. Similarly, Rajeev Verma and Kambalor Ramakrishna Jayasimha (2014) reported that employees have no time for KM, lack of understanding of KM and its benefits, lack of skill in KM techniques, organisation's processes are not designed for KM. They also stated that lack of funding for KM, and lack of commitment from top-level management are the challenges for KM implementation in the organisation. The path coefficients of the proposed model showed that all four hypotheses are supported at the .05 significant level.

Conclusion and Limitations

The study attempted to determine the influencing factors for KM practices in the DU and RU libraries in Bangladesh. In addition, this study tried to identify to what extent users' gender and study level impact KM familiarity. The study found that the quality of the library services, familiarity with KM, critical success factors, and challenges in implementing KM are the influencing factors for KM practices in Bangladesh's DU and RU libraries. The Mann–Whitney and the Kruskal Wallis tests found statistically significant differences between gender and current study level with KM familiarity and perceptions. The highest number of participants strongly agreed with the statements such as "Establishing a solid infrastructure for future development, and "Organisational ICT structure," which are considered the critical success factor. From the findings of the study, it is indicated that the "Lack of awareness," and "Losing information from employee's resignation and retirement" are the significant challenges for KM practice in DU and RU libraries. The hypothesis result showed that all the proposed hypotheses are supported and significant at the level of .05. This research provides a significant contribution because, comparatively, KM is new in the LIS context of Bangladesh and other developing countries (Islam, Sid-

dike et al., 2015; Islam et al., 2020), and this research will assist the library authority to know the influencing factors of KM in their libraries. Finally, this research would help provide certain beneficial information that the working atmosphere will sustain the implementation of KM for ensuring service value creation in the university libraries in Bangladesh.

This research only covers the KM practices in the library field of DU and RU in Bangladesh. Therefore, the findings cannot be generalised to the exact situations if the study were carried out at other libraries in Bangladesh. In Bangladesh, only the "Department of Information Science and Library Management" (ISLM) of DU and RU have launched the KM course to provide students with knowledge of KM (Siddike & Munshi, 2012). Therefore, this study also suggests introducing KM courses in other Bangladeshi universities. This study indicates some avenues for further research. So, conducting similar research in other university libraries in Bangladesh is essential, widening the area and giving a better result.

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