MOOCS READINESS AMONG FACULTY MEMBERS IN A HIGHER EDUCATION INSTITUTION IN OMAN

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by

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MOOCs	Massive open online courses
HEIs	higher education institutions
ATT	Attitude towards MOOCs
SE	Self-Efficacy
BTG	Belief towards goals
EO	Experience with online teaching and learning
TC	Technology competencies
AT	Access to tools
PS	Peer and Colleagues support
AS	Administrative support
ICT	ICT infrastructure
MR	MOOCs Readiness
USM	Universiti Sains Malaysia
SQU	Sultan Qaboos University
PLS-SEM	Structural Equation Modeling
SPSS	Statistical Package for Social Sciences

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KESEDIAAN MOOCS DALAM KALANGAN TENAGA PENGAJAR FAKULTI DI SEBUAH INSTITUSI PENGAJIAN TINGGI DI OMAN

ABSTRAK

Banyak institusi pengajian tinggi di seluruh dunia telah menggunakan massive open online courses (MOOCs). Namun, adakah ahli fakulti di institusi pengajian tinggi bersedia untuk menerima pakai MOOCs untuk pengajaran dan pembelajaran, dan apakah faktor yang mempengaruhi kesediaan mereka untuk menerima pakai MOOC? Kajian ini mengenal pasti faktor yang mempengaruhi penggunaan MOOC dalam kalangan ahli fakulti di institusi pengajian tinggi Oman dengan memfokuskan kepada faktor dalaman, faktor luaran dan kesan penyederhanaan jantina. Faktor dalaman yang dikaji adalah pemacu peribadi seperti sikap terhadap MOOC, efikasi kendiri dan kepercayaan terhadap matlamat, pedagogi yang ditakrifkan sebagai pengalaman dalam pengajaran dan pembelajaran atas talian, dan faktor teknikal yang digambarkan sebagai kecekapan dalam teknologi dan akses kepada alatan. Begitu juga, faktor luaran yang dikaji ialah norma subjektif merujuk kepada sokongan rakan sebaya dan rakan sekerja diikuti dengan faktor universiti yang memberi tumpuan kepada sokongan pentadbiran dan infrastruktur ICT. Kaedah korelasi kuantitatif menggunakan soal selidik tinjauan digunakan untuk mengumpul data di kalangan 348 ahli fakulti di Universiti Sultan Qaboos (SQU) dan dianalisis menggunakan partial least squares structural equation modeling (PLS-SEM). Dapatan kajian menunjukkan bahawa faktor-faktor yang mempengaruhi kesediaan MOOCs ialah sikap terhadap MOOC, efikasi kendiri, kecekapan dalam teknologi, dan sokongan pentadbiran universiti. Walau bagaimanapun, kepercayaan terhadap matlamat dan pengalaman dengan

pengajaran dan pembelajaran atas talian mempunyai perkaitan negatif dengan kesediaan MOOC. Tambahan pula, faktor dalaman didapati menjadi peramal yang lebih baik bagi kesediaan MOOC kerana model ini dapat meramalkan 55.6% MR di mana faktor seperti akses kepada alatan, infrastruktur ICT dan sokongan rakan sekerja didapati tidak mempengaruhi kesediaan mereka. Dapatan kajian turut mendedahkan bahawa sokongan pentadbiran adalah penting kerana walaupun ahli fakulti mungkin mempunyai dorongan peribadi tinggi ke arah matlamat ini, mereka masih kurang yakin dalam membangunkan MOOC. Seterusnya, kajian ini juga menyimpulkan bahawa perbezaan jantina hanya ketara dari aspek sikap, efikasi kendiri, kepercayaan terhadap matlamat dan pengalaman pengajaran atas talian dan bukan dari segi kecekapan teknikal, akses kepada alatan dan sokongan rakan sekerja. Ahli fakulti lelaki menunjukkan sikap positif dan efikasi tinggi berbanding ahli fakulti wanita. Walau bagaimanapun, ahli fakulti wanita lebih fokus terhadap matlamat mereka dalam mereka bentuk dan membangunkan MOOCs dan percaya pengalaman mereka adalah memadai untuk mencapai matlamat tersebut. Menurut penemuan kajian ini, institusi Oman telah menyediakan akses yang sama dari aspek teknologi dan alat untuk mereka bentuk dan membangunkan MOOC sebagai visi masa depan untuk menggunakan MOOCs untuk Wawasan Oman 2040 bagi menggunakan teknologi moden dalam pengajaran dan pembelajaran dan menyebarkannya sebagai satu kebudayaan kebangsaan. Walau bagaimanapun, pertimbangan diperlukan dalam membangunkan kompetensi ahli fakulti untuk tujuan ini, dan mereka merujuk bimbingan daripada universiti dalam menjayakan wawasan ini.

MOOCS READINESS AMONG FACULTY MEMBERS IN A HIGHER EDUCATION INSTITUTION IN OMAN

ABSTRACT

Many higher education institutions worldwide have used massive open online courses (MOOCs). However, are faculty members in higher education institutions ready to adopt MOOCs for teaching and learning, and what factors influence their readiness to adopt MOOCs? This study attempts to identify factors that affect MOOC adoption among faculty members in Omani higher education institution by focusing on internal factors, external factors, and the moderating effect of gender. The internal factors are personal drivers such as attitude towards MOOCs, self-efficacy and belief towards goal, pedagogy defined as experience with online teaching and learning, and technical factors described as technology competencies and access to tools. Likewise, external factors are defined by subjective norms referring to peer and colleague support, followed by university factors focusing on administrative support and ICT infrastructure. A quantitative correlational method using a survey questionnaire was employed to collect the data among 348 faculty members at Sultan Qaboos University (SQU) and analyzed using partial least squares structural equation modelling (PLS-SEM). Findings showed that the factors influencing MOOCs readiness (MR) are attitude towards MOOCs, self-efficacy, and administrative support. However, belief towards goal and experience with online teaching and learning negatively affects MOOC readiness. Furthermore, internal factors were found to be a better predictor of MOOCs readiness as the model predicted 55.6% of MR where factors such as access to tools, information and communication (ICT) infrastructure and peer and colleagues support were found not to influence their readiness. The findings revealed that

administrative support is vital as while faculty members may be personally driven towards this goal, they may still lack confidence in developing MOOCs and look forwards to the university for support. Furthermore, this study also concluded that gender differences are only apparent in attitude, self-efficacy, belief towards goals and experience with online teaching and not regarding their technical competencies, access to tools, and colleagues' support. Male faculty members indicated a positive attitude and stronger self-efficacy than female faculty members towards MOOCs readiness. However, female faculty members are more focused towards their goals in designing and developing MOOCSs and believe their experience may be sufficient for achieving the goal. According to the findings of this study, Omani institutions have provided equal access to ICT and tools for designing and developing MOOCs as a future vision in adopting MOOCs as part of the Oman Vision 2040 to use modern technologies in teaching and learning and spreading them as a national culture. Nonetheless, consideration is required in developing faculty members' competency for this purpose, and the faculty requires guidance from the university for assistance in embracing this vision.

CHAPTER 1

INTRODUCTION

1.1   Introduction

The technological revolution in the world, changes in student thinking, increase in the cost of education, and competition between institutions of higher education have led to the transformation of online learning. Nevertheless, this transition is not easy, and institutions and stakeholders face many challenges, especially in readiness to adopt such a strategy. The readiness of higher education institutions to shift from traditional to e-learning is very important for the success of the transition process (Al-araibi et al., 2019), and this is even more apparent due to the onset of the pandemic (Al Tameemy& Alrefaee, 2021). Readiness is the ability to do something willingly (Babich& Shakirova, 2020) and measuring readiness in implementing online learning tools for teaching and learning, such as by using platforms like Massive Open Online Courses (MOOCs), will reduce the risks and obstacles in its implementation while increasing its future success in educational institutions (Kurniasari et al., 2018; Mohapatra & Mohanty, 2017).

Therefore, in this study, the focus is to investigate how the need to implement online tools such as massive open online courses (MOOCs) are accepted by faculty members in terms of exploring their readiness to take up the role of a developer by identifying

factors that influence their perceptions. The population identified are Omani faculty members from higher education institutions and will consider specific internal and external factors unique to this culture. Therefore, this chapter will discuss the background of the study, problem statements, and research objectives, which were mapped to research questions. Next, the study's theoretical framework, conceptual framework, and significance were discussed by also considering the study's limitations. Lastly, the operational definition of the essential terms will be discussed and concluded.

1.2 Background of the Study

With the significant development and availability of technology in recent years, distance and e-learning programs have become sophisticated enough to keep pace with the significant growth in educational technology (Pham& Ho, 2020). Henceforth, such learning types have been adopted worldwide for flexibility and cost-effectiveness compared to traditional learning (Pannen, 2021). Furthermore, technology enables people to learn when they see fit for them without physically attending (Radha et al., 2020). Additionally, many higher education institutions (HEIs) adopted MOOCs to diversify their students' access to learning while allowing them to share the learning experience (Kumar & Al-Samarraie, 2018). Furthermore, MOOCs as learning platforms could capture the attention of the HEIs in the world by being disruptive (Oakley & Sejnowski, 2019).

Likewise, MOOCs have become an exemplary e-learning approach, which many countries around the world are turning to because of the educational challenges they face, such as the growing population, which means overcrowded classrooms, lack of teaching staff, and the difficulty of the students travelling to universities because of the distance and the difficulty of the roads especially in the developing countries (Adham et al., 2018). Furthermore, the current situation due to COVID-19 forced many educational institutions to tend to e-learning (Kulikowski et al., 2022), which MOOCs were able to cater to (Mejía et al., 2020) due to their innovative and adaptive capabilities in terms of scaling towards learning needs (Kang, 2021).

Henceforth, the name MOOCs was derived based on its capabilities to perform as an online course designed for a massive number of participants who can join them from anywhere when they are connected to the Internet (Jebali et al., 2020). Fesol (2016) explained that MOOCs was prevalent in online education platform applicable worldwide. When the MOOCs idea first came up in 2008, it was designed to communicate, where the learning process is done by connecting learners in an open environment to perform collaborative activities between them (Watson et al., 2016). MOOCs are available online, often free, and hosted by recognizable institutions (Voudoukis & Pagiatakis, 2022). These online courses respect certain technical specifications and the following four characteristics: they leverage web formats, are collaborative, contain evaluation modules, and are limited in time (Kumar & Erfan, 2021). Since then, MOOCs have been developing at an accelerated pace, where lecturers in higher learning institutions were encouraged to invest in this technology by transferring their courses to specialized platforms to facilitate the MOOCs

movement (AlQaidoom & Shah, 2020). MOOCs aimed not to replace traditional education but to complete formal higher education in these institutions through better outreach (Finkle & Masters, 2014). Moreover, MOOCs' success will allow more students to complete their education and lifelong learning (Gil-Jaurena & Domínguez, 2018).

Similarly, Oman's higher educational institutions also focus on MOOCs as a strategy to implement online learning (Balaji et al., 2015). Oman is a developed country in education (Al-Maamari, 2022), and the Omani government allocates a large part of its annual budget to education development, especially in higher education (Subramanian, 2021) and online learning strategies (Mohammed Al-Farsi, 2022). Oman has a population of less than 3 million and many public and private higher education institutions; however, Oman is 309,501 km² is characterised based on various areas of high mountains, vast beaches, and desert, often portrayed as geographical challenges (Williams et al., 2022). This vast area and geographical diversity have made communication between their regions difficult (Al-Kindi et al., 2020), and most higher education institutions are concentrated in the capital Muscat and the urban cities of the Omani regions (Al-Amri et al., 2020) such as Sultan Qaboos University (SQU). SQU, the oldest and largest higher educational institution in Oman, pioneered MOOCs and e-learning initiatives in higher education. Hence, such adaption has made higher education students move great distances to join these institutions because most institutions have a traditional education system and only a few e-learning institutions (Muthurmana et al., 2020).

Moreover, MOOCs allow lecturers to adapt their thinking about implementing the teaching method from traditional to new (Al-Kindi et al., 2017). According to Mee et al. (2016), MOOCs provide opportunities for lecturers to play a role in online learning, which mirrors some of the activities performed in a traditional learning environment. Moreover, lecturers are the ones who apply and develop MOOCs in HEIs, and their readiness to adopt the MOOCs is an essential attribute of the success of MOOCs (Annabi & Muller, 2016). Readiness is the ability to do something (Babich& Shakirova, 2020), and MOOCs readiness is the capabilities and skills stakeholders have in effectively using MOOCs (Fadzil et al., 2016). According to Scherer et al. (2021), instructors' readiness for teaching online extends beyond self-efficacy and teaching presence and is influenced by institutional, cultural, and innovative contexts.

Correspondingly, factors determining the readiness of lecturers to adopt MOOCs are diverse, including personal, technical, attitudes toward, and experience (Ventayen, 2018). Hung (2016) claims that educators' readiness for adopting online teaching could be identified based on factors such as self-efficacy, online learning attitudes, technical competencies, access to tools and institutional support. Therefore, this stipulates that institutional factors such as infrastructure, organization support, policies, financial support, and personal readiness individualize students and lecturers as MOOC developers (Azevedo & Marques, 2017). According to Mutambik (2018), internal factors are a set of individual factors used to determine faculty members' readiness to adopt MOOCs, such as personal factors in adopting MOOCs, such as attitude towards MOOCs, self-efficacy and belief toward MOOCs goal, pedagogical factors focusing on experience with teaching with technology, technical competencies and access to tools. At the same time, Al-Alhareth (2014) defined external factors as sociocultural

factors used to determine faculty members' readiness to adopt MOOCs, such as subjective norms (focusing on peers' and colleagues' support and university factors such as administrative support and ICT infrastructure. According to Hilali and Moubtassime (2021), considering both internal and external factors is critical in identifying faculty members' readiness to adopt MOOCs for teaching and learning. Furthermore, Bakogianni et al. (2020) explained that the readiness to adopt e-learning would increase if lecturers had a high ability to use computers as well as access the Internet.

According to Arnavut and Bicen (2018), lecturers play a significant role in the successful adoption of MOOCs; however, lecturers must be trained in modern technology and e-learning to use this technology to teach and develop their MOOCs. This determination of the degree of readiness for MOOCs gives higher education institutions the basis for their plans to adopt MOOCs (Pozón-López et al., 2021). Therefore, the positive readiness of lecturers facilitates the adoption of MOOCs, while a lack of readiness or passive readiness may negatively contribute towards MOOCs adoption (Gupta, 2019). Henceforth, the readiness of the faculty members is one of the most critical discussions that any educational institution must determine if they want to adopt MOOCs (Almazova et al., 2020). Consequently, due to the novelty of introducing MOOCs in Oman (Al-Harthi & Ani, 2023), the researcher intends to investigate factors influencing the readiness of lecturers to design and develop MOOCs.

1.3   Problem Statement

Although MOOCs seem to be the solution to many of the challenges facing higher education institutions, adapting the MOOCs without careful planning will probably end in educational floundering and, ultimately, failure (Pence, 2013). Thus, Mee et al. (2016) warned the administrators to determine the educational institution's readiness to adopt the MOOCs before adopting the MOOCs in the institution. Furthermore, despite MOOCs' scientific and technological development, some educational institutions have doubts about replacing the traditional educational systems that have been known for many years with a new educational system (Kalimullina et al., 2021). Therefore, higher education institutions that desire to adopt e-learning platforms, such as MOOCs, must recognise e-readiness as one of the most critical aspects in implementing e-learning (Phan & Dang, 2017). Al-Harthi and Ani (2023) also claim that Omani HEIs strategically employ digital learning through blended learning, electronic content, and online communication.

The readiness of lecturers to adopt MOOCs varies and is influenced by many variables (Ghazali &Nordin, 2018). According to Bakogianni et al. (2020), there is still limited research on MOOC readiness among educators, either as users or developers, which they stipulated heavily depends on individual characteristics. Therefore, assessing this readiness allows HEIs to neutralize the opportunities and challenges they may face when adopting MOOCs (Len-Urritia et al., 2018) as such strategies will aid institutions in providing suitable training to their employees and lecturers, which is warranted (Shaharanee et al., 2020)

Moreover, on 11 March 2020, the World Health Organization (WHO) announced that the disease caused by the spreading coronavirus COVID-19 had become a global pandemic (World Health Organization, 2020). The coronavirus has left its mark on all aspects of life: entire nations have been left with closed borders, global economies have slowed down, and schools and HEIs suspended (Jirásek& Stránský, 2022). Many of these institutions have tended to online learning, including the use of MOOCs in teaching. Oman has kept pace with these developments, and the Ministry of Higher Education has announced that students in HEIs will continue to study through online learning; therefore, Omani institutions are seriously considering adopting online learning, especially MOOCs (Al-Nuaimi et al., 2021). However, the question of the readiness of the teaching faculty of these educational institutions in Oman to adopt MOOCs for teaching and learning remains unexplored to date based on the researcher's knowledge. In recent years, although there has been MOOC implementation, it has been limited even with modern infrastructure and excellent educational staff, and there has been a scarcity of guidelines for adopting MOOCs in these educational institutions (Al-Kindi et al., 2017). The exception, and the country's oldest example of online learning, is administered by the College of Shari'a Sciences, which offers an entirely online degree program in Shari'a/ Islamic sciences with fee-paying students with some face-to-face requirements (Al-Harthi & Ani, 2023). Hilali and Moubtassime (2021) stipulated a need to consider internal and external factors in investigating the readiness of faculty members to adopt MOOCs.

Nevertheless, this could also be attributed to the lack of studies identifying the relationship between internal factors and readiness to adopt technology (Shaharanee et al., 2020; Nikolopoulou et al., 2021). This led to a significant difference in factors

between these studies, while there are some overlaps between these factors (van der Spoel et al. 2020). However many studies have identified some of these internal factors, but the role played by external factors leading to determining readiness to adopt online learning has often been neglected. Scherer et al. (2021) contend that the ready construct is multidimensional and requires an individual and contextual viewpoint. According to Hernandez et al. (2011), external factors like peer support can increase or decrease readiness to adopt online learning. While Park et al. (2014) confirmed that external factors, such as university support, will affect the readiness of faculty members to adopt online education.

Although there are many factors, in the case of Oman, the researcher must be vigilant because there are factors that cannot be included for many reasons, such as cultural and religious reasons related to Omani society. Zhu et al. (2018) highlighted the need to investigate the localized implementation of MOOCs by considering regional educational requirements. Furthermore, localizing MOOCs to fit the learning culture aids in creating culturally appropriate MOOCs (Dai et al., 2020). Evans and Myrick (2015) state that there is a close correlation between lecturers' degree of satisfaction in adopting MOOCs and educational outcomes. Nevertheless, experience in teaching MOOCs is very limited in Oman (Al-Harthi & Ani, 2023), and this factor can be important in determining the readiness of faculty members to adopt MOOCs before expanding their implementation (Al-Khanjari & Al-Kindi, 2018).

Moreover, Hilali and Moubtassime (2021) believe that gender impacts the faculty's readiness to adopt MOOCs, especially in the Arabic context. While there may not be extensive research specifically linking the gender of Omani faculty members in higher

education to MOOC design and development, the existing body of research on gender diversity for instructors and its impact on learning outcomes can provide insights into the broader significance of investigating this topic, especially in the Arabic context as suggested by Aldosemani et al (2019) and Aljaraideh, Y. (2019). Furthermore, performing localised research and obtaining data particular to Omani situations might help to build the evidence basis and influence decision-making processes in MOOC development. This study focused on gender without other characteristics because of the general social and cultural environment that characterizes Omani society, such as female working conditions, domestic responsibilities and technology phobias that may affect the readiness of faculty members. A systematic review of online teaching and learning research from 2009 to 2018 by Martin and Westine (2020) indicated that only 3.39% of the research and studies published in that period were about the characteristics of faculty members. According to Mutambik (2018), there is still a lack of studies on factors influencing readiness to adopt MOOCs in the Arabic region and thus, should be explored.

Moreover, there is still a need to explore characteristics focusing on faculty perspectives to teach online, especially as a developer of MOOCs (Freitas & Paredes, 2018). This need is further emphasized, especially for Oman's higher education, when such strategies are novel (Al-Harthi& Ani, 2023). Therefore, the study aims to determine the readiness of faculty members to adopt MOOCs for teaching and learning in HEIs in Oman by exploring factors that influence their intention and how it relates to their personal characteristics.

1.4 Research Objectives

The objectives of the study are:

   i.   To determine whether internal or external factors predict the perceived readiness of faculty members to adopt MOOCs for teaching and learning in Oman.

  ii.   To investigate the relationship between the personal drivers' factors, namely attitude towards MOOCs, belief towards goal and self-efficacy on the readiness of faculty members to adopt MOOCs for teaching and learning in Oman.

 iii.   To investigate the relationship between the pedagogy factors such as experience with online teaching and learning and the readiness of faculty members to adopt MOOCs for teaching and learning in Oman.

 iv.   To investigate the relationship between the technical factors (competencies and access to tools) and the readiness of faculty members to adopt MOOCs for teaching and learning in Oman.

  v.   To investigate the relationship between the subjective norm (peer and colleagues) and the readiness of faculty members to adopt MOOCs for teaching and learning in Oman.

 vi.   To investigate the relationship between the university factors, namely administrative support and ICT infrastructure, on the perceived readiness of faculty members to adopt MOOCs for teaching and learning in Oman.

 vii.   To investigate the moderating role of gender on the readiness of faculty members to adopt MOOCs for teaching and learning in Oman.

1.5   Research Questions

This research aims at answering the following:

i.   Do internal and external factors predict the perceived readiness of faculty members to adopt MOOCs for teaching and learning in Oman?

ii.   Is there a positive significant relationship between personal drivers' factors, namely attitude towards MOOCs, belief towards goal and self-efficacy on perceived readiness of faculty members to adopt MOOCs for teaching and learning in Oman?

iii. Is there a positive significant relationship between pedagogy factors, namely experience with online teaching and learning, on the perceived readiness of faculty members to adopt MOOCs for teaching and learning in Oman?

iv.   Is there a positive significant relationship between technical factors, namely teaching technology competencies and access to tools on the perceived readiness of faculty members to adopt MOOCs for teaching and learning in Oman?

v.   Is there a positive significant relationship between subjective norms, namely peer and colleague support, on the perceived readiness of faculty members to adopt MOOCs for teaching and learning in Oman?

vi.   Is there a positive significant relationship between university factors, namely administrative support and ICT infrastructure, on the perceived readiness of faculty members to adopt MOOCs for teaching and learning in Oman?

vii.   Is there a significant difference in gender on the perceived readiness of faculty

members to adopt MOOCs for teaching and learning in Oman and does gender

moderate the readiness through internal and external factors?

1.6   Theoretical Framework

In this work, four theories were used to develop the theoretical framework

(Figure 1.1) which are the connectivism theory (Siemens, 2005), constructivism theory

(Hein, 1991), social cognitive theory (Bandura, 1986), and technology readiness

theory (Parasuraman, 2000, p. 308). One of the main theories used to determine the

readiness of faculty members to adopt MOOCs is the connectivism theory (Al-Rahmi

et al., 2019). Connectivism is a learning theory in the digital age that explains how

modern online technology has created new opportunities for people to learn across the

web, like what happens in MOOCs (Hunter & Rasmussen, 2018). The constructivism

theory is the second theory used in this study to determine the readiness of faculty

members to adopt MOOCs. According to constructivism theory, knowledge is built in

learners by themselves, and everyone is different in their knowledge from others (Hein,

1991). There is a correlation between constructivism and ready-to-adopt MOOCs.

People with prior knowledge of this technology can deal with this technology and build

or add new knowledge from this previous knowledge of MOOCs.

Figure 1.1

Theories used to determine the readiness to adopt MOOCs in HEIs in Oman
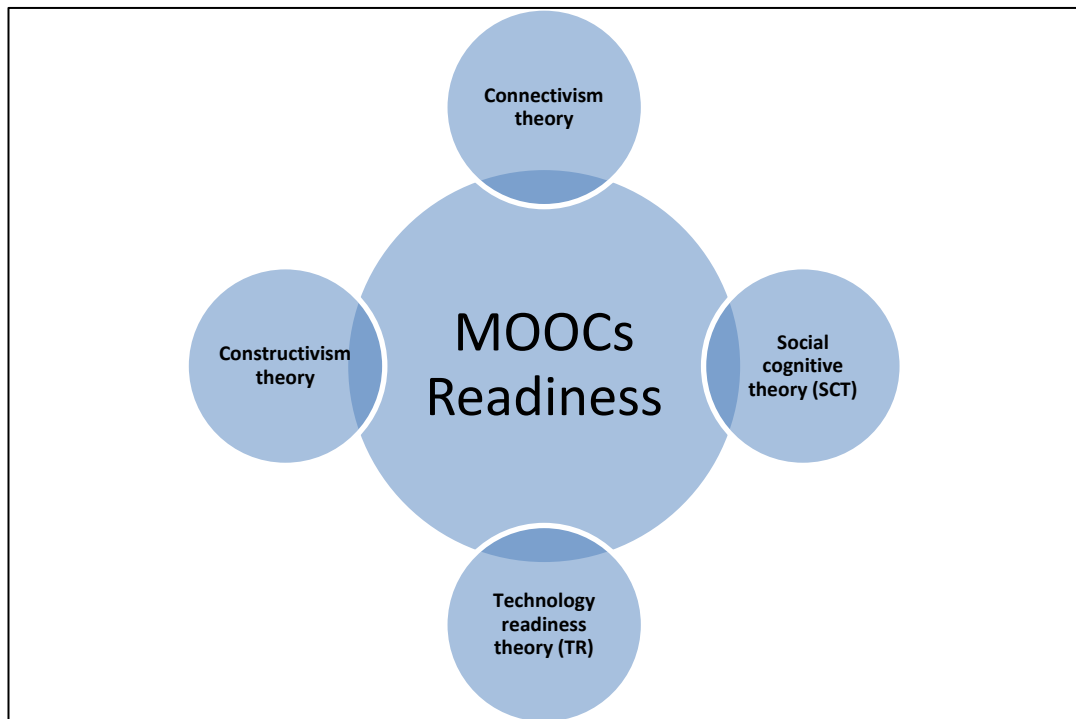
According to Newton (2016), the lack of self-readiness of the faculty member will affect his readiness to adopt the MOOCs, and Siemens (2005) stressed that constructivism theory and connectivism theory are not enough to explain the learning that is happening through the use of MOOCs. Therefore, a third theory deemed necessary to determine the readiness of faculty members to adopt MOOCs is the social cognitive theory (SCT). SCT, advanced by (Bandura, 1986), used in psychology, education, and communication, holds that portions of an individual's knowledge acquisition can be directly related to observing others within the context of social interactions, experiences, and outside media influences (Razmerita et al., 2020). This theory suggests that factors that affect humans are behaviours, cognitive and environmental (Veletsianos, 2016). According to Razmerita et al. (2018), as confirmed

by this theory, behavioural and simulation control has a role in selective actions, hence an aspect that would explain how faculty tends to influence other faculty member behaviour towards their readiness to adopt MOOCs.

The fourth theory used to determine the readiness of faculty members to adopt MOOCs is the technology readiness (TR) theory (Kaushik & Agrawal, 2021). TR defines an individual's propensity to accept new technology in supporting their daily tasks (Blut & Wang, 2020). According to Shonhe and Jain (2017), there are four categories of technology readiness theory: optimism, innovativeness, discomfort, and insecurity. This theory is determined by what may stimulate or interrupt the way a person thinks) Hidayanto et al., 2017). The best chance of success of e-learning in organizations with employees with technological readiness is more than the weakest institutions in this readiness (Basha, 2015). This study used this theory because faculty members have different sets of technology-related skills and perceptions, particularly in developing MOOCs, which defines their readiness to adopt new technology.

1.7   Conceptual Framework

The concept of internal and external drivers in determining the readiness of online learning was adapted from Mutambik (2018), which was repurposed to determine the readiness of faculty members to adopt e-learning in Saudi educational institutions. According to this model, personal factors moderate external factors in determining e-learning readiness. Nevertheless, Mutambik (2018) introduced a different readiness model that focuses on lecturers' readiness (Figure 1.2), where factors such as self-efficacy, access to tools, social factors, personal drivers, e-learning

factors and culture and context were suggested as possible factors, that influence academics readiness towards MOOCs.

Figure 1.2

MOOCs readiness model (Mutambik, 2018)
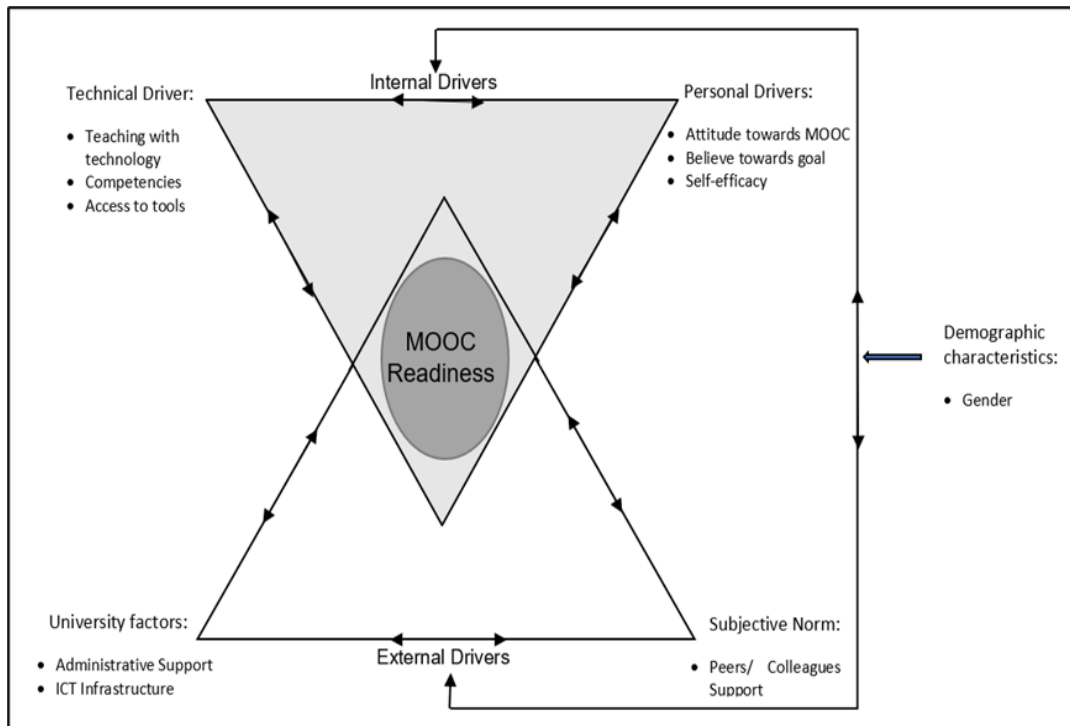
Therefore, based on these two models, the researcher identified and combined the factors presented to represent a conceptual model for this context. The researcher considered culture and context to evaluate readiness by intending to explore how gender moderates personal drivers, technical drivers, subjective norms and university factors in influencing perceived readiness to design and develop MOOCs for teaching and learning. According to Al Hinai et al. (2020), gender is an essential moderating factor in Oman's higher education because of the culture and traditions of the people. Furthermore, while the models previously introduced represent an inclusive

representation of the models, the researcher intends to investigate the direct

relationships of these factors. The conceptualize framework is presented in Figure 1.3.

Figure 1.3

Conceptualize Framework
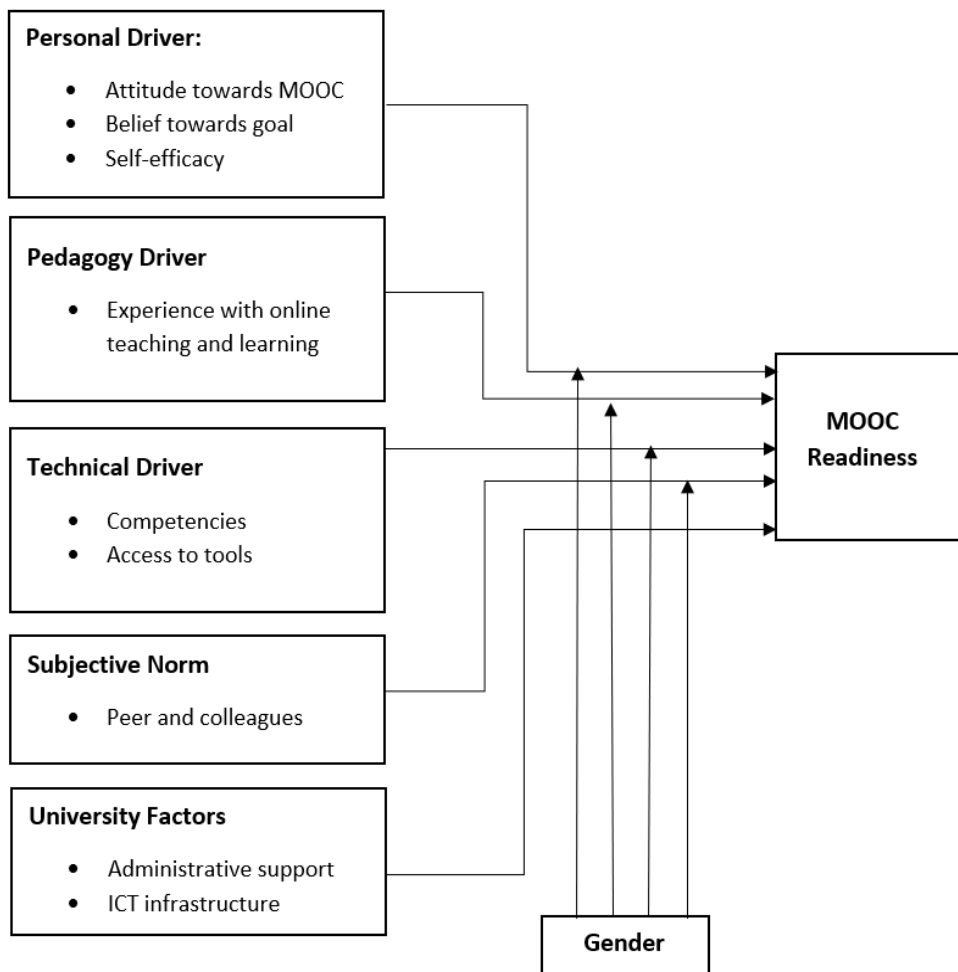
1.8 The Significance of the Study

Despite the numerous studies at the global level, there is very little research in Oman on the readiness to adopt MOOCs in higher educational institutions. MOOCs are crucial because they increase access to education, encourage lifelong learning, improve skills and employability, enhance the learning experience, and provide cost-effective educational options. MOOCs break down geographical boundaries and offer those who may not be able to attend traditional in-person classes with access to high-quality educational resources. This is especially important in Oman, where access to higher education may be restricted in some locations or for certain categories of individuals.

Furthermore, determining the level of this readiness is one of the essential elements in planning and determining the appropriate strategies for the future work of these institutions. There are still many questions about the best strategies and methods to achieve the quality required in higher education using MOOCs, as the individuals who will apply the MOOCs have their own characteristics. Assessing educators' preparedness enables MOOC content to be customised and localised to meet Omani students' particular requirements and circumstances. MOOCs may be created to correspond with local culture, language, and educational requirements by recognising instructors' viewpoints, knowledge, and skills. This ensures maximum relevance and efficacy. Moreover, evaluating faculty members' readiness to design and develop MOOCs uncovers training shortfalls and possibilities for development as it aids in the identification of knowledge and skill gaps in online education, instructional design, multimedia production, and learning management systems. This data may be used to

construct tailored professional development programmes to help educators improve their skills in planning and delivering MOOCs., it will help HEIs in Oman determine the readiness of their lecturers to adopt MOOCs in teaching and learning. It also helps to give a future vision of how successful they will be in implementing MOOCs if they adopt MOOCs. The results of this research and other parallel modern research will show the level of readiness of educational institutions to adopt MOOCs and the importance for stakeholders to integrate technology into higher education in Oman.

Due to the lack of research on the readiness to adopt MOOCs in HEIs in Oman and because there are no clear indications of the extent to which these institutions have qualifications to adopt the MOOCs, this study will help such institutions to identify factors that affect the readiness of lecturers to adopt the MOOCs. The focus on these factors will provide some guidelines on the decisions to be implemented regarding the adoption of MOOCs in Omani higher education institutions. This, in turn, will give information on the requirements that these institutions must provide in the future to ensure the success of MOOCs. Moreover, understanding gender dynamics in higher education and MOOC development contributes to equitable chances for male and female faculty members. MOOCs may thus be structured to provide a supportive and inclusive learning environment by actively attempting to counteract these prejudices.

1.9   Research Limitations

This study's primary limitation is determining the readiness of faculty members to adopt MOOCs for teaching and learning in HEIs in Oman. This is mainly because the faculty members will choose or develop learning and teaching processes using MOOCs. The readiness of faculty members is an important factor in determining the

ability of educational institutions to adopt MOOCs. This readiness will be determined by main factors, including the faculty members' internal and external drivers and the organizations that organize their work. Besides, these main factors will branch out into subfactors. Therefore, the internal factors explored in this study are personal drivers such as attitude toward MOOC, self-efficacy and belief towards goal, pedagogy defined as experience with online teaching and learning and technical factors that are described as technology competencies and access to tools. Likewise, external factors explored subjective norms referring to peer and colleague support, followed by university factors focusing on administrative support and ICT infrastructure. Nevertheless, this study will examine no relationship between internal and external constructs.

Furthermore, the mediating role of the factors will not be analysed, and the researcher focuses on the relationships between the factors to provide a deeper understanding of how the factors are interconnected. Similarly, this study will only examine the positive relationships theorized to explore the relationship directions. Concurrently, for demographic profiles, the researcher only considered gender due to the gender segregation policies in Middle Eastern countries and not other factors as moderating variables. Aldosemani et al. (2019) suggested investigating gender and experience to further understand the relationship influencing digital learning adaptation in higher education by faculty members. The experience was reflected as one of the factors in the study, hence gender is explored as a moderating variable..

In addition, the study will focus on higher education institutions because at this stage of the study, faculty members are more mature in applying MOOCs correctly due to

the possibilities available to them and to the educational institutions to which they belong. Thus, Sultan Qaboos University (SQU) will be the educational institution that will be of the population of this study because it is considered the oldest Omani government educational institution, which was opened in 1986. SQU is also the largest Omani university in terms of the number of students, faculty, and colleges. Nevertheless, this study will not focuses on the academic background of the faculty academic.

1.10   Operational Definitions

An operational definition defines a study's factors (Morgan et al., 2019). This study's operational definitions describe the factors and important variables by which can be observed, measured and discussed.

MOOCs Readiness

Fadzil et al. (2016) describe MOOCSs readiness as the minimum capabilities and skills people and organizations must possess to succeed in MOOCs. MOOC readiness is one of the basic information educational institutions explore to identify the entrance behaviours and factors related to the adoption of MOOCs (Mee et al., 2016). In this study, MOOCs readiness is defined by the effect of internal and external factors such as attitude towards MOOCs, self-efficacy, experience with online teaching and learning, belief towards goal, technical competencies, access to tools, peers and colleagues' support, administrative support and ICT Infrastructure, to predict the readiness of faculty members to adopt MOOCs for teaching and learning in HEIs

in Oman. The questionnaire employed in this study is adapted from Mutambik (2018) and Subramaniam et al. (2019).

Internal factors

Internal factors are personal factors that influence the readiness to adopt MOOCs (Mutambik, 2018). According to Hung (2016), Internal factors are important in determining the readiness to use MOOCs. In this study, internal factors are defined based on personal (behavioural control) (such as attitude towards MOOCs, self-efficacy and belief towards goal), pedagogy (such as experience with teaching with technology), competencies (such as technical competencies) and access (such as access to tool), to predict the readiness of faculty members to adopt MOOCs for teaching and learning in HEIs in Oman.

Personal Drivers

According to Mutambik (2018), personal drivers (Behavioral Control) are people's ability to develop a positive attitude and commit time towards using MOOCs. Personal drivers, which are behavioural controllers, are internal factors influencing readiness to adopt MOOCs. This study defines personal drivers (behavioural control) based on attitude towards MOOCs, self-efficacy and belief towards goal.

i.   Attitudes toward MOOCs

Attitudes toward MOOCs are defined as personal drivers (behavioural control) influencing readiness to adopt MOOCs. In this study, attitudes toward MOOCs are

defined as lecturers' positive or negative assessment if the MOOCs are adopted in teaching and learning in the educational institution. According to Phan and Dang (2017), positive attitudes towards e-learning will positively influence the readiness of lecturers towards e-learning. The questionnaire employed in this study is adapted from Bakogianni et al. (2020) and Mutambik (2018).

ii. Self-efficacy

Self-efficacy is defined as a personal driver that influences readiness to adopt MOOCs. In this study, self-efficacy is defined as lecturers' perceptions of their personal abilities, knowledge, and skills to adopt MOOCs. According to Mannila et al. (2018), self-efficacy affects an individual's perseverance when facing complex tasks or the flexibility to face them to avoid failure. The questionnaire employed in this study is adapted from Mutambik (2018) and Ventayen (2018).

iii. Belief towards goal

Belief towards goal is defined as personal drivers influencing readiness to adopt MOOCs. According to Stajkovic et al. (2006), belief towards goal is defined as the participant's commitment to achieving their goal by ensuring they have the ability and knowledge to do so. In this study, belief towards goal is defined as the inner faith of the participant in his ability to achieve the goal to predict the readiness of faculty members to adopt MOOCs for teaching and learning in HEIs in Oman. The questionnaire employed in this study is adapted from Ventayen (2018).

Pedagogy Factors

Pedagogy factors are defined as internal factors that influence readiness to adopt MOOCs. In this study, pedagogy factors are defined based on experience with teaching (with Technology) to predict the readiness of faculty members to adopt MOOCs for teaching and learning in HEIs in Oman. According to Ross et al. (2014), pedagogy factors, especially experience with teaching, are essential to the success of MOOCs.

i. Experience with online teaching and learning

Experience with online teaching and learning is defined as pedagogy factors influencing readiness to adopt MOOCs. In this study, experience with online teaching and learning is defined as the lecturer's teaching experiences because of teaching online courses to predict the readiness of faculty members to adopt MOOCs for teaching and learning in HEIs in Oman. According to Evans and Myrick (2015), faculty members with little experience teaching MOOCs have real concerns and are divided about the MOOCs' purpose, which affects their readiness to adopt the MOOCs.

Technical factors

Technical factors are defined as internal factors that influence readiness to adopt MOOCs. In this study, technical factors are defined based on technical competencies. According to Evans and Myrick (2015), In order to successfully implement the MOOCs in educational institutions, faculty members must have the necessary technical skills (such as internet skills, computer skills and basic ICT skills).