Understanding Student Perceptions in Using E-Learning Portal as Knowledge Management Tool: A Study of Bodhidroom E-Learning Portal

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Abstract

Purpose – The study aims to investigate students' perceptions of using e-learning portal and to analyse the utilization of e-learning portal as knowledge management tool.

Design/methodology/approach – A self administered questionnaire was distributed among the randomly selected 100 registered students of the Bodhidroom e-learning portal. Bodhidroom is the first e-learning portal in North-East India under the Institute of Distance and Open Learning (IDOL) of Gauhati University.

Findings – E-learning portal is the platform which provides the facility of interaction among knowledge holders and seekers. As such, e-learning portal can be enhanced by combining it with another separate world of knowledge called knowledge management. This research paper introduces e-learning portal and knowledge management and their relationship. The awareness level of the respondents regarding the utilization of e-learning portal as knowledge management tool is very low. Therefore, the institution should create awareness among the users by conducting programmes, such as orientation programs, demonstrations, workshops, conferences, seminars and through notices regarding the complete potential of the e-learning portal and their use as knowledge management tool. Moreover, faculties should motivate their students to participate in the e-learning portal.

Paper type - Research paper

Keywords: E-learning, E-learning Portal, Knowledge Management, IDOL, Bodhidroom

1. Introduction

E-Learning is now a global phenomenon in the world of higher education. In the simplest term e-learning is the use of technology to enable people to learn anytime and anywhere. It is borderless. The growth of e-learning is directly related to the increasing access to information and communications technology, as well its decreasing cost. The capacity of information and communications technology to support multimedia resource-based learning and teaching is also relevant to the growing interest in e-learning. Growing numbers of teachers are increasingly using information and communications technology to support their teaching. Moreover, the contemporary students who have grown up using information and communications technology are also interested to learn in an electronic environment. Similarly, academic institutions also have seen advantages in making their programs accessible via a range of distributed locations, including on-campus, home and other community learning or resource centres (Naidu, 2006). Thus, e-learning is getting popularity day-by day among the academic fraternity.

The introduction of the portal concept to the academic institutions has opened new possibilities to address some of the issues concerning the management of academic information and knowledge. Conceptually the portal is nothing but a gateway through which learner can access information, data and systems. An e-portal, uniquely adapted to individual needs, can be accessed by the users via intranet or internet. Thus, it can be used as an interface to provide relevant data from a central source, through secure and password-protected entry. Password-protection is highly necessary because the system can immediately identify its users and restrict unauthorized access to authorized areas. Hence, once registered, a user can both access and add information directly into the database, making it a powerful tool for data management and updating the database immediately and ensuring all information is current. The other benefits of the e-portal include—easy access from any

internet connection, quick and easily available information, involvement of parents and peers in the educational processes, monitoring of self-progress, simple interface for easy data input, improvised communications between policy makers and other stakeholders and so on.

Presently portals have evolved to provide a customized gateway to Web information through a high level of personalization and customization. Similarly, e-learning portal is a Web-based tool that is becoming an important and popular application in higher education. Moreover, it has been predicted to be the future of all types of distance learning. E-learning portal provides a number of learning tools, including an online discussion board, course content management, a course calendar, information announcement, electronic mail, reviews, auto-marked quizzes and exams, navigation tools, access control, grade maintenance and distribution, student progress tracking, chat room etc. In the words of Al-Sadi et al. (2008), "E-learning system provides intercommunication facilities to specific topics as well as collaboration with experts and other users on various topics". Hence, more realistic and directly related information can be generated through an e-learning portal. Through e-learning portal knowledge can be update and share which can act as an active knowledge sharing and store system.

2. Objective of the Study

To find out students' perception of effective utilization of E-learning portal for knowledge management in an academic environment.

3. Research Questions

The study is motivated with the following research questions –

➢ Are the students aware about the Bodhidroom e-learning portal?

➢ Do students find the portal important for their academic purposes?

- ➢ Does the portal support electronic scholarly communication?

- ➢ Is the Portal user-friendly?

- ➢ Is there any social influence on students in using the portal?

- ➢ Are the students self efficient to use the portal?

- ➢ Do the students need special training to use the portal?

- ➢ What are the features of Bodhidroom e-learning portal and to what extent these are used by the students?

4. Methodology

For the survey of the primary data questionnaire method was adopted. For that a questionnaire was prepared on the basis of the objective of the proposed study and was distributed among the randomly selected 100 students of the Institute of Distance and Open Learning (IDOL) under Gauhati University. The only criterion in selecting the sample was that the respondents should have registered on the Bodhidroom e-learning portal.

5. Institute of Distance and Open Learning (IDOL)

The Institute of Distance and Open Learning (IDOL) under Gauhati Universiy, formerly known as Post Graduate Correspondence School (PGCS) was established in May 1998 with the objective to ensure the opportunity to pursue quality higher education to the large number of students who could not pursue higher education through conventional mode of education. IDOL strives to accommodate the students who cannot enroll in the conventional system of higher education due to various factors like limited number of seats in Post Graduate classes, livelihood compulsion etc. and aims to impart quality education in an intellectually challenging learning environment (http://www.idolgu.in/).

The Institute of Distance and Open Learning (IDOL) has completed 15 years of successful existence in May 2013 and aims to continue the mission of spreading and providing quality education to the students. Starting with 514 students and 6 courses in May 1998, IDOL now witnesses its growth in all capacities with an enrollment of more than twenty thousand students and 25 programmes in a learning environment equipped with latest technologies. IDOL is the only institution in the country to offer Post Graduate courses in five languages 8th Schedule languages viz Assamese, Bengali, Nepali, Bodo, Sanskrit and English. Apart from self-learning materials and counseling services, IDOL tries to maximize learning opportunities through the first E-learning portal of the North-East, www.bodhidroom.idolgu.org, developed by IDOL and *Radio Luit*, the Community Radio Center are latest modes in student support services. With the commitment to ensure quality education to the masses, IDOL has launched undergraduate programmes from the academic session 2011-12 and the journey from Correspondence School to Institute of Distance and Open learning is not only a rise in quantity but also in quality (http://www.idolgu.in/).

5.1 Bodhidroom E-Learning Portal

Bodhidroom is the first e-learning portal in North-East India under the Institute of Distance and Open Learning (IDOL) of Gauhati University. Based on Moodle learning management software, Bodhidroom is facilitating course management using the following modules – Log in module, Assignment module, Chat module, Discussion forum, News forum, Question and Answer forum, Calendar module, Message module, Glossary module, Lesson module, Online self test module, Quiz module, Resource, Survey module, Wiki module, Workshop module, Recent activity module, contact module etc. To access/ view the e-Learning modules, users are required to create an account using the Create Account button as shown in the figure I. For that they have to fill out the New Account form with their

details. An email will be immediately sent to their email address. Then users have to read their email, and click on the web link it contains. After that their account will be confirmed and they will be logged in to Bodhidroom. Then they have to select the course they want to participate in (shown in fig. II). They can now access the full course. From the next time they will only need to enter their personal username and password to log in to Bodhidroom and access any course they have enrolled in. Moreover, Bodhidroom is open to all, outsiders can create an account as guest users.
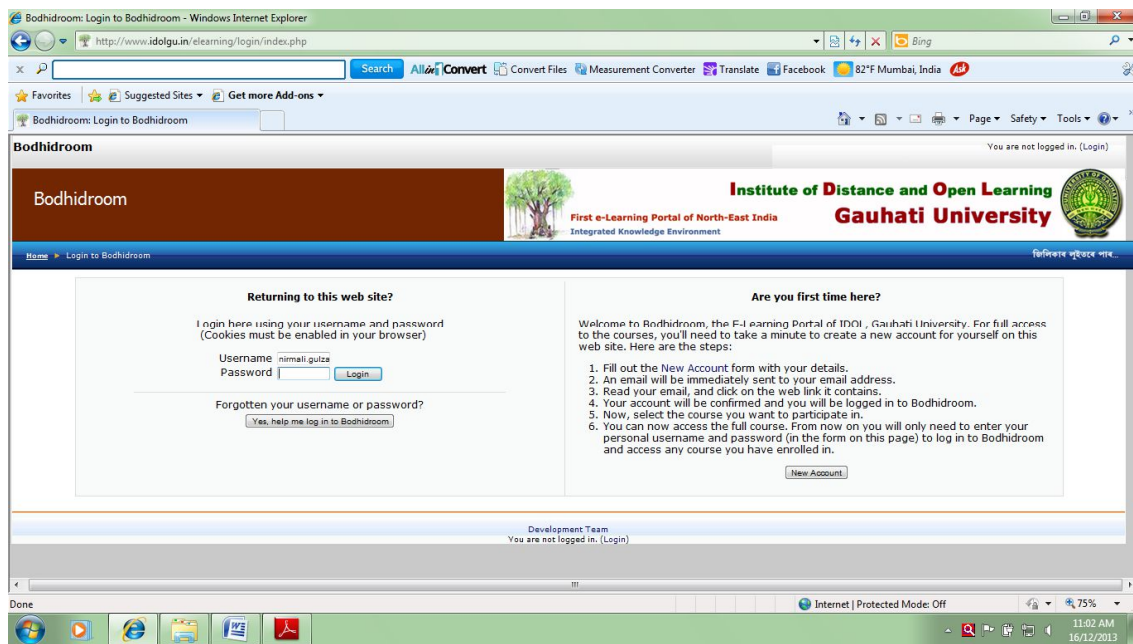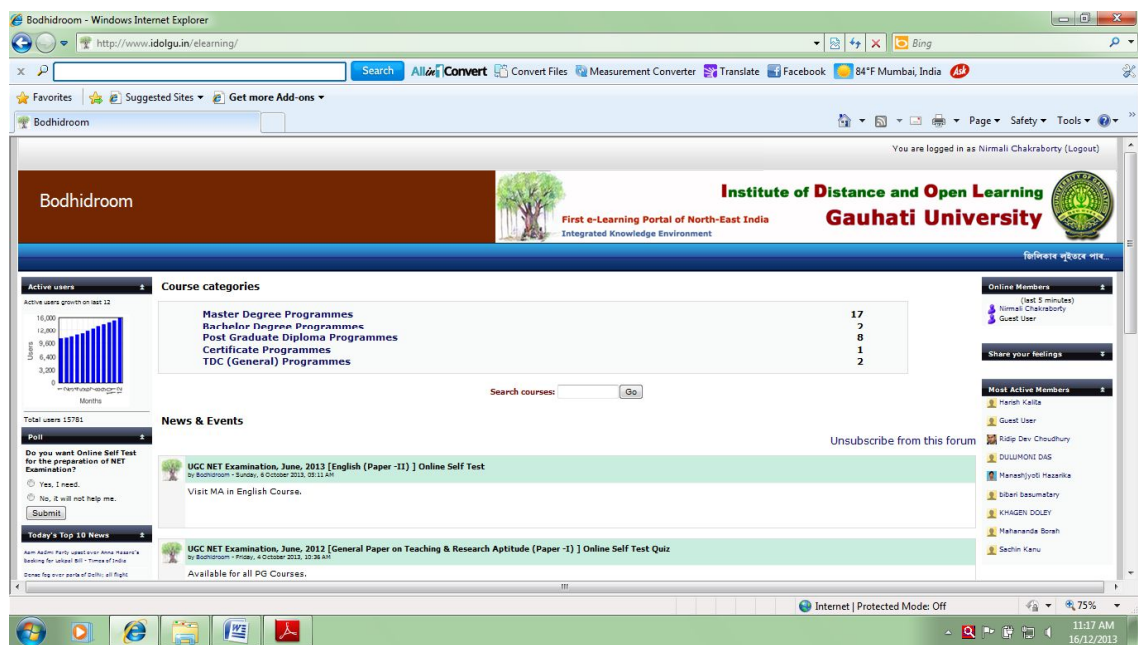

Fig. I

Fig. II

Currently Bodhidroom is having around 14,500 registered members. The number of registered user of Bodhidroom is given course wise in the table 1

Sl No.	Courses	No. of users
1.	MA in Assamese	947
2.	MA in English	1049
3.	MA in Political Science	1157
4.	Master of Computer Application	1379
5.	M.Sc in Information Technology	626
6.	MA in Education	525
7.	MA/M.Sc in Economics	845
8.	MA in History	422
9.	MA/M.Sc in Mathematics	624
10.	MCom	1953
11.	MA in Philosophy	266

12.	MA in Bengali	176
13.	MA in Bodo	86
14.	Master in Communication & Journalism	502
15.	MA in Nepali	64
16.	MA in Sanskrit	44
17.	Bachelor of Computer Application	365
18.	B.Sc in Information Technology	187
19.	Post Graduate Diploma in Computer Application	929
20.	Post Graduate Diploma in Sales & Marketing Management	166
21.	Post Graduate Diploma in Human Resource Management	488
22.	Post Graduate Diploma in Bussiness Management	420
23.	Post Graduate Diploma in Finance Management	196
24.	Post Graduate Diploma in Insurance & Risk Management	49
25.	Post Graduate Diploma in Banking & Finance Services	241
26.	Post Graduate Diploma in Journalism & Mass Communication	138
27.	Certificate in Computer application	183
28.	B.A. (GENERAL COURSES)	322
29.	B.Com. (GENERAL COURSE)	112
	Total	14,461

Table 1: Course wise number of registered user of Bodhidroom

6. Data Analysis

The data were tabulated for analysis in accordance to the objective of the study. Some respondents furnished some valuable comments in the space provided for the purpose; those comments were incorporated in the appropriate places.

6.1 Basic Information of the Respondents

The Table 2 furnished below gives a brief account on the basic information of the respondents of the study. Here it is seen that out of 100 respondents 56 are male and 44 are female. Similarly out of 100 respondents 92come under 20 to 25 age group and 8 come under 26 to 30 age group. Moreover, all the respondents are having e-mail account.

Gender	Male (56)	Female (44)
Age Group	20-25 yrs (92)	26-30 yrs (8)
E-mail Account	Yes (100)	No (0)

Table 2: Basic Information of the Respondents

6.2 General Understanding and Usage of E-Learning Portal

In this section, a descriptive statistical analysis is given in order to provide a richer understanding of the students' general understanding and usage of E-Learning Portal. Table 3 summarizes the percentages of the students' general understanding and usage of E-Learning Portal. Here it is found that almost 92% percent respondents of the target group claim that they usually use computer for their study. Similarly, 87% respondents replied that they use the Web in their academic activities. Likewise, 66% respondents claimed to be familiar about the term 'e-learning' as well as 45% are aware about 'e-learning portal'. Moreover, only 48% respondents are aware about the Bodhidroom E-Learning Portal of their institute. Very less respondents have received training on the use of the Bodhidroom portal. But majority of the respondents replied that the portal supports in both the teaching and learning. Very less respondents add information to the portal. Majority of the respondents have not given any response on portal's support in electronic scholarly communication. No member of the portal is informed through their mobile phone regarding the current news in their areas of interest.

General Understanding and Usage of E-Learning Portal	Yes	No	No Response
i. Do you usually use any computer applications for your study?	92%	8%	-
ii. Do you use the Web in your academic activities?	87%	13%	-
iii. Are you familiar with the term "E-Learning"?	66%	30%	4%
iv. Are you familiar with the term "E-Learning Portal"?	45%	35%	20%
v. Are you aware about Bodhidroom E-Learning Portal of your institute?	48%	52%	-
vi. Have you ever received training on the use of Bodhidroom E-Learning Portal?	20%	80%	-
vii. Does the portal support both the teaching and learning?	73%	-	27%
viii. Does the portal enable users to access all the collections in one place and to search across them?	7%	67%	26%
ix. Does the portal support electronic scholarly communication?	27%	19%	54%
x. Does the portal connect people with common interests who work in different departments?	17%	21%	62%
xi. Can you add information to the portal?	6%	74%	20%
xii. Are the members of the portal informed through their mobile phone regarding the current news in their areas of interest?	-	97%	3%

Table 3: General Understanding and Usage of E-Learning Portal

6.3 Students' Perceptions in Using Bodhidroom E-Learning Portal

6.3.1 Performance Expectancy

A descriptive statistical analysis is described in this section in order to provide a richer understanding of the students' perceptions in Using Bodhidroom E-Learning Portal. Table 4 summarizes the percentages of the students' perceptions with respect to Performance Expectancy. As can be seen the students tend to believe that Bodhidroom is a useful and productive tool; however, they tend to be a bit more neutral in terms of their perception that Bodhidroom will increase their chances of getting a better grade.

Performance Expectancy (PE)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PE1: I find Bodhidroom useful in my studies	0%	0%	24%	64%	12%
PE2: Using Bodhidroom enables me to accomplish tasks more quickly	0%	2%	16%	72%	10%
PE3: Using Bodhidroom increases my productivity	0%	0%	12%	84%	4%
PE4: If I use Bodhidroom, I will increase my chances of getting a better grade	0%	6%	50%	38%	6%

Table 4: Descriptive Statistics for Performance Expectancy (PE)

6.3.2 Effort Expectancy

Table 5 provides a descriptive analysis of the students' perceptions regarding Effort Expectancy. It appears that the students tend to agree that Bodhidroom is understandable, easy to use and easy to learn.

Effort Expectancy (EE)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
EE1: My interaction with Bodhidroom is clear and understandable	-	4%	25%	71%	-
EE2: It is easy for me to become skilful at using Bodhidroom	-	62%	17%	21%	-
EE3: I find Bodhidroom easy to use	-	25%	9%	66%	-
EE4: Learning to operate Bodhidroom is easy for me	-	30%	10%	60%	-

Table 5: Descriptive Statistics for Effort Expectancy (EE)

6.3.3 Attitude toward Using Bodhidroom

The descriptive statistics in Table 6 also suggest that the students surveyed tend to believe that Bodhidroom is a good idea and that they like to use it; however, they appear to be somewhat neutral in terms of learning with Bodhidroom is fun.

Attitude toward Using Bodhidroom (A)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
A1: Using Bodhidroom is a good idea			10%	66%	24%
A2: Using Bodhidroom is a bad idea	73%	27%			
A3: Bodhidroom makes classes more interesting		52%	30%	18%	
A4: Learning with Bodhidroom is fun		4%	59%	37%	

Table 6: Descriptive Statistics for Attitude toward Using Bodhidroom (A)

6.3.4 Social Influence

Interestingly, the descriptive analysis in Table 7 suggests that the students get influenced by others who think they should use Bodhidroom. They tend to agree that the professors and administrative staff support the use of Bodhidroom. But unfortunately majority of the respondents are neutral about university's in general support in using Bodhidroom.

Social Influence (SI)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
SI1: My teachers have been supportive in the use of Bodhidroom		4%	20%	76%	
SI2: In general, the university has		25%	55%	20%	

supported in the use of Bodhidroom					
SI3: My parents advice me to use Bodhidroom		78%	20%	2%	
SI4: My friends use Bodhidroom		5%	26%	69%	
SI5: People who are important to me think that I should use Bodhidroom		3%	87%	10%	

Table 7: Descriptive Statistics for Social Influence (SI)

6.3.5 Facilitating Conditions

Fortunately, the descriptive statistics in Table 8 express the majority of the students' perceptions that they have the necessary resources and knowledge to use Bodhidroom. But they are neutral about that 'a specific person (or group) is available for assistance with difficulties they experience with Bodhidroom'.

Facilitating Conditions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
FC1: I have the resources necessary to use Bodhidroom		3%	30%	67%	
FC2: I have the knowledge necessary to use Bodhidroom		9%	20%	71%	
FC3: Bodhidroom is not compatible with other applications I use (such as MS Word, MS Excel, etc.)		4%	42%	54%	
FC4: A specific person (or group) is available for assistance with difficulties I experience with Bodhidroom		12%	78%	10%	

Table 8: Descriptive Statistics for Facilitating Conditions

6.3.6 Self-Efficacy

Table 9 provides the analysis for Self-Efficacy. Again, the students tend to agree that Bodhidroom is easy to use, but seems to be easier if they can call someone for help whenever they get stuck. Moreover a good number of respondents want the built-in help facility in the portal itself.

Self-Efficacy (SE)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
SE1: I could complete most tasks using Bodhidroom if there was no one around to tell me what to do as I go		39%	42%	19%	
SE2: I could complete most tasks using Bodhidroom if I could call someone for help if I got stuck		7%	51%	42%	
SE3: I could complete most tasks using Bodhidroom with just the built-in help facility for assistance		14%	37%	49%	

Table 9: Descriptive Statistics for Self-Efficacy (SE)

6.3.7 Anxiety

Not surprisingly, given today's students exposure to technology, the students do not have a high level on anxiety when using Bodhidroom. Ofcourse, very few students feel uneasy to use Bodhidroom. Moreover, quite a good number of respondents are willing to share their knowledge through the portal.

Anxiety (ANX)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

ANX1: I feel uneasy to use Bodhidroom		34%	47%	19%	
ANX2: It scares me to think that I could lose a lot of information using Bodhidroom by clicking the wrong button.		73%	27%		
ANX3: I hesitate to use the system for fear of making mistakes I cannot correct.		81%	19%		
ANX4: I don't like to share my knowledge through Bodhidroom		63%	37%		

Table 10: Descriptive Statistics for Anxiety (ANX)

6.3.8 Features of Bodhidroom and their use

In addition to studying the Bodhidroom e-learning portal more closely, this study also looked at the features or functionality of Bodhidroom that students tend to use. As can be seen in Table 11, students use Bodhidroom mostly for obtaining course information, announcements, old question papers and online testing/quiz. Moreover, some of them use it to participate in the discussion forum as well as in the chatroom.

Features of Bodhidroom (FB)	Never Use	Seldom Use	Sometimes Use	Use	Often Use
FB1: Course Information		7%	24%	66%	3%
FB2: Announcements		8%	20%	39%	33%
FB3:Calendar		20%	62%	10%	8%
FB4: Online Study Materials		21%	54%	19%	6%
FB5: Discussion Forum		74%	14%	10%	2%
FB6: Old Question Papers		3%	5%	25%	67%
FB7: News Forum		74%	8%	14%	4%

FB8: Chatroom		19%	71%	8%	2%
FB9: Online Testing/Quiz		17%	14%	63%	6%
FB10: Online Tutorials		11%	13%	71%	5%
FB11: Messages		16%	31%	43%	10%
FB12: Online Help		28%	32%	32%	8%

Table 11: Descriptive Statistics for Features of Bodhidroom (FB)

6.4 Special Training on the use of E-Learning Portal

Here quite a good number of respondents demanded to organize special training on the use of E-Learning Portal. For that the institution should introduce special user education programme on E-Learning Portal. It serves to instruct, inform and persuade the users about the benefits of the portal. Faculties should also be given proper training for self participation in the portal and they should be well informed about its importance in teaching and learning. Moreover, users should be motivated for using the portal as well as to participate to the portal. Some of the possible mechanisms for promotion and advocacy include- workshops, seminars and presentations, leaflets, posters, newsletters and other printed literature, library orientation programme, links from institutional home page, links from library web pages etc.

Yes	No	No Response
88%	8%	4%

Table 12: Need of Special Training on the use of E-Learning Portal

6.5 Rating of the Bodhidroom E-Learning Portal

The scholar has displayed the rate of satisfaction of the students regarding the Bodhidroom e-learning portal under Table-13 for clear understanding. Here the researcher made use of Likert scale. The Likert scale ranged from "Excellent" (1) to "Very poor" (6) for all items associated with each variable.

Excellent	Very Good	Good	Average	Poor	Very Poor	No Response
-	4%	37%	32%	12%	5%	10%

Table13: Rating of the Bodhidroom E-Learning Portal

Here, Out of 100 no respondent has graded the portal as "Excellent". Similarly, only 4% have remarked the portal as "Very Good". Ofcourse, majority of the respondents (37%) have graded it as "Good" and 32% said it "Average". But, unfortunately, 12% and 5% respondents have remarked it as "Poor" and "Very Poor" respectively.

7. Findings

After due analysis of the data, the following major findings were drawn –

i. All the respondents usually use computer for their study.

ii. Majority of the respondents use the Web in their academic activities.

iii. Majority of the respondents are familiar with the term 'E-Learning' and 'E-learning Port

iv. Less than 50% respondents are only aware about Bodhidroom E-Learning Portal of the institute.

v. Majority of the respondents have not received training on the use of Bodhidroom E-Learning Portal

vi. Majority of the respondents replied that the portal supports both the teaching and learning.

vii. Majority of the respondents replied that the portal supports electronic scholarly communication.

viii. Very less respondents mentioned that they can add information to the portal.

ix. Members of the portal are not informed through their mobile phone regarding the

current news in their areas of interest.

x.   Students tend to agree that Bodhidroom is understandable, easy to use and easy to learn.

xi.   Students believe that Bodhidroom is a good idea and that they like to use it.

xii.   Students get influenced to use Bodhidroom by others like teachers, friends etc.

xiii.   Bodhidroom is easy to use, but seems to be easier if students can call someone for help whenever they get stuck.

xiv.   Students do not have a high level on anxiety when using Bodhidroom.

xv.   Students use Bodhidroom mostly for obtaining course information, announcements, old question papers and online testing/quiz. Moreover, some of them use it to participate in the discussion forum as well as in the chatroom.

xvi.   Users need special training on the use of E-Learning Portal.

xvii.   Majority of the respondents have graded the portal as "Good"

xviii.   Students and teachers can manage their knowledge on Bodhidroom very easily.

xix.   Bodhidroom can be utilized as a tool for capturing teachers' explicit and tacit knowledge for knowledge sharing. It is very user-friendly for collaborative learning.

xx.   Bodhidroom providing ways to display publish and organize student-generated contents and thus it helps to move these knowledge to subsequent semester classes and other groups.

xxi. Bodhidroom can provide the sense of community, appreciation, working together, problem solving, the joy of learning etc.

xxii. Bodhidroom is providng a platform to learn, create, share, help and improve.

xxiii. All the modules of Bodhidroom is supporting knowledge management processes and organizational learning. Ofcourse, there is less impact on students' creation of knowledge, but the introduction of Bodhidroom within the organization's culture and practices might create the path.

8. Conclusion

This study has presented the importance of knowledge management (KM) and e-learning (EL) integration. How effectively the portal technology can be utilized with the KM processes for an academic environment. Knowledge management develops a mutual interacting environment for knowledge sharing among students and teachers. The learning processes of learners become efficient and innovative due to this interaction (Waheed et al, 2012). Use of KM based EL portals provide the facility of learning from a specific domain and can retrieve relevant knowledge due to course management facility. Academic portal in particular can be utilized as a very good tool for knowledge management in educational institutions. It helps as a tool for capturing teachers' as well as students' explicit and tacit knowledge, for knowledge sharing. It provides a collaborative platform across multiple institutions, for knowledge creation through the development of knowledge artefacts by learners and teachers. Moreover, Student-generated contents need ways to display, publish and organize it; and ways to move it on to subsequent semester classes and groups. That is the kind of 'knowledge management' system an academic institution need. In the discussion forums of an e-learning portal students and teachers perform socialization and then internalization and externalization for transferring the tacit knowledge into explicit

knowledge takes place. Thus, the integration of portal technology with KM processes will be useful for the efficient capturing of knowledge and its sharing for quality learning.

In this paper we studied the use of an e-learning portal designed to help distance learners in the context of knowledge management processes. Bodhidroom e-learning portal, a pioneer integrated knowledge environment in North-East India, is working as a knowledge management initiative for distance learners. This paradigm shift in distance education is a proactive step taken to address the increasing sophistication of higher education systems. E-learning has been a success at GU IDOL, through providing systematic sharing of knowledge and capture of experience, through both formal and informal online channels. It also made education more effective and less costly. Formal methods of knowledge sharing comprise online learning through interactive modules like online classes and slides presentation with narration, while informal learning comprises of peer group discussion and chat room. Both elements have been essential in making e-learning a success and in creating a lifelong learning culture in GU IDOL. Ofcourse, students are advised to make good use of these online e-learning resources to gain better understanding of the subjects matter and to facilitate better participation. The study reveals that the awareness level of the respondents regarding the utilization of e-learning portal as knowledge management tool is very low. Therefore, the institution should create awareness among the users as well as faculties by conducting programmes, such as orientation programs, demonstrations, workshops, conferences, seminars and through notices regarding the complete potential of the e-learning portal and their use as knowledge management tool. Moreover, faculties should motivate their students to participate in the e-learning portal.

Limitations of the Study – Limitations of the present study mainly originate from the data collected by survey of 100 students only. The data collected from the respondents was only 0.8% of the total population. Usage among different age groups was also not studied. However, gender study was also not taken into account. Moreover, the study will be appropriate by using an interview approach to place participants in a realistic environment where they will be able to express the problems face during the use of e-learning portal.

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