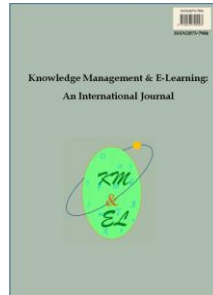


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### **Facebook as e-learning tool for higher education institutes**

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## Facebook as e-learning tool for higher education institutes

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**Abstract:** World is changing day by day in every aspect of life. A Smart City is an answer to different challenges such as socio-economic development and quality of life. In the way intelligent technology has brought enormous changes in urban development by altering the relation of production, consumption and distribution, it is now bringing enormous changes to the education sector. By providing technological opportunities for various ways of communication, the relationship between instructors and students has improved. Taking consideration of Facebook popularity in students, we argue that it can be used for educational purposes as well. A research study was conducted to analyze the student's responses towards the use of Facebook for educational purposes based on a use case of educational institutions in Pakistan. We distributed 180 questionnaires among graduate and undergraduate students, out of which we received 140 completed questionnaires. The questionnaire was designed based on the four variables: Student's perception, Academic Contribution, Student Faculty Relationship, and Concerns for Privacy and Distraction. The results demonstrate the willingness of students to use Facebook and social media for educational purposes alongside with their use for social purposes. The way, the enhanced link between students and faculty can contribute to the enrichment of cooperation and interaction in terms of connectivity between people, urban ecosystem development and Smart Cities.

**Keywords:** Smart cities; Social media; Facebook; e-Learning; Pakistani educational institutions; Higher education commission

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## **1. Introduction**

Toward the implementation of a Smart City concept, cities are facing a major process of changes in education with an increasing demand for connectivity between people, and ever-presence (Winters, 2011). Smart Cities offer more chances for students to interact and learn from teaching staff, faculty members, student teams as well as social communities without the hurdles of time and distance (Caragliu, Del Bo, & Nijkamp, 2011). New and emerging technologies continuously change the traditional ways of communication, and affect our life making it more interactive, collaborative, comfortable and fast paced (Ozuem, Howell, & Lancaster, 2008). Internet is an important part of this technology change and has an influential impact on our life, too. Kaplan and Haenlein (2010) described the Internet as a bulletin board system that is allowing users to share data, software and news with each other. People get close to each other by utilizing different platforms such as social media. There has been a significant emphasis in making such platforms easy to use and better integrated with other activities that people carry out. For instance, in previous years it was often necessary to install software to access bulletin board systems (such as Internet relay chat). The availability of web based portals has enabled a much integrated user generated experience on both desktops and mobile systems. Web 2 has allowed people to contribute and publish data freely and quickly (Mtega, Benard, & Dettu, 2013). Pakistan is facing challenges regarding the implementation of e-learning but social media is getting momentum regardless of challenges. In case of social media, especially Facebook is already being used for social interactions in the society. We argue that it can also be used for e-learning as well and can become a positive source to spread education and thus, support the provision of quality informal education to all citizens in a Smart City concept. Alongside with this, Facebook could also be used to increase the interaction between students and faculty members in order to improve student's academic performance.

## **2. Social media and Facebook as education enabling technologies**

Web 2.0 brought substantial changes in user experiences by providing dynamic pages from static pages. It supported the development of social capital, enhanced conversations and dialogues, playfulness and user created contents. These trends have allowed people to use the Web at their will and comfort. Web 2.0 examples include social media, wikis, blogs and video sharing websites. Social media such as Facebook, Twitter, MySpace have changed the traditional methods of communication as well as learning in general. Social media provide the opportunities for interaction between different people that create and share information in a virtual world by creating an environment that leads to pleasant experiences in our life. Facebook is among the social media tools that has gained

remarkable popularity among all over the world. Its importance should not only be restricted to the technological aspects but focus should also be paid to the social side of social media because it is a way of “being, thinking and doing” (Page, 2014). Communities established on social media have minimized geographical barriers and introduced a variety of different modes of interaction and communication. Kane, Fichman, Gallagher, and Glaser (2011) described different capabilities of social media such as deep relationship, mobilization of people, knowledge creation and integration and better filtering of information.

The take of social media is increasing in an informal way in our homes, and communities have provided us the opportunity to introduce e-learning through social media (Dabbagh & Kitsantas, 2012). Social media websites have the ability to meet the needs of basic as well as specific academic requirements. The popularity of a site depends upon the environment (Falahah & Rosmala, 2012). Since the social networking has shifted to online, individuals have developed personnel links by their self-created information systems (Yu, Tian, Vogel, & Kwok, 2010). Social media could be useful for collaborative learning because student relation to other students and teachers is not restricted to class timing (Annetta, Minogue, Holmes, & Cheng, 2009). More interaction between them for educational purposes will bring creativity and positive results consequently adding value to Smart Cities.

e-Learning is a way to collaborate and communicate information and knowledge through computers (Iqbal & Ahmed, 2010). Modern technology has introduced new ways of teaching, and e-learning is a rising technique in this era. There are different advantages of e-learning such as convenience, cost effectiveness, in-depth learning, diverse learning and freedom of speech (Qureshi, Ilyas, Yasmin, & Whitty, 2012). Asynchronous and synchronous are two available types of e-learning that can be compared with each other (Hrastinski, 2008). Asynchronous e-learning provides the connectivity between learners and teachers even in their non-presence. Synchronous e-learning facilitates participation and cooperation at the same time. Facebook allows people to collaborate and share information in predefined virtual communities (Irwin, Ball, Desbrow, & Leveritt, 2012). It helps individuals to connect with other people by making a profile publically or semi publically and can expand their social networking (Boyd & Ellison, 2008).

Familiarity with Facebook usage makes it an appropriate tool to use for instructional purposes. It is expected that it could play an important role in enhancing the educational system. The way communication is changing from one way (e.g. television) to two ways has introduced substantially different ways of teaching and learning. (Barczyk & Duncan, 2013). Facebook users in Pakistan are between 10.6-11.8 million. (Nasir, 2013) Half of the users are in the age of 18 to 24 that indicates the popularity of Facebook among youth in Pakistan. In the same time, there are 2.9-3.2 million users who are university graduates. The University of Cape Town has undertaken a research regarding the use of Facebook for e-learning and found that students are more attractive to Facebook learning as compare to their course management software at the university (Bosch, 2009).

Bosch (2009) has categorized Facebook research into four parts: “social networking and social capital, identity construction, concerns with privacy and the potential use of Facebook for academic purposes”. It is not possible to keep aside something that has become the part of daily life. Karakayali and Kilic (2013) described three different characteristics of Facebook. First concerns the building of past ties, second; it allows people to observe other’s activities; and third,; it gives the opportunity for users to bring its different segments of user’s network on one place. Karimi and

Khodabandelou (2013) identified the experience and accessible nature of Facebook making it a useful tool for learning purposes in higher education. There are different universities, for example, in Canada and the USA that are using Facebook for educational purposes (Fernández & Gil-Rodríguez, 2011). The Stanford University and the University of Florida are using social networks to share their research data and even lectures and tutorials with students, growing the university towns to Smart Cities.

Selwyn (2009, p.161) described five different themes regarding the student interaction on Facebook: 1) Views regarding university experiences. 2) Exchanges of practical information. 3) Exchanges of academic information. 4) Displays of supplicant or disengagement. 5) “Banter” exchanges of humor or nonsense. Also Bicen’s and Uzunboyu’s (2013) research gave positive indications of better relations between faculty and students. For example virtual class environments help students to increase their performance by sharing videos, Power Point slides and documents. Facebook features of acceptance and rejection for a friend request could affect person’s self-esteem and life satisfaction (Valenzuela, Park, & Kee, 2009).

The use of Facebook for educational purposes could lead to issues, such as social engagements instead of academic work (Grossek, Bran, & Tiru, 2011). It could become a form of distraction for students in the class room (Bugeja, 2006) and could also spoil the relationship between students and faculty members. Further the use of and the familiarity with Facebook for educational purposes can be a hurdle in Pakistani educational institutions due to the limited access to the Internet and the existing digital divide.

### 3. Research method

Our research was conducted toward measuring the impact of Facebook for e-learning based on a use case in Pakistani educational institutions. The sampling method used was convenient sampling. There were 180 questionnaires distributed among students, out of which we received 140. The collected data was analyzed by using SPSS 16 software and applying frequencies and correlation. The questionnaire included four variables, namely Student’s Perception (Peluchette & Karl, 2010; Steinfield, Ellison, & Lampe, 2008), Academic Contribution (De Villiers, 2010), Student Faculty Relationship (Golder, Wilkinson, & Huberman, 2007), Concerns for Distraction and Privacy (Fewkes & McCabe, 2012; Dwyer, Hiltz, & Passerini, 2007). These four variables were further divided into 19 questions.

*Research Question 1: What is the student perception regarding the use of Facebook*

**Table 1**

Survey results for student’s perceptions for Facebook

Student’s perception for Facebook (%)	Strongly Disagree	Disagree	Neither disagree not agree	Agree	Strongly Agree
Social media websites play an important part in our life.	6.4	6.4	10	50	27.1
I prefer to use Facebook as compared to other social media websites (Facebook, Twitter, Linked in)	6.4	16.4	16.4	41.4	19.3
I like to use Facebook daily.	15	14.3	17.1	27.9	25.7
Facebook helps to increase my self confidence.	8.6	21.4	22.1	29.3	18.6
I use Facebook to interact with my friends.	7.1	4.3	12.9	35	40.7
I have information about Facebook features.	9.3	12.1	12.9	40.7	25

Table 1 shows the positive response of students towards the use of social media websites and Facebook. It identifies the popularity of social media websites among students (78%). 60.7% of the students like to use Facebook as compared to other social media websites. More than 50% students use Facebook daily and 75.7% of the students use it for their social links, a fact that gives us the opportunity to shift their time on Facebook towards more productive student work.

*Research Question 2: Could we use Facebook for the academic contribution?*

**Table 2**  
Survey results of academic contribution for Facebook

Academic contribution for Facebook (%)	Strongly Disagree	Disagree	Neither disagree not agree	Agree	Strongly Agree
I use Facebook to get information for academic courses.	16.4	25	20.7	24.3	13.6
I use Facebook to support my studies.	13.6	25	30.7	23.6	7.1
I do not have enough knowledge to use Facebook.	28.6	32.1	15.7	19.3	4.3
I do not have enough knowledge to use Facebook for academic purpose.	20	27.9	22.9	24.3	5
It is a positive sign to educate first about Facebook to use it for study purposes.	7.9	15.7	24.3	33.6	18.6

Table 2 shows no clear indications that students are using Facebook for academic purposes. For example there are only 7.1% of the students using Facebook to support their studies at the moment. The other factor that is important here is the lack of knowledge and awareness regarding the use of Facebook for academic purposes. For example only 5% of the students agreed strongly that they have enough information on how to use Facebook for academic purposes. Around 50.2% of the students showed positive intent to get educated to use Facebook for academic purposes.

*Research Question 3: What is the student faculty relationship for Facebook?*

**Table 3**  
Survey results of student faculty relationship for Facebook

Student faculty relationship (%)	Strongly Disagree	Disagree	Neither disagree not agree	Agree	Strongly Agree
I use Facebook to interact with my teachers.	17.9	30	18.6	22.9	10.7
It will make positive effect on my education to talk to instructors even after study hours.	11.4	28.6	16.4	26.4	17.1
It will make positive effect on my education to talk to instructors in relaxed and friendly manners.	4.3	17.1	21.4	42.9	14.3
It is a good idea to upload lectures, assignments, quizzes, etc. on Facebook.	11.4	16.4	16.4	32.1	23.6

Table 3 shows the week relation of students and teachers on Facebook, there is a strong percentage of students (57.2%) who want to communicate with instructors in a relaxed and friendly manner. There is also a strong percentage of students who are in favor of uploading quizzes, lectures and assignments on Facebook. The above percentage shows that even the current relation of students with faculty is not strong, it could be

improved if supported by proper channels. There is correlation between instructor positive attitude and extra study hours. It provides the opportunity to use Facebook to improve student faculty relationship.

As shown in Table 4, there is a correlation between instructor's positive attitude and extra study hours. This fact illustrates the opportunity to use Facebook to improve the student faculty relationship.

**Table 4**  
Correlation

It will make positive effect on my education to talk to instructors even after study hours			
It will make positive effect on my education to talk to instructors in relaxed and friendly manners	<b>Pearson correlation</b>	.538	
	<b>Sig. (2-tailed)</b>	.000	
	<b>N</b>		140

*Research Question 4: What are the concerns for privacy and distraction?*

**Table 5**  
Survey results of concerns for privacy and distraction

Concerns for distraction and privacy (%)	Strongly Disagree	Disagree	Neither disagree not agree	Agree	Strongly Agree
I do not like to share information on Facebook.	13.6	32.1	23.6	21.4	9.3
I do not use Facebook because my information is not secure.	12.9	22.9	27.9	22.9	13.6
The use of Facebook will be waste of time for educational purpose.	12.1	14.3	21.4	28.6	23.6
The use of Facebook will cause distraction in the class room.	12.9	36.4	22.9	17.9	10

Table 5 shows almost equal number of students who agree (36.5%) and disagree (35.8%) regarding sharing information on Facebook. Almost half of the students (49.3%) think that the use of Facebook in classrooms will not create disturbance and will allow them to interact with their teachers in a positive way.

#### 4. Discussion

This research aims at implementing Facebook as an e-learning tool in Pakistani Higher Education institutes to spread and improve education by enhancing connectivity between people and institutions and looking at ICT and social media as an enabler of the Smart City eco system. Research has shown positive responses regarding the awareness of social media websites. Simultaneously; students are more inclined to Facebook as compared to other social media websites. 60% of the students have preferred Facebook compared to other social media websites. There are also substantial numbers of Pakistani students, who are Facebook users in terms of social interactions. The desired communication refers to relaxed, and friendly education atmosphere as well as contact to instructors after study hours for educational purposes. Facebook can provide the platform

to enhance this relation. Facebook is already being used in different countries to completely assist students in their studies by uploading lecture slides, videos, assignments and quizzes. It is also being used partially to assist their existing course management software by answering any queries. Against this background, our research shows that Facebook can also be used as an e-learning tool in Pakistan for educational purposes. However, there is a serious need for proper information and awareness culture among the student community in the country to ensure that value is added in the learning communities consequently giving birth to Smart Cities in the developing countries besides some concerns regarding the use of Facebook for educational purposes, such as distraction, waste of time and security of information, which need proper technological solutions and a regulatory framework.

## 5. Conclusion

This research demonstrates the willingness of students to use Facebook and social media for educational purposes alongside with their use for social purposes. This way, enhancing the link between students and faculty can contribute to the enrichment of cooperation and interaction in terms of connectivity between people, urban eco-system development and Smart Cities. In the same time, there is a need for proper information and guidance among students. The informative use of Facebook will allow students to learn extensively about different aspects of the broad market place in Smart Cities. Further research will be conducted on exploring the use of social media for learning through mobile devices in developing countries like Pakistan as well as on the social media use of the faculty side in Smart Cities. This will allow for comparing results and learning from best practices.

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