

DEVELOPMENT OF CONCEPTUAL MODEL- EFFECTIVE TEACHING QUALITY OF ACADEMICIANS TOWARDS MOOCS IN HIGHER EDUCATION IN PAKISTAN

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ABSTRACT: Introduction - IT experts and academicians adopted e-learning to expedite quality education. Quality education has a necessity; therefore, higher education is getting a good job to partner with Massive Open Online Courses (MOOCs). MOOC is the virtual learning platform to reform education by adopting information and communication technology infrastructure that aimed to increase the opportunities for quality education. MOOCs can be used by skilled and professional academicians who deliver their knowledge and expertise for acquiring learners' ability to read, write, technical skills, and critical thinking through digital transformation. Academicians who are teaching in MOOCs should have good skills in digital literacy, online pedagogy, and willingness to accept MOOCs initiatives in HEIs in Pakistan.

Purpose/Problem - This research aims to examine the impact of the teaching quality of academicians towards the teaching quality design of MOOCs in higher education institutions, and also determine their behavioral intention towards the acceptance of MOOCs initiatives. This research study is focused on MOOCs platform usage and acceptance in the province of Sindh, Pakistan.

Methodology – Unified Theory of Acceptance and Use of Technology (UTAUT) model will be utilized to examine the hypothesis that influences academician intention towards accepting MOOCs. This study will be used a mixed-method approach to gather information. The Quantitative approach will be used to obtain the data collection for identifying the effects of independent and moderating variables on the dependent variable. SPSS and PLS-SEM 3 statistical tools will be used for data interpretation and analysis. The qualitative semi-structured approach will be used to gather more information about the area of the research survey by conducting interviews with MOOC administrators/developers, explanatory-sequencing approach should be used for more confirmation to validate and reliable the survey data collected. NVivo 12 will be used to analyze the unstructured text, audio, and video data; for interviews, focus groups, and journal articles.

Outcome – In this research, MOOC platform has been intended to study and identify the effect of teaching quality of academicians towards MOOCs and their acceptance. The application of HEIs and MOOCs will prove to be the most promising integration for quality education in the year to come under one umbrella. Therefore, a unified MOOC can be recommended in the reflection of research

investigations for successfully implementing MOOCs in Pakistan's higher education institutions.

KEY WORDS: *MOOC; Academician; Teaching quality; UTAUT conceptual Framework; Higher education in Pakistan.*

1. INTRODUCTION

Background: E-learning has become a special intention in the last decades for academicians, scientists, and researchers in order to expedite the modern education processes because the facility of internet technology enhances global knowledge and most often takes place in academic online courses, online certifications, and online learning programs.

MOOCs (Massive Open Online Courses) can be described as a platform for distance learning that provides modern education for millions of learners to come together and access free quality education (Mulder & Jansen, 2015).

In today's, competitive world, HEIs partnered with MOOCs to become one of the most popular ways of online learning platforms to reform education by offering the world's premier international standard online courses in Pakistan.

MOOC is one of the proven and widespread virtual interactive educational platform that creates online discussion forums, live streaming, tutorials, online materials, self-learning, and group projects for teachers and learners, despite the lack of geographical hindrance (Koukis & Jimoyiannis, 2019). MOOCs can be used by skilled academicians and IT Experts to transfer their knowledge and expertise for acquiring learners' ability to read, write, technical skills, and critical thinking. Moreover, quality teaching methods for academicians are essential who instruct professionally in integrating technology and online pedagogy to develop a virtual education in the digital age near future (Wang et al., 2021).

ICT-based effective teaching can be designed on good online pedagogy approach and implementation since the learners not only learn new instructional strategies but come up with a course plan to implement these strategies in their classroom. MOOC academicians are responsible to develop the course content and class activities in a variety of good plans to achieve outcomes (Akram et al., 2022; Wambugu, 2018).

(Yoon & Richman, 2020), stated that MOOCs academicians and experts should be well prepared in the content knowledge of online pedagogy and the ability to use technology instruments known as digital literacy to meet their standard teaching expertise towards quality teaching design of MOOCs.

MOOCs academicians should have good skills in digital literacy, and online pedagogy also a willingness to accept MOOCs initiatives in HEIs in Pakistan. These three factors are crucial for academicians to participate efficiently and effectively in MOOCs. The role of MOOCs academicians is very important in implementing MOOCs worthy and successful that can fulfill the needs of quality education and impact the lives of millions of learners in Pakistan.

(Khan & Akhtar, 2021), concluded that the higher education institutions of Pakistan do not have any documented evidence that supports MOOC academicians to possess the teaching quality required for the successful implementation of MOOCs.

On the other side, (Azhar et al., 2022) believed that academicians are unskilled in using digital technology and adopt poor online pedagogy approaches, which is affecting negatively on MOOCs. This research aims to examine the impact of the teaching quality of academicians towards MOOC and their willingness to accept MOOC initiatives in HEIs in Pakistan.

2. PROBLEM DEFINITION

2.1. Statement of the problem

The application of HEIs and MOOCs will be proved to be the most promising integration for quality education under one umbrella. HEIs and MOOCs incorporate digital literacy with online pedagogy principles in virtual learning platforms gaining popularity for all subjects at all levels in teaching and research for future success. However, some qualities of the MOOC academician's digital literacy profoundly include excellent instructional delivery to keep interactions with learners which impacts everything from their class to long-term success.

Academicians who are teaching digitally in MOOCs have inadequate skills in using advanced technologies as well as adopted poor pedagogy approaches that negatively impact MOOCs. Eventually, it leads to the worthless implementation of MOOCs. Therefore, it is very important to determine significant factors for the successful implementation of MOOCs. This research aims to identify the effects of the teaching quality of academicians towards MOOCs and their willingness to accept MOOCs initiatives in HEIs in Pakistan. Moreover, this research will also evaluate and contribute to the strong status of teaching quality of academicians required teaching quality design towards MOOCs in HEIs in Pakistan.

2.2. Research objectives

This research aims to examine the following outcomes.

- To examine the present level of teaching quality of academicians compared to the required quality teaching design of MOOCs in HEIs Pakistan.
- To identify the significant factors of digital literacy, online pedagogy, technology factor, social influence, and facilitating condition effects towards accepting MOOCs in Higher education in Pakistan.
- To determine the significant impacts on the teaching quality of academicians by integrating digital literacy and online pedagogy in HEIs towards MOOCs.
- To find the impact of MOOCs on learners' achievement from the academicians' perspective in HEIs Sindh, Pakistan.
- To validate the developed model for teaching quality of academicians and willingness the acceptance towards MOOCs in HEIs in Pakistan.

2.2. Research Questions

The following are the main research questions;

- What is the current level of teaching quality of academicians compared to the required quality teaching design of MOOCs in HEIs?
- To what extent do digital literacy, online pedagogy, technology factor, social influence, and facilitation condition affect the use of MOOCs in HEIs in Pakistan?
- What are the ideal features of a unified MOOC platform that incorporates HEIs in Pakistan?
- How MOOCs does progress the level of achievement for learners from the perspective of academicians?

2.3. Theoretical framework/model

In the shade of past literature reviewed (Altalhi, 2021), more than a few models and constructs have been surveyed and recommended in the previous studies pertaining to the acceptance of different technologies. The consideration of several theories and models, UTAUT is widely used and one of the most cited model for explaining IT adoption because it uses a wide range of constructs (Qingfei et al., 2008). This model should be considered more reliable, and accurate which has mostly been used for digital computers to predict and understand the individual's technology acceptance (AlQaidoom & Shah, 2021).

In the shed of past studies, several researchers have investigated the unified theory of acceptance and the use of technology used to measure the level of acceptance for different technological contexts such as e-business, e-learning, e-government, and internet banking applications (Wang et al, 2021; Qingfei et al., 2008; Uğur & Turan, 2018). Therefore, this study adopts the unified theory of acceptance and use of technology [fig. 1] (Venkatesh et al., 2003). Moreover, UTAUT is the dominant model for research acceptance in technology and also fits in the context of a study.

On the other hand, based on the amended UTAUT model done by the researcher there are new constructs added in the amended UATUT, seen in [fig. 2] for technology acceptance in the proposed combined research model (Wang et al., 2021). including Behavior Intention (BI) is the main dependent variable, the other newly added and independent variables are Digital Literacy (DL), Online pedagogy (OP), and Technology Factor (TF) are considered some external variables with two original constructs Social Influence (SI), and Facilitating Condition (FC) captured from UTAUT model. Below are the set of hypotheses that are aligned with the questions and objectives of the research and simultaneously are driven by the amended UTAUT model.

H1. Digital literacy has positive effects on the behavior intention of academicians in higher education towards MOOCs.

H2: Online pedagogy has positive effects on the behavior intention of academicians in higher education towards MOOCs.

H3: Technology factor has positive effects on the behavior intention of academicians in higher education towards MOOCs.

H4: Social influence has positive effects on the behavior intention of academicians towards MOOC.

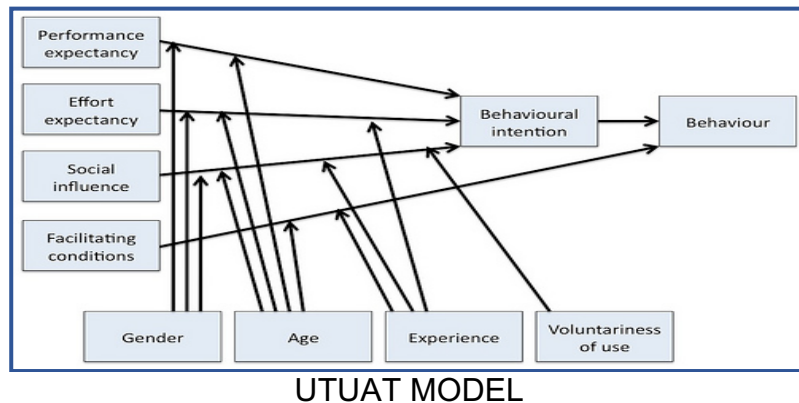
H5: Facilitating conditions have positive effects on the behavior intention of academicians towards MOOC in HEIs.

H6: Facilitating conditions have positive effects of academician on the continuous use of MOOC in HEIs.

H7: Academician behavioral intention has positive effects on the acceptance and use of MOOC.

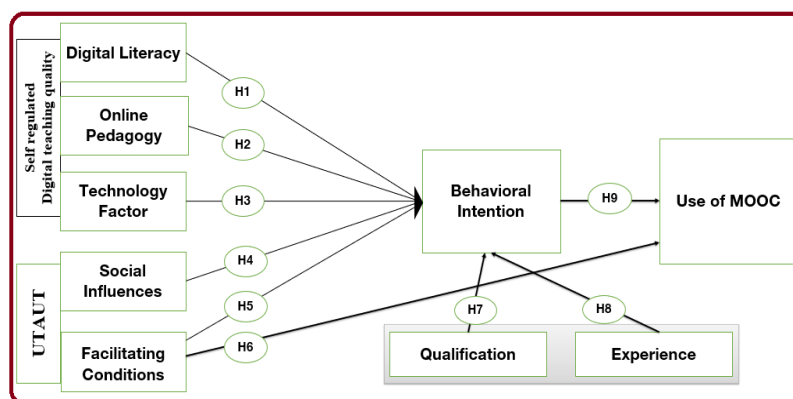
H8: Demographic variable qualification has positive effects on the behaviour intention of academicians in higher education towards MOOC.

H9: Demographic variable experience has a positive effect on behaviour intention of academicians in higher education towards MOOC.



UTAUT MODEL

Fig. 1. UTAUT-----Source Venkatesh et al., 2003



CONCEPTUAL MODEL

Fig. 2. Proposed hypothetical research model for teaching quality of academician towards MOOC

3. LITERATURE REVIEW

The use of computers and technology in education becomes one of the most prominent trends among higher education institutions. (Higher Education Commission) HEC Pakistan has been very proactive in initiating MOOC implementation in public universities in Pakistan since 2014. HEIs and MOOCs give the opportunity to study with top-ranked universities around the world.

The experts revealed that the MOOC platform is one of the most challenging digital transformations that occurred in the system of higher education (Khalil & Sultana, 2017). The MOOCs academicians are good leaders of the class to make an interesting course or boring, depending on the instructional quality and technological skills they followed (Altalhi, 2021). Technology skills and online pedagogy principles are interrelated and keen approaches in teaching and learning interactions since the emerging ICT in education.

(Doo et al., 2020) believed that digital literacy and online pedagogy are the main obstacles for academicians towards academic MOOCs. Moreover, some researchers (Gamage et al., 2020) concluded that technology and pedagogy are two sides of the same coin in digital teaching.

MOOC academicians should have to face several issues while approaching new technology instruments adoption due to a lack of digital skills, instructional delivery, guidance, and class management (Rodés et al., 2021).

According to (Misra, 2018) asserted that the majority of academicians teaching towards MOOCs are adopting an effortless attitude and profession, but teaching in online educational context is one of the most skilled and challenging professions that is a reality.

On the other side, (Akram et al., 2021) highlighted the major gaps related to the academicians' teaching quality towards e-learning like academic MOOCs platforms due to lack of teaching quality (incompetent in use of the digital computer), online pedagogy (poor instructional delivery and software selections), and other technological issues (ill-equipped technological infrastructure in the organization) that needs to be considered for the successful implementation of MOOCs.

Higher education institutions should be responsible to arrange faculty development programs for teachers to understand the quality design of MOOCs and also the grey areas of university programs. The joint efforts cause should be a collaborative environment of understanding and learning (SALEEM et al., 2019).

Online pedagogy principles provide new tactics of planning in teaching, sense-making, and effective instructional delivery approaches to achieve learning outcomes. Quality pedagogy guidance delivers and expands professional learning opportunities in digital settings (Alemán et al., 2015).

The best teacher always strives to reach learners with effective communicator, and critical thinker in a digital literacy setting (Khalil & Sultana 2017).

3.1. Higher Education Institution (HEI) in Pakistan

Education is a process of giving or receiving a set of instructions for acquiring any skill, information, values, thoughts, and habits. It can be a different way to transfer through storytelling, teaching, and discussion to gain knowledge. An institution of higher education should take a good position that provides advanced education services after secondary school. This includes traditional universities and profession-oriented institutions, which are known as universities of applied sciences or polytechnics. This definition applies to both public and private institutions.

3.2. E-Learning in Higher education of Pakistan

Learning is the process of getting new understanding, knowledge, skills, and behavior. With the passage of time and emerging technology in education, it becomes interchangeably used as “Distance learning”, and “virtual learning” (AIQaidoom & Shah, 2021).

E-learning has transformed the landscape of effective teaching and learning to improve interactions between academicians and learners to achieve learning outcomes (Kanwal & Rehman, 2017).

e-Learning is an online educational platform that delivers anytime and anywhere easy access to learning resources and up-gradation of skills and knowledge by connecting with online databases and e-libraries. It is also known as “online learning”, and “distance learning” in some other contexts is “Virtual Learning” (SALEEM et al., 2019).

(HEC) The Higher Education Commission of Pakistan has a positive intention for embracing of e-learning (SALEEM et al., 2019). Online learning is the fastest-growing network in developed countries, and developing countries like Pakistan are striving to the adoption of e-learning in higher education to increase opportunities associated with quality education and fulfill the needs of learners for acquiring knowledge at their doorstep (Khalil & Sultana, 2017).

According to (UNESCO, 2021), a report published about COVID-19, spread e-learning culture across the globe including Pakistan. The government of Pakistan used different kinds of mediums for regulated quality education during the pandemic situation.

[Open Courseware](#) – The Virtual University of Pakistan launched portals with a repository of course materials organized by subject area.

[RadioSchool](#) – Broadcast the educational content on Radio Pakistan.

[Taleem Ghar](#) - School Education Department launched an educational TV program to broadcast educational content to students covering English, Science-based subjects, General Knowledge, and Mathematics from grade 1 to grade 10.

[TeleSchool](#) - Educational program broadcasted on television to cover a wide range of courses in Mathematics, English, Urdu, and Science subjects to support distance learning for students from grades 1 to 12 across the country.

3.3. MOOCs platforms in Higher Education

Massive Open Online Courses (MOOCs) are the most popular way of e-learning developed in 2008. MOOCs offer the world’s premier international

standards courses with the guidance of highly qualified professors that instruct meaningful learning experiences to millions of learners around the globe.

Researchers (Ji & Cao, 2016), MOOC is the latest distance educational platform, which exerts a profound impact on traditional teaching and leads towards a new trend in online teaching in education near future, also offers a new method for academicians' professional development.

(Ahmed & Faisal, 2017), stated that HEIs Pakistan has increased its potential towards launching MOOCs in collaboration with top-ranked global universities through "PakistanEDX" and "Coursera", portals aimed at unlimited participation to accelerate the career with a transformative learning experience that empowers peruse the goals at their doorstep, especially for those who belong to back areas of the country.

HEIs, IT experts, and professors are growing interest in the implementation of MOOC to increase opportunities associated with quality education and more exploration of pedagogy principles to develop communities well literate (Askeroth & Richardson, 2019).

3.4. Academician attitude towards MOOCs

MOOC academicians adopt good communication methods to interact with students for meaningful learning in some narrow academic content and create an environment for research and innovation in an online educational context.

The degree of academician success depends on their attitude towards job responsibilities.

According to (Batool et al., 2021) an academician the main player in MOOCs who instructs professionally in integrating the digital literacy and online pedagogy approach in communicating clear information that's strongly influenced by learners' achievements on MOOC.

3.5. Digital Literacy

Traditionally, literacy means "an ability to read and write" (Promrub,& Sanrattana, 2022), with the passage of time and advanced technology emerging in education, it becomes interchangeably used as "Media literacy", "e-literacy", and "computer literacy" (AlQaidoom & Shah, 2021).

Digital literacy is an individual ability to utilize advanced technology tools to interact with the world around them. Digital literacy is an essential skill in seeking, assessing, integrating, and collaborating information into multiple formats of electronic transmissions in the educational context, such as theories and concepts would explain by visuals and graphics (Batool et al., 2021). It can be the ultimate change and newness in education.

The past studies revealed (Promrub,& Sanrattana, 2022), that studies supported there is a relationship between digital literacy and user performance towards technology.

Wang and Sime (Wang & Sime, 2022), believed that digital literacy is a basic ability for a person who wishes to work in an online learning platform like MOOC.

There is a significant connection between the digital literacy of individuals and their performance in an online educational platform (Mohammadyari & Singh, 2015).

3.6. Online Pedagogy

The term pedagogy is a profession of teaching, it determined the learning techniques based on academician beliefs about how learning should take place to achieve the best outcomes of the course in the educational context (Abid et al., 2021). Pedagogy is the science of focused activity in the formation of a person, contents, and methods of upbringing in academic contexts (Golub et al., 2022).

In the shed of past literature (Rodés et al., 2021), pedagogy is the important content of the course involved theoretical tools that would contribute to a deeper analysis, developing teacher literacy, and increasing their repertoire of perspectives to critically analyze their educational practice in higher education. Pedagogy has a great degree of impact to influence in higher education (Doo et al., 2020).

According to (Harahap et al., 2022), contributed that in today's, emerging advanced technology in higher education, Computerized learning pedagogy is the ability of academician to use sophisticated software admirably and the selection of the proper application is essential to consider while developing class curriculum activities.

Initially, online pedagogy is not new which meant pedagogy activity demonstrates on e-learning platforms like MOOCs which is mandatory for educators to build skills in modern technical teaching practices (Steele et al., 2019).

On the other side. Other studies, (Lee et al., 2009) asserted that the role model of the academician is very critical in online educational platforms due to technology and professionalism growing day by day. Technology and professionalism include the intention to use computer tools, online pedagogy, and critical analysis qualities. These competencies are very essential to make teachers effective and fulfill their responsibilities defined by the online education system and also make HEIs and MOOCs worthy and successful.

Some researchers (Khalil & Sultana, 2017), argue that academicians must enhance competencies in the use of technological instruments for preparing and delivering lectures that are required in MOOCs platforms.

In light of past study revealed, (Qureshi & Kalsoom, 2022), emphasized that a good academician should be well prepared in integrating technology skills and online pedagogy principles to keep interactions with learners which impact everything from their class to long-term success.

MOOCs professionals required digital literacy (electronic-Knowledge), digital skills (electronic-Competencies), digital content (electronic-Content), and digital pedagogy (electronic-instructional delivery) expertise to meet their quality teaching design towards MOOC (Wambugu, 2018; (Batool et al., 2021).

4. METHODOLOGY

This part presents an overview of the research methodology. It describes the procedures and methods followed to gather information about the teaching quality of academicians towards MOOCs. In this study, a mixed-method design (triangulation) is used with an emphasis on the validity and reliability of each instrument. Two methods will be used to collect data namely questionnaires and interviews. The quantitative approach survey questionnaire will be designed and developed for obtaining the data collection to identify the effects of independent and moderating variables on the dependent variable (Johnson et al., 2007). It will describe the research instrument to collect more data in the area of study in the form of focus group and observations (Wang et al., 2021).

The initial intention is to design a questionnaire of two sections. One is to measure the level of teaching quality of academicians towards MOOC in higher education institution in the province of Sindh, Pakistan. This section is built based on the teaching quality of academicians which is a short objective test based on estimating the ICT skills and instructional design interaction knowledge that reliably predicts successful design and implementation of MOOC. Observations are conducted in the form of interviews to identify the necessary technology and pedagogy skills in MOOC. Prominent platforms will be observed by the researcher to acquire a general overview of the teaching quality of academicians towards MOOCs.

The study implements a correlation formulation design to measure the different relationships between the different variables and constructs. Statistical methods and equations will be used to analyze the obtained data from the questionnaire. SPSS second-generation software will be used alongside the Smart PLS-SEM3 tool to analyze data.

4.1. Population and Sampling

The population of this study is the academicians especially those who are teaching and adopting MOOCs as an online learning platform in HEIs. A number of academicians from public universities in Sindh, Pakistan especially those who are using MOOCs in delivering courses will be selected on a probability basis. While the sample is based on the researcher's judgment, the characteristics of the sample selected will be specified according to the need (Ahmed et al., 2015; Sharma et al., 2020). Systematic sampling will be surveyed to select the sample from the population. Around 150-200 academicians represent the number of respondents to the questionnaire developed for this study.

On the other hand, the focus group will consist of MOOC developers and IT experts. There will be around 2-3 members in each focus group for interviewing.

4.2. Questionnaire

The survey questionnaire will be utilized to obtain more information about the teaching quality of academicians required for teaching design towards MOOC that leads to implementing successful MOOC.

This part consists of an overall 33 items, the first portion of the questionnaire is mainly designed to collect demographic information about respondents. The second part should be composed of a frequency Likert scale of five points (Strongly

agree (5), agree (4), neutral (3), disagree (2), strongly disagree (1)). In the last third part, the space will provide only 2-3 IT-Experts and developers to express their feeling in words about MOOC challenges that hinder academicians from adopting and using it. Therefore, it will be around a total of 3 questions being developed in the questionnaire. This research examines the level of teaching quality required by academicians to efficiently use MOOC in HEI to create, design, and manage courses at local and international levels.

5. CONCLUSION

MOOCs is the virtual learning platform that provides quality education using computer networks, usually through electronic media like the internet to gain global knowledge and education for learners at their doorstep. An academician is the main player in MOOCs who instructs professionally in integrating the digital literacy and pedagogy approach in communicating with clear information that's strongly influenced by learners' achievements. Many researchers revealed, that MOOC academicians are unskilled in using technology and adopted a poor pedagogy approach, which is affecting negatively MOOCs, and ultimately leads to the worthless implementation of MOOCs.

This study research aims to identify the effect of teaching quality of academicians and their acceptance towards MOOCs initiatives in HEIs in the province of Sindh, Pakistan. This research will contribute to the strong status of teaching quality of academicians towards MOOCs in HEIs in Pakistan. HEIs Pakistan has increased its potential towards launching MOOCs in collaboration with top-ranked global universities that are offering world international standard courses to accelerate the career with a transformative learning experience for future success.

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