

**ACCEPTANCE MODEL OF OPEN
EDUCATIONAL RESOURCES PLATFORM
AMONG SAUDI TEACHERS**

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**ACCEPTANCE MODEL OF OPEN
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AMONG SAUDI TEACHERS**

by

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LIST OF ABBREVIATIONS

AVE	Average Variance Extracted
CMB	Common Method Bias
CR	Composite Reliability
DDDC	Design and Development of Curricula
DOI	Diffusion Of Innovation
DV	Dependent Variable
f ²	Effect Size
HTMT	Heterotrait-Monotrait Ratio of Correlations
ICT	Information and Communications Technology
JISC	Joint Information Systems Committee
LINC	Learning International Networks Consortium
MoE	Ministry of Education
MOOCs	Massive Open Online Courses
NCeDL	National Center for e-Learning and Distance Learning
OER	Open Educational Resources
PLS	Partial Least Squares
PLS–SEM	Partial Least Squares–Structural Equation Modeling
R ²	Coefficient of Determination
SEM	Structural Equation Modeling
SPSS	Statistical Package for the Social Sciences
SRMR	Standardized Root Mean Square Residual
TAM	Technology Acceptance Model
TPB	Theory Of Planned Behavior

TRA	Theory of Reasoned Action
TVTC	Technical and Vocational Training Corporation
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UTAUT	Unified Theory of Acceptance and Use of Technology
VIF	Variance Inflation Factor

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**MODEL PENERIMAAN PLATFORM SUMBER PEMBELAJARAN
TERBUKA DALAMKALANGAN GURU-GURU DI SAUDI**

ABSTRAK

Penggunaan platform Sumber Pendidikan Terbuka (OER) 'SHMS' oleh guru-guru di Arab Saudi dan bagaimana ia dapat meningkatkan hasil pendidikan, sejajar dengan matlamat kerajaan untuk mempromosikan teknologi dalam pendidikan. Walaupun platform SHMS menawarkan pelbagai sumber yang bermanfaat, penggunaannya oleh guru-guru sekolah masih terhad, dan faktor yang menyebabkan hal ini masih belum jelas kerana kekurangan penyelidikan. Kajian ini menggunakan model UTAUT untuk meneroka faktor-faktor yang mempengaruhi penggunaan platform OER SHMS oleh guru-guru. Faktor dalaman seperti jangkaan prestasi, jangkaan usaha, kebimbangan, dan kecekapan diri, bersama dengan faktor luaran seperti pengaruh sosial dan keadaan yang memudahkan, dikenal pasti sebagai elemen penting yang mempengaruhi niat dan penggunaan sebenar platform tersebut. Menggunakan reka bentuk penyelidikan kaedah campuran, data kuantitatif dikumpulkan melalui soal selidik tertutup melibatkan 360 guru sekolah, manakala data kualitatif diperoleh daripada temu bual separa berstruktur dengan tujuh guru. Data kuantitatif dianalisis menggunakan Pemodelan Persamaan Struktur Kaedah Kuasa Dua Terkecil Separa (*Partial Least Square-Structural Equation Modelling*) (PLS-SEM) melalui perisian SmartPLS versi 3.3.3, manakala analisis tematik digunakan untuk data kualitatif. Hasil kajian menunjukkan bahawa jangkaan prestasi, jangkaan usaha, pengaruh sosial, kebimbangan, dan kecekapan diri mempunyai pengaruh signifikan terhadap niat guru untuk menggunakan platform OER SHMS. Niat tingkah laku juga memediasi kesan faktor-faktor ini terhadap penggunaan platform. Selain itu, kajian mendapati bahawa pengaruh jangkaan prestasi dan jangkaan usaha terhadap niat

penggunaan berbeza mengikut jantina, dan hasil temu bual mengesahkan penemuan ini. Penemuan kajian ini penting untuk memberikan gambaran yang jelas mengenai persepsi semasa guru terhadap OER. Maklumat ini dapat digunakan oleh pihak pengurusan sekolah untuk merancang pembangunan staf masa depan, serta oleh Kementerian Pendidikan untuk merangka program latihan dan pembangunan profesional yang berkesan dalam meningkatkan kemahiran guru-guru dalam memanfaatkan platform OER SHMS.

ACCEPTANCE MODEL OF OPEN EDUCATIONAL RESOURCES PLATFORM AMONG SAUDI TEACHERS

ABSTRACT

The usage of open educational resources (OER) by Saudi teachers is expected to enhance education outcomes, in line with the government's goal to promote technology in education. However, the using the OER 'SHMS' platform by school teachers is still limited and the reasons behind remain unclear due to limited research. To address the gap, this study used UTAUT to explore factors affecting teachers' use of the OER SHMS platform. Internal factors like performance expectancy, effort expectancy, anxiety, and self-efficacy, along with external factors like social influence and facilitating conditions, were suggested to impact Saudi teachers' use of the platform through intention as a mediator. The study adopted a mixed-method research design in which quantitative and qualitative approaches. The instruments used for data collection were closed-ended questionnaires with 360 Saudi school teachers. Additionally, semi-structured interviews were conducted with seven teachers to support survey findings. The data was analyzed using Partial Least Square-Structural Equation Modelling through SmartPLS version 3.3.3 software for quantitative data while thematic analysis was used for qualitative data. The findings revealed that performance expectancy, effort expectancy, social influence, anxiety, and self-efficacy significantly influence teachers' intention to use of OER SHMS platform. Similarly, facilitating conditions and intention significantly influence teachers' use of the OER SHMS platform. The findings also showed that behavioral intention mediates the effect of performance expectancy, effort expectancy, social influence, and self-efficacy on teachers' use of the OER SHMS platform. Moreover, the findings found that the influence of performance expectancy and effort expectancy on teachers'

intention to use the OER SHMS platform differs based on gender. Accordingly, interview results validated the outcomes significantly. The outcome of the study would be significant to teachers by providing an overview of the current perceptions of teachers regarding OER for school management to plan for future staff development on OER. Similarly, the findings will provide information for the Ministry of Education on the need for training and teachers' professional development to enhance their skills in utilizing the OER SHMS platform effectively.

CHAPTER 1

INTRODUCTION

1.1 Introduction

OER has been referred to as teaching, learning, and research materials in any medium that resides in the public domain, released under an open license that permits their free use under an open license and, in some instances, re-purposing by others (Tang et al., 2020). The OER "SHMS" platform, which means sun in Arabic, was developed in Saudi Arabia to provide a secure and reliable environment for accessing Arabic educational resources for students, faculty, and teachers as part of the learning process (Walabe & Luppicini, 2020). This platform aligns with the country's efforts to enhance education, especially during the COVID-19 pandemic, by facilitating e-learning through cloud computing technologies. The integration of such OER platforms in education has become increasingly important to provide quality educational resources accessible to everyone (Al-Shamrani, 2019). The shift towards e-learning during the pandemic has highlighted the need for teachers to register and utilize OER platforms, showcasing the increasing trend towards digital education in Saudi Arabia (SHMS, 2019). However, the use of the OER SHMS platform by school teachers in Saudi Arabia is not widely accepted, despite their evident advantages. There is little or no reporting on the acceptance of the OER SHMS platform among school teachers (Alkhasawneh, 2020; Al-Shamrani, 2019). The study aimed to investigate the determinants of teachers' intention and use of open educational resources (OER) for teaching among school teachers in Saudi Arabia.

The majority of studies examining the adoption of OER have focused on the application of established theoretical frameworks within the realm of technology acceptance. A prominent and widely utilized theoretical framework for understanding individual acceptance and utilization of information technology is the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003). The model shows that performance expectancy, effort expectancy, and social influence can predict behavioral intention to use technology while behavioral intention and facilitating conditions can predict actual use of technology (Venkatesh et al., 2003). Many studies have confirmed the reliability and validity of the UTAUT model in predicting factors that influence the adoption of new technology (Raffaghelli et al., 2022; Smirani & Boulahia, 2022). Research studies such as those by Chao (2019) and Khalilzadeh et al. (2017) have expanded the UTAUT model by incorporating additional constructs like self-efficacy and anxiety to better understand users' behavioral intentions towards technology adoption.

The current research, based on UTAUT, incorporates the variables of self-efficacy and anxiety to explore the influence of self-efficacy and anxiety on behavior intention regarding the acceptance of OER. It considers factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions in the acceptance of OER, expanding the scope beyond technology adoption to include the impact of self-efficacy and anxiety as crucial determinants of behavioral intention to use OER. This comprehensive approach provides a deeper understanding of the complexities involved in the acceptance and utilization of OER within different cultural contexts such as Saudi Arabia, emphasizing the significance of individual beliefs and emotional factors in shaping behavioral intentions towards OER adoption.

1.2 Background of Study

The integration of modern information and communication technology (ICT) tools in education impacts different systems and promotes the use of technology for self-learning (Al-Mamary, 2022; Antonietti et al., 2022). The pervasive nature of ICT in today's information age has transformed the learning process and continues to evolve (Gómez-Galán, 2020). ICT enables teachers to study, communicate, and engage effectively, significantly influencing daily life (Kumar et al., 2019). The ICT tools include online resources, computer-assisted teaching, and learning management systems facilitated by early technology (Conole, 2017). Unlike online resources, OER allows teachers to reuse, edit, and distribute materials without the need for computer or internet access, benefiting teaching strategies (Allen & Katz, 2020; Lin & Tang, 2017). Open licensing has made learning more accessible and valuable, offering flexibility in when and where it can occur (Luo et al., 2020).

The outbreak of COVID-19 in 2020 forced almost all governments in the world to impose social distancing and lockdown measures to restrict the pandemic spread (Perifanou & Economides, 2023). As a result, educational institutions complying with the lockdown decisions had to shift their educational activities to online teaching and learning which has increased the global OER movement (e.g., Kumar et al., 2019; Scherer et al., 2019; Tang et al., 2021). Research emphasizes the importance of OER in ensuring educational continuity during crises like the COVID-19 pandemic and filling the gap in digital educational resources availability educational resources' availability (Ouahib et al., 2023; Perifanou & Economides, 2023). According to UNESCO (2021), OER are learning, teaching, and research materials in any format and medium that reside in the public domain or are under copyright that have been

released under an open license that permits no-cost access, use, adaptation, and redistribution by others.

To support educational institutions all over the world in their transition to OER-based education, the Commonwealth of Learning (COL) and the network of Open Education Resource Universitas (OERu) cooperated with the UNESCO Institution for Information Technologies in Education (IITE) and the International Council for Open and Distance Education (ICDE) to implement the OER4Covid initiative (OER4, Covid, 2021). They have been at the heart of UNESCO's recommendations because of their rich potential to improve equity in learning, even beyond times of crisis, as a rigorously developed, customizable, and low-cost material, as well as their potential to save time in preparing learning materials (Ouahib et al., 2023). Research across various countries including Australia, Canada, China, Germany, South Africa, South Korea, Spain, and Turkey emphasizes the positive impact of OER adoption among teachers, highlighting the importance of enhancing and implementing OER and institutional policies (Marín et al., 2022). However, the implementation of OER in developing countries, such as Tanzania, India, Africa, Morocco, and Vietnam, remains low despite the potential benefits they offer in enhancing educational access and quality (Doan & Dao, 2020; Ismail et al., 2019; Kumar et al., 2019; Muganda et al., 2016; Ouahib et al., 2023). A study by Kurelovic (2018) provides examples of countries (Tunisia, Chile, South Africa) where cultural context, educational systems, and lack of awareness and support on the institutional level (guidelines, recommendations, policy) hinder the implementation of OER. Various challenges have been reported in this study, such as copyright issues or legal barriers, low quality of OERs, lack of awareness, lack of time among creators and users, lack of skills, lack of technical infrastructure, and inadequate organizational support (Adil et al., 2024).

To address this, there is a growing need for increased research, collaboration between countries, and a focus on developing user-friendly OER repositories that cater to the diverse needs of learners in these regions.

In recent years, Saudi Arabia has seen significant growth in OER, with various institutions embracing it. The Saudi government, through the Center for e-Learning initiative, shows strong support for OER. Efforts are being made by the government to advance general education through the SHMS OER Network (Alkhasawneh, 2020; National Center for E-Learning, 2017). The Saudi government and education officials view OER as a powerful platform to enhance education quality (Menzli et al., 2022). The Ministry of Education established SHMS as the official OER network to promote active learning. SHMS contains free resources, course syllabus information, and other educational materials (Tlili et al., 2020). In addition to being a digital library of OER, SHMS is a platform for creating, adapting, and sharing OER. Teachers, students, and others can tag, rate, and review materials, and share what works for them using the OER tools on SHMS. SHMS has had a significant impact on education enhancement and accessibility for teachers in the Arabic community (Alkhasawneh, 2020). The SHMS platform provides a vast array of 378,523 free educational resources, 24,929 opportunities for learning, and 52,788 courses, rendering it an invaluable tool in the educational domain (Tlili et al., 2021). In this particular scenario, most school teachers recognize the importance of the OER SHMS platform for educational materials (Al-Shamrani, 2019). However, the platform is not yet widely utilized by school teachers in Saudi Arabia (Alkhasawneh, 2020; Alyami, 2020). This investigation aims to encourage the use of the OER SHMS platform among school teachers. The study examines how the OER SHMS platform is used as a technology tool to enhance the learning process.

Various models and theories, such as the Technology Acceptance Model (TAM), Diffusion of Innovations (DOI), the Theory of Planned Behavior (TPB), and the Theory of Reasoned Action (TRA), have been developed to forecast technological acceptance from different perspectives, incorporating cognitive instrumental processes and social influence processes to impact perceived usefulness and intention to use technology (Al-Mamary, 2022; Daniali et al., 2022). Among these frameworks, TPB, TAM, and UTAUT are the most widely used models. These three models originated from the TRA, which explains human behavior from social psychological viewpoints (Song et al., 2017). The DOI framework, as discussed by Alshehri (2012), emphasizes the innovation-decision process, adopter characteristics, and opinion leadership in technology adoption. Rogers (2003) examined why individuals adopt specific innovations and how the innovation diffuses across an organization or group of individuals. Five variables determine rates of adoption (perceived attributes, communication channels, type of innovation decision, nature of the social system, and the extent of the change agents' promotion efforts). The perceived attributes are most predictive in 4 determining rates of adoption (Rogers, 2003). According to DOI theory, the perceived attributes of innovation include its relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003). The characteristics and attributes identified by DOI (i.e., relative advantage or performance expectancy) play a significant role in shaping teachers' intention to adopt OER. Based on DOI, the constructs, such as performance expectancy, social influence, and effort expectancy, play crucial roles in determining behavioral intentions to use OER.

Additionally, the TPB and the TRA are pivotal in understanding educators' intentions to adopt OER platforms like SHMS. These frameworks provide a robust basis for predicting behavioral patterns and informing interventions aimed at

enhancing technology adoption in educational settings. TPB effectively predicts educators' intentions to use OER platforms by analyzing attitudes, subjective norms, and perceived behavioral control. TPB highlights the predictive power of the three determinants which are all attitudinal constructs of behavioral intention. It also investigates the influences of various beliefs as prior factors affecting the three determinants (Ajzen, 1985, 2020). TRA complements TPB by emphasizing the role of individual beliefs and social influences in shaping intentions, which is crucial for understanding teachers' use related to technology (Alshehri, 2012). According to Song et al.(2017), several studies about e-learning and mobile learning have adopted TPB as theoretical frameworks with some adjustments and new elements to enhance the theory to explain the intention of adopting educational innovations. These theories collectively provide valuable insights into the complex dynamics of technology acceptance and adoption processes like OER usage.

The TAM, adapted from TRA, postulates that an individual's perceptions of how easy to use and how useful a new technology is determine the person's attitude toward the use of the technology as well as his or her behavioral intention to use it (Davis, 1986). Such attitudes and behavioral intentions of the technology in turn determine the person's actual usage: whether to accept or reject it (Song et al., 2017). While TAM2 extended this by including external variables that influence perceived usefulness and intention to utilize technology (Alasmari, 2017). It extends the original model to explain perceived usefulness and usage intentions by including social influence factors (subjective norm, voluntariness, and image), cognitive instrumental processes (job relevance, output quality, and result demonstrability), and experience (Venkatesh and Davis in 2000). Venkatesh and Bala (2008) refined the TAM2 into the development of TAM3, which again extends the model for more social influences,

environmental influences, user experience, and personal preference. TAM3 includes additional variables such as self-efficacy and subjective norms, which can significantly impact intentions to use technology.

Compared with TPB, attitude which is a major determinant in TPB is treated as a dependent variable in TAM. Perceived usefulness and perceived ease of use factors remain central in predicting technology adoption, as they directly influence behavioral intentions and actual usage (Mei et al., 2018; Teo, et al., 2019). In the present investigation, the constructs of perceived usefulness and perceived ease of use, denoted by performance expectancy and effort expectancy, have been posited to exert an influence on educators' intentions to engage with OER platforms. Dashtestani and Suhrawardi (2023) highlight that teachers showed more positive attitudes towards OER, emphasizing benefits like curriculum flexibility and personalized learning, influenced by factors like performance expectancy and effort expectancy. Thus, the TAM and its extensions, particularly TAM3, provide valuable insights into the determinants of teachers' intentions to use OER platforms. By incorporating social and environmental influences, TAM3 refines the understanding of user behavior in educational contexts.

In understanding the determinants that explain teachers' intention to accept and use the OER SHMS platform in school settings, the Unified Theory of Acceptance and Use of Technology (UTAUT) with four constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) was applied as direct determinants of teachers acceptance and use of OER SHMS platform (Al-Mamary, 2022; Raffaghelli et al., 2022; Smirani & Boulahia, 2022). The UTAUT model has been selected as an established theoretical position to guide the study and validate the theoretical claims inherent in the theory. The rationale behind choosing this particular

model for the study lies in its widespread utilization for addressing user acceptance and usage of information systems, as well as its comprehensive integration of a diverse range of explanatory factors derived from key theoretical frameworks that elucidate technology adoption and utilization (Jung & Lee, 2020; Kurelovic, 2020; Smirani & Boulahia, 2022).

Creswell and Creswell (2018) clarified that a theory is an interrelated set of constructs formed into propositions, or hypotheses, that specifies the relationship among variables typically in terms of magnitude or direction. By utilizing the UTAUT model, researchers were able to analyze the factors influencing user acceptance and adoption of OER technology (Doan & Dao, 2020; Yeboah & Nyagorme, 2022). The model's ability to predict behavioral intentions and actual usage of technology, as demonstrated in various studies (e.g., Kurelovic, 2020), makes it a suitable choice for investigating the acceptance and usability of OER in different contexts e.g., the Saudi Arabian context.

In particular, performance expectancy refers to the extent to which school teachers believe that using OER will help them enhance their teaching performance (Kurelovic, 2020; Venkatesh et al., 2003). Moreover, effort expectancy refers to the degree of ease associated with sharing and use of OER and is a key factor in predicting the intention of teachers to integrate OER in teaching (Tang et al., 2021). However, performance expectancy alone might not account for teachers' acceptance of use of OER without the support of their effort expectancy. In the same vein, social influence refers to the degree to which teachers perceive that the opinion of their peers would influence them to adopt the OER (Jung & Lee, 2020; Tseng et al., 2022). Important others in this study include school management, managers, and others (Al-Shamrani, 2019). However, the three preceding constructs, performance expectancy, effort

expectancy, and social influence could not deliver OER acceptance and use without an enabling environment such as facilitating conditions.

The facilitating conditions refer to the degree to which teachers are satisfied with the technical support, and infrastructure that enables the smooth adoption and utilization of the OER platform (Venkatesh et al., 2003). The research study seeks to establish the possible influence of facilitating conditions on the utilization of OER OER platform. Therefore, understanding facilitating conditions can lead to improved acceptance and usage of OER technology among teachers, ultimately requires further investigation (Doan & Dao, 2020; Ibrahim et al., 2021; Mollel & Mwantimwa, 2019; Smirani & Boulahia, 2022). In addition, the UTAUT model introduced such moderating factors as gender, age, experience, and voluntariness of use from the perspective of social psychology. These moderating factors help in addressing behavioral differences emanating from diverse groups of teachers.

Personal characteristics such as teacher's self-efficacy and teacher's anxiety were integrated into the UTAUT model assessing either the determinants of use or the intention to use technology (Antonietti et al., 2022; Mollel & Mwantimwa, 2019). Previous researchers also argued that teachers' anxiety had been found to play a critical role in intentions to use the technology of OER (Tang et al., 2021; Villanueva & Dolom, 2018). Various studies support this notion, highlighting the importance of delving deeper into teachers' anxiety as a significant adverse emotional response to utilizing educational technology in the classroom (Fernández-Batanero et al., 2021). Thus, the study aimed to determine the influence of these personal factors that impact the teachers' intention to use OER towards acceptance.

While much research in the OER field dwells on UTAUT constructs, little attention has been given to teachers' intention to use the OER platform. Relatively few looked at the influence of intention on OER use (Tang et al., 2020; Padhi, 2018), although there existed some works found that the actual use of OER is significantly influenced by the teachers' intention to use OER and has a greater effect compared to facilitating conditions (Kurelovic, 2020). According to Antonietti et al. (2022), it is imperative to address this research gap in teachers' intention and their acceptance of technology in education. Additionally, another study in the USA by Tang et al. (2020) highlighted that teachers' intention to use technology predicts their actual OER use. Moreover, behavioral intention acts as a crucial mediating factor in connecting the determinants of the UTAUT to the utilization of OER (Mollel & Mwantimwa, 2019). Thus, understanding the mediating role of behavioral intention enhances the comprehension of how social influence, expectancy performance, effort expectancy, self-efficiency, anxiety, and use of OER (Al-Mamary, 2022; Nikolopoulou et al., 2021; Zhang et al., 2021).

Gender plays a significant role in influencing the relationships between various factors in technology acceptance models like UTAUT. Research by Wong et al. (2019) highlighted that gender moderated the links between effort expectancy, social influence, and behavioral intention in embracing mobile Internet among teachers and students. Additionally, Jung's (2022) work emphasized that the impact of gender on technology acceptance can vary based on the specific type of technology and the context in which OER is utilized. These studies collectively underscore the importance of considering gender differences when examining the acceptance and adoption of technology in educational settings, indicating that gender can play a nuanced role in shaping individuals' intentions toward technology use (Ambarwati et al., 2020; Daniali

et al., 2022). Al Shamrani's (2019) and Al-Mamary's (2022) findings have demonstrated the necessity of addressing gender differences in the behavioral intention to utilize OER within Saudi Arabia. This study aims to fill the knowledge gap about Saudi Arabian teachers' intention to use OER.

1.3 Problem Statement

The OER SHMS platform in Saudi Arabia offers safe and reliable educational resources and partners with foreign universities and organizations to create high-quality Arabic educational materials (Tlili et al., 2021). However, many school teachers in Saudi Arabia do not use the OER SHMS platform. Only 0.009% or 5618 of all school teachers in Saudi Arabia, which total of 597,000, are registered on the SHMS platform (Alkhasawneh, 2020; Al-Shamrani, 2019; Alyami, 2020). The studies reported various significant issues, including time constraints, lack of awareness about the platform's benefits, and inadequate skills, which hinder Saudi teachers from using the OER SHMS platform. Shemy and Al-Habsi (2021) reveal that many teachers still resist incorporating this platform into their pedagogical practices due to concerns about their conventional approach to teaching. Other studies found that 30% of Saudi registered teachers do not download any content, and about 60% are passive users who do not share OER resources (Alkhasawneh, 2020; SHMS, 2019). Some teachers in a study by Al-Shamrani (2019) noted that, despite the vast array of resources offered by the OER SHMS platform, they were reluctant to use it because there weren't enough resources available for their areas of expertise. This led to stagnation and nothingness. They further mentioned that using the platform is only a secondary concern because the materials it offers are more valuable than those found on standard search engines like Google.

Most previous literature that focused on the faculty members found that their regular usage of the OER SHMS platform focused on research rather than teaching activities (Menzli et al., 2022). This situation is worrying, for it will restrict the use of the OER SHMS platform for teaching among Saudi teachers as targeted by the Ministry of Education. In particular, the factors influencing their acceptance of the OER SHMS platform have not been studied adequately (Alkhasawneh, 2020; Shemy & Al-Habsi, 2021). In light of this, this study seeks to ascertain the acceptance of the OER SHMS platform among Saudi teachers and identify the personal and organizational factors influencing such acceptance. In more detail, it examines the factors influencing teachers' intention to use the OER SHMS platform.

Previous studies have highlighted the significant impact of the UTAUT elements, including performance expectancy, effort expectancy, social influence, and facilitating conditions, on teachers' acceptance of OER (Kurelovic, 2020; Padhi, 2018). Specifically, research in Saudi Arabia has shown that these factors notably influence university teachers' intentions to use the OER SHMS platform (Al-Shamrani, 2019). However, the influence of these primary UTAUT constructs on OER acceptance among school teachers remains unclear, indicating a need for further investigation to comprehend the critical factors influencing teachers' intentions to utilize OER effectively (Kurelovic, 2020). Additional research is essential to bridge this knowledge gap and enhance the understanding of teachers' acceptance and utilization of OER in educational settings.

Teachers' anxiety and self-efficacy represent two pivotal components that must be considered in research concerning the integration of technology (Fernández-Batanero et al., 2021; Villanueva & Dolom, 2018). In UTAUT, self-efficacy and anxiety are included as an indirect determinant of intention (Venkatesh et al., 2003).

Nandwani and Khan (2016), based on the UTAUT model revealed computer anxiety and self-efficacy have a significant impact on teachers' intention to use technology. Notably, despite numerous claims linking self-efficacy and anxiety to technological acceptance, limited investigations have explored how these aspects impact teachers' intention to use OER (Jung & Lee, 2020; Tang et al., 2020). Fernández-Batanero et al. (2021) propose that anxiety plays a significant role in utilizing technology resources in educational settings, necessitating further exploration. Thus, this research addresses this gap by evaluating the influence of teacher self-efficacy and anxiety on their intention to utilize the OER SHMS platform in Saudi Arabia. Ultimately, the primary objective of this study is to elucidate how UTAUT variables, in addition to anxiety and self-efficacy, contribute to explaining Saudi teachers' intentions to adopt OER, such as SHMS.

Consequently, previous studies overlooked the antecedents of school teachers' intention to use OER (Padhi, 2018; Smirani & Boulahia, 2022; Tseng et al., 2021) while this study prioritizes school teachers' intention to be central to OER implementation. This study sought to address this gap through UTAUT to unveil the influence of performance and effort expectancy on the adoption and usage of OER. Such literature also reported that social influence and facilitating conditions had a strong effect on teachers' intention to use OER (Al-Shamrani, 2019; Jung & Lee, 2020), while in other studies, it was precisely the opposite (e.g., Padhi, 2018; Smirani, & Boulahia, 2022). Tseng et al. (2022) found that effort expectancy failed to drive teachers' intention to adopt OER. This provides a roadmap for future researchers to explore the understanding of social influence and facilitating conditions for the implementation of OER in education.

This study aims to understand the UTAUT variables that drive or hinder the adoption of OER among this demographic, including the exploration of the behavioral intention to accept OER as a potential mediating variable in various acceptance pathways. By elucidating the pathways through which different UTAUT constructs exert their influence on OER usage behavior, the study contributes to a deeper understanding of the mechanisms driving OER adoption (Mollel & Mwantimwa, 2019; Zhang & Sukpasjaroe, 2024). The examination of path results from the structural equation modeling and the mediation analysis offers insightful revelations into the dynamics governing teachers' adoption and use of OER (Cai et al., 2023; Granić & Marangunić, 2019; Zhang & Sukpasjaroe, 2024). To better understand the teacher's reasons for using OER, Tang et al. (2020) advised exploring how the teacher's intention influenced their use of OER.

The moderating effect of gender on technology adoption and use remains inconclusive due to inconsistencies in earlier research (Daniali et al., 2022; Nikolopoulou et al., 2021; Wong et al., 2019). Additionally, Al-Shamrani (2019) reported that a difference between males and females determines the faculty's intention to use the SHMS OER platform in Saudi Arabia. These findings underscore the importance of considering gender differences in technology adoption studies and highlight the need for further research to better understand the role of gender as a moderator in the adoption and use of technology. Therefore, this study investigates how gender affects the relationships between UTAUT factors and teachers' use of the OER SHMS platforms.

1.4 Research Objectives

This scholarly investigation endeavors to offer a paradigm for the acceptance of the OER SHMS platform in support of Saudi education, providing a wide range of options such as learning with the sharing of information, enhancing educational equity, and expanding open education participation. In particular, the model is predicted to illustrate the relationships between the UTAUT factors (i.e., effort expectancy, self-efficacy, performance expectancy, anxiety, social influence, and facilitating condition) and teachers' intention to use the OER SHMS Platform, which in turn result in the successful their use of OER SHMS platform for learning and teaching. Particularly, the model explains the function of behavior intention as a mediator in the relationship between the factors and the use of the OER SHMS platform among Saudi teachers as well as the moderating role of gender in this relationship. As a result, the following four research goals are listed:

1. To examine the influence of performance expectancy, effort expectancy, social influence, anxiety, and self-efficacy on teachers' intention to use the OER SHMS platform.
2. To examine the influence of the facilitating conditions and teachers' intention to use the OER SHMS.
3. To examine the mediating effect of teachers' intention to use the OER SHMS Platform in the relationship between performance expectancy, effort expectancy, social influence, anxiety, and self-efficacy and their use of the OER SHMS platform.
4. To examine the moderating effect of gender on the relationship between performance expectancy, effort expectancy, effort, social

influence, anxiety, self-efficacy, and teachers' intention to use the OER SHMS Platform.

5. To explore the Saudi teachers' perceptions of using the OER SHMS platform.

1.5 Research Questions

The following questions, which are derived from the prior problem description, are what this study seeks to address:

1. Do performance expectancy, effort expectancy, social influence, anxiety, and self-efficacy influence teachers' intention to use the OER SHMS Platform?
2. Do facilitating conditions and teachers' intention to use the OER SHMS Platform influence their use of the OER SHMS platform?
3. Does teachers' intention to use the OER SHMS Platform mediate the relationship between performance expectancy, effort expectancy, social influence, anxiety, and self-efficacy on their use of the OER SHMS platform?
4. Does gender moderate the relationship between performance expectancy, effort expectancy, social influence, anxiety, self-efficacy, and teachers' intention to use the OER SHMS Platform?
5. What are Saudi teachers' perceptions of acceptance OER SHMS platform?

1.6 Research Hypotheses

The following section discusses the research hypotheses which are developed based on the literature review.

- H1: Performance expectancy positively influences teachers' intentions to use the OER SHMS platform.
- H2: Effort expectancy positively influences teachers' intentions to use the OER SHMS platform.
- H4: Teachers' anxiety negatively influences their intentions to use the OER SHMS platform.
- H5: Teacher self-efficacy positively influences their intentions to use the OER SHMS platform.
- H7: Facilitating conditions positively influence teachers' use of the OER SHMS platform.
- H6: Behavioural intention positively influences teachers' use of the OER SHMS platform.
- H8: Teachers' intention to use the OER SHMS Platform mediates the relationship between performance expectancy and their use of the OER SHMS platform.
- H9: Teachers' intention to use the OER SHMS Platform mediates the relationship between effort expectancy and their use of the OER SHMS platform.
- H10: Teachers' intention to use the OER SHMS Platform mediates the relationship between social influence and teachers' use of the OER SHMS platform.
- H11: Teachers' intention to use the OER SHMS Platform mediates the relationship between anxiety and their use of the OER SHMS platform.
- H12: Teachers' intention to use the OER SHMS Platform mediates the relationship between self-efficacy and their use of the OER SHMS platform.

- H13: Gender moderates the effect of performance expectancy on teachers' intentions to use the OER SHMS platform.
- H14: Gender moderates the effect of effort expectance on the teachers' intentions to use the OER SHMS platform.
- H15: Gender moderates the effect of social influence on the teachers' intentions to use the OER SHMS platform.
- H16: Gender moderates the effect of teachers' anxiety on their intentions to use the OER SHMS platform.
- H17: Gender moderates the effect of teachers' self-efficacy on their intentions to use the OER SHMS platform.

1.7 Significance of Study

Previous research ignored what influences school teachers' use of OER, but this study focuses on teachers' intention and use in OER implementation. The study aims to fill this gap by applying a UTAUT model to propose a model for teachers' use of OER on the SHMS platform in Saudi Arabia and expands it by considering anxiety and self-efficacy constructs. By incorporating these additional factors, the model enhances understanding of teachers' behavioral intention to adopt and use the OER Platform, providing theoretical relevance and practical implications for advancing the field of knowledge in educational technology adoption and OER utilization.

The current study identifies performance expectancy, effort expectancy, teacher self-efficacy, teacher anxiety, social influence, facilitating conditions, and intention as the factors impacting the use of the OER SHMS platform. In this regard, it will offer a broader perspective beyond previous studies and a way to predict additional determinants of intention, such as anxiety and self-efficacy related to the

intention to use OER. This is significant as the proposed model extends UTAUT by adding two constructs; anxiety and self-efficacy in a non-Western nation like Saudi Arabia with less experience with OER. Besides, since the two factors are reportedly highly influential in determining teachers' intention to use the technology, this study is significant as it allows for a better explanation of the intention to use the OER SHMS platform among school teachers.

The study's findings carry substantial importance for researchers in the field of education, offering them empirical evidence to advance their studies on the mediating role of intention on performance expectancy, self-efficacy, effort expectancy, social influence, anxiety, and use of the OER SHMS platform. In this way, the integration of anxiety and self-efficacy highlights the mediating role of intention on the relationship between the use of the OER SHMS platform and its influencing factors serves as a cornerstone for expanding knowledge in the field. Consequently, it may contribute more knowledge to the existing studies in the general area of OER platform adoption and use and offer some new and further investigation in the realm of OER.

Moreover, recognizing the gender differences in teachers' perceptions and use of the OER SHMS platform will inform stakeholders of the need to prepare different strategies for males and females in enhancing their OER SHMS platform. The findings provide more effective responses to earlier studies, demonstrating a stronger relationship between performance expectations, effort expectations, and the intention of teachers to use OER for male teachers than females. It is crucial to recognize gender disparities in the intention to use the OER SHMS platform to tailor strategies effectively for male and female teachers in enhancing their use of such platforms. For male teachers to acquire the required knowledge and experience satisfaction in using the OER SHMS platform, it becomes imperative for the OER organizers to extend

their outreach to these teachers and furnish them with all-encompassing and easily understandable information about the platform. Understanding these differences can lead to the development of targeted training programs and support mechanisms to ensure equitable utilization and maximize the benefits of the OER SHMS platform for both male and female educators.

In terms of its practical contribution, since this study aims to investigate Saudi school teachers' use OER SHMS platform, it may shed some light on their platform usage and provide insights into the factors influencing their adoption of the OER SHMS platform. The findings of the study would be significant to school teachers by providing an overview of the current perceptions of school teachers regarding the use OER SHMS platform for school management and administrators of the OER SHMS platform to plan for future development on the OER SHMS platform. Similarly, the findings will provide information that could inspire administrators of the OER SHMS platform to enhance functionality and design, fostering collaborative work among teachers for the open publication of educational materials. It will additionally promote the collaboration of school teachers with their colleagues, encompassing peer assessment, to openly disseminate educational resources that are commonly generated during the instructional process, such as syllabi, informational brochures, handouts, and evaluation instruments.

With the OER policy established, the results of this research will offer valuable insights to education stakeholders regarding the current status of OER SHMS platform policy implementation, guide policy adjustments, and recommend increased investment and advocacy for its adoption. Additionally, the study's findings may assist the government in assessing the existing resources essential for OER implementation, such as hardware, software, internet, and consumables, as well as the necessity for

specialized software development to facilitate OER integration in teaching and research activities within Saudi Arabian schools. This aspect is particularly crucial for ensuring the quality assurance of the OER SHMS platform, thereby improving educators' comprehension of the advantages associated with OER.

Also, the study would be significant to school management in particular and the school system in general. For school management, the study will unveil the intention of teachers to use the OER SHMS platform. This will help school management to understand teachers' predispositions regarding the OER SHMS platform and consider policy readjustment that favors their predispositions for effective utilization of the OER SHMS platform. Furthermore, the study will also help to create awareness among schools about the importance of the OER SHMS platform and its potential to improve the quality and accessibility of education. Additionally, for the school system, the outcome of this study will validate the level of teachers' acceptance and utilization of the OER SHMS platform which is a precursor of quality measures in educational delivery. This is particularly significant in expanding the school's reputation and advancing its public service role.

1.8 Scope of Study

The scope of the study is limited to Saudi school teachers who were registered and used the OER SHMS platform from different specialties and genders. Teachers were selected for this study because of their familiarity with OER and frequent use, as well as their keen interest in further exploring the potential of this particular category. Additionally, although the current research aims to evaluate the factors that affect teachers' intention to use the OER SHMS platform, it would be impossible to include all the potential elements in the literature into a single model. As a result, this study

examined the variables extracted from the well-known UTAUT model (i.e., performance expectancy, social influence, effort expectancy, and facilitating conditions), plus two additional variables that have been suggested based on the literature (i.e., anxiety and self-efficacy) with the mediating of behavioral intention and moderating of gender. The study's findings also apply to teachers who registered on the OER SHMS platform and used its features for learning and teaching. Since not all teachers were represented in the study's sample, the findings can only be generalized to the Saudi school teacher population with comparable traits.

Furthermore, this study adapted mixed methods to investigate the factors impacting Saudi teachers' use of the OER SHMS platform. Structural Equation Modeling based on partial least squares (PLS-SEM) was used to analyze the quantitative collected data, confirm the validity of each construct, and test the proposed model.

1.9 The Definition of Terms

The following definitions of terminology used in this study are given following the relevant contexts;

1.9.1 Open Educational Recourses (OER)

OER are teaching, learning, and research materials in any medium released under an open license to be used, shared, and redistributed to others with no or limited restriction (De Hart et al., 2015).

1.9.2 The Saudi OER Network (SHMS)

SHMS is a national program that aims to improve educational materials to assist education. This platform aims to establish a long-term relationship in creating, maintaining, and upgrading high-quality digital educational materials. It will also help to increase the educational options available to Arabic-speaking people. (<https://shms.sa/learn-more/>). In the present study, SHMS is an OER portal or platform that provides Arabic resource sharing among teachers in Saudi Arabia.

1.9.3 Teachers' Use of OER

In the current study, the term "actual usage of the OER SHMS platform" pertains to the utilization of use of the OER SHMS platform by school teachers for teaching-related purposes (Venkatesh et al., 2003).

1.9.4 Performance Expectancy

Performance expectancy refers to the degree to which the school teachers feel that using the OER SHMS platform would be beneficial and increase productivity and effectiveness of teaching performance (Venkatesh et al., 2003).

1.9.5 Effort Expectancy

In this study, effort expectancy was used to describe how flexible and simple the school teachers thought using the OER SHMS platform would be ((Venkatesh et al., 2003).