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A framework for making most out of online communities of practice tools for reforms in distance learning

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ABSTRACT:

Distance education has become one of the popular choices among the student's community. More and more students are enrolling into various distance education courses. Technology advancements have created a new avenue in distance education. ICT has helped the universities and colleges in reducing the distance between the students and faculty members. Many of these ICT technologies replicate the physical classroom setup in an online environment. The adoption of social networking sites (SNS) such as LinkedIn, Facebook is increasing rapidly at a much faster phase among the student's community. An increasing number of faculty members in the higher education space have been using these social networking tools in combination with other tools for education delivery and knowledge sharing. Social networking tools are used for building a community of practice among the students enrolled in the program and the faculty members. There is not much research around maximizing the benefits of the use of these social networking platforms and improving the effectiveness of learning. This study aimed to find out the attributes which are vital for making most of these online communities of practice tools and come up with a framework. The researcher performed qualitative research. A carefully designed online questionnaire was sent to a sample set 2000 users and responses were received from 410 users. The researcher used PLS-SEM Model for this research. The outcome of the study revealed that Quality of the Platform and Quality of the content are the critical factors for making most of the COP/SNS platforms. Easy of Navigation and language used for making the content scored high when compared to other attributes.

Keywords: Online Communities of Practice, Social Networking, Learning Technology, Distance Education, Social Learning

1. INTRODUCTION

Distance Education has been there for more than a hundred years. It was one of the primary modes of education for people who were looking for flexibility in time and place of education. According to Gurgan (2012), it has existed in many forms such via post, radio, tv, videos, internet. Web technologies have become the mainstream choice of technology for distance education. Many universities are currently offering various online degree and diploma programs.

Out of several ICT applications, learning management systems are one of the primary choices of universities and colleges. There are several learning management systems available in the market such as Moodle, Blackboard, and cornerstone. These applications were primarily used for distributing the learning materials and tracking the progress. These tools were not providing an interactive learning environment. They are not addressing the current need for distance education.

2. STATEMENT OF THE PROBLEM:

Learning management systems which are currently available in the market is not meeting the needs for distance education. Social networking tools can be looked at as an alternative technology for distance education. Making most out of these social networking tools is the need of the hour for improving the effectiveness of learning.

3. LITERATURE REVIEW & THEORETICAL BACKGROUND:

SNS platforms like Facebook, LinkedIn, YouTube and Twitter have become an integral part of our life. Social Networking Platform allows users to generate their content and share it through various connections. Social media tools use web 2.0 technology as a base which focuses on interaction, integration, and collaboration. Users across the globe widely use social networking tools. Kaplan and Haenlein (2010) define social networking platforms are a collection of the internet based applications which was introduced to support the Web 2.0 framework. Marketo (2010) defines Social media as the generation of content, sharing the content with online communities.

Social Networking Platforms can be looked at as an alternative tool for distance education. These tools provide an opportunity for creating an online community of practice among students and instructors. There are several social networking platforms available in the market. Each tool was designed with certain scope and audience in mind. It is critical to look at the key attributes of these tools in order to effectively utilize these applications for distance education.

Students dropout is one of the critical challenges in Distance education programs. Galusha (1997) and Peters (1992) in their research found that isolation of students, less opportunity for active interaction with the peer learners and instructors are critical factors for higher dropout rates in distance education. Brady, Holcomb, and Smith (2010) say that students have moved to online distance education as a most effective alternative to classroom-based education. DeSchrver et al., (2009) says that online distance education programs are typically delivered or managed through learning management systems. These systems enable academic institutions in efficiently delivering the course content with the more significant amount of security and tracking.

4. LIMITATIONS OF CURRENT TECHNOLOGY AND THE NEED FOR ALTERNATIVE TECHNOLOGY:

Schroeder, Minocha, and Schneider (2010) argue that the traditional learning management systems failed to provide the social experience which was the key for higher engagement levels of the students when compared to social networking tools such as Facebook or YouTube.

Lane (2009) argue that the learning management system and learning content management systems are enabling only some broader pedagogical support and it lacks support on personalization. Webb (2009) argued that due to the limitations of current learning management systems educators have started exploring alternative technology which can provide better pedagogical freedom, personalization and more importantly easy to use.

Sheely (2006) says that the learning management systems(LMS) which are currently available in the market allows learners to view their personal transcript. It does not enable features which are present in social networking tools. These LMS tools are currently replicating a current classroom

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setup.

5. SOCIAL NETWORKING PLATFORMS AS A POTENTIAL TOOL FOR DISTANCE EDUCATION:

There is a lot of literature evidence for knowledge sharing on social networking platforms. Gurteen (2012) define Social knowledge management as utilizing social media tools for knowledge management to spot, share, document, develop, transfer, use or appraise knowledge.

Many researchers suggested using a social networking platform for learning. Wang et al., (2011) found that Facebook pages can be used as a substitute for or in addition to a learning management system. Schroeder and Greenbowe (2009) suggested using Facebook as the course communication tool in place a learning management system. Schroeder and Greenbowe (2009) recommended introducing Facebook as the course communication tool in place of a learning management system. Donmus (2010), Ajjan and Hartshorne (2008) found that learning through social networking platforms will have a positive effect on students. They also found that learning through social media is more enjoyable and successful.

Many researchers found that using a social network platform as an educational platform may support learners in forming social connections with the members. These types of collaboration help them to share ideas, create products, construct identities, and receive timely feedback. Boyd and Ellison (2007) say that the adoption of SNS provides an alternative opportunity towards building a community based learning environments. They also say that in a distance education course social networking sites provides an opportunity to build a community of practice through features such learner profiles, discussion forums, content sharing, and feedback. Boyd and Ellison (2007) found that using SNS for academia enables learners and instructors a significant number of instructional opportunities through discussion forums, blogs, wikis, photos, and videos.

McCann (2009) argue that Online COP through SNS enables students in connecting and collaborating with geographically disbursed peer learning group. These type of collaboration helps the educators in improving the engagement level of the students. He also found that SNS provides an opportunity for students to share education resources such as documents, links, and videos. Lee and McLoughlin (2010) state that SNS enables students and instructors to connect online and enable meaningful learning experiences. Doering and Veletsianos (2008) suggest that along with innovative technology, pedagogical enhancement is critical for a great and successful learning experience in distance education. Naveh et al., (2010) states that educators view SNS as an alternative tool which enables participatory pedagogies and it can address today's needs for distance education such as the community of practice, social presence, discussion forums. Dron,

Alexander (2006) in his research found that social bookmarking can be one of the significant features which can be used in higher education. He argues that social tags provide a feature for storing essential links in a shared location, finding users with a common interest. Alexander also suggested using social writing tools like wikis in the higher education environment. He argues that it can fulfill various needs of the community such as sharing the knowledge and learning with a student peer group, faculty members and other staff members. Irwin et al., (2012) studied the use of Facebook pages within specific university courses. Based on student perceptions, the findings showed that many course participants (N = 135, 78%) felt that Facebook could be a useful learning tool.

Zhao et al., (2005) in their research found that the engagement level of student is the key to the effectiveness of distance education. They have argued that interactive learning environments have the potential to improve the engagement levels and this increased engagement level would result in a higher rate of success.

Grisham and Wolsey (2006) state that

discussion boards, blogs, and chat enables students with a feature to interact with their course instructors and peer learning group. Social networking tools enable instructors in creating an online community of practice of students and instructors. SNS enables greater collaboration and communication among the student community and the instructor community. Students are not only connected with the instructors, but they are also connected with a peer learning group. They can learn from their peers as well. SNS enables interactive learning through chats, discussion forums, audio and video conferencing.

Huang, Huang, and Yu (2011) in their research found that blogs can be used as a useful tool for learning and knowledge sharing. McCarthy (2010) in his research found that Facebook can be used for creating a blended learning environment. He also found that Facebook has helped students in developing a relationship with their peer learning groups. Most of the students were happy about participating in discussion groups. He has also found that the engagement level got increased after introducing social networking platform into the learning environment.

Mazer, Murphy, and Simonds (2007) in their research found that the instructors self- disclosure on social networking can increase the motivation level of the students which will have a positive effect on the learning outcomes.

Anderson (2005) found that social networking technology seems to be promising for distance education given its ability to improve social presence. Wheeler, Yeomans, and Wheeler (2008) SNs provide an opportunity for the students to share their ideas, knowledge and receive instant feedback from a peer learning group. Greenhow (2011) suggested using SNS as an educational platform which will support students in creating their identities, sharing their knowledge and receive feedback. Most of the past research talks about knowledge sharing and learning capabilities of these platforms. There were no concrete data on the attributes which makes these platform efficient.

Cheng and Vassileva (2006) argue that a higher amount of low-quality content would make the learners feel an overload of unwanted information and this might lead to withdrawal from the network. Chai, Potdar, and Chang (2007) states that identifying and rewarding users who contribute to higher quality content would motivate members in sharing high-quality content. They also suggested that identifying and educating the users who share lower quality content may help in reducing the low-quality content postings. Some researchers argue that peer feedback could be a way of measuring the quality of the content. Meanwhile, few researchers like Han and Liu (2006) argue that it can be only be considered if the users give honest and genuine feedback.

THEORETICAL MODEL

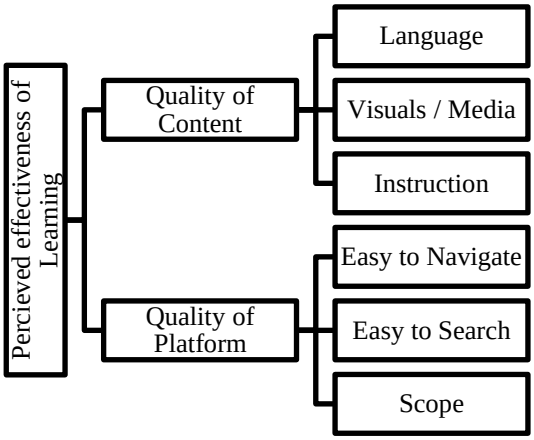


Figure 1: Theoretical Model

6. QUALITY OF CONTENT:

The reputation of a member depends on the quality of content post of them. As they build trustworthy followers in their online community and provides them quality content that's relevant to them, we can see a rise in members viewing, liking and sharing the posts, however, posts without the qualities that individuals like and share will not engage anyone. It will not build the member brand. Quality of the content depends on the various factors like the authenticity of the content, language used, visuals/graphics and instructional design.

Language: Members should write the content in simple/ plain English. Using some technical jargons and phrases might create a difficulty for the other members to understand/comprehend the content. It should not create a massive cognitive load for the users who are reading the content. Lengthy sentences, grammatical errors, and improper use of punctuation might also create some difficulties in deciphering the content. We always suggest users use tools like Grammarly, which can help them in reducing the typos and grammatical errors.

I. VISUALS/ MEDIA:

Graphics/Visuals play a significant role in making the content more comprehensible. One thousand words are equal to one picture. If the authors explain things with appropriate diagrams, visuals, infographics, it will help the readers/other members in comprehending/ understanding the content quickly and easily. These days we would see more and more video-based content posted, which are helping the learners in a big way in their overall learning process.

II. INSTRUCTION:

Choosing the right instructional strategy is also essential when it comes to creating/co-creating quality content. These are techniques used by the authors or subject matter experts, to make the learning experience more engaging, thought-provoking, independent and comfortable. These technics includes slicing the content into smaller parts (which will reduce the cognitive load), organizing the content, tools for assessing own learning, guided instructions, quoting real-life examples, using appropriate metaphors and so forth.

7. QUALITY OF PLATFORM:

Effective learning from social learning application is highly dependant on the quality of the platform. We can talk about many factors which would determine the quality of the application including features offered by application, User Interface(UI) and User Experience(UX), scope and so forth.

I. EASY TO NAVIGATE:

User interface and User Experience plays a significant role in the efficient use and adoption of the application. Visually appealing design, simple layout, easily readable typographic elements would make the application easy to use. Usability of the product is determined by how easy for the users to navigate to the various parts of the application.

II. EASY TO SEARCH:

Once the network becomes more significant and active, many members post/share their knowledge with their network. Easy to search and locate content and subject matter expert is the key to effective knowledge management and social learning. Some of the key features like type-a-head, personalized search, searching inside the content, tagging would help the users of the platform in locating the content and experts.

III. SCOPE:

Scope of the network should be articulated clearly to the members along with the clearly defined policies, accepted and unaccepted practices is essential for making the platform useful and efficient. Restricting the scope to the knowledge management, and social learning would help us in reducing the content which is not within the scope and network.

8. HYPOTHESES:

H1. The higher the quality of content, the higher the perceived effectiveness of learning and skills development.

H2. The higher the quality of the social networking platform, the higher the perceived effectiveness of learning and skills development.

9. RESEARCH METHODOLOGY:

The researcher performed a qualitative research. The main stages of this study include Literature Review, Sample Selection, Data Collection, Data Analysis including Hypothesis testing and Data Interpretation. A carefully designed online questionnaire was sent to a sample set 2000 users and responses were received from 410 users. The questionnaire was hosted on online survey application called Survey Monkey.

We have then shared the link / URL on LinkedIn and requested the users to respond. We have also shared the link on Email and requested the users to complete the survey.

10. RESEARCH METHODOLOGY:

To identify the attributes which are crucial for getting the most out of the social networking platform for distance education?

11. RESULTS

Since we are proposing a new theoretical model or framework to the domain, we have chosen the PLS-SEM models for our research. The PLS-SEM helps us in finding the complicated cause and effect relationship models with inferred/non-observed variables. The table and diagram showed the outcome of tested PLS SEM model

12. RELIABILITY AND VALIDITY TESTING:

Table 1: Reliability and validity

Variable	Items	alpha	CR	AVE	GOF
Language	4	0.85	0.9	0.69	
Media	2	0.72	0.88	0.78	
Instructions	2	0.92	0.96	0.93	0.76
Easy_Navg	2	0.89	0.95	0.9	
Easy_Search	2	0.85	0.93	0.87	
Scope	2	0.6	0.83	0.71	

In table 1, Reliability and Validity is confirmed as per the statistical requirements, alpha, CR is more than .7 for all the components and AVE is more than .5, the overall goodness of fit is .76

CROSS LOADINGS OF EACH OF ITEM:

Table 2: Cross loadings of factors

	Language	Media	Instructions	Easy_Navg	Easy_Search	**Scope**
Language						
v23	0.78					
v24	0.87					
v25	0.86					
v26	0.83					
Media						
v16		0.83				
v17		0.93				

Instructions						
v18			0.96			
v19			0.97			
Easy_Navg						
v27				0.95		
v28				0.95		
Easy_Search						
v29					0.94	
v30					0.93	
Scope						
v31						0.88
v32						0.81

13. DISCRIMINANT VALIDITY:

Table 3: Correlation with AVE

	1	2	3	4	5	6
Lang	0.83					
Media	0.43	0.88				
Insts	0.59	0.40	0.96			
EsyNav	0.12	0.19	0.13	0.95		
EsySer	0.11	0.18	0.15	0.80	0.93	
Scope	0.26	0.35	0.26	0.51	0.63	0.84

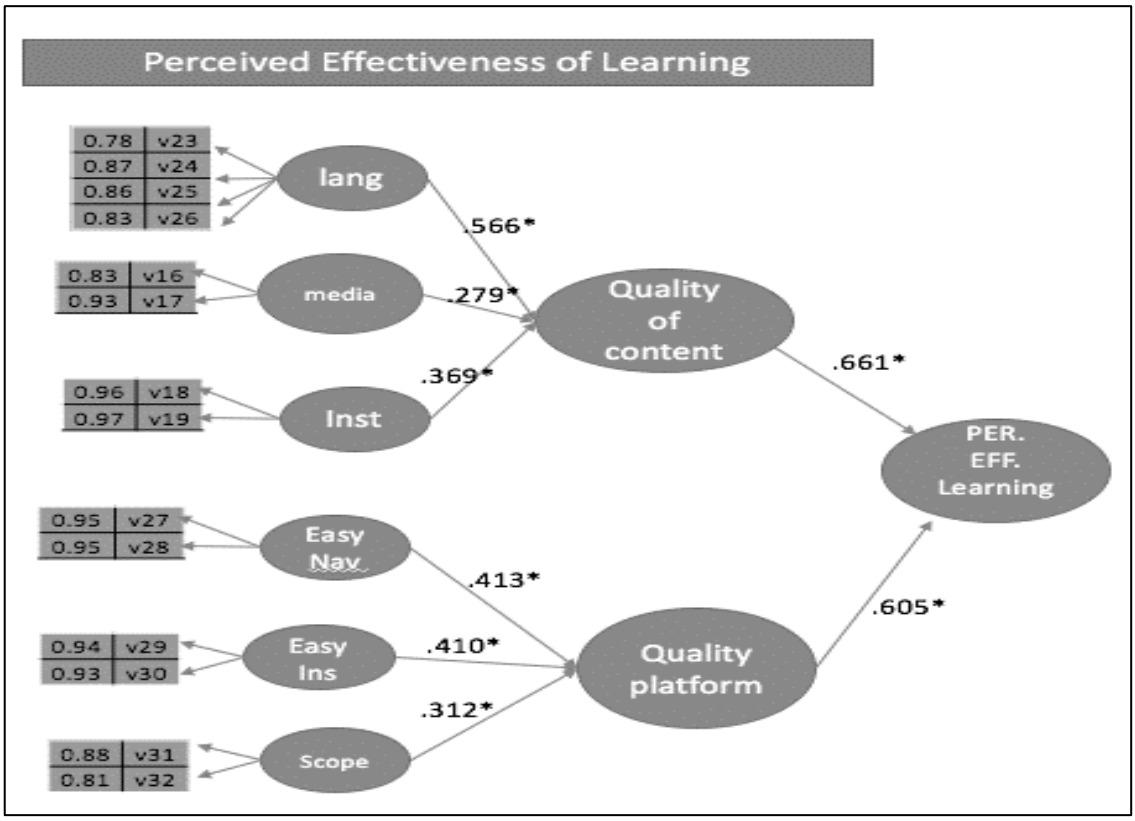
Correlation with AVE ensured the discriminant validity, the square root of. AVE is higher while compared to the correlation of the components in their respective column

	Estimate	Std.Error	t value	P value
Quality_content				
Intercept	0	0	0	1
Lang	0.57	0	2750	0
Media	0.28	0	1530	0
Instr	0.37	0	1820	0
Quality_platform				
Intercept	0	0	0	1
EsyNav	0.41	0	539	0
EsySer	0.41	0	484	0
Scope	0.31	0	533	0
Per_Eff_Learning				
Intercept	0	0	0	1
CQ	0.66	0	432	0
PQ	0.61	0	395	0

The inner model showed the strength of the relation between each item with their score is ranged between .28 to .57, for media and language respectively. concerned

components; the coefficient

Picture 2: Model Outcome



The relation between Quality of content and Quality of platform formed construct for Perceived learning effectiveness which is .661 and .605 respectively, it proved the above said hypothesis. All the paths are statistically significant at the 1% level.

14. DISCUSSION:

The research finding reinforces the past research work around using SNS for distance education. A significant number of participants agreed on the benefits of using social networking platforms such as

- Creating an online identity / social presence
- Social writing through blogs/wikis
- Searching/finding content through social bookmarking and tagging
- Finding answers through discussion forums
- Building a community of practices through groups
- Accessing and uploading a different type of content such as docs /images, videos, audio
- Building a personalized learning environment
- Enhanced communication and building a social relationship with other learners and instructors through chat/ audio/video conferences
- Showcasing their work

While many researchers recommend using social networking platforms for distance education, the academic community has been noticeably slow in adopting this technology as the mainstream technology. They are still using the traditional learning management systems which are available in the market. Many learning management system vendors have also come up with several social features which can be looked at as integration of social networking tools and learning management tools. There are many social networking tools are available in the market, and each of them was designed for specific common purposes. Adopting those tools in the current form might have their own set of problems, such

as mixing the personal network with social learning network which might lead to distractions. Applications such as Ning, ELGG, Jive & Yammer can be used with customizations rather than using general purpose SNS such as Facebook, LinkedIn and Google+

15. CONCLUSION AND IMPLICATIONS FOR FUTURE RESEARCH:

I. CONCLUSION:

The research finding proves our claim on a higher quality of content and higher quality platform would improve the perceived effectiveness of learning through social networking platforms. Quality of content and quality of platform played a vital role in forming the construct of perceived effectiveness of learning among the respondents, though both are important, quality of content is slightly higher when compared with the quality of the platform. Hence to have an effective learning environment in social media, the prevalence of both quality of content and quality of the platform is imperative.

II. LIMITATIONS AND DIRECTION FOR FUTURE RESEARCH:

The research work provided a framework for maximizing the benefits of social networking tools for distance education. As part of this research work the researcher only looked at few key attributes like the quality of content and quality of platform. We may to analyze other attributes as well. Future research works may have to look at all other possible attributes for improving the perceived effectiveness of learning. Only randomly selected sample set of the audience was asked with 5 point Likert scale questions. We may need to do this with a broader set of the population with a different set of higher education students.

III. IMPLICATIONS:

Online COP through Social networking tools has the potential to become a mainstream technology for distance education. Many academic institutions may start adopting these tools soon. Learning management system vendors and social networking platforms vendors will offer a specials purpose social learning tools. The tools will have the best of the features of both the systems, and it will address the challenges of current applications.

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