

A SOCIAL MEDIA ADOPTION MODEL FOR HIGHER EDUCATIONAL INSTITUTIONS IN OMAN USING EXTENDED TECHNOLOGY ACCEPTANCE MODEL

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A SOCIAL MEDIA ADOPTION MODEL FOR HIGHER EDUCATIONAL
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ACCEPTANCE MODEL

NOOR JASIM MUHI AL-QAYSI

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DEDICATION

This doctoral research effort would not have been completed without the only Grace of Al-Mighty Allah (SWT). It is dedicated to the memory of my beloved parents and youngest sister (May your souls rest in heaven). My father Jasim Muhi AL-Qaysi, inoculated me in discipline, perseverance, and strength that forever will be part of my life. My precious mother and beautiful sister, who always believed in me and to whom I am greatly indebted. This research is also dedicated to my younger sister and aunt. Without your support and constant encouragement, this would not have been possible. I am particularly indebted to my handsome husband to make my learning experience less stressful and even more fascinating. Mostafa, you are my source of inspiration. I thank you for giving me your moral support and unconditional love; you were my motivation and constant inspiration during all the process of my PhD and in my most difficult times. I do owe you so much. I appreciate you, even though the value of my appreciation cannot compare with everything you have done for me. Thank you for your sage advice, invaluable guidance, and continuous support and encouragement at every stage of this dissertation. I am sincerely thankful to my gorgeous daughters for making my life happy and complete. Finally, I made it.

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ABSTRACT

Social media is fast becoming a medium for encouraging interaction and collaborative learning among learners and instructors. Examining the factors affecting social media adoption in higher education is still in short supply. These factors fluctuate from one study to the other due to variations in characteristics, including settings, participants, and infrastructure. Thus, it can be argued that there is a need for a comprehensive model that could measure the students' adoption of social media under any situation regardless of the characteristics above. Accordingly, this study develops a social media-based educational framework using the social constructivism theory (SCT). To evaluate the adoption of the developed framework, this study is believed to be the first that develops a comprehensive theoretical model by extending the TAM with the most frequent external factors that achieved significant results in the previous literature. The PLS-SEM is employed to validate the developed theoretical model based on data collected through questionnaire surveys from 734 students in Oman. Out of 16 formulated hypotheses, 13 were supported. The main findings showed that perceived enjoyment (PE), perceived critical mass (PCM), perceived compatibility (PC), and information quality (IQ) significantly impact perceived usefulness (PU). The results also indicated that PE, self-efficacy (SE), facilitating conditions (FC), and IQ significantly affect perceived ease of use (PEOU). However, PU was not affected by subjective norm (SN) and SE. Similarly, PEOU was not influenced by PC. More interesting, the developed model explains a remarkable variance (76.2%) in the behavioral intention to use social media. Practitioners and instructors need to consider the significant predictors in formulating their social media-based courses to maintain the adoption of these platforms for educational purposes. Further, social media-based courses need to be designed in a way that is user-friendly and useful.



MODEL PENERIMAAN MEDIA SOSIAL UNTUK INSTITUSI PENGAJIAN TINGGI DI OMAN MENGGUNAKAN MODEL PENERIMAAN TEKNOLOGI LANJUTAN

ABSTRAK

Media sosial pesat berkembang menjadi medium untuk menggalakkan interaksi dan pembelajaran kolaboratif dalam kalangan pelajar dan tenaga pengajar. Penilitan ke atas faktor yang mempengaruhi penggunaan media sosial di peringkat pengajian tinggi adalah masih tidak mencukupi. Faktor-faktor ini berubah dari satu kajian ke kajian yang lain disebabkan oleh perbezaan ciri seperti persekitaran, peserta dan prasarana. Oleh itu, keperluan model yang menyeluruh yang boleh mengukur penerimaan pelajar terhadap media sosial di dalam apa jua keadaan tanpa mengambil kira ciri-ciri di atas adalah boleh dibahaskan. Sehubungan dengan itu, kajian ini membangunkan sebuah rangka kerja pendidikan berasaskan media sosial menggunakan teori konstruktivisme sosial (SCT). Bagi menilai penerimaan rangka kerja yang telah dibangunkan, kajian ini dipercayai sebagai kajian yang pertama yang membangunkan model teori yang menyeluruh dengan memperluas Model Penerimaan Teknologi (TAM) dengan faktor luaran yang paling kerap berlaku yang mencapai keputusan yang ketara di dalam kajian yang lepas. PLS-SEM digunakan untuk mengesahkan model teori yang telah dibangunkan berdasarkan data yang telah dikumpul melalui tinjauan soal selidik daripada 734 pelajar di Oman. Daripada 16 hipotesis yang dirumus, 13 daripadanya telah disokong. Hasil utama kajian menunjukkan tanggapan keseronokan (PE), tanggapan massa kritikal (PCM), tanggapan keserasian (PC), dan kualiti maklumat (IQ) memberi kesan yang ketara terhadap tanggapan kebergunaan (PU). Keputusan kajian juga menunjukkan bahawa tanggapan keseronokan (PE), keberkesanan sendiri (SE), keadaan pemudahcara (FC), dan IQ banyak mempengaruhi tanggapan kemudahan penggunaan (PEOU). Walau bagaimanapun, PU tidak terjejas oleh kebiasaan subjektif (SN) dan keberkesanan sendiri (SE). Lebih menarik, model penyelidikan yang dibangunkan menjelaskan varians yang luar biasa (76.2%) dalam niat tingkah laku untuk menggunakan media sosial. Pengamal pendidikan dan tenaga pengajar perlu mempertimbangkan kemungkinan penting dalam membuat kursus-kursus mereka yang berasaskan media sosial untuk mengekalkan penerimaan platform ini bagi tujuan pendidikan. Seterusnya, kursus-kursus berasaskan media sosial perlulah direka agar mesra pengguna dan berfaedah.



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**LIST OF ABBREVIATIONS**

AT	Attitude
AVE	Average Variance Extracted
B	Path coefficient
BI	Behavioral Intention to Use
CB-SEM	Covariance based-Structural Equation Modeling
CLT	Cognitive Load Theory
CMB	Common Method Bias
COI	Community of Inquiry
CPM	Communication Privacy Management
CR	Composite Reliability
D	Device Aspect
DS	Social Technology Intersection
DTL	Device Usability Intersection
DTLS	WhatsApp Closed Group
DTPB	Decomposed Theory of Planned Behavior
ECM	Expectation-Confirmation Model
EFA	Exploratory Factor Analysis
ELAM	E-learning Acceptance Model
FC	Facilitating Conditions
HTMT	Heterotrait-Monotrait ratio
IDT	Innovative Diffusion Theory
IHPT	Instructional Humor Processing Theory
IQ	Information Quality
IS	Information system



L	Learner Aspect
LMS	Learning Management System
MKO	More Knowledgeable Other
PBC	Perceived behavioral control
PC	Perceived Compatibility
PCM	Perceived Critical Mass
PE	Perceived Enjoyment
PEOU	Perceived Ease of Use
PLS	Partial Least Squares
PLS-SEM	Partial Least Squares-Structural Equation Modeling
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analysis
PU	Perceived usefulness
Q ²	Predictive relevance
R ²	Coefficient of determination
S	Social Aspect
SCT	Social Constructivism Theory
SDT	Self Determination Theory
SE	Self-efficacy
SEM	Structural Equation Modelling
SI	Social Influence Model
SIDE	Social Identity Model of Deindividuation
SN	Subjective Norm
SPSS	Statistical Package for Social Sciences
T	Teacher Aspect
TAM	Technology Acceptance Model

TLS	Interaction Learning Intersection
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
U&G	Uses & Gratifications theory
UTAUT	Unified Theory of Acceptance and Use of Technology
VIF	Variance Inflation Factor
ZPD	Zone of Proximal Development



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CHAPTER 1

INTRODUCTION

The growth of Internet capabilities and applications has led to interactive technological improvements (Lacka et al., 2021). This growth was first well-known as Web 2.0 in 1999 (O'Reilly, 2005). Web 2.0 refers to the technological innovations that enable users to create content dynamically, discuss it with other users, build self-content for most of their users, and interact with others (O'Reilly, 2005; Tuten & Marks, 2012). The phenomenon, Web 2.0, was characterized by social media (Hemmi et al., 2009; Kaplan & Haenlein, 2010). Social media refers to any application based on the Web 2.0 technologies for the purpose of exchanging user-generated content (Kaplan & Haenlein, 2010). Social networking sites are defined as social aggregation that emerges from the Internet when sufficient participants continue public discussions forming connections of personal relationships to share opinions, knowledge, or feelings in cyberspace (Hu



et al., 2017). The terms social media applications and platforms are interrelated; it is important to clearly illustrate the difference between both of them. Social media platforms are considered as any operating system used for executing applications or programs with diverse processes and contents. In contrast, social media applications are considered as any tool or software used for performing a specific task. The present study highlights the social media applications use for the purpose of learning.

The popularity of social media has resulted in an increasing number of studies that analyze its role within the higher educational contexts. Among these studies, one was dedicated to investigating social media acceptance within higher educational institutions (Lacka et al., 2021). Another study focused on using social media for learning purposes and its impact on educational outcomes (Kolhar et al., 2021). Some other studies concentrated on exploring the determinants that affect the students' intention to use social media in higher educational institutions (Vimala Balakrishnan, 2017b), and social networks effects on academic performance level (Lacka et al., 2021; Samad et al., 2019).

Providing educational services through social media applications has fast become prevalent. Even though there are several cautions regarding the usage of social media tools, it is claimed that these tools could help students develop their writing and cognitive skills and motivate their vocational commitment (Jackson et al., 2018). Social media has changed the landscape of learning by providing free online materials and enabling learners to interact with their classmates and instructors to effectively acquire and share their knowledge (Al-Mukhaini et al., 2014). Conforming to the social environments of learning, it is claimed that social media has a significant role in





delivering high-quality education and fostering critical-thinking for learners (Mason, 2006).

Different educational theories have contributed to offer different learning styles and strategies. One of such theories is the social constructivism theory that encourages interaction and collaboration among learners and educators to promote the active learning process (Duffy & Cunningham, 1996). Social learning has emerged with the social media platforms in the contemporary digital age, where learning is a social activity and learners are significantly collecting information through multiple resources of media platforms. The educational theory of constructivism posits that the active learning process involves the mental construction of knowledge (Chen & Bryer, 2012).



that precedes technology implementation (Alqudah et al., 2021). Investing in a new technology consumes a large amount of time, money, and effort (Birch & Burnett, 2009). Educators' and learners' resistance towards any new technology costs the institution more time, effort, and money, resulting in a loss of that technology benefits (Birch & Burnett, 2009). Previous research provided evidence of the importance of adopting social media by students in higher educational settings (Hamadi, El-Den, Narumon Sriratanaviriyakul, et al., 2021), and how such an issue could affect their intention behavior in the educational process. On the other side, higher education institutions still need to realize the factors that affect the students' adoption of social media. It's argued across many studies that technology adoption are varied from one context to another, suggesting that the factors affecting their adoption are also varied due to the differences in culture and technological advancements (Al-Sharafi et al.,



2022; Al Shamsi et al., 2022). Therefore, studying the determinants that affect social media adoption is still an under-researched field of study that needs to be examined from various perspectives (Garcia et al., 2019).

It is difficult to compare the prior research outcomes and draw conclusions of the determinants that affect social media adoption in higher education. These difficulties might stem from the fact that the context, participants, and culture are varied from one study to the other. In Oman, Al-Mukhaini et al. (2014) studied the usage of social media in higher educational institutes and examined its effect on learning activities. In addition, Mehmood and Taswir (2013) examined the influence of social media on undergraduate students' academic performance and social behavior. Further, Abdelraheem and Al-Rabane (2005) discussed the benefits of using instructional media in Omani higher educational institutes. In recent years, social media applications constitute an integral part of Omani students and keep them connected with their peers and instructors. What is not yet clear is the determinants that affect social media adoption in Omani higher educational institutes. The understanding of these determinants would provide constructive insights into the weaknesses and strengths, guide instructors in employing these applications in educational activities, and enable scholars to conduct further research on the topic. In the light of this, this research aims to study the determinants that affect social media adoption in Omani higher educational institutes.

1.2 Research Motivation

Social media tools have overwhelmed our lives socially and professionally (Chen & Peng, 2022). Such tools have attracted researchers' attention to examine their adoption (Hamadi, El-Den, Narumon Sriratanaviriyakul, et al., 2021). Understanding social media adoption requires analyzing the factors that affect its use (Teo, 2009). To understand these factors, various models and theories were developed to clarify the adoption of new technology by individuals (AlShamsi et al., 2022). Such theories and models include "Technology Acceptance Model (TAM)" (Davis, 1989), Innovative Diffusion Theory (IDT)" (Rogers, 1983), "Unified Theory of Acceptance and Use of Technology (UTAUT)" (Venkatesh et al., 2003), "Theory of Reasoned Action (TRA)" (Fishbein & Ajzen, 1975), "Theory of Planned Behavior (TPB)" (Ajzen, 1991), "Self-Determination Theory (SDT)" (Ryan & Deci, 2000), "Cognitive Load Theory (CLT)" (Sweller, 1988), and Social Cognitive Theory (SCT)" (Bandura, 1977). Among these theories and models, TAM has been one of the most influential models used to predict the factors that have an impact on technology adoption, and has been widely employed across different contexts (Al-Emran & Granić, 2021).

Various meta-analysis studies have proved the strength and validity of the TAM (King & He, 2006), and its parsimonious characteristic (Lee et al., 2003). Chintalapati and Daruri (2017) argued that any theory should fulfill the following features: parsimony, verifiability, and generalizability to become a popular method for understanding a difficult situation. First, parsimony is defined as simplicity and is utilized as a guideline to successfully develop a new technology (Venkatesh & Davis, 1996). Second, verifiability is defined as support by data. Third, generalizability refers



to the capability to predict the usage and adoption of new technologies in multi contexts. TAM has become widely popular among the existing models and theories as it fulfills these three features (Lee, Kozar, & Larsen, 2003). Besides, King and He (2006) indicated that TAM had been commonly utilized to measure a new technology adoption due to its simplicity, adaptability, and soundness. Moreover, it is claimed that TAM has been widely used in many application areas, which in turn, enhances its validity and explanatory power (Wang, 2021).

A large number of studies have modified the original TAM for improving its applicability and validity to numerous technologies (Arpaci et al., 2020; Park et al., 2012; Teo et al., 2008). It has been utilized in the contexts of E-government learning (Shyu & Huang, 2011), E-learning (Saleh et al., 2022), mobile learning (Almaiah et al., 2022), cloud computing (Katheeth et al., 2022), mobile banking (Wandira & Fauzi, 2022), mobile commerce (Kargeti et al., 2022), tablet PCs (Roshan et al., 2022), and social media (Mukminin et al., 2022). It is argued that technology adoption could be indirectly affected by numerous external variables through the two main constructs of the TAM, namely “perceived usefulness” and “perceived ease of use” (Davis et al., 1989; Legris et al., 2003; Szajna, 1996; Venkatesh & Davis, 1996).

Concerning social media, previous research provided evidence of the importance of social media adoption by students in higher educational settings (Akram & Albalawi, 2016; Alshurideh et al., 2019; Dhume et al., 2012; Hartzel et al., 2016; Srinivasan & Damsgaard, 2013). However, several concerns are associated with using social media in learning activities. For instance, students can misuse social media tools by accessing non-relevant academic platforms, specifically during lectures





(Ngonidzashe, 2013). Besides, these tools can be a means of destruction, wasting students' time and attention in classrooms. Security and privacy issues are among the main concerns that hinder the use of social media among students and instructors. Cheating is a prevalent issue in social media if these tools are used for examinations, prompting decision-makers to prohibit their use. Students still do not trust the content posted on social media unless it is provided through university-trusted channels. Owing to these challenges, students' adoption of social media in higher educational settings is still in its early stages (Alshurideh et al., 2019).

Therefore, additional research is required to uncover the issues about adopting these platforms and identify further significant points for its improvement. Higher educational institutions still need to understand the factors that affect the adoption of social media to identify the weaknesses and strengths in technology adoption. Understanding what motivates students to use these platforms will help in formulating policies and procedures that ensure its use in the long run. To that end, extending the TAM with other factors is still an open research area to improve social media adoption further.

1.3 Problem Statement

In recent years, the overall social media adoption by its users has a large international footprint and is extensively used across the globe (Hartzel et al., 2016). The Sultanate of Oman developed the area of information and communication technology, which consequently resulted in expanding Internet penetration (Mehmood & Taswir, 2013b).





According to a study conducted by Taswir (2012), an increasing number of social media platforms are widely utilized in Oman to meet its informational, educational, and entertainment needs. Some research studies have addressed the impact of social media websites in higher education settings in Oman. For instance, Mehmood and Taswir (2013) examined the effect of social networking sites on undergraduate students. Other studies have investigated the extent to which social networking sites influenced the instructors' forms of informal scholarly interactions in the disciplines of humanities and social sciences (Al-Aufi & Fulton, 2015; Al-Aufi & Fulton, 2014). Al-Kharousi et al. (2016) provided a partial picture of the factors that affect Web 2.0 applications use within academic libraries in Oman by using the Uses and Gratifications Theory. Moreover, Sharma et al. (2016) explored the factors affecting students' intention to adopt Facebook in the context of higher education. However, examining the factors that impact social media adoption in the Omani higher education is still not fully explored (Garcia et al., 2019). In that, understanding these factors helps evaluating the effectiveness of the social media as a collaborative learning tool among students, which in turn, assists in formulating policies and procedures that ensure its use in the long run.

According to our first systematic literature review, the social constructivism theory, which is a social learning theory, is found to be the most frequent educational theory that has been used in the context of social media. The social constructivism theory is an active learning theory which approves development and cooperation among learners (Woo & Reeves, 2007). This theory stresses the significance of communication and collaboration between learners and instructors for the purpose of achieving active collaborative learning (Carlile et al., 2004; Vygotsky, 1978). In general, learners prefer social interaction, collaborative experiences, and student-centered learning approaches





like social constructivism theory to encourage and facilitate learning. The first systematic review results also showed that TAM is considered the most frequently IS model used to evaluate the social media adoption. Besides, TAM has been commonly utilized to measure adopting new technology due to its simplicity, adaptability, and soundness (King & He, 2006).

In line with the first systematic review results, we conducted another systematic literature review to analyze the social media adoption studies in the higher educational institutions that involve the TAM as the primary theoretical model. Since understanding the factors affecting social media adoption is still in short supply, we attempt to analyze the factors that critically affect social media adoption. It has been noticed that prior research studies have neglected the importance of collaborative learning among the students using social media in Oman. This argument is supported by the results of the second systematic review conducted in this study. At the same time, understanding the factors that impact social media adoption in higher educational institutions is still in short supply (Alshurideh et al., 2019; Sapkota & Vander Putten, 2018; Teo et al., 2019). Therefore, there is a need to develop a social media-based educational framework that facilitates collaborative learning based on social constructivism theory. To evaluate the effectiveness of such a technology-based framework, we need to understand the factors that affect its adoption by using an IS theory/model.

We conducted a preliminary study to determine the suitable social media application that suits the developed social media-based framework in the Omani higher education context. The preliminary study results showed that WhatsApp is the most predominant application used in Omani higher educational context. Besides, 94% of





learners were highly interested to use social media applications while doing their learning activities. This result comes in line with another study indicating that WhatsApp is ranked the top among other social media platforms in Oman (Al Rashdi, 2018).

Moreover, our second systematic literature review shows no comprehensive theoretical model that thoroughly covered the factors that affect social media adoption in higher educational settings. Thus, such comprehensive model, that predicts the students' behavioral intention to use social media within higher educational institutions, is in need. The development of such a comprehensive model can provide insights into the determinants affecting students' behavioral intention under any situation regardless of the context, participants, infrastructure, and country (Abdullah & Ward, 2016; Al-Saedi et al., 2020; Salloum et al., 2019).

Based on the above, the current study intends to analyze the most common external factors that showed significant results in the previous literature of social media adoption and use these factors to extend the TAM to build a comprehensive theoretical model. According to our second systematic literature review, we have observed that perceived enjoyment, subjective norm, self-efficacy, perceived critical mass, facilitating conditions, perceived compatibility, and information quality are the most frequent external factors that achieved significant prior literature results. Therefore, these factors are used to develop a comprehensive model to evaluate the developed social media-based framework. Accordingly, this study intends to answer the following research questions:



RQ1. To what extent does the literature tackle the social media adoption studies that involve educational and information systems theories and models?

RQ2. To what extent does the literature tackle the social media adoption studies that involve TAM?

RQ3. What is the current status of social media usage in the higher educational institutions in Oman?

RQ4. To what extent will the social constructivism theory be used in a social media-based learning framework to encourage collaborative learning?

RQ5. What is the proposed model that would be able to measure the adoption of social media-based learning framework?

RQ6. To what extent would the proposed model be able to examine the social media adoption?

1.4 Research Aim and Objectives

The main aim of the study is to build a comprehensive theoretical model that can fully predict the students' behavioral intention to use social media in higher education regardless of the context, participants, infrastructure, and country. Therefore, the original TAM model is extended with the most common external factors (i.e., perceived



enjoyment, subjective norm, self-efficacy, perceived critical mass, facilitating conditions, perceived compatibility, and information quality) that achieved significant results in social media literature to measure adopting the developed social media-based educational framework. To fulfill this aim, the following objectives are put forward:

1. To systematically analyze the social media adoption studies that involve the educational and information systems theories and models.
2. To systematically analyze the social media adoption studies in the higher educational institutions that involve TAM.
3. To analyze the current status of the Omani higher educational institutions usage of social media through a preliminary study.
4. To develop a social media-based learning framework through the use of social constructivism theory.
5. To develop a comprehensive theoretical model by extending the TAM with the most frequent external significant factors.
6. To validate the developed model by using statistical analyses methods.

1.5 Research scope

Defining the research scope while undertaking any research project explicitly is crucial.

The scope of this study is as follows:

1. The study scope concentrates on analysing the studies concerning the educational and information systems theories and models used in the context of social media adoption. It also focuses on analysing social media adoption studies that involve TAM.



2. The social constructivism theory is used to design and develop an educational framework based on WhatsApp closed groups.
3. The proposed comprehensive model is based on extending the TAM with the most frequent external factors that achieved significant results in the existing literature.
4. The data collection involves the students studying at eight different universities and colleges located in eight different Omani governorates.
5. The data analyses were undertaken using SmartPLS (V. 3.2.7) and SPSS (V. 25).

1.6 Research Significance

The current study throws up several theoretical contributions.

- I. Two systematic literature reviews were conducted. The first one was conducted to better understand social media-based studies in terms of the educational and IS theories/models and form a beneficial reference for future research. The second one was conducted to analyze recent social media studies that included the TAM as the main theoretical model to better understand the TAM-based studies in the context of social media. To that end, these two systematic reviews would serve as an important reference for future research in the context of social media.
- II. In terms of the social media context, this study is considered the first to review and synthesize the social media-based studies in terms of educational and IS theories/models, which adds two new findings to the existing body of social

media literature. In that, the social constructivism theory was the most frequently used educational theory in the social media context. Besides, the TAM was considered the most widely employed IS model to examine the adoption of social media in higher education.

III. The research results could be generalized to the whole population of higher educational institutes in Oman, as the present study covered nearly all the Omani governorates with a relatively large sample size. Fourth, the preliminary study results that shed light on determining the most common social media applications and understanding the Omani students' attitudes towards social media applications use is believed to significantly contribute to social media literature.

IV. The developed comprehensive theoretical model is thought to be the first that extended the TAM with the most frequently used factors that showed significant results in the prior social media-based studies. The comprehensive model development would add a significant contribution to the existing literature as it could be used for determining the students' behavioral intention towards using social media in general and WhatsApp in particular regardless of the participants, context, infrastructure, and country.

V. The developed model explained a remarkable variance (76.2%) in the behavioral intention to use WhatsApp; this clearly explains the soundness and validity of the developed model. Therefore, it would greatly explain the behavioral intention to use WhatsApp for educational activities.

VI. All the established paths in the developed model were statistically positive except for the effect of subjective norm and self-efficacy on PU, and the effect of perceived compatibility on PEOU. Thus, it can be suggested that the

integration of the most frequent external factors and TAM are well-matched, and this refers to one of this study main contributions. Eighth, the results of this study provided insights into the understanding of how the external factors had strengthened the students' adoption of social media for learning purposes.

VII. The practitioners and instructors need to consider the significant external factors determined in this study to be used in formulating their social media-based courses to maintain these platforms' higher adoption rates for educational purposes.

VIII. Social media-based courses need to be designed in a way that is user-friendly and useful to increase the degree of students' adoption of these platforms in future courses.

IX. Since subjective norm was shown to have an insignificant impact on the PU of WhatsApp, which might be due to Omani students' cultural background, the policy-makers are encouraged to conduct campaigns that aim to increase the awareness of social learning among students. This would increase the usefulness of social media among students.

X. Since the relationship between self-efficacy and PU was also shown as insignificant, educators are required to embrace the spirit of social learning among students to increase their confidence in using social media in learning activities. This would undoubtedly improve the usefulness of these platforms in instructional purposes.

XI. Since the results revealed that perceived compatibility has an insignificant impact on PEOU, the higher educational institutions are encouraged to provide training sessions to students concerning the use of social media for learning activities to better increase their technical skills. By doing so, social media

platforms would be easy to use and user-friendly for those who have insufficient skills.

- XII. The decision-makers can use this study's results in designing the environments of collaborative learning by following an appropriate social media-based teaching approach to enrich the pedagogical process.

1.7 Thesis Organization

The current section briefly overviews the chapters of the thesis.

Chapter 1. is an introductory chapter that introduces the introduction, research motivation, problem statement, research questions, research aim and objectives, research scope, and thesis organization.

Chapter 2. covers two systematic literature reviews. The first one involves the studies related to educational and information systems theories and social media models. In contrast, the second one involves social media studies that relied on TAM. Additionally, the second review classifies the collected TAM studies in social media adoption concerning different perspectives. These perspectives include factors, factors type, discipline, research method, software type, country, education level, social media type, and database. The second review highlights the most frequent factors used to extend the TAM in the application area of social media. This chapter also provided the groundwork for social media, social media applications, social media in the higher educational institutions, constructivism theory including cognitive and social aspects,



TAM origins, and TAM in the social media context. Finally, the discussion and conclusion sections discuss and review the present chapter's results by describing the gaps evolved from both systematic reviews and how this study will attempt to bridge these gaps.

Chapter 3. is about the research methodology covering the research design, instrument development and measurement, and instrument validation (pre-testing and pilot study) for the final data collection. Besides, the chapter shows the population, sample size, sample technique, and analysis unit. Furthermore, the procedure of data collection is described. Moreover, the chapter outlines data analysis, descriptive analysis, and reliability analysis. The current chapter also highlights the structural equation modeling (SEM) and the partial least squares (PLS). Besides, this chapter demonstrates in detail the measurement and structural models assessments.

Chapter 4. is about a preliminary study that aims to determine the most common social media application used among the university students in Oman and to analyze their attitudes towards social media use from different attributes, including gender, age, governorate, study year, social media application, experience, and interest. In that, the research instrument, pilot test, and participants are described. Besides, data analysis procedures are presented. Moreover, the results (quantitative and qualitative) and discussion are demonstrated. Eventually, the chapter is concluded with a summary.

Chapter 5. develops an educational framework based on the social constructivism theory and WhatsApp. The chapter also considers the social and personal learning aspects. It also considers the features of technological devices. Besides, it stresses the





active role of employing technology in social and educational processes. The developed framework spots the light on social constructivism theory in which knowledge is constructed through social interaction.

Chapter 6. is dedicated to explain and discuss the development of the proposed research model through seven stages. The selection of the most frequent factors and their interrelationship with the TAM constructs is discussed in detail. It also presents the formulated research hypotheses. It also concludes the chapter findings in the summary section.

Chapter 7. is about the results and discussion. It aims to validate the developed research model through the use of statistical analysis methods. It also illustrates data examination procedures and preparation for analysis (i.e., sample size, missing data, suspicious response patterns, outliers, normality, and common method bias). It also deliberates the participants' characteristics. It also demonstrates the descriptive statistics for the constructs' items. It also describes the results of the measurement model (i.e., reliability, convergent validity and discriminant validity). It also covers the results of the structural model (i.e., hypotheses testing, the coefficient of determination (R^2), and predictive relevance (Q^2)). It also discusses the main findings along with their link to the extant literature and provides insights and interpretations of the observed results. It also concludes the chapter findings in the summary section.

Chapter 8. is about the research conclusion and future research directions, which covers an overall summary of the research findings along with their relation to the research questions and research objectives. It also presents significant theoretical



contributions and practical implications. It also introduces the study limitations and directions for future research.

1.8 Operational Definitions

- Social media term is considered as an umbrella term that refers to any digital tool or software allowing its users to interact with the public synchronously or asynchronously, and quickly create and share content with an increasing number of websites and applications including photo-sharing apps (like Instagram, Flickr), video and audio sharing apps (like YouTube), short written message sharing apps (like Facebook, Twitter), among others with social interaction functions.
- Social media-based learning framework addresses the knowledge construction concern through the social interaction between students and teachers using WhatsApp closed groups as an experience of combining device aspect, social aspect, learner aspect, and teacher aspect. This kind of interaction makes the educational process more useful and meaningful.
- Social learning refers to the learning delivered through social media applications.
- Social media platforms refer to the operating system used to execute programs or applications with different contents and processes.
- Social media applications refer to the software or tool used to perform a specific task.



- Social constructivism theory refers to learning as a social process that stresses knowledge construction through social interactions, communications, and collaborative learning activities for developing both cognitive and critical thinking skills.

