



ACCEPTANCE OF SOCIAL FELLOW GROUPS FOR LEARNING: EXTENSION OF TECHNOLOGY ASSESSMENT MODEL (TAM)

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ABSTRACT. Background: Students are progressively creating fellow groups on social media for informal communication and learning. Students have groups for assistance, sharing and discussion. This research is carried out to explore the acceptance of fellow groups among students with the help of technology assessment model (TAM).

Methods: Data was collected by the use of adapted questionnaire and elaborated by statistical methods with the help of SPSS 21.

Results and conclusions: This Research model suggests that students are accepting involvement of fellow groups in studies; perceived usefulness of groups and ease of use exhibit positive relationship towards attitude towards use. This research also identifies that perceived enjoyment of fellow groups strengthen the relationship of perceived usefulness, perceived ease of use and attitude towards use.

Key words: Fellow Groups, Perceived Usefulness, Perceived Ease of Use, Technology assessment model (TAM).

INTRODUCTION

This is technology revolution era and no one could deny importance of media in e-learning. Social media is not only a social communication portal but now has become great source of learning. Students have groups for assistance, sharing and discussion. They have pages of their interest to keep their knowledge update about certain topics of their interest. University/College fellow groups are common in educational institutions.

Facebook is most common social media network and every youngster is aware of it. In recent years, many researchers have been conducted to check potential of Facebook. There are approximately 15 million users of Facebook in Pakistan [RAFIQUE 2016]. Many researchers found that instruction on web is significant breakthrough in development and learning [Johanson 1996, Kent C., Laslo E., Rafaeli S., 2016] Information technology

facilitate the students to learn from distance areas where facilities are no available and provides opportunity to learn Globally [Hill 1997; Webster&Hackley 1997]. Virtual learning increase creativity among the students and interactive manipulation of information leads towards innovations [Keeney 1999]. Some researchers consider social media as quickest and cost effective method to communicate with the customers. Customers' communication is very interactive in social media.

Fellow groups (FG) acceptance is increasing in educational institutions. This research is an effort to explain acceptance of Fellow Groups and their relative benefits for students with the help of Technology Assessment Model (TAM). This research is first attempt to understand acceptance of Fellow Groups and student perception about the groups and learning outcomes with the help of technology assessment model (TAM).

This research will also check influence of Perceived Enjoyment on acceptability of fellow groups. Students like to spend more time on the internet study than in libraries. Study on the internet is itself charming and it also helps students to interact with the fellows in informal way. This could be interesting to check influence of perceived enjoyment on the relationship of perceived Usefulness, Perceived Ease of Use and Attitude towards use.

OBJECTIVE OF STUDY

1. To investigate student perception about the use of fellow groups and effectiveness of groups.
2. To check applicability of technology assessment model on social groups.
3. To check influence of Perceived Enjoyment on acceptance of social group.

LITERATURE REVIEW

Internet has fundamentally changed human thinking and life style [Zhang&Mao 2008]. Social media empowered users to acquire information, share views and influence behavior of other users [Kucuk& Krishnamurthy 2007, Mangold&Faulds 2009]. Social media provides opportunity of two way communication in informal and interactive way. Business organizations are aggressively adopting social media to directly communicate and attract the customers [Drury 2008]. Facebook also have significant contribution in academics and learning at higher education level [Mason 2006]. Research suggests that utility of Facebook in academics lies in its reflective and interactive communication style [Mason 2006]. Selywn [2007] identifies that attractiveness of Facebook in academics is lies in informal engagement of students. He also identify that students are more likely to participate in informal environment [Selwyn 2007].

Technology Assessment Model (TAM) is model which explains acceptance of any information technology advancement in the society [Davis 1989]. There are two

components of TAM comprising perceived usefulness and perceived ease of use [Crippen &Brooks 2002].

TAM is based on Theory of Reasoned Action (TRA); this social psychology theory explains that every action has some logic and perceptual reasons [Ajzen&Fishbein 1980]. Original TAM model includes some attitudes which mediate beliefs and intentions but later studies eliminate these attitudes which eventually increase the reliability of model [Agarwal&Karahanna 2000]. Modified TAM exhibit good reliability and validity in business area, computer application and training sessional [Saadé 2003]. There is less research available in the area of social media and especially in social media groups [Jiang 2000].

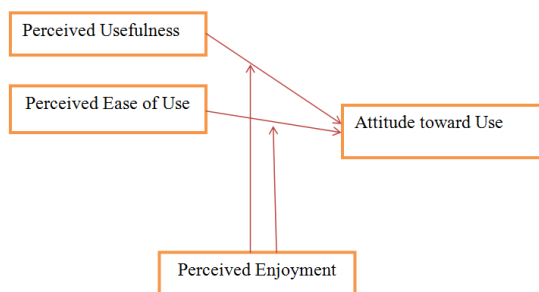
Perceived usefulness refers to subjective assessment of any user about the technology benefits [Davis 1989]. Every Facebook group offers certain benefits to members. A fellow group provides all the information regarding class assignments, tests, projects and events. Every member who joins fellow group has some perceptions about benefits. Perceived ease of use can be defined as degree to which individual consider that new technology is containing cognitive efforts. Some students consider it difficult to interact in fellow groups. Despite from fellow groups benefits there are some sacrifices to use the groups e.g. time spending in groups to find out relevant material. Some students consider it less beneficial and waste of time to interact in fellow groups. TAM explains individual's behavior and intention on the basis of benefits and efforts. Individual accept on technology on the basis of perceived total value from the technology [Davis 1989].

Perceived enjoyment can be defined as, "the degree to which the activity using a system is expected to be enjoyable in the own right, aside from any performance consequences resulting from system use" [Davis 1989]. Facebook is very attractive social network site. Students spend a lot of their time in interacting their friends and social circle. People like to share their photos, videos and posts on Facebook. Using fellow group in academics is not just information but also

recreational because of fellows interaction. Students used to comment and discuss their views on academic assignments. Research also shows that perceived enjoyment in using Facebook has positive association with behavioral intentions [Lee, Xiong&Hu 2012, Emerson T.L.N., English L., McGoldrick K.M., 2016]. This perceived enjoyment may influence their objective assessment about the groups.

Wu and Li [2007] use TAM in knowledge management applications and check the reliability of TAM in knowledge management (KM). He also identified that there are some positive and negative emotional factors which can influence the perceived ease of use and perceived usefulness [Wu&Li 2007]. Based on above argument, perceived enjoyment in fellow groups could positively or negatively influence the relationship of Perceived Usefulness, Perceived Ease of Use and Attitude towards the use.

CONCEPTUAL FRAMEWORK



Hypothesis

- H1: Perceived Usefulness has positive impact on Attitude towards use.
- H2: Perceived Ease of Use has positive Impact on Attitude towards use.
- H3: Perceived Enjoyment has positive influence on relationship of Perceived Usefulness and Attitude towards use.
- H4: Perceived Enjoyment has positive influence on relationship of Perceived Ease of use and Attitude towards use.

METHODOLOGY

Students are target population of the study and data was mainly collected from Rachna College of Engineering and Technology (RCET) and from some other universities. Primary Data is used in this study and questionnaire is designed and circulated among fellow groups of Facebook. Members of fellow groups submit their responses online with the help of Google docs. Questionnaire items were adapted from prior research [Agarwal& Karahanna 2000, Davis 1989, Venkatesh& Davis 2000, Venkatesh, Speier&Morris 2002] and operationalized in context of fellow groups of Facebook. Five point Likert scale is used in all the items of questionnaire. Respondents rate the items from “Strongly disagree” to “Strongly agree”. Total sample size includes 111 respondents.

ANALYSIS

Descriptive Analysis

Table 1 shows that sample includes 66.7 percent male and 33.3 percent females. Major age group is 20-22 years with 72 percent representation. Computer Sciences field representation in sample is 27 percent, Electrical Engineering 7.2 percent, Mechanical Engineering 11.7 percent, Civil Engineering 14.4 percent, Industrial And Manufacturing Engineering 17.1 percent and other fields 22.5 percent.

Table 1. Descriptive Analysis
 Tabela 1. Analiza opisowa

Category		Percentage
Gender	Male	66.7
	Female	33.3
Age group	17-19 years	8.1
	20-22 years	72.1
	23 -25	16.2
	25 years and above	3.6
Fields	Computer Sciences	27
	Electrical Engineering	7.2
	Mechanical Engineering	11.7
	Civil Engineering	14.4
	Industrial And Manufacturing Engineering	17.1
	Other Fields	22.5

Reliability Analysis

Reliability is extent to which measure produce similar findings. It is the overall consistency of a measure. Cronbach's Alpha values measure the inter-rater reliability. Interval and ratio scales should have inter-rater reliability. Table 2 shows that scale for fellow group's exhibits good reliability (0.725).

Table 2. Reliability Statistics
 Tabela 2. Statystyka niezawodności

Cronbach's Alpha	N of Items
.725	13

Correlation Analysis

Correlation table 3 shows that attitude towards use have strong association with Perceived Usefulness (0.615), Perceived Ease of Use (0.604) and Perceived Enjoyment (0.701). It can be concluded that Perceived Usefulness has more association with attitude toward use then perceived Enjoyment and Perceived Ease of Use.

Table 3. Correlation Analysis
 Tabela 3. Analiza korelacji

Variables	Attitude toward Use	Perceived Usefulness	Perceived Ease of Use	Perceived Enjoyment
Attitude toward Use	1	.615**	.604**	.401**
		.000	.001	.000

** Significant at 0.01 level

Regression Analysis

The results in Table 4 shows that the Independent Variables (Perceived Usefulness, Perceived Ease of Use) significantly explain the variance (R: 0.508) in Dependent Variable i.e. Attitude towards Use. The F-statistic value of 134.671 is also significant at 0.000 levels. It can be concluded that Perceived Usefulness and Perceived Ease of Use has positive impact on attitude towards use. So, we can accept H1 and H2.

Table 4. Regression
 Tabela 4. Regresja

Variable	B	SE	T	Sig.
Perceived Usefulness	.424	.038	10.066	.000
Perceived Ease of Use	.408	.044	10.002	.000
N:	111			
R ² :	0.519			
Adjusted R ² :	0.508			
F Stat:	134.671			
SE	0.6860			

Moderation Analysis

Moderator is a variable that influence relationship between independent variable and dependent variable. In order to check moderation we will follow the steps of Baron, R. M., & Kenny, D. A. [1986].

- a – the effect of X when M is zero (the simple effect of X when M is zero)
- b – The effect of M when X is zero
- c – How much the effect of X changes as M goes from 0 to 1?

Path c should be significant for the presence of moderation [Baron&Kenny 1986]. Table 4 shows that Perceived Usefulness and Perceived Ease of Use have positive significant relationship with dependent variable customer equity. So path A is significant for both independent variables.

Table 5. Moderation Effect on Perceived usefulness and Attitude towards Use
 Tabela 5. Wpływ moderowania na użyteczność odbieraną oraz stosunek do użytkowania

Direct Effect			
EFFECT	SE	R ²	P
.615	.787	.364	.000
Indirect Effect			
EFFECT	SE	R ²	P
.201	.987	.325	.000
Total Effect			
EFFECT	SE	R ²	P
.816	.782	.573	.000
N:111			
F: 230.331			

Table 5 indicates that Perceived Enjoyment positively moderate the relationship of Perceived Usefulness and Attitude towards Use. The direct effect R² value was 0.364 and after the inclusion of interaction effect total R² value becomes 0.573. In the presence

of Perceived Enjoyment beta values also improve from .615 to .816.

Similarly Table 6 shows that Perceived enjoyment also moderate the relationship of Perceived Ease of Use and Attitude towards Use. Moderation effect explains better variance (0.573) in the model. Beta value of direct effect was .604 and after inclusion of moderation effect value became 0.614. Hence, H3 and H4 are accepted.

Table 6. Moderation Effect on Perceived Ease of Use and Attitude towards Use
 Tabela 6. Wpływ moderowania na łatwość używania oraz stosunek do użytkowania

Direct Effect			
EFFECT	SE	R ²	P
.604	.790	.376	.000
Indirect Effect			
EFFECT	SE	R ²	P
.172	.997	.289	.004
Total Effect			
EFFECT	SE	R ²	P
.614	.791	.441	.000
N:111			
F: 234.462			

CONCLUSIONS

This study examined TAM constructs within the context of students' acceptance of web based education systems for enhanced learning. Fellow groups are very helpful for learning and development of students. TAM model shows that students are highly accept fellow groups for studies. Students are willing to have membership in fellow groups (FG) because they consider it useful in studies and also very easy to operate. This research shows that student's perception about usefulness of fellow groups has positive impact on attitude towards the use. Students are intended to use fellow groups in future learning. It can be concluded that students are accepting fellow groups in social media because of usefulness, easy learning, easy and latest information about courses and enjoyment of interactive style of social media. Perceived Enjoyment of fellow groups positively moderate and strengthen the relationship of perceived usefulness, ease of use and attitude towards the use.

Sample size was small in this study and generalization is limited. Panel data can be used to study the effectiveness of fellow groups with time period. However, research findings indicate that further research is required in fellow groups' (FG) acceptance.

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AKCEPTACJA GRUP SPOŁECZNYCH W CELACH EDUKACYJNYCH – ROZSZERZENIE MODELU TAM (TECHNOLOGY ASSESSMENT MODEL)

STRESZCZENIE. Wstęp: Studenci tworzą coraz więcej grup społecznych w mediach społecznościowych dla nieformalnej komunikacji oraz edukacji. Są to grupy wsparcia, pomocy oraz dyskusyjne. Celem tej pracy jest sprawdzenie poziomu akceptowalności grup społecznościowych studentów przy pomocy modelu TAM (technology assessment model).

Metody: Dane zostały zebrane na podstawie przeprowadzonych ankiet i poddane analizie statystycznej za pomocą SPSS 21.

Wyniki i wnioski: Model badawczy sugeruje, że studenci akceptują włączenie grup społecznościowych do procesu nauki, doceniają użyteczność tych grup oraz łatwość stosowania jak również nawiązywania relacji. Zidentyfikowano również zadowolenia ankietowanych osób ze wzmocnienia relacji pomiędzy uczestnikami grup oraz łatwego do nich dostępu.

Słowa kluczowe: grupy społecznościowe, postrzegana użyteczność, postrzegana łatwość użycia, Technology assessment model (TAM)

AKZEPTANZ SOZIALER NETZWERK-GRUPPEN ANGESICHTS DER EDUKATIVEN ZIELSETZUNGEN – EINE ERWEITERUNG DES TAM-MODELLS (TECHNOLOGY ASSESSMENT MODEL)

ZUSAMMENFASSUNG. Einleitung: Studentinnen und Studenten bilden immer mehr soziale Netzwerk-Gruppen innerhalb sozialer Medien zwecks einer informellen Kommunikation und Edukation. Sie sind in Unterstützungs-, Hilfs- und Diskussionsgruppen strukturiert. Das Ziel der vorliegenden Arbeit ist es, das Akzeptanz-Niveau von studentischen, sozialen Netzwerk-Gruppen anhand des TAM-Modells (technology assessment model) zu prüfen.

Methoden: Die betreffenden Daten wurden auf Grund der durchgeführten Umfragen ermittelt und einer statistischen Analyse unterzogen.

Ergebnisse und Fazit: Das Forschungsmodell lässt eindeutig vermuten, dass die Studentinnen und Studenten die Einschaltung der sozialen Netzwerk-Gruppen in den Bildungsprozess akzeptieren und die Brauchbarkeit solcher Gruppen sowie deren unkomplizierte Anwendung und leichte Relationsanbahnung hochschätzen. Es wurden auch eine Zufriedenstellung bei den befragten Personen hinsichtlich der Verstärkung der internen Relationen zwischen den einzelnen Mitgliedern dieser Gruppen und die Tatsache eines leichten Zugriffs zu den Netzwerk-Gruppen festgestellt.

Codewörter: soziale Netzwerk-Gruppen, Wahrnehmung der Brauchbarkeit, Wahrnehmung der leichten Anwendung, TAM-Modell (Technology assessment model)

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