



**THE INFLUENCE OF TECHNOLOGICAL, SOCIAL AND
CONTEXTUAL FACTORS ON CONTINUOUS TO USE MOOCS
AMONG UNIVERSITY STUDENTS**

SALEM ABDULLA SAIF SHABIB ALDAHMANI



DOCTOR OF PHILOSOPHY

2022



Institute of Technology Management and Entrepreneurship

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SALEM ABDULLA SAIF SHABIB ALDAHMANI

**A thesis submitted
in fulfillment of the requirements for the degree of Doctor of Philosophy**



Institute of Technology Management and Entrepreneurship

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2022

DECLARATION

I declare that this thesis entitled “The Influence of Technological, Social And Contextual Factors On Continuous to Use Moocsamong University Students” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature



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APPROVAL

I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in terms of scope and quality for the award of Doctor of Philosophy.


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DEDICATION

I dedicate this thesis to my family.



ABSTRACT

Human technology interaction has become the key driver for changes that improve society wellbeing and solve society problems. Due to the rapid growth of service sector, technology developers are targeting this sector, particularly profitable businesses. However, the social business, such as education has not received adequate attention. Even though E-learning and MOOCs application has the potential to enhance the capacity of educational institutions and boost up their quality, the efficiency of using these technologies is still questionable since the percentage of completion of MOOC courses is still very low. The literature suggests that technology motivation factors that influence users and educational quality as well as system are important to address this challenge. Even though, many studies investigated these factors, the problem still existed. Thus, this research aims to investigate technological and motivational factors that affect students' continuous intention to use MOOCs. Both Technology Acceptance Model (TAM) and Technology Task Fit (TTF) theory were used to explain how students perceived the usefulness and ease of use of MOOCs, which influence their behavior to continuously use MOOCs. A questionnaire was randomly distributed to 315 students who use MOOCs in the Hamdan Bin Mohammed Smart University. Based on the analysis of data using Smart-PLS, the finding of this research confirmed that social motivation and technological factors are important determinants for perceived usefulness and ease of use. With respect to the contextual features of MOOCs, it was found that they significantly influence user's perceived ease of use and usefulness of MOOCs. This research concluded that the users' perceived usefulness and attitude have positive influence on students' continuous to use MOOCs. It also contributes to the body of knowledge through the development of an integrative model that explains how to improve students' continuance intention to use MOOCs by integrating social motivational and technological factors as well as MOOCs context features. The finding of this research provides a valuable guidance to educational institutions, especially the Arab region countries on how to improve the quality of their MOOCs' services by providing a clear understanding of how to improve students' continuance intention to use.

PENGARUH FAKTOR TEKNOLOGI, SOSIAL DAN KONTEKS TERHADAP PENGUNAAN MOOC SECARA BERTERUSAN DALAM KALANGAN PELAJAR UNIVERSITI

ABSTRAK

Interaksi di antara teknologi dan manusia telah menjadi pemacu utama kepada perubahan yang meningkatkan kesejahteraan masyarakat dan menyelesaikan masalah masyarakat. Disebabkan oleh pertumbuhan pesat sektor perkhidmatan, pembangun teknologi menyasarkan sektor ini, terutamanya perniagaan yang menguntungkan. Walau bagaimanapun, perniagaan sosial, seperti pendidikan tidak mendapat perhatian yang secukupnya. Walaupun aplikasi E-pembelajaran dan MOOC berpotensi untuk meningkatkan kapasiti institusi pendidikan dan meningkatkan kualitinya, kecekapan penggunaan teknologi ini masih diragui kerana peratusan pengguna yang mengikuti kursus MOOC sehingga tamat masih sangat rendah. Literatur mencadangkan bahawa faktor motivasi teknologi yang mempengaruhi pengguna dan kualiti pendidikan serta sistem adalah penting untuk menangani cabaran ini. Walaupun, banyak kajian telah mengkaji faktor-faktor ini, masalah itu masih wujud. Oleh itu, penyelidikan ini bertujuan untuk mengkaji faktor teknologi dan motivasi yang mempengaruhi niat berterusan pelajar untuk menggunakan MOOC. Kedua-dua teori, iaitu Model Penerimaan Teknologi (TAM) dan Teori Kesesuaian Teknologi dan Tugas (TTF) digunakan untuk menerangkan bagaimana pelajar melihat kebergunaan dan kemudahan menggunakan MOOC, yang mempengaruhi tingkah laku mereka untuk menggunakan MOOC secara berterusan. Satu soal selidik telah diedarkan secara rawak kepada 315 pelajar yang menggunakan MOOC di Universiti Pintar Hamdan Bin Mohammed. Berdasarkan analisis data menggunakan Smart-PLS, dapatan kajian ini mengesahkan bahawa motivasi sosial dan faktor teknologi merupakan penentu penting untuk persepsi kebergunaan dan kemudahan menggunakan MOOC dalam kalangan pelajar. Berkenaan dengan ciri-ciri kontekstual MOOC, kajian ini mendapati bahawa ianya mempengaruhi dengan ketara persepsi kebergunaan dan kemudahan menggunakan MOOC. Penyelidikan ini menyimpulkan bahawa persepsi kebergunaan dan sikap pengguna mempunyai pengaruh yang positif terhadap penggunaan MOOC secara berterusan di kalangan pelajar. Ia juga menyumbang kepada ilmu pengetahuan melalui pembangunan model integratif yang menerangkan cara meningkatkan niat berterusan pelajar untuk menggunakan MOOC dengan menggabungkan faktor motivasi sosial dan teknologi serta ciri konteks MOOC. Penemuan penyelidikan ini memberi panduan berharga kepada institusi pendidikan, terutamanya negara di rantau Arab tentang cara meningkatkan kualiti perkhidmatan MOOC mereka dengan memberikan pemahaman yang jelas tentang cara meningkatkan niat berterusan menggunakan MOOC dalaman kalangan pelajar.

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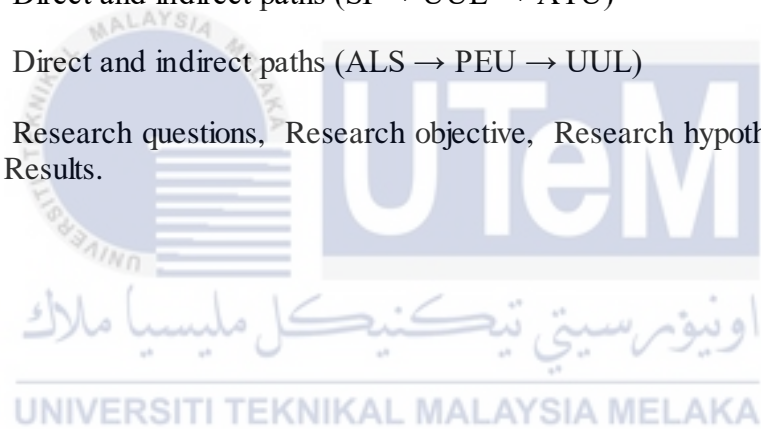


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LIST OF SYMBOLS

- R^2 - Coefficient of Determination
 f^2 - Effect Size



LIST OF ABBREVIATIONS

IFT	- Individual–Technology Fit
ISCM	- Information System Continuance Model
IT	- Information Technology
OER	- Open Educational Resources
PEU	- Perceived Ease of Use
SI	- Social Influence
SR	- Social Recognition
TAM	- Technology Acceptance Model
TPB	- Theory of Planned Behaviour
TRA	- Theory of Reasoned Action
TTF	- Task-Technology Fit
UTAUT	- Unified Theory of Acceptance and Use of Technology



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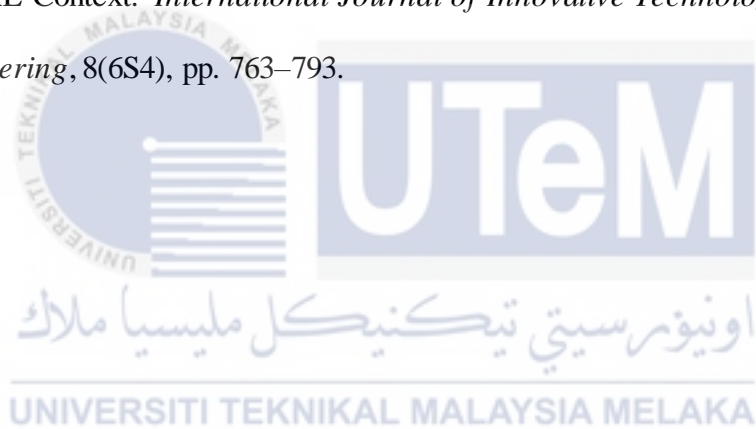
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LIST OF PUBLICATIONS

The followings are the list of publications related to the work on this thesis:

1. Aldahmani, S., Al-Shami, S.A., Adil, H., and Sidek, S., 2020. A review paper on moocs development stages, types, and opportunities and challenges. *Systematic Reviews in Pharmacy*, 11(12), pp. 172–179.
2. Aldahmani, S.A., Al-Shami, S.A., and Aripin, M.A., 2019. Factors affecting Students Continue Intention to Use MOOCs, Benefits and Drawbacks: A review Paper from the UAE Context. *International Journal of Innovative Technology and Exploring Engineering*, 8(6S4), pp. 763–793.



CHAPTER 1

INTRODUCTION

1.1 Introduction

Human-technology interaction has emerged as a crucial motivator for bringing about new developments that improve life quality and address societal issues. Previously, research focused on technology in manufacturing, but recently, because of the fast expansion of the service sector, technology developers have turned their attention to this sector, particularly successful firms. However, social enterprises such as education have gotten little attention. Despite the fact that E-learning and Massive Open Online Courses (MOOCs) were established to improve institutions' capacity and quality, the efficacy of adopting these technologies is debatable, as less than 10% of MOOCs participants complete their courses. According to the literature, technology motivation elements that influence users, educational quality, and systems are critical to addressing this difficulty. Despite the fact that many research looked into these aspects, the problem is still persisted. Thus, this research aims to investigate technological and social factors that affect students' continuous intention to use MOOCs. This chapter will give an introduction to the current study and the rationale behind this work, stating the theoretical background and research problems, research aims and objectives, the significance and contributions of the study, the operational definition for the terms, the scope of the study and structure of this thesis.

1.2 Research background

In the 20th century, instructional education such as universities had lost its dominance in generating knowledge. They face the task of adjusting to humanity's demands, which can be condensed into three crucial perspectives: economic, scientific, and academic improvement (Klofsten et al., 2019). The university model is based solely on economics. It is undertaken to enrol more understudies, overlooking quality with attention to lowering cost (Stich and Reeves, 2017). This occurs without contextualized, customized, and collective partnerships in knowledge transference design for students (Clow, 2013; Bonk et al., 2018). The utilization of ICT adaptations in the instructing learning process is also an essential issue in university systems to confront the changing environment globally (Ma and Lee, 2019). Improving academic performance through digital and technological literacy, which is one of the twenty-first-century goals to meet the digital change in the educational environment (Kim, Raza, Seidman, 2019).

Universities are drawing close to the professional development required to meet society's needs and prepare them for the future (Klofsten et al., 2019). Faculty ought to adjust to a new profile dependent on expertise (Walls et al., 2019). The role of universities is to help undergrads at some phase in their mastering process. There is a need for change in knowledge acquisition of progress that has been made in any case. In this new profile, faculty stands as understudy support. The faculty role is an adaptable and polyvalent advisor (Walls et al., 2019). They need to likewise address social changes to increase the best outcomes in teaching. Faculty should be creative in practicing new and dynamic instructive techniques. Learning approaches should take full advantage of the cutting-edge technology and involve students in methodologies that meet their needs (John, 2015). In this respect, preparation and commitment are important.