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## Original Research Article

# Knowledge sharing practice through LMS: Perspectives of faculty members affiliated to Mysore University

K Manjunatha<sup>1\*</sup>, Kumar Patil<sup>2</sup><sup>1</sup>Dept. of Library, Maharani's Women's Commerce and Management College, Mysuru, Karnataka, India<sup>2</sup>Dept. of Library, Government First Grade College for Women, Byrapura, Mysuru, Karnataka, India

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## ABSTRACT

**Introduction:** The Karnataka Learning Management System (KLMS) is a cloud-based platform that provides educational resources and tools to students and educators. It is developed and maintained by Department of collegiate Education, Government of Karnataka. It is being used by college teachers in varying degrees for varying purposes.

**Aim and Objective:** The utilization of Information Technology (IT) has become increasingly important for the dissemination of knowledge. Specialized platforms such as online Learning Management Systems (LMS) are fostering knowledge sharing among college educators, who are demonstrating a growing interest in employing such online platforms. The Karnataka LMS e-learning portal is one such LMS and this study aims to quantitatively assess the extent of usage, and has objective of examination of the perception and identifying challenges in using this educational portal.

**Materials and Methods:** Survey by questionnaire, collection of data and its analysis and finally hypotheses testing were used in this study.

**Results:** Daily visit to the portal had the highest per cent representation showing teachers regularly used LMS portal to a large extent and also it came out that they preferred uploading of videos. Major obstacles were lack of knowledge sharing culture among colleagues and excess academic workload.

**Conclusion:** The findings reveal that a predominant majority of the academic staff exhibits a positive disposition towards knowledge sharing. However, challenges impede the promotion and utilization of the Learning Management System (LMS) Portal for Knowledge Sharing.

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## 1. Introduction

Advancements in Information Technology (IT), like many other disciplines, have revolutionized the education sector by opening new methods of learning and knowledge sharing.<sup>1</sup> Significance of information and knowledge sharing among learners worldwide as the WWW is one of the most convenient and effective way to obtain and publish information.<sup>2</sup> In addition, sharing of knowledge among teachers in the physical class environment has been

enhanced and accentuate by the convenience and ability to seek desired information to help from other web users globally.<sup>3</sup> Though knowledge exchanges among teachers and students through face-to-face interactions should not be overlooked as these essentially facilitate achieving desired outcomes of collective learning, technology based knowledge sharing also has an important role.<sup>4</sup> Online Learning Management System (LMS) has become popular during and post COVID scenario. The Department of Collegiate Education, Government of Karnataka (DCE) also took a notice of this development and introduced its own Karnataka Learning Management System (Karnataka LMS)

\* Corresponding author.

E-mail address: [arkmanju@gmail.com](mailto:arkmanju@gmail.com) (K. Manjunatha).

which is being actively utilized by the academic community. There is a need to investigate the influence of Karnataka LMS portal on knowledge sharing amongst educators and hence this study.<sup>5</sup>

## 2. Knowledge Sharing Practices Among Academic Professionals

Knowledge Management involves the management of all aspects of the knowledge management process from acquisition to sharing and innovation. The most relevant aspect of the knowledge process is knowledge sharing.<sup>6</sup> There are two types of knowledge, which are tacit and explicit. Explicit knowledge is characterised by ease of expression in terms of words spoken or written in print media in all types and sorts. It can be manifested as tables, manuals, white papers, books, magazines, audio, video and images.<sup>7</sup> In contrast, tacit knowledge is obscure and not easily clear and not fully expressed. Such knowledge could be shared only by way of learning by doing or close interaction between people.<sup>8</sup>

### 2.1. Major channels used in knowledge sharing

Knowledge sharing encompasses diverse methods of exchanging information, skills, and expertise. It can be facilitated through formal channels like teaching/lecturing or informal interactions like discussions.<sup>9</sup> Technology plays a crucial role in knowledge sharing, enabling seamless access to vast reservoirs of information through online platforms, social media, and collaborative tools.<sup>10</sup> These are discussed below:

#### 2.1.1. Lecture

Lecture is an appropriate medium to share theoretical knowledge.<sup>11</sup> Usually, a lecture involves communicating with a large number of students when the interactive element is limited. The lecturer would distribute lecture notes or teach the lesson by using slides. The lecture notes and slide will be the guide for the students to study for the final examination, tests and quizzes and they will search for other additional information from the books in the library or online information from the internet.<sup>12</sup>

#### 2.1.2. Social networking

Social networking has gained big attention because the user can communicate informally or formally. A student actively uses social networks to know and discuss the assignment and ask virtually after the lecture. Both mutual interaction between a student and a teacher and also a collective discussion is possible which makes knowledge sharing dynamic and seamless.<sup>13</sup>

#### 2.1.3. e-learning portals

E-learning portals serve as digital platforms facilitating remote education, offering a diverse range of courses and resources accessible to learners worldwide. Employing multimedia elements, interactive features, and user-friendly interfaces, these portals enhance the flexibility and accessibility of educational content, catering to diverse learning styles.<sup>14</sup> They play a pivotal role in the evolution of contemporary education, fostering anytime, anywhere learning.

## 3. Learning Management Portals as Mainstay e-learning Portals

Learning Management System (LMS) e-learning portals have integral to modern education, providing centralized platforms for course administration, content delivery, and assessment. These systems streamline educational processes, fostering interactive and collaborative learning experiences. LMS portals enable educators to organize, track, and manage online courses efficiently, enhancing the overall effectiveness and accessibility of e-learning initiatives in academic settings.

### 3.1. Karnataka LMS portal

The Karnataka Learning Management System (KLMS) is a cloud-based platform that provides educational resources and tools to students and educators in the state of Karnataka. It is developed and maintained by Department of collegiate Education, Government of Karnataka. The colleges will have Wi-Fi that allows students to download content while on the premises through a commonly created login credentials. These resources can be accessed through offline also. Each and every module of a particular subject has sixty minutes long video made by subject experts, demonstrate and explain the concept of the content which relevant to current syllabus. KLMS has been implemented in 430 colleges, 87 polytechnics, and 14 engineering institutes benefitting 4.5 lakh students.

The primary objective of this digital initiative is to move the curricula of educational institutions like schools and colleges online and into digital format.<sup>5,15</sup>

### 3.2. Background to the study

LMS e learning portal was established with a goal to support the information needs of the host institution.<sup>5</sup> It was expected that knowledge gained from the use of the e-learning materials through the information resources consulted would lead to knowledge sharing amongst teachers. After initial reluctance to accept and to adopt this initiative this portal is now well utilized by the college teachers and student community as well for knowledge sharing necessitating an examination of the perception of teaching community about this setup for knowledge

sharing.<sup>16</sup>

### 3.3. Statement of the problem

Every higher education institution has the primary functions of teaching, research and facilitating learning, teaching activities carried out in form of lectures and assignments are given to ensure that learning has taken place. The state of knowledge sharing is perceived to be poor among teachers. Consequently, teachers and students may embrace the mentality of hoarding knowledge to gain academic advantage against other students, thereby reducing knowledge sharing.<sup>17</sup> The LMS initiative by the Department of Collegiate Education, Government of Karnataka looks to fill this void by giving alternate means of information resource and a new way of knowledge sharing amongst its users. There is a need to study and measure the efficacy of this initiative.

## 4. Objective of the Study

The general objective of this study is to find out the effect of LMS use on knowledge sharing among teachers belonging to various colleges affiliated to Mysore University

The specific objectives are as follows:

1. To find out the extent to which academician use LMS portal to share their knowledge
2. To ascertain the level of knowledge sharing amongst faculty members
3. To identify the challenges faced by teachers in the use of the LMS for knowledge sharing.

### 4.1. Research questions

1. To what extent usage of LMS portal influences knowledge sharing among faculty members of Mysore University affiliated colleges?
2. What is the level of knowledge sharing amongst teachers?
3. What are the challenges faced by teachers in the use of the LMS portal for knowledge sharing?

### 4.2. Hypotheses

1. HO<sub>1</sub>: There is no significant relationship between awareness and utilisation of LMS portal by academic scholars.
2. HO<sub>2</sub>: There is no significant relationship between perception and utilisation of LMS portal by academic scholars.
3. HO<sub>3</sub>: There is no significant relationship between awareness and perception of LMS portal by academic scholars.

### 4.3. Significance of the study

This study will bring out to what level academicians are using LMS Portal for knowledge sharing and it will also increase the awareness and importance of knowledge sharing among academic community.<sup>18</sup> Furthermore, awareness of LMS portal and services among teachers will be increased. This study will add to the literature on LMS portal and knowledge sharing because only a few studies have been carried from this perspective.

### 4.4. Scope of the study

This study is limited to the use of LMS portal developed and administrated by Department of Collegiate and Technical Education, Government of Karnataka and knowledge sharing among teachers of Mysore University. It will specifically cover e-resources, tacit and explicit knowledge. This study will be carried out among teachers belongs to various colleges affiliated to Mysore university. Finally, this research limited to the period from June 2023 to July 2023.

### 4.5. Methodology

In this study, a survey design was adopted. This is appropriate because it provides an excellent way to examine respondents' opinion towards the studied variables. It also helps to determine the relationship between the variables under examination.<sup>9</sup> This design was used to gather information from a representative sample of the population under study. The population for this study comprise of faculty members belonging to Mysore University. Previous research about knowledge sharing was conducted and questionnaires were used to measure the response of participants.

### 4.6. Sampling technique and sample size

The sampling technique adopted for this study was the purposive sampling technique. This was necessary because the criterion for respondents' selection is the use of the LMS Portal. Hence, to calculate the sample size for this study, Krejcie and Morgan<sup>19</sup> method was adopted, if the given population was 1000000 then the required sample size would have to be 384.

### 4.7. Data analysis, results and discussion of findings

This part details the presentation of data analysis and interpretation from the instrument of data collection used for the study. Data were analysed using descriptive and inferential statistics. IBM SPSS version 23 was used for data analysis. Three hundred and eighty-four (384) copies of the questionnaire were distributed, retrieved and validated for data analysis constituting 312 questionnaires with 81.25 per cent response rate.

Data analysis begins by depicting the respondents’ demographic characteristics, thereafter, answered the research questions raised for the study. Finally, a test of hypotheses is carried out among variables of interest.

### 5. Presentation of Results

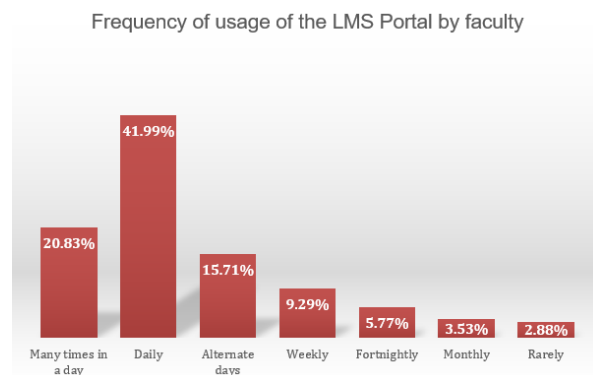
**Table 1:** Demographic information of respondents

Variables	Frequency	Percentage (%)
<b>Gender</b>		
Male	173	55.45
Female	139	44.55
<b>Age range</b>		
25-35 years	67	21.47
36-45 years	153	49.04
46-55 years	77	24.68
56 years and above	15	04.81
<b>Designation</b>		
Assistant Professor	186	59.61
Associate Professor	94	30.13
College Librarian	14	04.49
Physical Education Director	18	05.77
<b>Length of Service</b>		
0-5 years	96	30.77
6-10 years	84	26.92
11-15 years	77	24.68
16-20 years	30	09.62
More than 20 years	25	08.01
<b>Total</b>	312	100.00

Table 1 shows that the study was male-dominated because male respondents had 55.45 per cent representation (n=173), while the female had 44.55 per cent representation (n=139). Also, the study participants were predominantly between the age categories of 0-5 years (n=96, 30.77%) while those that were more than 20 years of age (n=25, 8.01%) were the least represented in the study. Finally, the most represented level of teachers was Assistant professor (n=186, 59.61%), while the least represented designation was college librarians (n=14, 04.49%).

Table 2 shows the frequency of visits to the LMS Portal by the faculty. Daily visit to the portal had the highest 41.99 per cent representation (n= 131), while rare visit had the least count of 2.88 per cent representation (n=9)

From Figure 1, 41.99 percent (n=131) of the faculty members log on to the LMS portal, which is created and maintained by the Department of Collegiate and Technical Education, Government of Karnataka shows how faculty of Mysore University affiliated colleges positively utilizing to create and share the knowledge to the academic community of higher education in Karnataka. Interestingly 20.83 percent (n=65) of faculty members visiting to LMS portal several times in day, it shows how much zeal for e-learning portal by academic community.



**Figure 1:** Frequency of LMS portal visit by the faculty members.

THE=To High Extent, HE= High Extent, TLE= To Low Extent, VR= Very Rarely, N = Never

From Table 3 it becomes evident that teachers used LMS portal to a large extent (Average mean 3.56). This shows that generally, college teachers use LMS portal to share their knowledge. However teachers concentrate on uploading lecture videos (Average mean 4.17) than online discussion (Average mean 3.79), besides, on average, college teachers shows less interest on conducting online quiz (Average mean 3.16). Sharing notes finds the least position indicating more importance towards digital content.

Mysore university affiliated college teachers agreed that they faced many challenges in the use of LMS portal. The respondents pointed out that students preferred to attend regular physical classes rather than online classes, which is a major challenge in promoting and using LMS portal to share their knowledge (Average mean 4.33) as can be seen from the Table 4 In addition to this, teachers admitted that they strongly faced the following challenges; lack of knowledge sharing culture among colleagues (Average mean 4.23), excess academic workload also crucial role in promoting LMS portal (Average mean 4.22). This indicates there are many challenges to promote and use LMS Portal for sharing explicit as well as tacit knowledge for teachers.

#### 5.1. Test of hypothesis

H0<sub>1</sub>: There is no significant relationship between awareness and utilisation of LMS portal by academic scholars.

Table 5 shows that there is a positive significant relationship between awareness and utilisation of LMS portal (r = 0.191; p < 0.05). Therefore H0<sub>1</sub> is rejected. The positive relationship implies that increase in awareness brings about increase in utilisation. The simple linear Regression model indicates that LMS portal utilisation significantly influences the explicit as well as tacit knowledge sharing (p< 0.05). This suggests that the utilisation of LMS portal significantly influence the explicit and tacit knowledge sharing.

**Table 2:** Frequency of usage of the LMS portal by faculty.

Academic status	Many times in a day	Daily	Alternate days	Weekly	Fortnightly	Monthly	Rarely
PG students	2(3.08)	11(8.40)	2(4.08)	3(10.34)	0(0.00)	0(0.00)	4(44.44)
Research Scholars	6(9.23)	14(10.69)	2(4.08)	1(3.45)	2(11.11)	1(9.09)	0(0.00)
Assistant Professors	32(49.23)	61(46.56)	3(6.12)	2(6.90)	4(22.22)	2(18.18)	0(0.00)
Associate Professors	18(27.69)	27(20.61)	21(42.86)	8(27.59)	3(16.67)	2(18.18)	2(22.22)
Professor	6(9.23)	14(10.69)	13(26.53)	14(48.28)	7(38.89)	6(54.55)	0(0.00)
Librarian	1(1.54)	4(3.05)	8(16.33)	1(3.45)	2(11.11)	0(0.00)	3(33.33)
Total	65 (20.83)	131 (41.99)	49 (15.71)	29 (9.29)	18 (5.77)	11 (3.53)	9(2.88)

**Table 3:** To what extent do faculty members use LMS portal to share their resources?

Resources	The	HE	TLE	VR	N	Mean	Average Mean
Lecture videos	181 (58.01)	42 (13.46)	51 (16.35)	36 (11.54)	02 (0.64)	4.17	
Online discussion	128 (41.03)	81 (25.96)	38 (12.18)	41 (13.14)	24 (7.69)	3.79	3.56
Notes	69 (22.12)	41 (13.14)	78 (25.00)	110 (35.26)	14 (4.49)	3.13	
Online quiz	38 (12.18)	110 (35.26)	71 (22.76)	49 (15.71)	44 (14.10)	3.16	

**Table 4:** Challenges faced by faculty members while using LMS portal

Challenging factors	Strongly agree	Agree	Neutral	Strongly disagree	Disagree	Mean
Lack of IT infrastructure	174 (55.77)	59 (18.91)	17 (5.45)	39 (12.50)	23 (7.37)	4.03
Lack of knowledge sharing Culture among academic Community	196 (62.82)	61 (19.55)	11 (3.53)	18 (5.77)	26 (8.33)	4.23
Inadequate e-resources at LMS Portal	59 (18.91)	126 (40.38)	39 (12.50)	41 (13.14)	47 (15.06)	3.35
Excess academic workload	156 (50.00)	114 (36.54)	08 (2.56)	23 (7.37)	11 (3.53)	4.22
Students prefers off-line Over on-line mode	201 (64.42)	72 (23.08)	03 (0.96)	14 (4.49)	22 (7.05)	4.33

**Table 5:** LMS portal service utilisation

Variable	N	Mean	Std. D	r	Sig.	Remark
Awareness of LMS	312	11.65	3.87	.182	.000	Significant
Utilisation of LMS portal	312	9.13	3.01			

**Table 6:** Relationship between perception and extent of LMS utilisation

Variable	N	Mean	Std. D	r	Sig.	Remark
Utilisation of LMS	312	9.13	3.07			
Perception on importance of LMS	312	13.61	3.61	.161	.000	Significant

**Table 7:** relationship between awareness and perception of LMS portal

Variable	N	Mean	Std. D	r	Sig.	Remark
Awareness of LMS	312	11.65	3.91	.131	.000	Significant
Perception on importance of LMS	312	13.61	3.08			

H<sub>0</sub><sub>2</sub>: There is no significant between perception of the importance of LMS Portal and LMS utilisation

Table 6 reported that there is a positive significant relationship between perception and importance of LMS and LMS utilisation ( $r = 0.19$ ;  $p < 0.05$ ). Therefore H<sub>0</sub><sub>2</sub> is rejected. The positive relationship implies that increase in the perception of the importance of LMS brings about increase in utilisation.

H<sub>0</sub><sub>3</sub>: There is no significant relationship between awareness of LMS and perception of the importance of LMS portal

Table 7 revealed that there is a positive significant relationship between awareness of LMS and perception of the importance of LMS ( $r = 0.12$ ;  $p < 0.05$ ). Therefore H<sub>0</sub><sub>3</sub> is rejected. The positive relationship implies that increase in the awareness of LMS, brings about increase in the perception of the importance of LMS portal which is developed and maintained by Department of Collegiate Education, Government of Karnataka.

## 6. Conclusion

This research investigates the individual knowledge sharing behaviour among academic scholars affiliated with the University of Mysore. The findings reveal that a predominant majority of the academic staff exhibits a positive disposition towards knowledge sharing. However, challenges impede the promotion and utilization of the Learning Management System (LMS) Portal for Knowledge Sharing. Addressing these limitations necessitates the provision of robust IT infrastructure, including a reliable Internet connection. Additionally, fostering awareness within the student community through targeted workshops emerges as a viable strategy for overcoming these barriers.

## 7. Source of Funding

None.

## 8. Conflict of Interest

None.

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## Author biography

**K Manjunatha**, College Librarian

**Kumar Patil**, College Librarian

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