



“Academics’ Experiences of Implementing E-learning during COVID-19 in a Public University of Balochistan”

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ABSTRACT

The purpose of this research was to investigate academics' experiences using e-learning to assist teaching and learning at a public institution. The Unified Theory of Acceptance and Use of Technology served as the study's guiding theoretical framework (UTAUT). Six academic staff members who had been specifically chosen for the research and one IT expert from a Pakistani higher education institution were used in its qualitative design. The information needed to provide answers to the research questions was gathered through a semi-structured interview. Thematic content analysis was used to analyze the data. The analysis produced the following themes: readiness toward e-learning, health and safety of users, e-learning system reliability, feedback mechanism, implementation of Changes through models, credibility of e-learning tools, geo-cultural attributes, training and effectiveness and authorities' intervention According to the results, regular updates and training on the new modifications should be provided to the university's e-learning platforms. It was also advised that academics get prompt technical help in order to maintain pleasant user experiences with e-learning.

1. INTRODUCTION

1.1 Background of the Study:

During the era of the 1970s, academics have been in a state of massive potential as a learning tool since the internet web was embraced and further produced in the form of communication by educational institutions. From time to time and in the most recent years, the state authorities of developed and under-developed countries have shown their enthusiasm and have been much keen and excited on the subject of learning via online mode to provide affordable, easily accessible, and up-to-date education to everyone irrespective of age brackets as well as the societal context of any region or boundary.

In the 'age of information where the adequacy for knowledge enriched participants' raises because the requirements for traditional participants reduce, continuous learning appears as a major component for the sustained achievement of contemporary society. The mode of online education is taken into account in most instances since it is the only feasible alternative to the problem of having the tools needed to promote the continuation of lifetime education.

Nevertheless, the latest of adoption eLearning proved to be neither simple nor coherent, posing that the process of its implementation is taking place with changing grades of success. Despite showing the commitments by the Pakistani government's concerned authorities, there exists extensive passivity, hesitation, and uncertainty about this sort of online mode of

education among faculty, management and students equally.

Numerous workings have been printed so far, the creation of internet groups has been attained and even many conferences are being held till this time of reporting, we still do not seem to be able to identify how, when and where e-learning could be best for its use.

E-learning is used to help with various aspects of learning and training. has become a worldwide phenomenon. E-learning, or learning facilitated by new technology, is renovating this mission shaping verily that go traditional systems have a lot more to offer than just fruitful delivery (Garrison, Anderson, & Archer, 2003; Wilson & Gapsiso, 2014). It generates a unique way thus creating unique shares for education stakeholders for the adequate benefits uprising the relevant exposure.

The main obstacles to e-learning up-taking in countries like developing nature, the higher education institutions are of the characteristics having obsolete facility oriented, low internet infrastructure, overcapacity in these institutions and scarcity of the factors of both motivation and training equally beneficial for learners and faculty members (Islam et al. 2013). There is currently a significant loophole find between recognition of kind of online privilege in emerging and advanced states' higher education institutions. The subject mentioned loophole can be packed while addressing the above-mentioned issues and at the same time, the state authority, institutions and suitable stakeholders display their strong obligation to up-taking technologies that belong to e-learning (Zoroja et al. 2014).

In March 2020, during the beginning phases of the COVID-19 crisis, with the unexpected conclusion of Higher Education Institutions in Pakistan, numerous scholastic foundations went too far off instructing to help understudies to meet their program learning results. Academic staffs of various institutes were welcome to take an interest in an examination to find out about their encounters.

The overall goal of this research area is that it would educate instructive help, proceed with a proficient turn of events, and strategy around instructing and learning. Perceiving that this crisis of COVID-19 in particular, and its resonances for staffs close to home and expert lives can't be isolated, this paper utilizes a phenomenological focal point to like the instructors' lifeworld and to recognize the unpredictable capture of interconnectivity among life and work in education. The implications of innovation in advanced education are clear in this here and now of the newly emerged disease i.e. coronavirus infection disease (COVID-19), when bodily or societal separating has become the state of an induced relational connection is cultivated using computerized stages or some mechanism pertinent to an online platform. Tragically, however, how scholastics in a Pakistani public university in Sindh to see the utilization and execution of e-learning keep on producing warmed discussion, reality as a result of their highlighting in past investigations (Oni and Mavuyangwa, 2019; Padayachee, 2017). Henceforth, it is mandatory to go for furthermore research and progress the gathering of information regarding the encounters of the undertaken university in academics to endeavor the process of execution in e-learning.

1.2 The Problem Statement

E-learning programs are now a necessity, and therefore, some Pakistani universities are spending money on these programs, but they are not able to achieve their goals. This program seems to be affected by many obstacles and challenges. Recently there has been a call for the views of teachers on these challenges. Therefore, this study focuses on investigating scholarly knowledge during the launch of e-learning public university in Pakistan. Therefore, in order to provide answers to research questions, we had to do research on the topic.

1.3 Research objectives

The research objectives were drawn during the study as:

1. To find out the factors that influence the implementation of e-learning during COVID-19 by the academic staff of a Pakistani public university?
2. To analyze the academics' experiences concerning individual, course, context, and technology challenges for e-learning?

1.4 Research Questions

In order to give answers to the following research questions, we continued to carry out the subject research.

RQ1. What are the factors that influence the implementation of e-learning during COVID-19 by the academic staff of a Pakistani public university?

RQ2. What are the academics' experiences concerning individual, course, context, and technology challenges for e-learning?

1.5 Significance/Impact/Benefits of Study

There are many benefits to this research paper, it would educate instructive help, proceed with a proficient turn of events, and strategy around instructing and learning. Perceiving that this crisis of COVID-19 in particular, and its resonances for staffs close to home and expert lives can't be isolated, this paper utilizes a phenomenological focal point to like the instructors' life world and to recognize the unpredictable capture of interconnectivity among life and work in education. The implications of innovation in advanced education are clear in this here and now of the newly emerged disease i.e. coronavirus infection disease (COVID-19), when bodily or societal separating has become the state of an induced relational connection is cultivated using computerized stages or some mechanism pertinent to an online platform.

1.6 Limitations

This study is limited to a Pakistani public sector university in which only a limited number designated as senior academics of computer systems, social sciences, and management sciences closer to university e-learning mainstream as an inclusion limit. Further, language studies and non-teaching staff were excluded during the contemporary study.

2. REVIEW OF LITERATURE

2.1 Introduction

Preliminary while looking at one of the work piece of literature, we get the familiarization of the term 'online learning' with numerous interpretations. In the paper, the interpretation reveals that the insight of

the aforementioned term is the arbitrated by online platform.

The perception of 'network learning' goes to broader apprehension as it concentrates the mankind to mankind links (Banks et al. 2003). On its additional aspect the attempt of online learning depicts the deficiency which are much obvious. Either is the subject of digitalization or electronic learning, it becomes merely born in mind having its restricted explanations, otherwise this appears not only the collection of resources attached to various internet tools rather lonely internet and emphasizing the ample attention towards innovation of characteristics gained digitally.

2.2 Implementation of E-Learning and Factors

While reviewing some of the previous works of literature, it has been revealed that earlier writing has extended the information on the particular subject of online-based learning. Still, a large amount of data remains available with the scholastics belonging to a Pakistani university setting. Liberated from the bits of the scholastics' perspectives towards or impression of e-learning, they ought to have the key aptitudes to the degree focusing the Learning Management System and have explicit help the need of their ability claiming the substance improvement, the heads, and e-help (Yiong et al., 2008). Incredibly, in any case, similar pieces of literature have uncovered the degree of the innovative help and course of action got by scholastics at colleges to the degree of the breaker and application of information technology as a concrete instrument. These producers express those scholastics in open zone schools in Pakistan are tormented by essential inconveniences and have restricted

aptitudes needed for the utilization and coordination needed for the e-learning process. In addition, in the absence of this, a gigantic number of Pakistani universities, and nonattendance of explicit and authoritative help aimed at the scholastics purposing the execution and utilization of the e-learning working environments (Sife et al., 2007). Amazingly, such lack variedly impacts the scholastics' consideration, encounters, and outlooks towards e-learning. Makgato (2014) informed that the nonattendance of liberal helps a lot from the particular division is spoken to as a huge obstacle that forestalls the mind-boggling and productive use of online working conditions in different universities.

A technology-based learning approach is replacing the conventional chalk-and-talk teaching method. The way that students are taught and learn at higher education institutions throughout the nation is changing and will continue to change as a result of e-learning. In addition to the conventional lecture idea, the main objective of e-learning is to expand the flexibility of learning. Although lecture halls and lecturers won't be replaced as a result of the use of e-learning, technology will be employed to improve the teaching and learning process. This suggests that e-learning will encourage novel approaches to teaching and learning in higher education institutions while also transforming conventional learning systems into online counterparts and enhancing the learning experience (Haron et al., 2010).

Similar to this, researchers evaluated the structure, content, delivery, service, and outcomes of eLearning courses by looking at supportive, pedagogical, and environmental domains from the perspective of Asian

students (MacDonald and Thompson, 2005), consistent course design, student-to-student interaction, timely interaction, amount of content, and technical support (Jung, 2012).

2.3 Review works on E-Learning Implementation

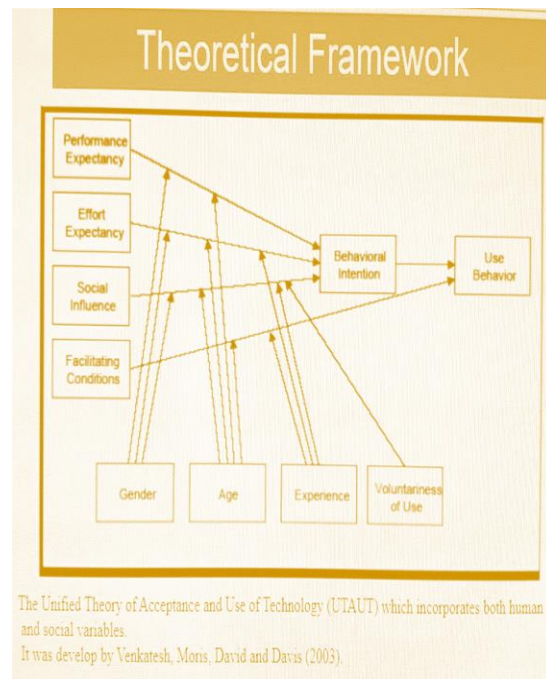
Our earlier literature studies identified a number of factors related to adopting an eLearning framework. We classified obstacles into four groups using the same workings as before: technology challenges, individual challenges, cultural challenges, and course challenges. We also found that these difficulties vary significantly between nations owing to variations in context, culture, and preparation. For instance, in underdeveloped nations, a lack of ICT competence, a lack of network infrastructure, and a lack of content production skills were the key obstacles to the adoption of e-learning systems (Aung et al., 2015).

A similar study conducted in Kenya identified three main barriers to e-learning: a lack of ICT infrastructure, a loss of technical skills, and financial restrictions (Tarus et al. 2015). According to a research by Kisanga and Ireson (Mulhanga and Lima 2017), poor interface design, a lack of technical assistance, and a lack of IT skills are the main obstacles preventing the effective implementation of current e-learning programs. Cultural, political, and economic limitations, according to Mulhanga and Lima (Kenan et al. 2013) are the main causes of Libyan efforts' failure.

In the Coronavirus emergency condition, teachers have, for all intents and purposes, for the time being, been approached to turn into the two fashioners and mentors, using gadgets that very few

have easily ruled. This paper uncovers some understanding of educational data that current instructors influenced by adequate digital competencies need, in a solicitation to make innovative actions having invaluable learning practices and display the sufficient dimension in this particular scenario. The contemporary intension is to make unequivocal a reasonable amount of essential pieces which appears as electronic demonstrating aptitude, compared to be moved in the instructive exercises of any educators, with or without inclusion with training indirectly. We close the paper with a post-conversation in which we consider coherently our strategy and co-beginning philosophy. At last, we determine that the significance of planning powerful learning conditions does not rely upon only the shoulders of the academics but also on the settings of the university management.

2.3 Theoretical Framework



Recently, the unified theory of acceptance and use of technology has taken place as one of the most developed and intensive models to test technology adoption and acceptance.

The current research employs a theory called the Unified Theory of Acceptance and Use of Technology (or UTAUT for short), which was created by Venkatesh, Morris, David, and Davis (2003). The widespread acceptance of the model's practical applications, including the spread of new technologies and their variants, is what ultimately contributed to the model's widespread notoriety. In reality, this model paints a fuller picture of the adoption process.

The UTAUT model is an attempt to explain how people's unique characteristics impact their technology use. The connection between perceived usefulness, simplicity of use, and intention to use may be influenced by demographic factors including age, gender, and experience. An illustration of this is the fact that male and younger employees gain more from the positive correlation between perceived usefulness and intention to utilize. Female and older employees benefit more from the impact of perceived ease of use on intention, and this advantage decreases with experience. Compared to the individual TAM investigations, the UTAUT model provided a superior explanation of use intention variation (70).

It studies the evolution stages of these theories and classifies them depending on their development method and the scientific field which they were developed in. Moreover, the model's determinants were classified depending on their influence on technology adoption. This

model has been reported as robust and trusted for application on different technologies and viable after doing any modification operation over it. It also has the minimum amount of complexity according to its limited number of constructs and moderating variables that make it more applicable and understandable to study the acceptance behavior to any new technology.

3. RESEARCH METHODOLOGY AND PROCEDURE

3.1 Research Design

The interpretive worldview and a qualitative research approach was applied for this investigation. The subjective examination configuration was viewed as appropriate for this investigation since it points toward investigating the abstract encounters faced by the concerned involved in academics in contrast to e-learning in a Pakistani public institution.

This methodology is appropriate for our motivations here because we can't separate the occasion of the worldwide COVID-19 wellbeing crisis; academics interests for their own and their families' security; their experience of educating during this troublesome time; moving to distant instructing in the 'online turn'; the anxieties of dominating the essential innovations and the instructing and learning experience. In this exceptional case, the total lived insight of educating during this time can't be caught without going to these intricate and interrelated encounters.

3.2 Population and Sample

The population of this research includes academics from senior faculty as well as IT personnel involved in e-learning mainstreams from a public sector university.

The purposive sampling strategy was utilized to choose three (6) academics and one (1) information technology (IT) staff in order to follow the investigation. The six number of academics has been chosen purposively dependent on the accompanying measures: they were being needed depicting fused the shift of electronic learning to the educational plan following the fulfillment required to trigger the showing of undergrad programs for in any event three years. Likewise, The IT personnel expertise has become critical to have great facts at the situation of the ICT and need to be organized to offer their point of view at the situation of the ICT basis within side the organization.

3.3 Research Tool

In this particular research, information was gathered utilizing a center gathering conversation and a semi-organized meeting. This was accomplished as we tried to tune in to members explaining their encounters of utilizing and suffering e-learning movements (Creswell, 2013). A measure of reasonable number of scholastics that have as of late began utilizing the Learning Management System module to improve learning passage in the center social event conversation completely for the specialists to make information on the encounters of scholastics with the utilization of e-learning movements in educating and learning in the state-financed university in Pakistan. A sound recorded meeting was booked with the chosen academics and the IT trained professional, intending to inspire data from the scholastics about their encounters in regard to the take-up and utilization of e-learning in their college. The in-depth interview plan in this manner covered the following major areas:

1. The degree to which an IT-based instructional module such as a learning management system or similar software application was being used in the institution.
2. Technology foundation and web availability.
3. Provision of adequate assistance to execute e-learning effectively.
4. University Management's vision on e-learning.
5. Training and upgrading of staff.
6. Challenges in executing e-learning in the university.

3.4 Ethical Considerations

This research was authorized by the ethics board of the concerned department and the university's adequate sections. It makes certain that the acquired data and proceedings are held in reserve and secret.

Research Title: Academics' Experience of Implementing E-learning during COVID-19 in a Pakistani Public University							
	Sub Ques.	R1	R2	R3	R4	Coding	
R01	What are the components that influence the take-up and utilization of e-learning during COVID-19 by the academic staff of a Pakistani public university?	The use of both synchronous and asynchronous is a more effective way of online teaching. Here face-to-face meetings, video conferencing, live chat, the participation of students are being carried out. And both the methods of synchronous and asynchronous are beneficial equally. Asynchronous mode provides students enough time to interact with a particular query or discussion. But all are equally benefited here.	I am agreeing with Miss. However just to add that during covid-19 situation, the hearing is sometimes not advantageous as the technology based needs a special kind sophisticated planning.	Yes, I also agree with the two respondents as both are benefited in e-learning.		Synchronous -beneficial -interaction -technology based -flexibly planned	
	Are there any hybrid mechanisms in place?		Yes, we have followed when it required by the university management. In fact, I normally with the local authorities' instructional guidelines and to refer to the former, objectives. It is complicated very useful. However after COVID-19 in the followed during COVID-19. But it's not constant and possible for a long time as the COVID-19 health's impact.			Compliance -LSP management -transparency -reliability	
	Can you please tell me how to manage those courses which require practical demonstration in students?	Yes, as far as practical course work is concerned, the university uses a guideline in which students complete of small number course while following proper SOPs related to the health of individuals as well as the workplace. The matter is to be taken into account as there is a need for a change of management. Existing conditions are to be considered or reassessed under the given time slot.	I agree here but just want to add that the entire course outline of practical work is to be prepared and completed upon the necessary directives. Further to meet the credit hours of practical work, some "alternative visual assessment" of the study mechanism may be introduced for the implementation of e-learning.				FSP compliance -flexibility -ability -change management -Review of procedures -Balance of practical courses -Substitute mechanism of assessment -Implementation
R02	What are the academic experiences concerning individual, course, content, and technology challenges for e-learning?	Yes sure. As per my opinion, the main challenge is "Resource management" I mean "All Major Machine (Laptop)" and the issue of change management will also have to be resolved.	I want to say that these may be challenges with a "Student center" like the adaptability of e-learning reading in their occupations and the type of "Organizational" like IT resource allocation and its compatibility.	Yes, I also agree with both the respondents and just to add here that besides the "challenges of student's individual and technology-related problems, we face "hardies while planning and setting up a specific course for e-learning" modules.		Resource usage -ITM strategy -Student control -Features of organization -Students' responsibility -Technology issues -Resource planning	
	Regarding the above question, what would be the suggested reasons? Miss A. Please, can you answer?	Yes, according to me, "Performance and facilitation are such necessary attributes in e-learning situation and it is equally important for both the teaching "Pedagogical staff and students in particular.	I want to add all technological factors should be taken into consideration. Hence, the implementation.	Ok, as Miss A said that is also very much necessary. According to me, there is need "to address the cultural factors so that we can ensure that all students will have the opportunity to use the e-learning system.			Training and awareness -Users oriented training -Provision of cultural factors -Push up technology concerns -Effective implementation

4. DATA ANALYSIS AND FINDINGS

4.1 Analysis of Data

Data analysis, in the study taken, was conducted in the following two stages. Initially, a semi-structured interview supported by an interview protocol was carried out while receiving the responses during these interview as in Table 2. Secondly, with the help of coding formed, in the stage of data analysis matrix process, the researcher made use of grouped codes to transform into specific themes and ahead of themes or thematic expressions (Table 3, please refer). This exercises were done and depicted as below:

Table 2: Data Analysis tabulated for Coding formation in the study

Data Analysis Matrix :

Data Analysis Matrix			
Research Title: Academics' Experience of Implementing E-learning during COVID-19 in a Pakistani Public University			
	Grouped Codes	Specific Themes	Themes / Thematic Expressions
R121	What are the components that influence the uptake and utilization of e-learning during COVID-19 by the academic staff of a Pakistan public university? = Interaction, timely planned, consistency = Readiness towards e-learning (SOP compliance, individual's safety) Health & Safety of users (Substitute mechanism of assessment, implementation, reliability, consistency) = E-learning system reliability consistency measures, Computer management system, Monitoring of meeting (Zoom, Learning IT) = Feedback mechanism	Components that are influencing e-learning adoption during COVID-19 by the academic staff of a Pakistan public university.	1. Readiness towards e-learning 2. Health & Safety of users 3. E-Learning system reliability 4. Feedback mechanism
R122	What are the academics' experiences concerning individual, course, content, and technology challenges for e-learning? = Strategic, ethical, technology concerns, effective implementation, managerial strategies = Implementation of Changes through change models (PDCA & All models) (Quality and online facilities, students' expense issues, technology issues) = Credibility of e-learning tools (Particular measures) (Analogical & traditional students) = Geo-cultural attributes (Training and awareness, users' orientation) = Training and effectiveness (Implementation of guidelines, consistency measures) = Authorities' intervention	Challenges regarding individual, course, content and technology that are being experienced by the academic staff.	1. Implementation of Changes (through change models PDCA & All models) 2. Credibility of e-learning tools 3. Geo-cultural attributes 4. Training and effectiveness 5. Authorities' intervention

Table 3: Data Analysis Matrix tabulated for Themes formation in the study

4.2 Discussion and Results of Findings

As a result of two separate interviews with the participants, the researcher went to search for the numerous coding, and later on, in order to further have grouped codes against the research questions asked the specific themes became themes or thematic expressions during the whole exercise.

Based on the research questions in the subject study, the following themes have been obtained in terms of results.

THEME: 1-Readiness toward e-learning

It was revealed that one of focus groups respondents emphasized on the aspects of interaction, timely planned and consistency all directed to a common theme i.e readiness toward e-learning. Similarly, the thematic expression used in the research study had a conclusion as well when we looked at the conceptual model also. In an

interview respondent A once replied while answering the research question asked the researcher informed.....

“.....Asynchronous mode provides students enough time to interact with a particular query or discussion. But all are equally benefited then.”

THEME: 2- Health and Safety of users

More than one respondents during the focus group interviews had informed that the contributing factors namely SOP compliance, individual's safety were posed as a conscious concern as healthy and safety of users. The core procedures, standards, work forms both in levels of individual department and institution were discussed in detail which caused to be a thematic expression as mentioned as a second respondent rightly identified as:

“Yeah, we have followed when it requires by the university management. In fact, to comply with the local authorities' instructional guidelines and to cater to the learning objectivessafety of individuals as well as the workplace”.

THEME: 3- E-learning system reliability

The researcher thoroughly examined data interpretation as well as received ample inputs from relevant literatures besides the coding made in this connection. Therefore, the researcher concluded with a theme 'e-learning system reliability'. This was well supported by the grouped coding as generated as an outcome of the entire exercise that substitution mechanism of assessment, implementation, reliability and consistency responsible as a summation.

THEME: 4- Feedback mechanism

In a process, when major finding equally becomes as a matter of responsibility, there prevails always the aspect of feedback mechanism during the implementation of e-learning especially highlighted amid coronavirus 19. All the inclusion in the contemporary process of implementation as taken as the study objective incline to a major theme i.e. feedback mechanism'. University measures, complain management system, monitoring of existing IT tools and licensing of IT assets provoke the stated theme. In an interview these were all defined and explained by the respondents.

THEME:5-Implementation of Changes (through change models PDCA and 4M models)

It was revealed by more than one respondents participating in interviews in the research exercise that implementation of changes followed by the active change models namely PDCA and 4M models were constructed as a result of the group coding as identified as add up technology concerns, 3M strategy, effective implementation and manpower shortage. As one of the respondents quoted:

“Yes, it is advantageous during the ongoing situations of covid-19. Our limitation is manpower. As a number of online classes are being carried out at the same time, hence to resolve IT related issues, we require a reasonable number of staff.....”

THEME: 6- Credibility of e-learning tools

In the subject, more or less aspect went to the point that even the outbreak of coronavirus or similar kind of disease

scenario, the aspect of credibility of e-learning tools now becomes a major theme as offline and online facilitation, students' separate issues and technological issues are triggering the thematic expression as mentioned. Challenges were not only in terms of challenges of student's individual and technology-related problems but also hurdles while planning and setup up a specific course for e-learning modules.

THEME: 7- Geo Cultural attributes

Low signal at remote based stations, poor bandwidth were determined as a major contributing aspect to ascertain the thematic expression as geo cultural attributes during the study. As one of the respondents informed with much concerns that:

“We have limitations of bandwidth; hence management has to review the procedures enhance this factor. Additional power back up, work stations, internet service providers' commitment are more essential to confront the challenges we face in e-learning. We cannot cater those students who are receiving our e-learning service from remote areas especially areas where bandwidth and signals are major concern”.

THEME: 8- Training and Effectiveness

Apart from the subject based gaining of training and effectiveness, the focus that the respondents paid against the research question asked by the researcher in fact to approach one of the sparking theme in the research, i.e. training and effectiveness. The main contributing factors were found to be training and awareness and user-oriented training. Users of university stakeholders either in the capacity of management, visitor or students equally feel the importance of appropriate training mechanism as per

relevancy of each individual in IT domain, in particular.

THEME: 9-Authorities' intervention

Organizations including higher education institutions often are influenced by autocratic environment. The entire system may become upheld if not authorities' intervention is not essentially treated. The subject research revealed that intervention of government and university measures goes to directional destination as these two aforesaid factors and as an outcome the theme of authorities' intervention is appeared in the research study.

5. Conclusion and Recommendations

5.1 Conclusions

After going through the findings and analysis, the researcher concluded and established the following conclusions. As far as the viability of technological aspects in connection with higher education institutions is concerned, cannot be a source like for granted. Educational attainment, equity, and social justice have all benefited from the intention, deployment, and usage of technology for learning. Among the most crucial aspects of successful e-learning implementation and use in HEIs are users' expectations of efficient workability of e-learning devices/platforms, users' expected roles and the effort they put into using the technology, users' realization of personal and social benefits, and the availability of organizational/technical assistance when needed. The aforementioned elements all contribute to the overall quality of the e-learning process for the end user. Barriers to utilizing the e-learning platform at the HEI under study included a lack of online

facilitation, inconsistent Internet access, an absence of technical assistance/support, and an absence of training opportunities for e-learning activities. The research shows that the cumulative effect of these issues has been to dampen academic enthusiasm. Since they are no longer motivated to provide interactive content/course material for virtual learning, they are unable to accurately evaluate students' knowledge obtained via the e-learning platform.

5.2 Recommendations

On the basis of above stated conclusions, the following recommendations are presented:

1. One crucial component of online education is a reliable and rapid data transfer rate. Therefore, a public-private collaboration might be developed to facilitate open and fruitful communication between faculty and students through the university's e-learning platform.
2. Broadband Internet connectivity on campus should be increased via a collaborative effort between government agencies and university administration.
3. Faculty members should get frequent updates and training on any modifications made to the university's e-learning systems, and students should have access to timely technical help.
4. Positive user experiences may be sustained if the institution invests in making its e-learning platform intuitive to use and if its faculty members get instruction in the creation and assessment of online course materials.

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