

## Faculty Attitude Towards ICT Enabled Learning & Teaching in Higher Education Institutes

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### **Abstract:**

*The developments in the field of information and communication technology (ICT) has significantly transformed and restructured the traditional models of higher education, particularly the delivery and interaction in and with course materials and associated resources. ICT enabled learning and teaching has become a widely accepted method of learning and teaching in educational institutions and organizations all over the world. A pedagogical model combining face-to-face classroom teaching and the innovative use of ICT contribute significantly to increase the effectiveness learning environment. This paper intends to analyze the overall perception and attitude of faculty towards the ICT enable learning and teaching in higher education institutions. Sample faculty members teaching in higher education institutes were part of the quantitative survey. The responses reveal that overall there is a significant positive attitude towards ICT enabled learning and teaching.*

### **Keywords:**

- ✓ Aattitude
- ✓ Faculty
- ✓ Learning
- ✓ Teaching
- ✓ Education

### **1. Introduction**

ICT based learning & teaching is increasingly becoming an integral part of modern model of education. The advancement in information and communication technology (ICT) has significantly influenced the educational environment and facilitated the development of Electronic learning (E-learning) as a new learning paradigm. It has been developed to describe the convergence of a whole range of learning

tools which use technology as their basis for delivery. E-Learning is the employment of technology to aid and enhance learning. The term e-learning covers a broad spectrum of pedagogical tools and approaches that continues to evolve to meet the needs of students and educators.

E-learning provides greater benefits to both learners and teachers by sharing resources, and also promotes collaborative learning (Wheeler, 2001). A brief

summary of the significant benefits of e-learning include (Bates, 2001; Goldberg, Salari, & Swoboda, 1996; McCormack & Jones, 1998; Piskurich, 2006; Rossen & Hartley, 2001; a Weller, 2000), wider access to educational resources, quicker and easier way to create, update and revise course materials, flexible interaction with students, interactive and dynamic learning experience, collaborative learning, wider reach of students, use of blended teaching pedagogy, improved teaching time and reduced cost.

Wilson (2001) suggests that three characteristics of teachers do control their

## **2. Research Purpose and Methodology:**

### **2.1. Objectives of the Study:**

- To explore faculty attitude towards ICT based learning and teaching in higher education.
- To identify the factors that motivate faculty to adopt ICT enabled learning and teaching.
- To find out the perceived barriers to usage of ICT enabled learning and teaching

### **2.2. Methodology & Design of the Study:**

This study is basically descriptive in nature. Survey research method has been used for collecting the data from students. Both

degree of e-learning: attitude towards technology, teaching style and the control over technology. It has been pointed out that faculty attitude towards online instruction affects their willingness to teach online (Kosak et al., 2004). It is, therefore, important to analyze faculty attitude towards e-learning in any institution to develop strategies towards diffusion of innovative use of technology for learning (Rogers, 1995). In order to implement e-learning effectively in an institution, it is essential to identify the motivators and barriers to e-learning adoption by the faculty.

primary and secondary data were used in this research. Secondary data was mainly used in developing the conceptual framework and designing the questionnaire and measurement constructs. A well designed structured questionnaire was used for the study. The questionnaire included both demographic and measurement variables. A cross sectional faculty members teaching management and engineering programs were part of the survey respondents. Non probabilistic convenience method of sampling has been adopted for selecting the sample

respondents. Of the 50 questionnaires distributed, 43 completed and usable

### 3.Review of Literature

In this section a brief review of some of the existing literature on e-learning covering technical features, pedagogical processes, advantages, and problems associated with designing web-based courses and faculty attitude towards ICT based learning has been discussed. While there are many studies on faculty attitude towards distance education (Bashir, 1998; Clark, 1993; Milheim, 2001), there are relatively few studies on how faculty reacts to the concept of e-learning, particularly in the developing world.

E-learning is defined as a type of learning supported by information and communication technology (ICT) via the internet, intranets, extranets or many others to improve the quality of teaching and learning. A broader definition of e-learning is provided by Selim(2007) as “the delivery of course content via electronic media, such as internet, intranet, extranets, satellite broadcast, audio/video tape, interactive TV, and CD-ROM.

Beamish et al. (2002) defined e-learning as a wide set of application and processes allied to training and learning that include computer based learning, online learning,

questionnaires were returned, representing a response rate of 86 percentages.

virtual classrooms and digital collaboration. These services can be delivered by a variety of electronic media, including the intranet, internet, interactive TV and satellite.

Jamlan (2004) states the following pertinent reasons for adopting and implementing e-learning into an educational system. First is the growth of information technology: e-learning has become an ideal delivery vehicle for education and learning .Second, it is information rich: e-learning offers both teachers and learners access to anywhere, anytime “information rich” resources. Third, it is an alternative learning strategy: e-learning can reach those previously denied access and finally is the blended learning approach.

Many scholars agree that ICTs play an increasingly important role in facilitating the educational processes and systems of today (Oh & Park, 2009; Vaughan & Garrison, 2006). The trend of using e-learning as a learning and/or teaching tool is now rapidly expanding into education (Liawet al, 2006). Zhang et al. (2004) pointed out the pros of e-learning as: learner centered and self-paced, time and location

flexibility, cost-effective for learners, potentially available to global audience, unlimited access to knowledge, archive capability for knowledge reuse and sharing. According to Newton (2003), benefits of e-learning center around three broad areas: improving access to education and training; enhancing the quality of teaching and learning; and the need for higher education institutions to maintain competitive advantage in a changing marketplace for students. Amongst many barriers to e-learning, cultural and technical barriers are identified as predominant (Berge, 1998; Berge & Mrozowski, 1999). While the cultural factors include faculty resistance to innovation and change, and negative attitude towards technology, the technical factors cover issues related to technology reliability, connectivity, adequate infrastructure and technical support. According to Pajo and Wallace (2001), there are three groups of factors to e-learning namely, personal barriers (lack of knowledge, skills, training, role models and

time), attitudinal barriers (no faith in technology, unwillingness to work with technology, concern about student access) and organizational barriers (inadequate technical support, hardware, software, instructional design, no recognition of the value of online teaching). A few studies have concentrated on intrinsic and extrinsic motivators to e-learning.

In the study by Schifter (2000) ‘concern about faculty workload’ was the top barrier to use e-learning, while ‘personal motivation to use technology’ was the top motivating factor. Maguire (2005) categorized this as intrinsic factors that also include ‘feeling of self-satisfaction from teaching online’. According to the author, intrinsic motivators were stronger than extrinsic motivators, viz., recognition by peers, tenure and promotion, and role modelling. There are also institutional extrinsic motivators like policy, infrastructure and technical support which do affect faculty attitude towards e-learning.

**4.Results and Discussion**

The demographic variables used in this study are gender, age, current job position,

discipline and experience. Table 1 below gives respondents’ demographic profile:

**Table 1: Demographic Profile of Survey Participants**

<b>Characteristics</b>	<b>Frequency</b>	<b>Percentage</b>
Gender <ul style="list-style-type: none"> <li>• Male</li> <li>• Female</li> </ul>	18 25	41.86 58.14
Age <ul style="list-style-type: none"> <li>• Below 30</li> <li>• 31-40</li> <li>• 41-50</li> </ul>	2 33 8	4.65 76.74 24.24
Discipline <ul style="list-style-type: none"> <li>• Engineering</li> <li>• Management</li> </ul>	25 18	58.14 41.86
Current Job Position <ul style="list-style-type: none"> <li>• Assistant Professor</li> <li>• Associate Professor</li> <li>• Professor</li> </ul>	35 6 2	81.40 14.00 4.60
Experience <ul style="list-style-type: none"> <li>• Less than 5 years</li> <li>• 5-10 years</li> <li>• 10-15 years</li> <li>• More than 15 years</li> </ul>	12 20 8 3	28.00 46.40 18.60 7.00

It can be seen from the above table that majority of participants for the survey were female faculty members. The respondents are spread around different

age groups. Majority of them fall below 40 years age and fall under assistant professor grade.

**5. Faculty Attitude towards ICT based Learning and Teaching**

During the survey respondent students were asked to indicate their opinion

various statements attributed to attitude towards e-learning. A five point Likert Scale ranging from strongly disagree (1) to strongly agree(5) was used to measure the attitude. Attitude measurement constructs were adapted from previous empirical research to suit the purpose of the study. The descriptive statistics of the 10 items in the attitude towards ICT based learning and teaching scale reported in Table 2. The

mean attitude score for the sample was calculated as 4.19 indicating overall positive attitude of faculty towards ICT based learning and teaching in higher education. However, there is a scope for further strengthening the faculty attitude towards utilizing ICT in their learning and teaching to improve the overall effectiveness of learning and teaching.

<b>Table 2. Mean Score Analysis of Faculty Attitude towards ICT enabled Learning &amp; Teaching</b>		
STATEMENTS	Mean	SD
I feel confident in using ICT based teaching and learning resources	4.20	0.847
I enjoy using ICT for my learning & teaching delivery	4.10	0.871
ICT based learning helps to acquire new knowledge through rich information sources	4.60	0.588
ICT offers new opportunities for organizing teaching and learning	4.12	0.885
ICT enhances my learning and teaching experience	4.53	1.107
ICT enables me to improve my teaching efficiency	4.34	1.138
Adopting ICT allows for increased student satisfaction	3.90	1.066
ICT saves teachers and students time and effort	4.72	0.697
ICT improves communication between students and teachers	3.51	1.166
ICT based teaching enhances the pedagogic value of a course	4.23	0.769

It can be seen that most of the items have mean score of more than 4.00, indicating favorable attitude towards ICT based learning and teaching. However three items scored above 4.5 mean score and strong positive attitude. ICT saves teachers and students time and effort(4.72).

ICT based learning helps to acquire new knowledge through rich information sources (4.60) ICT enhances my learning and teaching experience (4.53). Two of the scale items scored below 4.00 mean score and others scale items are in the range of 4.00 to 4.49 indicating a moderately favorable attitude towards of the faculty.

### 3.Factors Motivating Faculty to use ICT based Learning& Teaching

<b>Table 3 Rank Analysis of Factors Motivating Faculty to use ICT based Learning &amp; Teaching</b>			
Motivators	Mean	SD	RANK
Flexibility in time and place	4.65	0.562	3
Diverse and unlimited access to rich source of information	4.76	0.675	1
Ease and quick share of educational material	4.70	0.938	2
Improved collaboration and interaction	4.15	1.026	9
Easy updating of learning material	4.23	0.811	6
Learner centered and self-paced	3.80	0.932	10
Archive capability for knowledge reuse and sharing	4.20	0.875	8
Interactive & dynamic teaching & learning experience	4.56	0.962	5
Helps to prepare quality learning materials	4.42	0.925	6
Personal interest to use technology	4.10	0.954	9
Improved E-infrastructure at workplace	4.40	1.154	7
Access to personal E-infrastructure	4.54	0.968	4
ICT Training support at workplace	3.27	1.050	10
Incentives for use of ICT based teaching and learning	2.54	1.250	12
Peer recognition, prestige and status	2.80	0.960	11

The above table 3.3 shows mean and standard deviation of factors that motivate faculty to use ICT enabled learning and teaching. The rank analysis shows that top five motivators to use ICT are

- Diverse and unlimited access to rich source of information
- Ease and quick share of educational material
- Flexibility in time and place

- Access to E-infrastructure
- Interactive & dynamic teaching & learning experience

Some of the factors which have least motivation on usage of ICT in teaching and learning are,

- ICT Training support at workplace
- Incentives for use of ICT based teaching and learning
- Peer recognition, prestige and status

#### 4: Perceived Barriers to ICT Enabled Learning & Teaching

Table 4 Rank Analysis of Barriers to use ICT based Learning & Teaching			
Table 3.4. Barriers	Mean	SD	RANK
Reduced social and cultural interaction	3.65	0.965	8
Credibility & reliability of ICT based learning resources	3.86	0.876	7
Lack of availability of E-infrastructure at workplace	4.32	0.920	4
Lack of personal E-infrastructure	3.10	1.058	12
Students weakness in self-directed learning	3.54	0.952	9
Concern about ICT access to students	3.95	0.705	6
Lack of training on ICT enabled teaching and learning	4.56	0.682	1
Lack of instructional design support for e-learning	4.42	0.925	2
Lack of institutional policy for e-learning	4.30	0.850	5
Concern about faculty workload & lack of time	4.40	1.154	3
Lack of incentives to use ICT enabled teaching	3.24	0.568	10
Concern about security issues on Internet	3.14	1.025	11
Resistance to innovation and change	3.05	1.135	13
Negative attitude towards technology	2.64	1.056	14

The above table 3.4 shows mean and standard deviation measuring factors that act as barriers to effective use of ICT enables learning and teaching at higher

- Lack of training on ICT enabled teaching and learning
- Lack of instructional design support for e-learning
- Concern about faculty workload & lack of time

#### 4. Conclusion

The results of the study considerably confirm those of the earlier studies and it further brings to light many important findings that can be used to institutionalize ICT enabled learning and teaching initiatives at higher education level. The study has made an attempt to explore the motivators and barriers to ICT enabled learning and teaching by the higher education faculty According to the findings of the study faculty members showed a positive attitude towards ICT enabled learning and teaching. However, the mean score values shows that there is a significant

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education institutes. Based on rank analysis following are identified as the top 5 barriers to ICT enables learning and teaching.

- Lack of availability of E-infrastructure at workplace
- Lack of institutional policy for e-learning

scope for further strengthening their attitude towards usage of ICT in learning and teaching by intensifying some of the motivators as well as ensuring the removal of some of the major barriers found as per the study. A comprehensive program of continuing professional development and training on ICT enabled learning and teaching, institutional formal policy on usage of ICT, instructional design support for e-learning and improving the access to e-infrastructure at workplace will facilitate increase in the usage of ICT enabled learning and teaching at higher education level by the faculty

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