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ISTANBUL AYDIN UNIVERSITY

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AN INVESTIGATION OF EFL LEARNERS' TECHNOLOGY PERSPECTIVES ON E- LEARNING: THE GENERAL EXTENDED TECHNOLOGY ACCEPTANCE MODEL

MASTER'S THESIS

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THESIS EXAM REPORT

DECLARATION

I hereby declare with respect that the study “An Investigation of EFL Learners’ Technology Perspectives on E-Learning: The General Extended Technology Acceptance Model”, which I submitted as a Master thesis, is written without any assistance in violation of scientific ethics and traditions in all the processes from the Project phase to the conclusion of the thesis and that the works I have benefited are from those shown in the References. (22/February/2024)

Emine GEDİK UĞUR

FOREWORD

At the heart of my academic journey, I am immensely grateful to Dr. Hülya YUMRU, my guiding light, and mentor. Your unwavering support and role modeling as an academician have not only shaped my research but have also left an enduring mark on my growth as an individual. Your mentorship and wisdom provided the solid foundation, much like a compass pointing to true north, guiding me as I embarked on this intellectual expedition.

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As we stand at the crossroads of this journey, I dedicate this thesis to the souls who departed in the February 06, Earthquakes. May their spirits find eternal peace, and may their memory serve as an enduring beacon of resilience in the hearts of those they touched.

February, 2024 Emine GEDİK UĞUR

AN INVESTIGATION OF EFL LEARNERS' TECHNOLOGY PERSPECTIVES ON E- LEARNING: THE GENERAL EXTENDED TECHNOLOGY ACCEPTANCE MODEL

ABSTRACT

The Technology Acceptance Model (TAM) has drawn a lot of interest in higher education throughout the pandemic. While universities in Turkey were adapting themselves to the New Normal, the devastating Turkey-Syria earthquake occurred on 6 February 2023. All universities were forced to complete the 2022-2023 academic year spring term as online or hybrid education. This event showed us that whenever we face an emergency situation, we may use online or hybrid education as a quick response. This study aims to examine the preparatory school students' acceptance of technology in language learning by analysing the results using the General Extended Technology Acceptance Model for E-Learning (GETAMEL) model and how the shift to online learning has influenced their views toward e-learning in language education. The research focuses on a survey sample of 216 students enrolled in a preparatory school during the spring semester of the 2022-2023 academic year. The data were collected through an online survey which was developed by Jiang et.al (2021). The study aims to establish correlations between students' behavioural intentions, attitudes, perceived usefulness, subjective norms regarding the use of the EFL e-learning system, and their actual use of the system. The analysis provides insights into the complex dynamics of technology acceptance in the context of language learning, particularly in the wake of unexpected disruptions that prompt the adoption of online and hybrid education. The study contributes to a broader understanding of technology acceptance in language learning environments and highlights the importance of the GETAMEL model based on the findings. Detailed insights into how attitudes and behaviour towards using technology are influenced are provided by demographic factors such as age, gender, level of education and experience with online learning. The study emphasises the dynamic nature of the classroom environment, which necessitates

careful consideration of contextual issues. It also highlights the importance of universities prioritising e-learning quality and self-efficacy, and providing support to enhance students' confidence and skills. The suggested method advocates for user-friendly content and systems to effectively transform the way students learn.

Keywords: Technology Acceptance Model, E-Learning, Turkey-Syria Earthquake, General Extended Technology Acceptance Model for E-Learning, Online Education

YABANCI DİL OLARAK İNGİLİZCE ÖĞRENENLERİN E-ÖĞRENME TEKNOLOJİSİNE BAKIŞ AÇILARI ÜZERİNE BİR ARAŞTIRMA: GENEL GENİŞLETİLMİŞ TEKNOLOJİ KABUL MODELİ

ÖZET

Teknoloji Kabul Modeli (TAM), pandemi boyunca yüksek öğrenimde büyük ilgi görmüştür. Türkiye'deki üniversiteler Yeni Normale uyum sağlarken, 6 Şubat 2023'te yıkıcı Kahramanmaraş depremi meydana geldi. Tüm üniversiteler, 2022-2023 eğitim-öğretim yılı bahar dönemini çevrimiçi veya karma eğitim olarak tamamlamak zorunda kaldı. Bu durum bize, acil bir durumla karşılaştığımızda, hızlı bir müdahale olarak çevrimiçi veya hibrit eğitimi kullanabileceğimizi gösterdi. Bu çalışma, hazırlık okulu öğrencilerinin dil öğreniminde teknoloji kabulünü, sonuçları E-Öğrenim için Genel Genişletilmiş Teknoloji Kabul Modeli (GETAMEL) kullanarak analiz ederek ve çevrimiçi öğrenmeye geçişin onların dil eğitiminde e-öğrenmeye yönelik görüşlerini nasıl etkilediğini incelemeyi amaçlamaktadır. Araştırma, 2022-2023 akademik yılı bahar döneminde bir hazırlık okuluna kayıtlı 216 öğrenciden oluşan bir anket örneklemine odaklanmaktadır. Veriler, Jiang vd. (2021) tarafından geliştirilen çevrimiçi bir anket aracılığıyla toplanmıştır. Çalışma, öğrencilerin davranışsal niyetleri, tutumları, algılanan yararlılıkları, İngilizce dili öğrenmede e-öğrenme sisteminin kullanımına ilişkin öznel normları ve sistemi gerçek kullanımları arasındaki ilişkileri belirlemeyi amaçlamaktadır. Analiz, özellikle çevrimiçi ve hibrit eğitimin benimsenmesini tetikleyen beklenmedik aksaklıkların ardından, dil öğrenimi bağlamında teknoloji kabulünün karmaşık dinamiklerine ilişkin içgörüler sunmaktadır. Çalışma, dil öğrenme ortamlarında teknoloji kabulüne ilişkin daha geniş bir anlayışa katkıda bulunmakta ve bulgulara dayanarak GETAMEL modelinin önemini vurgulamaktadır. Teknoloji kullanımına yönelik tutum ve davranışların yaş, cinsiyet, eğitim düzeyi ve çevrimiçi öğrenme deneyimi gibi demografik faktörlerden nasıl etkilendiğine ilişkin ayrıntılı bilgiler sağlanmaktadır. Çalışma, bağlamsal konuların dikkatle ele alınmasını gerektiren sınıf ortamının dinamik doğasını

vurgulamaktadır. Ayrıca, üniversitelerin e-öğrenme kalitesine ve öz yeterliliğe öncelik vermesinin ve öğrencilerin güven ve becerilerini geliştirmek için destek sağlamasının önemini vurgulamaktadır. Önerilen yöntem, öğrencilerin öğrenme biçimlerini etkili bir şekilde dönüştürmek için kullanıcı dostu içerik ve sistemleri savunmaktadır.

Anahtar Kelimeler: Teknoloji Kabul Modeli, E-Öğrenme, Türkiye-Suriye Depremi, E-Öğrenim için Genel Genişletilmiş Teknoloji Kabul Modeli, Çevrimiçi Eğitim

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LIST OF ABBREVIATIONS

GETAMEL : General Extended Technology Acceptance Model for E-Learning

AFAD : Disaster and Emergency Management Presidency

ELT : English Language Teaching

LMS : Learning Management System

MoNE : The Ministry of National Education

SPSS : Statistical Package for Social Sciences

TAM : Technology Extended Model

UZEM : Distance Education Application and Research Centre

WHO : World Health Organization

CoHE : Council of Higher Education

PEU : Perceived Ease of Use

PU : Perceived Usefulness

ATT : Attitude Toward Technology

BI : Behavioural Intention

SN : Subjective Norm

AU : Actual Use

EXP : Experience

ICTSE : Information and Communication Technology Self-Efficacy

ENJ : Enjoyment

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I. INTRODUCTION

The chapter establishes the groundwork for the research investigation by methodically addressing essential elements. The research begins by providing a concise explanation of the problem statement and setting the context. Subsequently, a thorough analysis of relevant scholarly articles and books are provided, offering a theoretical foundation and contextual basis for the investigation. Next, the researcher clearly states the precise goals of the study, defining the expected results and areas of investigation.

This chapter provides an explanation of the research's scope and significance, establishing the limits within which the research will be conducted. It highlights the relevance and potential influence of the study's results. At this stage, the researcher emphasises the wider significance and contributions of the study to the current pool of knowledge.

The chapter openly acknowledges and analyses the inherent limitations of the research. This explicit recognition establishes the foundation for a subtle analysis of the study's findings and offers a roadmap for future researchers aiming to expand on this research.

Ultimately, the chapter finishes by offering unambiguous and exact explanations of the key terminology used in the study. By achieving terminological clarity, there is a common grasp of important topics, which improves the coherence and effectiveness of the research communication. This chapter functions as a guide, leading the reader through several sections like the issue statement, literature review, objectives, scope, and importance. This helps to provide a strong basis for the rest of it.

A. Background of the Problem

Technology acceptance refers to the willingness of individuals to adopt and use technology in their daily activities (Liu, Fu, Liang, & Liu, 2024). In the context of education, this concept becomes particularly relevant as institutions increasingly adopt

e-learning platforms to deliver content and facilitate learning experiences. The Technology Acceptance Model (TAM), introduced by Davis in the 1980s, is a widely recognized framework that explains how users' perceived ease of use and usefulness influence their acceptance of technology (Zazili & Abu, 2023).

E-learning, or electronic learning, has gained prominence as a mode of education that leverages digital tools and platforms to facilitate teaching and learning processes. The internet has brought about the inclusion of online courses, virtual classrooms, and numerous e-learning technologies as essential elements of educational institutions worldwide. Academic institutions choose to exclusively utilise digital instructional methods, open education, and distant learning to complete the spring semester in response to the global health crisis.

The COVID-19 pandemic caused the adoption of e-learning globally, making technology acceptance a critical factor in maintaining continuity in education. The closure of physical classrooms and the shift to remote learning highlighted the importance of educators and students embracing digital tools and platforms. Technology acceptance became paramount in ensuring a smooth transition to online education and overcoming the challenges posed by the pandemic.

Educational institutions had to rapidly deploy and adapt e-learning solutions, making it crucial for teachers and students to accept and effectively use these technologies. The ability to navigate virtual classrooms, engage with digital content, and communicate through online platforms became essential skills for both educators and learners. Technology acceptance in the context of COVID-19 was not only about embracing new tools but also about fostering a positive attitude and adaptability towards a digital learning environment.

The significance of such research lies in its potential to inform educational practices, policy-making, and the design of e-learning interventions. Insights gained from studying technology acceptance can guide the development of strategies that address challenges, enhance user experience, and ultimately contribute to the successful integration of e-learning in both conventional and emergency situations like the COVID-19 pandemic. As educational landscapes continue to evolve, understanding and facilitating technology acceptance in e-learning environments remain essential for building strong and effective educational systems.

The introduction of the study offers a comprehensive and well-organized summary of the circumstances and historical context that prompted the examination of EFL students' viewpoints on distance learning. These factors include the COVID-19 pandemic and the earthquake in Turkey. The incorporation of worldwide health emergencies and environmental catastrophes as triggers for educational transformations creates an intriguing context for comprehending the challenges and adjustments faced by learners in their language acquisition journey.

The incorporation of UNESCO (2023) and WHO (2023) data highlights the extensive influence and disturbance to educational accessibility at a worldwide level, establishing the study within a broader socio-economic framework. Since this time, many countries have urged their citizens not to go out of the house or enforced this in order to control the epidemic and not to lose many lives. As a result, this situation has had an impact on many sectors since then. The education sector is one of them. Several nations were compelled to shift from traditional face to face schooling to a distance educational framework. As per the most recent information from UNESCO, over 870 million learners across various educational levels are currently experiencing difficulties with their educational access (Unesco.org, 2023). This disruption in education has posed challenges for both students and teachers.

Unfortunately, not many children will be able to afford the necessary technology or online connection to participate in online classes, leading to a significant learning gap. In addition, educators have been required to rapidly modify their instructional strategies and come up with novel approaches to engage students who are located in remote locations. The swift shift towards distance education has highlighted the necessity of investing in digital infrastructure and resources to ensure equal access to educational opportunities for all students.

While this is the case, online education is not a recent development, there have been hints about it since the 1960s (Sarkar, 2020). Furthermore, there is no denying that online education has often been perceived more as a desirable potential choice than a robust framework for ensuring the seamless continuation of educational activities (Ribeiro, 2020). Despite the challenges, online education has proven to be a valuable tool in times of crisis, allowing students to continue their studies without major interruptions. However, it is crucial for educational institutions to address the limitations and improve the standard of distance learning to fully exploit its potential

in the future. Distance education experienced its golden age in 2020 with its online education form. The COVID-19 pandemic has accelerated a deep comprehension of digital technology, establishing it as an undeniable reality for the current generation (Deng, 2022). The face-to-face education process came to a halt as a result of the epidemic, but some universities and formal education institutions used the distance education model to support it in its most basic form (Stacey, Smith, & Barty, 2004).

Academic institutions choose to exclusively use digital instructional channels, open education, and remote learning to complete the spring semester in response to the global health crisis. The Ministry of National Education (MoNE) declared the start of distance learning activities in March 2020 (Meb.gov.tr, 2020). Students from primary, secondary, and high schools engaged in online education delivered through the Education Information Network (EBA), using television networks that air programs with lesson material.

To supplement formal education, many universities in Turkey offer some courses via distance learning. It is clear that several departments, master's programs, and certificate programs provide hybrid as well as totally online courses. The Distance Education Application and Research Centre (UZEM) and the Open and Distance Education Faculty at universities oversee the administration of these programs (Fidan, 2018). These programs aim to offer flexibility and accessibility for learners unavailable to join traditional face-to-face classes owing to various reasons such as job responsibilities or geographical limitations. To top it all off, students may get a top-notch education no matter where they are thanks to the technological advancements that make distance learning possible. 123 of Turkey's 207 universities have UZEM departments, according to the press release from the head of the CoHE on March 18, 2020 (Yok.gov.tr, 2020). 7 million, 940 thousand, and 133 students in the 2019–2020 spring semester were enrolled in distance education at universities with experience in the field (Istatistik.yok.gov.tr, 2020).

Universities began utilizing their distance education systems when CoHE revealed that they had the option to employ either synchronous or asynchronous distance education methods. These solutions enabled students to pursue their study remotely for the entire duration of the pandemic. The use of distance learning systems ensured that learners could retrieve resources, take part in virtual classes, and interact with their instructors, regardless of their physical location. There are many options for

online learning platforms, including Moodle, WebCT (Blackboard), Adobe Connect, Perculus, and others. Among various options, Blackboard and Moodle stand out as two commonly utilized web-based learning management systems in college settings (Cheung, 2006).

Several universities in Turkey adopt a variety of approaches to integrating distance education into their academic programs. While some institutions opt for a comprehensive adoption, implementing distance education across all their departments and faculties, others choose a more selective approach, restricting its use to specific departments that find it particularly beneficial. An exhaustive analysis of Turkish universities and the departments within them that employ distance education systems, along with the underlying motivations for their incorporation, is presented in Figure 1.

UNIVERSITY	DEPARTMENT	TOOL	PURPOSE
Anadolu University	All Departments	WebCT (Blackboard), Adobe Connect	To Support Distance Education
Atatürk University	All Departments	Moodle	To Support Formal Education
Bahçeşehir University	International Logistics	Adobe Connect	To Support Formal Education
Başkent University	All Departments	Moodle	To Support Formal Education
Beykent University	3 Departments	Adobe Connect	To Support Distance Education
Bilkent University	All Departments	Moodle	To Support Formal Education
Çankaya University	7 Departments	Moodle	To Support Formal Education
Çukurova University [20]	12 Departments	Moodle	To Support Formal Education
Dokuz Eylül University	Computer Engineering	Moodle	To Support Formal Education
Eastern Mediterranean University	All Departments	Moodle	To Support Formal Education
Ege University	Computer Engineering	Moodle	To Support Formal Education
Eskişehir Osmangazi University	All Departments	Moodle	To Support Formal Education
Fatih University	All Departments	Moodle	To Support Formal Education
Girne American University	All Departments	Moodle	To Support Formal Education
Hacettepe University	All departments	WebCT (Blackboard)	To Support Formal Education
Harran University	11 Departments	Moodle	To Support Formal Education
International Cyprus University	All Departments	Moodle	To Support Formal Education
İstanbul University	All Departments	WebCT (Blackboard)	To Support Formal Education
İstanbul Arel University	2 Departments	Perculus VCP	To Support Distance Education
İstanbul Aydın University	2 Departments	Adobe Connect Pro Meeting	To Support Distance Education
İstanbul Bilgi University	Computer Engineering	Moodle	To Support Formal Education
Kadir Has University	All Departments	WebCT (Blackboard)	To Support Distance Education
Karabük University	9 Departments	Moodle	To Support Distance Education
Kocaeli University	2 Departments	Perculus VCP	To Support Distance Education
Mersin University	2 Departments	Adobe Connect	To Support Distance Education
Metu Northern Cyprus Campus	3 Departments	Moodle	To Support Formal Education
Middle East Technical University	All Departments	Moodle	To Support Formal Education
Near East University	Computer Engineering	Moodle	To Support Formal Education
Pamukkale University	1 Department	Moodle	To Support Formal Education
Sabancı University	All Departments	WebCT (Blackboard)	To Support Distance Education
Sakarya University	All Departments	AkademikLMS	To Support Distance Education
Süleyman Demirel University	4 Departments	Adobe Connect	To Support Distance Education

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Figure 1 The Distance Education System in Universities (Kaya, 2012)

According to Kaya (2012), Figure 1 demonstrates that Moodle, WebCT (Blackboard), and Adobe Connect are the most frequently used learning management systems (LMS) by these institutions.

Following this, the government made the decision to commence a gradual transition to face-to-face instruction on February 15, 2021. At the beginning of the

2021–2022 education year, in Turkey, we started to get used to the term 'New Normal'. Schools and universities started their traditional in-person training in February 2023. The global landscape is evolving, and the factors contributing to educational disruptions extend beyond pandemics. Wars, regional conflicts, and various types of natural disasters should be considered as prospective elements on the future agenda that have the potential to disrupt education. (Bozkurt & Sharma, 2020a). In this case, the future wasn't that far for Turkey.

On February 6, 2023, two strong earthquakes struck Kahramanmaraş, a province in southeastern Turkey. The first earthquake, measuring 7.7 in magnitude, originated in the Pazarcık district of Kahramanmaraş, while the second earthquake, with a magnitude of 7.6, centered around the Elbistan district (Ekici, 2023). Because of the significant impact of the earthquake and its repercussions nationwide, the CoHE declared that it was suitable to complete the 2022–2023 educational period via remote learning for the entire country in response to the earthquake disaster centered in Kahramanmaraş (Yok.gov.tr, 2023). Preparatory school students in Turkey were not able to continue their English lessons despite the COVID-19 pandemic and devastating earthquake by using a variety of online learning platforms created by domestic textbook publishers like Cambridge[1], MacMillan[2], Oxford[3] and others. Nevertheless, there is currently little information available regarding the potential reactions of EFL students at preparatory schools to the transition of conventional face to face instruction to fully distance education and, subsequently, to a "new normal" phase including hybrid education. As a result, the purpose of this study is to explore the responses of English as a Foreign Language (EFL) students to the use of online education. The GETAMEL model, which stands for general extended technology acceptance model for e-learning, serves as the basis for this study.

B. Statement of the Problem and the Significance of the Study

In the ever-evolving landscape of education, the integration of technology has become a cornerstone for transformative learning experiences. Central to this

[1] https://www.cambridgeone.org/
[2] https://www.macmillaneducationeverywhere.com/
[3] https://elt.oup.com/

integration is the concept of technology acceptance – the willingness of individuals to embrace and utilize technology in their educational endeavours. As educational institutions increasingly pivot towards e-learning platforms, understanding the dynamics of technology acceptance becomes imperative for the successful implementation of digital tools in the learning environment.

The significance of technology acceptance is particularly pronounced in the context of the unprecedented challenges posed by events such as the COVID-19 pandemic. The global shift to remote and online learning underscored the critical role that educators and students play in accepting and effectively utilizing digital technologies to ensure the continuity of education. Against this backdrop, the primary objective of this paper is to delve into the complex nature of technology acceptance in the realm of e-learning, with a specific focus on its importance in the context of the COVID-19 pandemic. The research aims to explore the perceptions, challenges, and impact associated with technology acceptance among students engaged in digital learning environments.

The global health crisis prompted numerous nations across the world to suspend in-person educational activities at all academic levels, swiftly transitioning to online learning formats as a precautionary measure (Ebner, et al., 2020). Turkey, much like many other nations, underwent a significant shift towards online education in response to the pandemic, with educational institutions at all levels adopting virtual learning environments to ensure the continuity of education during this challenging period. When people were getting used to the new normal, two catastrophic earthquakes struck the southern region on February 6, 2023 and affected ten provinces. These earthquakes were among the most potent to impact the region in a century, prompting a worldwide humanitarian reaction. This response included involvement from the World Health Organization and other United Nations collaborators, all at the behest of the Turkish government (2023). CoHE declared that universities will be completed online in the 2022–2023 academic year, spring semester (Yok.gov.tr, 2023)

The utilization of electronic learning, commonly known as e-learning, is widely acknowledged as a prevalent approach to delivering education within the realm of EFL. Despite the inherent advantages it offers, the execution and utilization of e-learning systems in EFL settings have fallen short of achieving optimal levels of satisfaction. The Technology Acceptance Model (TAM) is a frequently employed

conceptual model, providing insights into the various variables that shape users' acceptance and usage of technology. While several researches have applied TAM , most have focused on the perspective of instructors or system designers. Little is known about students' perspectives on the implementing and utilizing learning management systems in EFL contexts.

Using GETAMEL as a conceptual model, the study explores students' perspectives on the acceptance and effective usage of learning management platforms while taking EFL courses. Through data analysis, this research seeks to offer information regarding the development and application successful online education strategies that suit students' desires and requirements. Additionally, the present research endeavours to augment the established academic literature pertaining to the integration of technology in educational environments, with specific attention to the student perspective. Given the mandatory nature of virtual schooling, it is essential to assess views of learners regarding the utilization of platforms for online education.

Gaining insight into the views of learners on educational websites is crucial for fostering their active engagement and success in online education. By examining their perspectives, this study aims to identify any obstacles or challenges that might prevent the effective execution and utilisation of LMS, allowing educators to address these issues and enhance the overall learning experience for students. Additionally, exploring students' preferences and needs will contribute to the ongoing improvement of e-learning strategies, ultimately fostering a more inclusive and student-centred educational environment.

C. Purpose of the Study

Technology acceptance is a concept that examines individuals' willingness and readiness to embrace and utilize technology in their daily activities. This notion is rooted in the idea that the adoption of technology is influenced by various factors, including perceived usefulness, ease of use, and the individual's attitude towards the technology. In the context of education, business, healthcare, and other fields, technology acceptance plays a pivotal role in determining the success of digital innovations and their impact on user behaviour.

In diverse fields, technology acceptance is crucial for ensuring the effective integration of technological innovations. In education, for instance, the acceptance of e-learning platforms and digital tools directly affects the quality of the learning experience. Similarly, in business, the acceptance of new software or systems can streamline operations and enhance productivity (Alqurni, 2023). In healthcare, the willingness of healthcare professionals to adopt and use digital health solutions can influence patient care and outcomes.

The Technology Acceptance Model (TAM) is a widely recognized theoretical framework that explores the factors influencing technology acceptance (Davis, Bagozzi, & Warshaw, 1989). Developed by Fred Davis in the 1980s, TAM states that users' intentions to accept technology are primarily influenced by their perception of the usefulness and ease of use of the technology. Additionally, studies applying TAM have been conducted in various contexts. An example is the study conducted by Venkatesh and Davis (2000), which expanded the original Technology Acceptance Model (TAM) to incorporate social influence variables, highlighting the significance of subjective norms and image in the acceptance of technology.

In the field of e-learning, research by Al-Gahtani (2016) applied TAM to investigate factors influencing the acceptance of learning management systems, emphasizing the importance of PEU and PU in the context of higher education. These examples highlight the versatility of the technology acceptance framework and its applicability across diverse fields, demonstrating its significance in understanding and predicting users' willingness to adopt and use technology.

The contentment of students with the outcomes of technology plays a pivotal role in determining the feasibility of implementing online education platforms. Higher education decision-makers may enhance the standard of the performance of learners by taking the necessary steps if they are aware of the underlying factors influencing the happiness of learners with e-learning outcomes, particularly in extraordinary circumstances such as the devastating Turkey-Syria earthquake on February 6, 2023. Gaining insight into the factors that influence how satisfied pupils are with their distance learning achievements during challenging times might offer valuable insights for schools and universities to enhance their methods and support mechanisms. By identifying these underlying factors, decision-makers can make educated choices

efficient implementation of learning management platforms and ensure positive learning experience for all students, regardless of the circumstances they may face.

The primary focus of the current study is to investigate the viewpoints of EFL learners regarding the use of e-learning as an instrument, with the application of the GETAMEL framework. The fundamental factors of this model are used to analyse students' technology acceptance. The current research aims to explore the correlation between age, gender, and experience concerning the application of GETAMEL as well. The results are interpreted using quantitative data taken from the questionnaire. Four primary research questions are examined concerning the impact of the dimensions on one another. The quantitative data and descriptive statistics are analysed using IBM SPSS 27 statistical software. The task examines how the variables in the research questions affect the subjects directly and indirectly. The framework comprises two types of variables: internal factors and external factors (Jiang, et al., 2021).

D. Research Questions

This investigation focuses on addressing these research topics:

RQ 1: Is there a positive relationship between students' perceived ease of use of the EFL e-learning system and their behavioural intention to use the EFL e-learning system?

RQ 1a: Is there a positive relationship between students' perceived usefulness of the EFL e-learning system and their behavioural intention to use the system?

RQ 1b: Is there a positive relationship between students' attitude towards technology of the EFL e-learning system and their behavioural intention to use the system?

RQ 1c: Is there a positive relationship between students' ICT self-efficacy of the EFL e-learning system and their behavioural intention to use the system?

RQ 1d: Is there a positive relationship between students' experience of the EFL e-learning system and their behavioural intention to use the system?

RQ 1e: Is there a positive relationship between students' enjoyment of the EFL e-learning system and their behavioural intention to use the system?

RQ 1f: Is there a positive relationship between students' subjective norm of the EFL e-learning system and their behavioural intention to use the system?

RQ 1g: Is there a positive relationship between students' actual use of the EFL e-learning system and their behavioural intention to use the system?

RQ 2: Is there a positive relationship between students' perceived ease of use of the EFL e-learning system and perceived usefulness to use the system?

RQ 2a: Is there a positive relationship between students' experience of the EFL e-learning system and perceived usefulness to use the system?

RQ 2b: Is there a positive relationship between students' subjective norm of the EFL e-learning system and their perceived usefulness to use the system?

RQ 2c: Is there a positive relationship between students' enjoyment of the EFL e-learning system and their perceived usefulness to use the system?

RQ 2d: Is there a positive relationship between students' attitude towards technology of the EFL e-learning system and their perceived usefulness to use the system?

RQ 2e: Is there a positive relationship between students' ICT self-efficacy of the EFL e-learning system and their perceived usefulness to use the system?

RQ 2f: Is there a positive relationship between students' actual use of the EFL e-learning system and their perceived usefulness to use the system?

RQ 3: Is there a positive relationship between students' experience of the EFL e-learning system and perceived ease of use to use the system?

RQ 3a: Is there a positive relationship between students' subjective norm of the EFL e-learning system and perceived ease of use to use the system?

RQ 3b: Is there a positive relationship between students' enjoyment of the EFL e-learning system and their perceived ease of use to use the system?

RQ 3c: Is there a positive relationship between students' ICT self-efficacy of the EFL e-learning system and their perceived ease of use to use the system?

RQ 3d: Is there a positive relationship between students' attitude towards technology of the EFL e-learning system and their perceived ease of use to use the system?

RQ 3e: Is there a positive relationship between students' actual use of the EFL e-learning system and their perceived ease of use to use the system?

RQ 4: Do students' age, gender and experience affect their acceptance of the EFL e-learning system?

RQ 4a: If it is effective, which affects more in learners' acceptance of technology?

The study's suggested research questions are showed in Table 1 for the readers' convenience.

Table 1 Summary of the Research Questions

Research Questions	**Path**
R1	PEU → BI
R1a	PU → BI
R1b	ATT → BI
R1c	ICTSE → BI
R1d	EXP → BI
R1e	ENJ → BI
R1f	SN → BI
R1g	AU →BI
R2	PEU → PU
R2a	EXP → PU
R2b	SN → PU
R2c	ENJ → PU
R2d	ATT→ PU
R2e	ICTSE → PU
R2f	AU→ PU
R3	EXP → PEU
R3a	SN → PEU
R3b	ENJ → PEU
R3c	ICTSE ↔ PEU
R3d	ATT→ PEU
R3e	AU → PEU

ATT, attitude toward technology; BI, behavioural intention; PU, perceived usefulness; PEU, perceived ease of use; SN, subjective norm; ENJ, enjoyment; ICTSE, information and communication technology self-efficacy; EXP, experience.

II. LITERATURE REVIEW

A. Introduction

The literature review in this chapter provides a thorough and well-structured examination of important topics, theories, and contextual elements that are relevant to the study. The six sections present a methodical approach to examining current knowledge in the topic, establishing a strong basis for the following chapters of the research.

Examining models and online education theories is an essential first step since it provides a conceptual structure that supports the investigation. The paper examines well-known theories to establish a groundwork for comprehending the elements that influence individuals' approval and utilisation of technology in an educational setting. Incorporation of e-learning theories enhances the existing theoretical framework, providing valuable understanding of the complexities involved in the acceptance and utilisation of online education.

The inclusion of the 'New Normal' in education as a separate category illustrates the research's adaptability to current global changes. The examination of how educational systems globally adjusted to the difficulties caused by the COVID-19 epidemic provides a model for the ensuing emphasis on the earthquake in Turkey-Syria, demonstrating a sophisticated comprehension of the complex disruptions encountered by educational institutions. The focus on the concept of the 'New Normal' acknowledges the changing educational environment and provides a framework for investigating the effect of these disruptions on the views of those acquiring English as a foreign language about online learning.

The inclusion of a specialised segment on the earthquake that occurred in Turkey and Syria emphasises the study's focus on a particular environment. The literature review goes beyond the general 'New Normal' discussion and focuses on the specific problem in Turkey by examining the effects of the earthquake on schooling. This part offers significant insights into the difficulties encountered by students and educational

institutions, contributing to the study's examination of EFL students' perspectives with an additional level of complexity.

The concluding segment, which examines multiple investigations in the discipline, enhances the theoretical and contextual dialogues. The review situates the current study within the wider academic discourse by combining findings from earlier research on technology adoption in educational settings. This synthesis facilitates the identification of any existing deficiencies, contradictions, or patterns in the literature, hence enhancing the research's novelty and importance.

The literature review effectively combines theoretical frameworks, current global educational trends, difficulties specific to the region, and findings from previous study. This thorough approach strengthens the study's theoretical and empirical underpinnings and creates a solid framework for the remaining chapters.

B. Technology Acceptance Models

Technology has become an essential component of the learning process in the constantly changing field of education. The adoption and use of technological breakthroughs, known as technology acceptance, significantly influences the educational experience, especially for students. Technology acceptance is a multidimensional concept that encompasses various factors influencing individuals' willingness to adopt and use technology. The widely recognized Technology Acceptance Model (TAM) posits that perceived usefulness and perceived ease of use are the key determinants of an individual's intention to use technology (Rosyidi & Indasari, 2023). These factors underscore the importance of understanding the practical benefits and user-friendliness of technological tools.

Technology acceptance research has been very active for almost thirty years as technology started appearing in every aspect of life. Several theoretical theories have attempted to explain users' acceptance behaviour. The citation of Alomary and Woollard (2015) effectively underscores the significance of psychological models and theories in understanding consumers' interactions with emerging technology. This recognition highlights the interdisciplinary aspect of technology acceptance research, acknowledging the importance of psychological frameworks in understanding the complexities of user behaviour.

As education undergoes a digital transformation, the integration of technology in classrooms has become inevitable. Students today are presented with an extensive variety of technological tools, ranging from interactive whiteboards to online learning platforms. However, the successful implementation of these tools depends on how readily students accept and incorporate them into their learning routines (Clay, Rowland, & Packard, 2009).

The acceptance of technology among students contributes to an enhanced learning experience. Interactive multimedia, virtual simulations and educational apps attract students in ways typical methods may fall short. The integration of technology fosters a dynamic and interactive learning environment, addressing a wide range of learning styles and preferences.

Beyond the classroom, the acceptance of technology is vital for preparing students for the demands of the digital era. In an increasingly interconnected and technologically driven world, proficiency in using digital tools is a valuable skill. Students who embrace technology during their educational journey are better equipped to navigate the complexities of the modern workforce. Technology can overcome barriers in education by enhancing accessibility and inclusivity in the learning process. Online resources, collaborative platforms, and e-learning materials are designed to accommodate a wide range of learners, including those with varying learning capacities or those who are limited by geographical factors. Embracing technology guarantees that education is not constrained by geographical limitations.

To keep up with the fast rate of technological progress, it is essential to have a mindset of flexibility and a commitment to continuous learning throughout one's life. Students who readily accept technology are more likely to develop a positive attitude toward continuous learning, a crucial skill in an era where new technologies emerge regularly. While the advantages of technology acceptance among students are evident, it is essential to acknowledge and address challenges. Issues such as the digital divide, privacy concerns, and potential distractions need to be addressed to ensure equitable access and a positive technological experience for all students.

Ultimately, the embrace of technology by students plays a crucial role in shaping the future of education. As technological innovations continue to redefine the learning landscape, students who embrace and integrate technology into their educational

journey are better positioned for success in the digital era. Cultivating a culture of embracing technology not only enriches the educational journey but also empowers students with the necessary skills and mentality to navigate the intricacies of a constantly evolving world. Therefore, educators, policymakers, and stakeholders must work collaboratively to create an environment where technology is embraced, ensuring that students are well-prepared for the challenges and opportunities that lie ahead.

This concise summary functions as a clear guide for the following portions of the chapter, signalling that the reader will explore these theoretical models in detail. The incorporation of these models with the chapter's objective of presenting a thorough literature assessment, giving the reader with a fundamental comprehension of the theoretical frameworks that have influenced the discussion on technological acceptance.

1. The Theory of Reasoned Action (TRA)

Ajzen and Fishbein developed The Theory of Reasoned Action (TRA) in 1975, it is a comprehensive social psychology theory that aims to elucidate and forecast human behaviour (Ajzen & Fishbein, 1975). This is achieved by closely examining the complex interaction between attitudes, subjective norms, and behaviour. According to TRA, an individual's inclination to participate in a particular behaviour is mostly shaped by their attitudes concerning the act and the subjective standards they perceive from their social surroundings (1975).

Essentially, the TRA proposes that individuals are more likely to engage in a specific behaviour if they have favourable attitudes towards it and sense a social expectation or pressure to adhere to that behaviour. The complex connection between individual attitudes and perceived societal norms establishes a structure that allows for the comprehension and prediction of human behaviour. The Theory of Reasoned Action, a crucial component of social psychology, offers useful insights into the intricate systems that govern human decision-making and behaviour.

This theoretical framework has found widespread application in various fields, particularly in technology acceptance research. As to the principles of TRA, an individual's behavioural intention serves as the key driver of their actual behaviour. The individual’s attitude towards technology and the influence of subjective norms both contribute to shaping this behavioural intention. The TRA, as a comprehensive

social psychology model, examines the factors influencing intentionally planned conduct (Ajzen & Fishbein, 1975). Figure 2, presented by (Ismail & Razak, 2011), provides a structured representation of the diagrams connected with the TRA. Essentially, the TRA serves as a valuable framework through which researchers and practitioners can analyse and comprehend the intricate dynamics that underlie human behaviour in diverse contexts. It offers a comprehensive perspective that facilitates a deeper understanding of the factors influencing intentional behaviour, making it a valuable tool for those seeking insights into the complexities of human actions across various situations and environments.

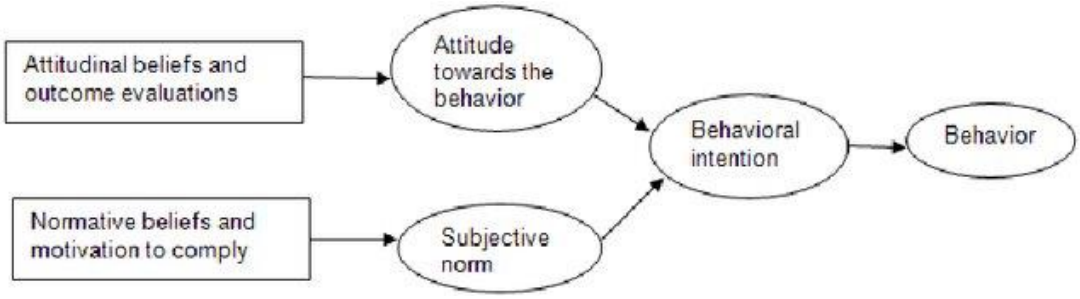

Figure 2 Theory of reasoned action (Fishbein and Ajzen, 1975, 1980) (Ismail & Razak, 2011: 12535)

According to Ismail and Razak (2011), a person's attitudes which can include both positive and negative evaluations of a particular behaviour are based on their beliefs about the outcomes or repercussions of that behaviour. Subjective norms, on the other hand, are beliefs about whether significant others are in favour or against the behaviour, as well as motivation to conform to their expectations.

As the TRA gained prominence in the realm of social science, its inherent limitations, especially in accommodating individuals who perceive limited control over their behaviours and attitudes, became evident. In response to this inherent shortcoming, Ajzen introduced a pivotal concept in 1985: perceived behavioural control (Marangunic & Granic, 2014). By incorporating this third dimension into the initial theory, an evolution emerged, giving rise to what is now recognized as the Theory of Planned Behaviour (TPB). This more comprehensive framework became a vital tool for understanding human decision-making processes, offering a richer and more nuanced perspective on how individuals navigate and shape their behaviours based on their perceived control and intentions.

The analysis conducted by Ismail and Razak (2011) regarding the complex interaction between attitudes and subjective norms within the TRA provides a valuable

viewpoint on the cognitive mechanisms that shape human behaviour. Recognising that attitudes encompass both favourable and unfavourable assessments of particular actions, influenced by beliefs on their consequences, and acknowledging the significance of subjective norms in considering the endorsement or disapproval of influential individuals, provides us with a more intricate perspective on the procedure for reaching decisions.

The examination of the constraints of the TRA, namely its difficulty in accommodating individuals who are thought to have limited control over their behaviours and attitudes, emphasises the flexible nature of psychological theories in adjusting to the complexities of the real world. Ajzen's presentation of perceived behavioural control in 1985, which subsequently led to the development of the TPB, is a crucial milestone in the advancement of theoretical frameworks (Ajzen, 1985). The inclusion of a third dimension enhances the framework by filling the initial deficiencies in TRA and providing a more comprehensive comprehension of human decision-making. The TPB is an essential tool for researchers and practitioners since it focuses on the influence of perceived control and intentions (Ajzen, 1985). It provides a detailed and complex understanding of how individuals navigate and shape their behaviours. This process of evolution highlights the significance of continuously improving and adjusting psychological theories to accurately represent the complex aspects of human cognition and behaviour.

2. Theory of Planned Behaviour (TPB)

In essence, the theory of planned behaviour is an updated and expanded form of the TRA. They are most different in regard to the idea of perceived behaviour control, which is the belief that a specific action, such as improving one's diet or level of physical activity, is actually within one's control (Ajzen, 1991).

One useful framework for comprehending behavioural modification strategies is the TPB. According to the theory, normative, control, and behavioural beliefs are three distinct factors that affect human behaviour. A few TAM-related parameters have been added to TPB. The Theory of Planned Behaviour, however, does not only apply to information systems.

This theory is used in various information technology studies, including those on instant messaging, internet banking, and computer resource centres (Taylor &

Todd, 1995; Shih & Fang, 2004; Lu, Zhou, & Wang, 2009). Its adaptability and relevance extend its reach into numerous contexts, shedding light on the complex interplay of beliefs and intentions in shaping human behaviour. Figure 3 shows the model for the TPB (Chuttur, 2009: 12).

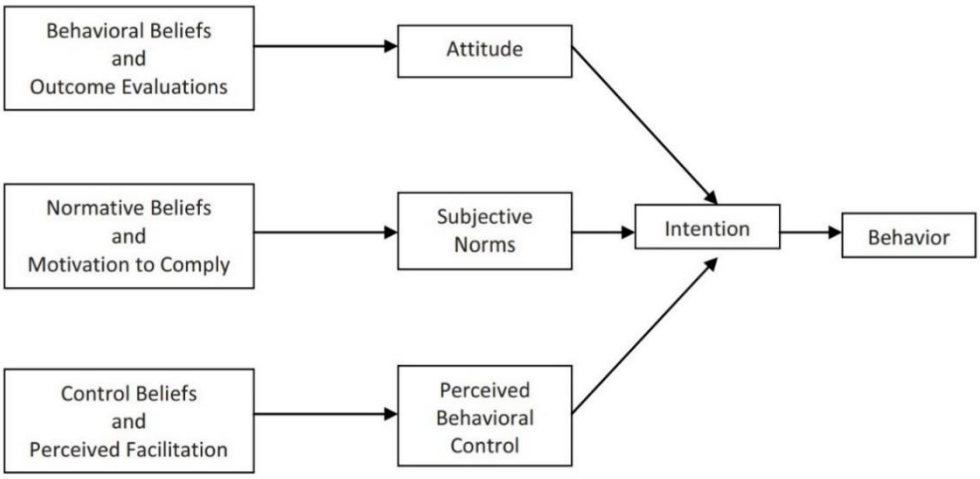

Figure 3 Theory of planned behaviour (Mathieson, 1991, p. 175) (Chuttur, 2009: 12)

While the TRA and the TPB served as valuable frameworks for forecasting behaviour, the application of these methods to a variety of contexts, such as determining the degree to which users adopt data systems, presented them with difficulties. Many studies grappled with the task of generating dependable metrics for system acceptance or rejection within these models. In response to these issues, Davis (1985) introduced the Technology Acceptance Model (TAM), a model that synthesized elements from both TRA and TPB. The model changed how people behave by looking at how they actually use a system. It did this by using PU and PEU to guess how people would act and react without taking subjective norms (SN) into account (Davis, 1985). This innovative model represented a pivotal shift in understanding user acceptance, providing a more tailored and applicable framework for comprehending how individuals interact with technology, making it a cornerstone in an investigation of how people engage with and embrace new technologies in a variety of settings.

The transition from the TRA to the TPB is a notable progress in comprehending human actions, more precisely in the realm of techniques for modifying behaviour. Theory of Planned Behaviour (TPB) differentiates itself from TRA by incorporating perceived behaviour control, which focuses on the belief in one's ability to control certain acts. This addition makes TPB a more advanced and comprehensive form of

TRA. According to (Chuttur, 2009), this paradigm suggests that normative, control, and behavioural beliefs play a crucial role in determining human behaviour. Originally formulated beyond the realm of information systems, the TPB has found extensive application across a spectrum of information technology research, showcasing its versatility and significance in comprehending user behaviour in contexts such as instant messaging, internet banking, and computer resource centres.

Nevertheless, the exploration of behavioural theories does not conclude with TPB. Difficulties emerged while utilising TRA and TPB in varied situations, such as assessing the level of user approval towards information technologies. (Davis, 1985) tackled these problems by introducing the TAM from two previously discussed models. With TAM, by emphasising PEU and PU, while disregarding subjective norms, presented an innovative viewpoint on the human-technology interaction. This concept significantly transformed the realm of integrating technological breakthroughs and engagement in diverse situations, providing a more customised and practical framework. The repetitive aspect of these theories emphasises the always changing terrain of comprehending and forecasting human behaviour, especially in the constantly evolving domain of technology adoption.

3. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) has become a dominant framework for comprehending the adoption and utilization of technology (Legris, Ingham, & Collerette, 2003). The TAM derived from the TRA (Fishbein & Ajzen, 1975) by Davis in his PhD work (Davis, 1985). The model offers a useful theoretical framework for comprehending and anticipating how users will interact with and use technology. Davis proposed that user motivation could explain or predict the real-world application of a structure when he first introduced the framework. The actual features and capabilities of the system, as shown in Figure 4, are an external stimulus that directly shapes this motivation (Chuttur, 2009).

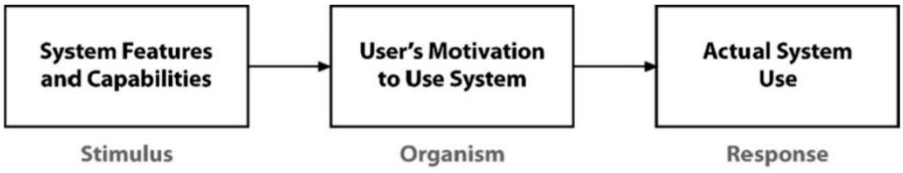

Figure 4 Conceptual Framework (Davis, 1985: 10)

In addition to this framework, Davis developed the TAM as shown in Figure 5, with arrows representing causal relationships. According to that, three factors—perceived ease of use, perceived usefulness, and attitude toward use—explain user motivation. A user's attitude toward a system would contribute significantly to his or her decision to employ or dismiss the framework (Davis, 1985).

Perceived usefulness and perceived ease of use were considered to be the two main factors influencing a user's attitude, with PEU being directly influencing PU. The Fishbein paradigm classifies design aspects as external factors; therefore, they are not expected to directly affect attitude or behaviour; rather, they are expected to indirectly influence these variables through perceived usefulness and perceived ease of use (Davis, 1985). The X1, X2, and X3 in Figure 5 represent system design characteristics, which are hypothesized to influence both beliefs.

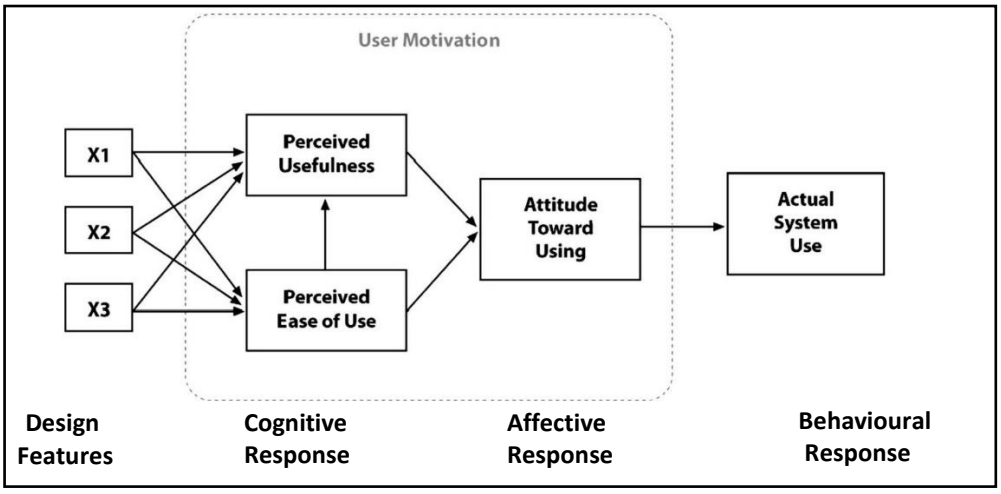

Figure 5 Original TAM (Davis, 1985: 24)

The foundational concept of the TAM is perceived usefulness (PU), which quantifies the extent to which an individual believes that employing a particular technology would enhance their productivity or performance (Davis, 1985). A favourable inclination to utilize a technology is more probable when an individual perceives it as practical. Perceived ease of use (PEU) is another important factor in TAM. It refers to the extent to which a person believes that using a technology would be easy and easy to understand. The perceived ease of use of a technology positively influences its adoption rate. According to the TAM, which asserts that PU and PEU are the two determinants of this attitude, a person's intention to use a technology directly influences their attitude toward its use.

Actual usage behaviour, which is the result of TAM, depends on the intention to use. If an individual has a positive intention to use a technology, they are more likely to actually use it. Subjective norms, which are the perceived expectations and opinions of others regarding the adoption of a technology, influence attitudes. Social pressure, peer opinion, and the perception of support from authority figures are just a few examples of the factors that can affect subjective norms (Marangunic & Granic, 2014).

The model recognises that external factors or obstacles can alter the relationship between intention and the actual use of technology. External variables can complicate and diversify the way users ultimately interact with and accept technology advancements. This model acknowledges the significance of taking into account external factors that might either hinder or assist, therefore influencing the interaction between user intention and the actual application of technology. This perspective highlights the model's adaptability in accepting various contextual elements that influence the intricate landscape of technology adoption.

Many academics have employed the TAM as a foundational framework in their studies, examining the areas of technology adoption and usage in diverse contexts such as e-learning, healthcare, social media, and advertising. The model has played a vital role in identifying user behaviour characteristics that reliably forecast and influence the acceptance and use of technology.

The model's primary focus on the perception of usefulness and simplicity of use has continuously garnered approval in numerous research. Scientists have expanded the Technology Acceptance Model (TAM) by incorporating supplementary aspects that play crucial roles in influencing the acceptance of technology. Agarwal and Karahanna's (2000) study demonstrated that TAM is relevant in the context of e-commerce, while Lee and Lehto's (2013) analysis provided evidence of TAM's effectiveness in the field of mobile tourism apps. Multiple studies have highlighted the durability of TAM's concepts, including the practical use and perceived simplicity. In a meta-analysis conducted by Venkatesh and Bala (2008), the dependability of these indicators was confirmed across numerous research, solidifying TAM's status as a versatile and long-lasting paradigm for understanding the complex dynamics of technological acceptance.

However, TAM has received criticism due to its narrow emphasis on the indivual-level and limited consideration of broader contextual factors. This implies that it may not be the optimal model for understanding the adoption and implementation of complex technology in all situations (Matarirano, Jere, Sibanda, & Panicker, 2021). Huang, Lin, and Chuang (2007) conducted an experiment that supports this criticism. Their findings show that, when it comes to using social media, elements like norms and social identity have more influence than perceived usefulness and perceived ease of use.

Additionally, some scholars have contended that the Technology Acceptance Model (TAM) might not be the best suitable framework for understanding how people make use of complex and diverse technologies like artificial intelligence (AI) and block chain (Alalwan, Dwivedi, & Rana, 2017). Through multiple expansions and extensive study conducted over several years, the model has undergone evolution and ultimately resulted in the creation of the TAM 2 model by Venkatesh and Davis (2000). This demonstrates an acknowledgement of the necessity for improvement and advancement to tackle the changing environment of technology adoption.

4. Technology Acceptance Model 2 (TAM2)

The Technology Acceptance Model 2 (TAM2) is an improvement of the original Technology Acceptance Model (TAM). Venkatesh and Davis (2000) created TAM2 to address some of the shortcomings of the initial approach and to offer a more comprehensive model for comprehending and forecasting the adoption and utilization of technology (see Fig. 6).

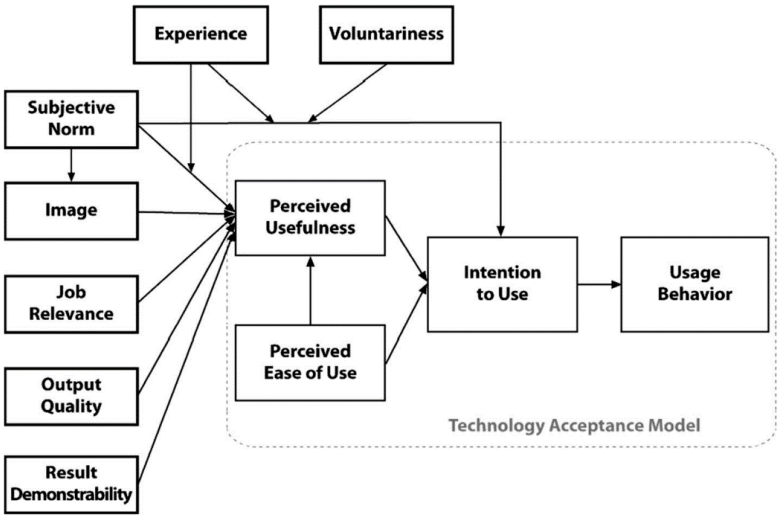

Figure 6 TAM2 (Legris, Ingham, & Collerette, 2003: 200)

Venkatesh and Davis (2000) say that TAM2 includes more factors, like perceived usefulness, perceived ease of use, subjective norm, image, work value, satisfactory outcome demonstrability, and voluntariness of use. The objective of this enlarged framework is to offer a more thorough comprehension of the complex factors that impact individuals' inclination to embrace and employ technology.

The TAM2 aims to provide a comprehensive and detailed understanding of the various aspects that influence consumers' choices when it comes to adopting and using technology. Additionally, experience and voluntariness moderated the subjective norm, in line with (Marangunic & Granic, 2014) findings. Since its development, TAM2 has been applied and tested in different contexts, such as online shopping, e-learning, mobile commerce, and social media. Many studies have found support for the model and have provided insights into the factors that influence technology acceptance and use.

Overall, these studies suggest that TAM2 provides a helpful structure for comprehending and predicting technology acceptance and use and that the additional constructs integrated into the model can enhance its predictive power.

5. The Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh and colleagues later improved and expanded the Technology Acceptance Model to produce the Unified Theory of Acceptance and Use of Technology (UTAUT) in 2003 (Venkatesh, Morris, Davis, & Davis, 2003). Behavioural intention (BI), according to the UTAUT theoretical model, dictates the usage of technology in practice.

The UTAUT is a comprehensive framework that identifies four fundamental factors and introduces four moderating variables in the context of predicting both behavioural intention to use a technology and actual technology use (Venkatesh, Thong, & Xu, 2016). In discerning technology adoption, critical elements encompass performance expectancy, effort expectancy, social influence, and facilitating conditions (Sharifian, Askarian, Nematolahi, & Farhadi, 2014). Performance expectancy pertains to the user's anticipation of how technology will improve their performance, while effort expectancy denotes the perceived ease of using the technology. Facilitating conditions comprise the external support and resources that are accessible for technology use.

In the UTAUT model, it is posited that behavioural intention and facilitating factors play crucial roles in determining technology use, while behavioural intention and anticipated effort significantly impact the purpose of using technology. The model also takes into account different mixes of the four facilitators: age, gender, experience, and voluntariness. These have been thought to affect different relationships in the UTAUT framework and have been shown to do so (Venkatesh, Thong, & Xu, 2016).

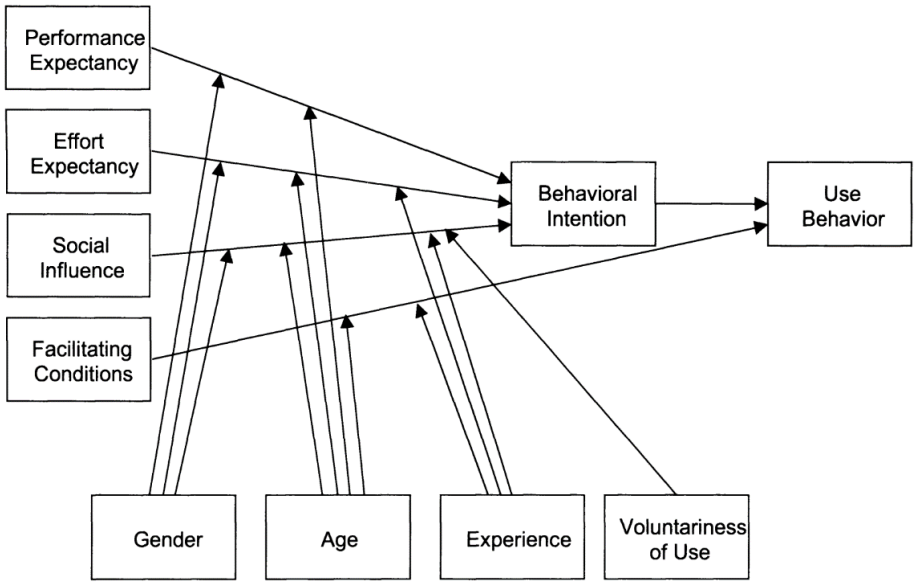

Figure 7 Unified Theory of Technology Acceptance and Use of Technology (Venkatesh, Morris, Davis, & Davis, 2003: 447)

The model's structural framework is visually represented in Figure 7, offering a comprehensive view of how these factors and moderators interrelate in understanding technology acceptance and use.

6. The General Extended Technology Acceptance Model for E-Learning (GETAMEL)

Abdullah and Ward (2016) state that for more than ten years, TAM has been used in e-learning research with a variety of outside variables. In e-learning adoption research, as a result, there are many different external influences and extended technology acceptance models (Lefievre, 2012; Martin, 2012; Williams & Williams, 2010). A General Extended Technology Acceptance Model for E-Learning (GETAMEL) is necessary as a result of this. This model, grounded in the incorporation of the most commonly utilized external variable, is expected to provide broad utility and widespread applicability for a diverse variety of e-learning technologies as well as systems (Abdullah & Ward, 2016).

This is a theoretical model that extends TAM to offer a broader framework for understanding and predicting students' willingness and acceptance of e-learning technologies (Zazili & Abu, 2023). The GETAMEL includes more factors, like self-regulated learning, perceived enjoyment, and trust, to get a better picture of the complicated variables that affect students' choice to use and adopt e-learning technologies (Abdullah & Ward, 2016).

Several studies have been conducted to test and validate GETAMEL in various contexts, such as online courses, blended learning environments, and mobile learning. These studies have provided insights into the variables that affect students' acceptance and use of e-learning technologies and provided recommendations for further research and refinement of the GETAMEL model (Abdullah & Ward, 2016).

The TAM has been extensively employed in e-learning research, while the GETAMEL is a novel model that expands upon the TAM. This signifies a significant advancement in comprehending the manner in which pupils employ technology within educational institutions. The recognition by Abdullah and Ward (2016) of the widespread use of TAM over the past ten years and the subsequent development of other models highlights the ever-changing nature of research in the adoption of e-learning. The GETAMEL model, which integrates shared external variables and incorporates elements such as self-regulated learning, perceived enjoyment, and trust, provides a more effective approach to understanding the intricate motivations behind students' adoption of e-learning technology.

The comprehensive examination and verification of GETAMEL in various settings, such as online courses and blended learning environments, have yielded valuable observations regarding the intricate factors that influence students' willingness to adopt and utilise e-learning technologies (Adouani & Khenissi, 2024). These findings provide guidance for future investigations and improvements. Jiang et al. (2021) have classified factors into internal motives and result variables, which helps us grasp the complex nature of students' decisions about the adoption of technology. The ongoing study in this field is shedding light on the intricate relationship between various aspects that influence students' involvement in e-learning. This progress is leading to the development of more customised and efficient educational technology applications.

The model's structural framework is visually represented in Figure 8, offering a comprehensive view of how these factors and moderators interrelate in understanding technology acceptance and use.

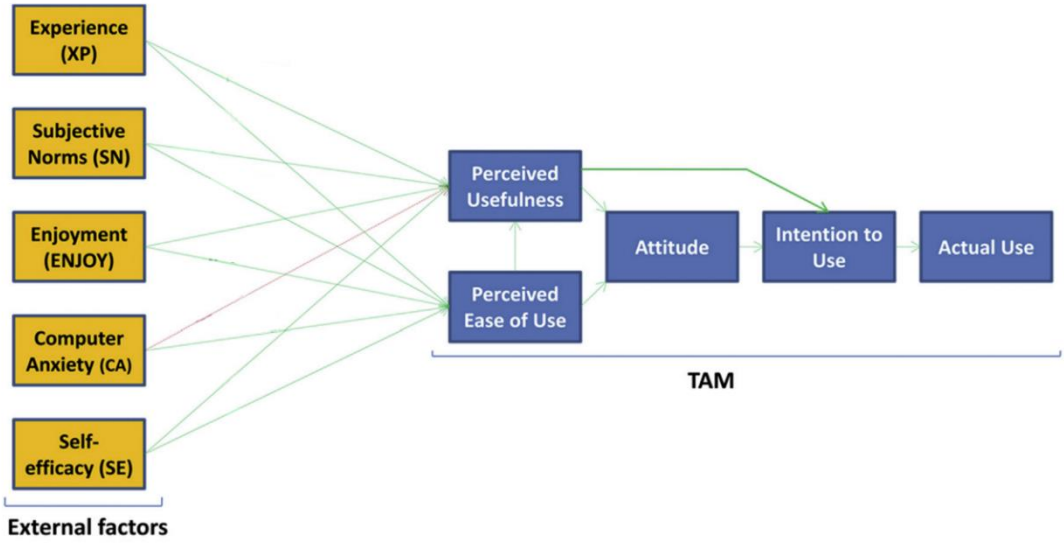

Figure 8 General Extended Technology Acceptance Model for E-Learning (GETAMEL) (Abdullah & Ward, 2016: 246)

We can divide variables as: "(1) internal variables of user motivation, including perceived ease of use (PEU), perceived usefulness (PU), and attitude toward technology (ATT) and (2) outcome variables such as behavioural intention (BI) to use the technology and actual use (AU)" (Jiang, et al., 2021: 2).

a. Perceived usefulness (PU) and perceived ease of use (PEU)

According to Chen, Lin, Yeh, and Lou (2013), the examination of technological acceptance focuses on the significant influence of PEU and PU in understanding people's adoption of technology. Davis (1989: 320) provides descriptions for these characteristics that emphasise the practical and performance-enhancing features that impact users' attitudes towards adopting technology. The TAM model, as explained by Chen et al. (2013), acknowledges the influence of external factors on PEU and PU, highlighting the importance of these influences in explaining technology adoption behaviour.

The research landscape provides further evidence that perceived utility is a crucial predictor of technological uptake in different fields. Holden and Karsh (2010) discovered that in the field of electronic health records, the perception of utility strongly influenced healthcare practitioners' inclination to utilise the technology.

Within the realm of e-learning, research such as the one conducted by Baki, Birgören, and Aktepe (2018) emphasises the significant impact of PU and PEU as factors that reflect learners' attitudes and intentions towards utilising e-learning systems. The extent to which learners are willing to adopt and make use of e-learning technologies is strongly linked to their assessments about the practicality and user-friendliness of such systems (Li & Liu, 2023).

Abdullah and Ward's study expands on this comprehension by recognising outcome variables such as experience (EXP), subjective norm (SN), enjoyment (ENJ), and self-efficacy (SE), as significant predictors of reported usefulness and perceived ease of use (Abdullah & Ward, 2016). The inclusion of subjective norm, which encompasses societal pressure, and enabling conditions, which encompass the support and resources required for technology use, broadens the range of elements that impact individuals' acceptance of technology. The comprehensive viewpoint emphasises the complex interaction between internal and environmental factors in influencing attitudes and intentions towards the use of technology. Technology acceptance models, as they progress, provide useful insights into the complex dynamics that influence consumers' choices to adopt or reject technological advancements.

b. Attitude toward technology (ATT)

The importance of Attitude Toward Technology (ATT) in the TAM framework highlights its role in influencing individuals' intents and behaviours when it comes to adopting particular technologies. According to the TAM, an individual's viewpoint on the use of a specific technology plays a crucial role in deciding their intended use of it. This is a comprehensive assessment that considers various aspects, such as emotions, judgements on usefulness, and views of user-friendliness.

According to Fishbein and Ajzen (Fishbein & Ajzen, 1975), ATT refers to the level of evaluative affect linked to the utilisation of the target system within one's occupation. Davis (1989) emphasises that a variety of factors, including a person's personal beliefs, social norms, and the perceived usefulness and simplicity of the technology, affect ATT. Attitude is positively correlated with a greater intention to utilise the technology and higher rates of adoption. Conversely, negative attitude towards technology is negatively correlated with intention and leads to lower rates of adoption.

Multiple studies support the central importance of ATT in the TAM framework. Venkatesh and Davis (2000) discovered that ATT continues to be a substantial predictor of the intention to adopt new technology, even after considering factors such as PU and PEU. Markovich (2016) investigated the influence of demographic characteristics on attitudes towards blended learning within the framework of adult literacy and basic skills programmes. In an alternative investigation, Suwantarathip (2019) found that students' perspectives towards blended learning had a substantial impact on their contentment with an English course. These findings emphasise the lasting significance of ATT as a crucial factor in comprehending and forecasting humans' reactions to the use of technology in various situations.

c. Subjective norm (SN)

The concept of Subjective Norm (SN) in the TAM highlights the significant impact of societal judgements on individuals' choices to accept particular technologies. SN, as described by Venkatesh et al. (2003), refers to an individual's perception of the opinions of important people regarding their behaviour, whether it is performing or not performing a specific action. The essence of SN is in the acknowledgment that individuals are intrinsically prone to the influence of those who hold significance in their lives, including colleagues, acquaintances, relatives, and superiors (Venkatesh et al., (2003). In the context of TAM, SN refers to an individual's impression of the social influence that compels them to choose a certain technology or system.

The Technology Acceptance Model (TAM), according to Burgess and Worthington (2021), contends that there is a corresponding increase in the desire to use a particular technology when subjective norms rise. This highlights the concept that social influence is extremely important in changing individuals' attitudes and behaviours when it comes to adopting technology. Within the realm of online education, the increased significance of SN became particularly apparent during the period of the COVID-19 shutdown. According to Jiang et al. (2021), students showed a stronger tendency to adopt educational technologies in remote learning when they received suggestions or guidance from their classmates, teachers, and other influential individuals in their learning environment. This underscores the pragmatic significance of SN in comprehending the dynamics of technology adoption, emphasising the crucial role of social influences in changing individuals' intentions and behaviours.

d. Experience (EXP)

Experience (EXP) plays a crucial role in the Technology Acceptance Model (TAM), having a substantial impact on individuals' attitudes, perceived usefulness, and ease of use (Mailizar, Burg, & Maulina, 2021). These factors collectively determine their willingness to embrace a specific technology (Davis, 1989). According to the concept, people who have had favourable previous experiences are more inclined to perceive the technology as beneficial, easy to use, and dependable. As a result, their intention to use it is increased. This idea has been examined in numerous studies conducted in various circumstances. Holley and Oliver (2010) discovered that students' previous educational experiences have a substantial influence on their achievement in online learning environments, emphasising the lasting significance of earlier interactions with technology. In a study conducted by Haverila (2011), a notable association was found between prior engagement in e-learning and the perceived learning outcomes among undergraduate students at a public institution. Aside from previous experience, the degree of familiarity with a technology can also impact its acceptability. These findings indicate that those with greater familiarity with e-learning are more inclined to view it as a proficient educational instrument. Moreover, the extent of familiarity with a technology can also affect an individual's self-assurance and ease in utilising it, further shaping their willingness to embrace e-learning.

Moreover, it has been acknowledged that the level of expertise, rather than just past experience, is crucial in the acceptance of technology. Venkatesh and Bala (2008) found that people with middle levels of knowledge had more positive attitudes towards technology compared to those with low or high levels of experience. This subtle discovery indicates that those with a moderate level of knowledge are more inclined to keep an impartial viewpoint, recognising both the advantages and disadvantages of the technology. The significance of these observations goes beyond simple adoption of technology; they highlight the complex relationship between individuals' experiences, attitudes, and perceptions, emphasising the importance of fully understanding how experience influences the acceptance of technology (Venkatesh & Bala, 2008). As technology progresses, these reflections help improve and make models like TAM more relevant in understanding the intricacies of human engagement with technology.

e. Information and communication technology self-efficacy (ICTSE)

Bandura's (1982) comprehensive investigation into self-efficacy, which refers to an individual's confidence in their capacity to effectively navigate different situations, has established a strong basis for comprehending the significance of perceived ease of use. Information and Communication Technology self-efficacy (ICTSE), sometimes referred to as computer self-efficacy or technological self-efficacy, is a significant internal factor inside the TAM. This concept pertains to an individual's self-assurance in their capacity to proficiently utilise information and communication technology to accomplish desired results. Derived from the broader concept of self-efficacy, which refers to the belief in one's capability to effectively perform certain activities (Venkatesh & Davis, 2000). The ICTSE is a significant factor that influences individuals' attitudes, opinions, and intentions about the use of ICT.

Studies regularly show that individuals' belief in their own capacity to use ICT has a significant impact on how they perceive the usefulness and ease of use of ICT. Individuals who possess a strong sense of self-efficacy in ICT are more inclined to perceive ICT as both beneficial and user-friendly. Consequently, this favourable image amplifies their inclination to embrace and utilise ICT. The connection between self-efficacy and technology adoption underscores the psychological dimension of individuals' engagement with technology, emphasising the significance of confidence and belief in one's capacity to effectively navigate and utilise information and communication technologies. As technology progresses, this knowledge becomes crucial for developing strategies to improve the user experience and encourage the wider usage of emerging technologies.

f. Enjoyment (ENJ)

The Technology Acceptance Model (TAM), which Davis, Bagozzi, and Warshaw (1989) proposed, emphasises the significant influence of people's perceptions of enjoyment (ENJ) on their attitude toward technology (ATT), perceived usefulness (PU), and perceived ease of use (PEU). These factors ultimately determine their intention to use the technology. The focus on the enjoyment aspect in the TAM acknowledges the significant influence of individuals' emotional reactions to technology on their overall attitudes and actions (Davis, Bagozzi, & Warshaw, 1992). The acknowledgement of the significance of enjoyment highlights the understanding

that individuals' decisions to accept technology are not exclusively driven by rational evaluations but are also impacted by their emotional encounters.

The study on online shopping by Kubaş, Ylmaz, Güt, and Balolu (2016) provides empirical evidence for the relationship between reported ENJ, PU, and PEU. The interplay between emotional responses and cognitive assessments in the technology adoption process is characterised by mutual and positive influence, emphasising the complex link between these components. Acquiring a thorough comprehension of the significance of emotional reactions, namely the experience of enjoyment, becomes increasingly crucial as technology continues to evolve. In a context where user experience and engagement are of utmost importance, recognising the influence of emotions on individuals' attitudes and behaviours towards technology is essential for creating and executing technologies that deeply connect with users on both practical and emotional dimensions. This acknowledgment improves the comprehensive comprehension of the forces that propel the acceptance of technology in a changing technological environment.

C. E-learning

The idea of e-learning, as put forth by Wentling and colleagues (2000), represents a significant advancement in the field of education. E-learning is the process of acquiring and using knowledge primarily through electronic methods. It represents a shift from traditional teaching-focused approaches to a learner-centred approach. This modern technique utilises networks and computers, with the possibility of developing into versatile systems that integrate several channels and technologies, including wireless, satellite, cellular phones, and PDAs (Basak, Wotto, & Belanger, 2018). E-learning encompasses a range of formats, including courses, modules, and smaller learning items. It allows for both synchronous and asynchronous access, as well as geographical dissemination, with the added benefit of variable time limitations (Wentling, et al., 2000).

1. The Benefits of E-Learning

The education sector has experienced a substantial shift in recent years due to the emergence of e-learning and online education. This shift has brought about numerous benefits, revolutionizing the way individuals’ access and acquire

knowledge. Under this title, researcher explores the advantages of e-learning, focusing on three key aspects: flexible learning schedules and locations, access to a wide range of courses and programs, and the personalized learning experience it offers. One of the primary advantages of e-learning is the flexibility it provides in terms of learning schedules and locations. Traditional education often demands a fixed timetable and physical presence, which can be challenging for individuals with busy schedules, professional commitments, or geographical constraints. E-learning breaks these barriers, allowing students to tailor their learning experience to their own pace and convenience.

Online education grants learners the autonomy to select the time and location in which they interact with course content. This adaptability enables individuals to effectively manage their academic endeavours with employment, social responsibilities, and other personal engagements. Whether it's early morning, late at night, or during a lunch break, e-learning accommodates diverse lifestyles, fostering a more inclusive and accessible educational environment.

E-learning transcends the limitations of traditional education by offering access to an extensive array of courses and programs. Geographical constraints often restrict individuals from pursuing specific fields of study due to the unavailability of institutions in their vicinity. Online education overcomes this obstacle, providing access to a large range of courses offered by universities and organisations worldwide.

Furthermore, e-learning allows students to delve into multidisciplinary subjects, specialised areas of knowledge, and developing fields that may not be easily accessible in traditional educational environments. This democratization of knowledge ensures that learners can pursue their passions and career goals without being confined to the constraints of traditional educational boundaries. Another notable benefit of e-learning is the personalized learning experience it affords.

Traditional classrooms often employ a standardised method, leaving some students struggling to keep pace while others may feel unchallenged. E-learning platforms leverage technology to tailor educational content to individual learning styles, preferences, and progress. Adaptive learning technologies, personalized assessments, and data-driven insights enable educators to create customized learning paths for each student. This not only enhances engagement but also maximizes the

efficiency of the learning process. Students can revisit challenging topics, explore supplementary resources, and progress at their own speed, fostering a deeper understanding of the material.

Basak, Wotto, and Belanger (2018) say that e-learning is a complex concept that includes various components such as self-paced training, virtual events, mentorship, simulations, teamwork, evaluation, competency road maps, authoring tools, e-stores, and learning management systems. This comprehensive method places emphasis on the individual learner, allowing for a tailored educational experience. The emergence of e-learning represents a significant change in the way knowledge is acquired, enabling individuals to take control of their learning experiences through the accessibility and customisation provided by the internet and computer networks (Halkett, 2002).

E-learning is a vital tool for professors and students in higher education, providing flexibility, adaptation, and improved opportunities for engagement and understanding of subjects (Kirkwood, 2009). The impact of e-learning on education is evident as it continues to evolve, promoting a dynamic and learner-centric approach that challenges the limitations of traditional learning.

The implementation of e-learning is indicative of a wider pattern in academia, utilising technology to facilitate the process of teaching and learning and guaranteeing that students can avail themselves of adaptable educational materials (Nguyen, et al., 2022). Bhuasiri and his colleagues outline numerous benefits of e-learning for students, ranging from enhanced information accessibility to increased convenience (Bhuasiri , Xaymoungkhoun , Zo, Rho, & Ciganek, 2012). Various studies (Ruiz, Mintzer, & Leipzig, 2006; Welsh, Wanberg, Brown, & Simmering, 2003; Zhang, Zhao, Zhou, & Nunamaker, 2004) have demonstrated that online education offers several advantages, such as reduced expenses, reliable content delivery, and enhanced monitoring for instructors. These benefits have also been observed to extend to stakeholders worldwide.

In conclusion, the benefits of e-learning and online education are manifold, fundamentally reshaping the landscape of learning. The flexibility in learning schedules and locations, access to a diverse range of courses, and the personalized learning experience contribute to a more inclusive, accessible, and effective

educational paradigm. The continuous advancement of technology presents limitless possibilities for e-learning to transform education and empower learners on a global scale. Adopting this change is not only an option but a move towards a future where education becomes a lifelong endeavour that is available to everyone.

2. Challenges of Online Education Today

While e-learning and online education have undeniably brought about significant advancements in the accessibility and flexibility of learning, it is imperative to acknowledge the challenges associated with this transformative approach (Alam & Mohanty, 2023). Under this title, researcher delves into three prominent drawbacks of online education: the absence of direct interpersonal communication and socialization, technological issues and dependence, and the self-discipline and motivation challenges faced by learners in the digital realm.

An inherent limitation of e-learning is the lack of conventional in-person interaction. and the resulting impact on socialization. Traditional classrooms foster a collaborative environment where students can engage in discussions, group projects, and immediate feedback from teachers. Conversely, e-learning heavily depends on virtual communication tools, which may not completely reproduce the intricate interpersonal dynamics of face-to-face encounters.

The lack of physical presence can hinder the development of crucial social skills, teamwork, and a sense of community. Students may miss out on the opportunity to engage in spontaneous discussions, form personal connections with peers, and benefit from the non-verbal signals that enhance communication. As a result, the social aspect of education, which is vital for holistic development, may be compromised in an online learning environment. E-learning relies on technology and is therefore vulnerable to different technological challenges that can interrupt the learning process. Internet connectivity problems, hardware malfunctions, software glitches, and other technical issues can impede a seamless learning experience. Moreover, the digital divide amplifies disparities, as not all students have equal access to essential technology and a dependable internet connection.

The reliance on technology also raises issues regarding the excessive dependence on digital resources for learning. The constant use of screens may contribute to issues such as digital eye strain, sedentary behaviour, and potential

negative impacts on mental health. The e-learning landscape presents a challenge in finding a middle ground between utilising technology for educational objectives and avoiding excessive dependence remains a challenge in the e-learning landscape. E-learning places a significant responsibility on learners to manage their own time, set goals, and maintain motivation without the traditional structures provided by in-person education. The absence of a physical classroom and face-to-face interaction may lead to a lack of accountability, making it challenging for some students to stay disciplined in their studies.

The freedom to create one's schedule can be a double-edged sword, as it requires a high level of self-discipline to resist distractions and maintain focus. Additionally, the isolation that comes with online learning may contribute to feelings of disengagement and reduced motivation. To overcome these obstacles, both learners and educators must take proactive measures to foster a sense of responsibility and motivation in the digital learning setting.

E-learning is not solely a means of transmitting information; it is a versatile instrument that amplifies individual career fulfilment, integrates systems for managing human resources, and cultivates pleasure among e-learners (Uden, Wangsa, & Damiani, 2007). As stated by Filimban (2008), a comprehensive e-learning ecosystem integrates web-based portals with human resources capabilities to empower students to manage their learning experiences. This strategy places a strong emphasis on fostering technological competency, cultivating critical thinking abilities, and applying them in real life situations. Although e-learning offers numerous benefits, it is not exempt from difficulties.

Particularly in the context of a pandemic, the convenience and flexibility of studying may reduce social engagement and amplify discontent (Nikou & Maslov, 2022). The current discussion revolves around weighing the advantages and difficulties of e-learning as educational institutions navigate the intricacies of this transformative transition towards technology-enabled education. Numerous children and instructors are still struggling with the consequences of this shift.

While e-learning and online education offer unprecedented opportunities, it is crucial to acknowledge and address the drawbacks that can hinder the overall effectiveness of this mode of learning. The lack of face-to-face interaction and

socialization, technological issues and dependence, and self-discipline and motivation challenges underscore the need for a balanced and thoughtful approach to digital education. Recognizing these drawbacks, we can gain insights that will guide the creation of tactics and measures aimed at fostering a globally inclusive, captivating, and efficient online educational environment for students.

3. E-Learning in Higher Education

The higher education sector is currently undergoing a significant shift away from traditional teaching methods and towards contemporary instructional techniques that make use of computer technology. Encarnacion, Galang, and Hallar (2021) emphasise that this strategy change intends to enhance the dissemination and acquisition of knowledge by connecting education with the evolving requirements of the digital era. Ananga (2020) highlights the mutually beneficial connection between education and technology, which signifies a vital point of convergence in their development. E-learning is becoming increasingly influential in this shift as institutions adopt strong e-learning systems to update and enhance the educational experience (Baji, Azadeh, Sabaghinejad, & Zalpour, 2022). As higher education institutions increasingly embrace e-learning, acknowledging the challenges and limitations of this transformative approach becomes imperative for a holistic understanding of its impact.

Furthermore, the demand for high-quality digital infrastructure places an additional burden on educational institutions and may require significant financial investments. Bridging the digital divide and ensuring equal access to technology remain major challenges in the implementation of e-learning at the higher education level. The potential for decreased motivation is also a significant concern. Students may struggle to maintain the same level of accountability, leading to procrastination and reduced overall commitment to their studies. Overcoming these challenges requires innovative pedagogical approaches, effective use of technology, and strategies to enhance student motivation and engagement in the digital learning space. The absence of face-to-face interaction can hinder the development of essential social skills, teamwork, and a sense of community among students.

When digital communication replaces physical presence, creating a supportive learning environment becomes more difficult. Educators must explore innovative ways to facilitate socialization, collaboration, and peer interaction in the online realm

to address this limitation. By actively addressing these challenges, higher education institutions can utilise the benefits of e-learning while ensuring an inclusive and effective educational experience for all students. E-learning in higher education holds great promise, but it is essential to confront and address the challenges and limitations inherent in this mode of learning.

In the dynamic landscape of higher education, the successful implementation of e-learning requires a strategic and thoughtful approach. The foundation of successful e-learning lies in clear communication and well-defined expectations. Establishing transparent guidelines and expectations at the beginning of each course helps students understand the structure, goals, and assessment criteria. In the absence of face-to-face interaction, instructors must leverage digital communication tools effectively to share information, address questions promptly, and create an open channel for dialogue. Clear communication extends beyond course content to include technical requirements, deadlines, and support services available to students. Providing a comprehensive syllabus, regular updates, and detailed instructions for assignments contribute to a positive e-learning experience. Establishing a sense of community through virtual channels, such as discussion forums or collaborative platforms, fosters a supportive learning environment and enhances student engagement.

Engagement is essential in the success of e-learning, and an interactive course design is instrumental in achieving this goal. Passive consumption of content is less effective in the digital realm, making it crucial for educators to design courses that encourage active participation, critical thinking, and collaboration among students. Incorporating multimedia elements, interactive quizzes, virtual simulations, and discussion forums can elevate the learning experience.

Diversifying instructional methods caters to different learning styles and keeps students motivated. Additionally, the use of emerging technologies, such as virtual reality or gamification, can enhance engagement and provide a more interactive educational experience. Balancing content delivery with opportunities for student interaction and collaboration contributes to a vibrant and effective e-learning environment.

The dynamic nature of education demands continuous evaluation and improvement of e-learning programs. Regular assessment of course effectiveness,

student outcomes, and feedback mechanisms is crucial for identifying areas of improvement and ensuring alignment with educational goals. This ongoing process allows educators and institutions to adapt to evolving pedagogical practices and technological advancements.

Collecting feedback from both instructors and students provides valuable insights into the strengths and weaknesses of e-learning programs. This feedback process can inform adjustments to course content, instructional methods, and technology integration. Furthermore, staying up to date of best practices in e-learning, attending professional development opportunities, and fostering a culture of innovation contribute to the ongoing enhancement of e-learning programs in higher education.

a. Trends and innovations in e-learning in higher education

The landscape of higher education is evolving rapidly, driven by technological advancements and a growing demand for flexible, personalized learning experiences. The researcher explores three key trends and innovations shaping the future of e-learning in higher education: the integration of virtual reality (VR) and augmented reality (AR) technologies, the rise of adaptive learning systems and personalized learning pathways, and the use of data analytics to enhance and optimize e-learning experiences (Al-Ansi, Jaboob, Garad, & Al-Ansi, 2023).

The integration of VR and AR, represents a ground breaking trend in e-learning. These immersive technologies offer a transformative learning experience, allowing students to engage with course content in three-dimensional environments. VR provides simulated experiences, such as virtual field trips or lab simulations, offering a level of experiential learning that was previously challenging to achieve in an online setting. Augmented reality, in contrast, improves the real-life experience by putting online data. AR programs, such as those used on smartphones or AR glasses, can enhance textbooks by incorporating interactive images. Additionally, they allow students to engage with historical objects by providing a means to examine them virtually. The integration of VR and AR technologies not only enhances engagement but also provides students with practical, hands-on experiences, bridging the gap between theory and application in a virtual space (Al-Ansi et al., 2023).

Adaptive learning systems represent a significant shift towards individualized and responsive education. These systems use data-driven algorithms to assess students' strengths and weaknesses, adapting the learning experience to meet their specific needs. By continuously analysing performance data, adaptive learning platforms can dynamically adjust content, pacing, and assessments to optimize each student's learning journey. Moreover, personalized learning pathways allow students to progress through material at their own pace, exploring topics of interest and receiving targeted support where needed. This customization fosters a more student-centric approach to education, catering to diverse learning styles and preferences. Adaptive learning systems not only promote mastery of content but also contribute to increased retention rates and overall student success.

The utilization of data analytics is revolutionizing e-learning by providing valuable insights into student behaviour, engagement, and performance. Learning platforms and institutions are leveraging data analytics to track and analyse a myriad of factors, including time spent on tasks, assessment outcomes, and patterns of interaction. This data-driven approach enables educators to identify areas for improvement, enhance course design, and implement targeted interventions to support struggling students.

Predictive analytics play a crucial role in identifying at-risk students early in the learning process, allowing for timely interventions to prevent academic challenges. Additionally, data analytics contribute to the continuous improvement of e-learning programs by offering evidence-based insights into the effectiveness of instructional strategies, assessment methods, and overall course design.

The future of e-learning in higher education is marked by dynamic trends and innovative technologies that promise to redefine the learning experience. The integration of virtual reality and augmented reality technologies, adaptive learning systems with personalized learning pathways, and the strategic use of data analytics are reshaping the educational landscape. As these trends continue to evolve, higher education institutions that embrace and leverage these innovations stand to provide students with engaging, personalized, and effective e-learning experiences that prepare them for success in a rapidly changing world.

D. New Normal and Education

The worldwide reaction to the COVID-19 epidemic has caused remarkable alterations in our educational models, questioning our traditional comprehension of learning and instruction (Bozkurt & Sharma, 2020b). The closing of higher education institutions precipitated a significant transformation in our educational methodologies, compelling us to reconsider and reconfigure our outlooks on pedagogy and knowledge acquisition (Karalis & Raikou, 2020). Amidst this crisis, e-learning has become an essential operational approach for higher education institutions, serving as a key element in ensuring uninterrupted education during these difficult times (Almaiah, Al-Khasawneh, & Althunibat, 2020; Ebner, et al., 2020).

The growing dependence on e-learning has highlighted the significance of well-planned course design and online learning, especially when assessing its ability to provide excellent educational results during the pandemic (Almaiah et al., 2020). Nevertheless, the shift to e-learning was not devoid of difficulties. A survey conducted among lecturers identified certain impediments that hinder their preparedness to participate in e-learning (Alea, Fabrea, Roldan, & Farooqi, 2020). Additionally, a sizable number of students showed a preference for traditional in-person learning during the remote schooling that the epidemic imposed (Hasan & Bao, 2020).

However, the need to adjust to the new educational environment has led to a greater focus on e-learning and the advancement of related techniques and technology (Ebner et al., 2020). With the growing dependence on ICT and the internet in education, there are new issues that arise. One of these challenges is the need to fulfil the higher data consumption demands of e-learning applications and tools (Favale, Soro, Trevison, Drago, & Mellia, 2020). This emphasises the urgent requirement for strong infrastructure and creative solutions to provide efficient e-learning experiences in a changing educational environment. The continuous adjustment to these obstacles demonstrates the durability of educational institutions and their dedication to delivering high-quality education despite the interruptions caused by the pandemic.

E. Turkey-Syria Earthquake

Due to its geographic location and configuration, Turkey has been referred to as a "country of earthquakes" (Gündüz, Türkmen, Eryiğit, Karaca, & Aydın, 2013: 33).

Since the time of the Ottoman Empire, destructive earthquakes have happened on active fault lines (Ürekli, 2010). Unfortunately, one of the worst earthquake disasters in Turkey's history occurred on February 6, 2023. On the same day, two earthquakes, the Pazarcık District of Kahramanmaraş (7.8 Mw) and the Elbistan District of Kahramanmaraş (7.7 Mw), both inflicted significant destruction in ten cities (Sun-Suon, 2023). The tragedy, which severely horrified the nation, left widespread physical and psychological destruction.

The Ministry of National Education (MoNE) took action to start education services and provide humanitarian aid on the first day of the earthquake. It was observed that institutions were the main producers of humanitarian aid provided in the earthquake area from the first day. Institutions of MoNE undertook most of the production and distribution of food, shelter, and heating in the earthquake zone. They ensured that the necessary areas were created and teachers and psychological counsellors were assigned in order to provide education services as soon as possible. Preparations were undertaken to transition to in-person teaching in schools, despite the rapid implementation of educational services through tents, containers, and prefabricated schools (Özer, 2023).

Hospital classrooms were set up so that students could continue their education during the treatment process. The transfer process was facilitated for students who wanted to receive education in other cities, and these students were provided with free boarding services. Considering the post-disaster education frameworks developed by INEE and UNESCO-IIEP, it is evident that MoNE effectively used its experience in the COVID-19 outbreak to provide social assistance while taking the recommended steps for education after the earthquake.

The CoHE has addressed worries about disruptions to the spring semester of 2022-2023 and distance learning (Yok.gov.tr, 2023). Following devastating earthquakes, Turkey extended the shutdown of all schools and universities nationwide and announced online education for higher education. There were competitions held between institutions damaged by the earthquake and universities located in different provinces. The purpose of this pairing was to facilitate collaboration between the universities in the field of informatics, encompassing both academic and administrative tasks. Due to accusations that distant learning inhibits academic advancement, the decision was met with student protests and calls for revision. After

taking into account the students' worries, CoHE announced that, in addition to the existing distance education programme, students will have the option to receive in-person instruction in classrooms without mandatory attendance (Yok.gov.tr, 2023).

F. Studies on the Field

Masrom (2007) conducted a study on students (N=122) from the Science Department at the College of Science and Technology to assess the application of the TAM in e-learning. The results showed that both PU and PEU significantly influenced attitudes toward using, and that both variables had a significant impact on PU. PU had a significant impact on the intention to use it. However, attitude did not significantly affect the intention to use e-learning. Overall, TAM was partially supported.

Zanjani and Ramazani (2012) examined the acceptance of e-learning technology between English teachers (N=13) and students (N=90) from Islamic Azad University based on TAM. Their results showed a positive effect of PU on e-learning acceptance. Still, this effect decreased when examining the ease of technology use in English language teaching. PEU positively influenced PU in this context.

Tarhini, Hone, and Liu (2014) studied how individual differences, such as age, gender, education, and experience, affected users' perceptions of e-learning instruments in Lebanon. Lebanese web-based learners (N=596), enrolled full- or part-time in two Beirut-based universities to pursue undergraduate or master's degrees in a variety of subjects, made up the target sample for this survey. They found that both PEU and PU directly influenced BI to use e-learning, with PEU being the more significant determinant. SN, the impressions of coworkers and trainers, and the quality of work life also impacted BI.

Hussein’s (2017) investigation investigated university students' (N=151) attitudes toward e-learning using TAM. They found that attitude significantly predicted students' intention to use e-learning, while PEU and PU did not play as significant roles. The study's output is anticipated to enhance and modernize the e-learning platform in order to better serve students' needs.

In 2017, Chang, Hajiyev, and Su stated in their study that it influences BI to use e-learning by undergraduate and masters students (N=714) in Azerbaijan (Chang, Hajiyev, & Su, 2017). They discovered that social norms (SN), experience (EXP),

enjoyment (ENJ), and SE positively influenced PU and ease of use. However, computer anxiety (CA) had a negative impact, and technological innovation moderated some relationships.

Doleck, Bazelais, & Lemay (2018) verified the General Extended Technology Acceptance Model for E-Learning (GETAMEL) model on a sample of students (N=132) in a pre-university science program in Montreal. The results of the study showed that the links between EXP, ENJ, SE and PEU were supported but not those from SN or anxiety to PEU. Neither are the relationships supported between the external factors (EXP, SE, or SN) and PU, although the researchers found support for a link between ENJ and PU. Finally, the only core relationship the researchers did not reproduce was the contested link between PEU and PU. Additionally, they noted that the applicability of technology acceptance models could vary in different contexts.

For the educational purposes of Dar es Salaam University's undergraduate students (N=172), Kimathi and Zhang's (2019) study validated the GETAMEL model from an e-learning perspective. The study's conclusions demonstrated that SN had a favourable and significant impact on college students' perceptions of the value and usability of e-learning. EXP positively influences PEU, and ENJ positively influences PEU. Computer anxiety (CA) positively influences PU and PEU. Also, PU positively influences BI, and PEU positively influences PU.

When epidemic was in effect, Rizun & Strzelecki (2020) examined how students perceived distance education. The study obtained data from 1692 Polish undergraduate and graduate students from the University of Economics in Katowice. They found that ENJ and SE significantly influenced PU, PEU, attitudes toward using, and plans for utilizing distance learning. Teachers and other education professionals will find this work particularly interesting as a result of the improved understanding regarding the acceptance of distance learning that the findings provide.

The goal of Cicha and his colleagues' study (2021) was to examine first-year undergraduate students' (N=664) perceptions of distance learning. The study's findings showed that the strongest external predictor of PU and PEU was ENJ, followed by SE. Computer anxiety (CA) had no major impact on either PU or PEU. There was no critical effect of SN on the PEU. The results indicated that, although the relationship between PU and PEU was included in the model, it was not significant.

Using survey data from an online EFL class conducted during the COVID-19 lockout, Jiang and colleagues' (2021) study verified the validity of the GETAMEL model. The survey involved 678 undergraduate participants. Surprisingly, the findings showed that students' attitudes had little impact on the influence of PU on their BI to use the online learning system, indicating that attitude toward technology (ATT) played a minimal role in the model. Additionally, ENJ and SE did not significantly impact the care variables, leading to theoretical questions regarding the suitability of the model in particular situations.

Humida, Mamun, and Keikhosrokiani (2022) investigated the behavioural intentions of using e-learning systems in higher education institutions at a specific university in Bangladesh during the epidemic. They conducted a survey with 262 university students. The findings revealed that PU and PEU were positively and significantly influenced by ENJ. Moreover, PU, PEU, and facilitating conditions (FC) played a significant role in predicting students' intentions to use e-learning. The outcomes of the mediation study indicated that PU and PEU acted as mediators between the predictors and the outcome. Additionally, FC had a notable moderating effect on predicting students' BI when using e-learning. The investigation concluded that the suggested methodology demonstrated internal consistency and reliability.

In their study (2022), Baji and his colleagues (N=320) looked into the variables that affect the approval of e-learning among Iranian post-graduate medical students. The results indicated that the TAM exhibited sufficient validity and reliability. PEU, PU of e-learning, students' attitudes toward e-learning, and their intention to use e-learning all had a positive impact on the acceptance of e-learning. Notably, the study revealed that ATT held greater predictive power compared to other TAM constructs. Therefore, placing emphasis on fostering positive attitudes among students toward e-learning can be an effective strategy to expedite its acceptance and enhance students' learning outcomes.

III. METHODOLOGY

A. Introduction

This chapter presents the techniques and processes used in this study, offering a thorough outline of the research design, selection of participants, and the strategies utilised for gathering and analysing data. The next sections provide a comprehensive explanation of each component to clarify the methodical approach used in the research process.

B. Research Design

Developing the study design is a crucial stage in guaranteeing that the procedures used are in line with the research objectives, allowing researchers to achieve pertinent and significant results. The main aim of this study is to investigate the factors that affect the utilisation of the EFL e-learning system among university preparatory class students after a devastating earthquake, using the GETAMEL model. The research design is customised to specifically target and tackle this particular emphasis and situation.

The study's sample consists of 216 students from a foundation university in Istanbul, Turkey, which accurately represents the specific community being studied. To assess the viewpoints of the participants' opinions towards the EFL e-learning system, a questionnaire with seven primary sections and 34 items was administered. The survey employed a Likert-type rating scale to evaluate external and internal variables, offering a systematic framework for collecting quantitative data. The tool sought to obtain a thorough comprehension of the aspects that impact students' involvement with the EFL e-learning system, as delineated in the GETAMEL model.

The use of a questionnaire as the method for collecting data highlights the study's emphasis on quantitative analysis, which is in line with the overall research objectives. The instrument's design enables a methodical investigation of the indicated variables, providing a detailed analysis of the elements that contribute to students' use of the EFL

e-learning system. This strategic research design technique guarantees that the methods used for the study's specific aims are suitable and enhances the strength of the research results.

C. Participants of the Study

Convenience sampling identified the target population of this study as students in Turkey's university preparatory classes. Beykoz University is a foundational university involved in our study; it is located in Kavacık, İstanbul. It is relatively new, but a fast-growing university. The Department of Foreign Languages offers English preparatory education as well as mandatory and optional English courses in other programs.

Twenty-four hours of English classes are required of every student. The sample of the study consisted of 216 students from a foundation university in Istanbul, Turkey. Although the researcher is a staff member at this university, access to other locations for online education became challenging after the devastating earthquake. Consequently, it was determined that the questionnaire would be administered using an online form. The participants' English proficiency level ranged from A1 to B1, as determined by the Common European Framework Reference (CEFR) for languages.

D. Data Collection Instrument

Abdullah and Ward (2016) proposed the GETAMEL model. The data for the current study was collected using a scale shown in Appendix 1. Jiang et al. (2021) developed the scale. The original scale used in the study consists of eight parts. The researcher adapted the scale by adding the first part. The first part elicited demographic data about the students. It consisted of 10 items, including age, gender, level of study, technological devices they owned, and how much time they spent on the net daily. The researcher only added one question to the first part, which is whether students have any previous experience with online teaching. The Questionnaire on Faculty Use of Technology for Teaching and Learning, which Kirkwood and Price (2016) developed, served as the inspiration for the demographic data section. The items in the second part of the scale are based on a Likert-type rating scale.

Variables PU (four items), PEU (three items), and ATT (three items) were measured on a six-point Likert scale ranging from "1 = strongly disagree" to "6 = strongly agree." These three subquestionnaires were adapted from the work of Tsai, Lin, Chang, Chang, & Lee (2020).

Variables SN (six items) and BI (three items) were also measured on a six-point Likert scale ranging from "1 = completely not true of me" to "6 = completely true of me." The measure for SN was adapted from the work of Huang, Teo, and Zhou (2020), and the measure for BI was adapted from Tsai et al. (2020)

The measures for ICTSE (six items) and ENJ (seven items) were both derived from Fraillon, Ainley, Schulz, Friedman, & Gebhardt (2014). ICTSE was scored on a six-point Likert scale ranging from "1 = I do not know how to do this" to "6 = I know how to do this." ENJ was scored on a six-point Likert scale ranging from "1 = strongly disagree" to "6 = strongly agree."

Variable EXP was measured on one item, which is "Before the outbreak of this pandemic, what is your experience of having a fully online English course like the one we are having this semester?" This question was scored on a four-point Likert scale ranging from "1 = I have never had any experience of online English learning" to "4 = I always participate in online English learning."

The amount of time students spent each day on the learning system for self-learning was the variable AU of the online EFL learning system. They were required to estimate how much time they spent on the online learning system and choose among the seven options for a time interval estimate. The options vary from "1 = never" to "2 = 1–15 minutes every day" to "7 = more than 90 minutes every day" with an interval of 15 minutes each.

E. Data Collection Procedures

The inception of this research project dates back to February 2023, a time when the consequences of the earthquake in Turkey and Syria led to the consideration of online learning as a feasible substitute for the spring semester in Turkish universities. The decision to undertake this study was motivated by a perceived need and gap in the academic landscape, as revealed by an initial literature review. With the start of the spring 2023 term, educational institutions shifted to fully remote learning. During this

time, a research topic was chosen, a detailed study outline was created, and the dissertation proposal was officially submitted to the Institute of Educational Sciences at Istanbul Aydın University.

Before commencing the questionnaire part of the research, careful consideration was given to following legal protocols, and express authorization was obtained from the researchers in charge of creating the questionnaire (see Appendix 2). Afterwards, the research objectives were created, the data gathering techniques were designed, and the university for the study's execution was identified. In the early stages of spring 2023, the researcher sought approval from the Ethics Committee at Istanbul Aydın University, obtaining the necessary permissions to conduct the research ethically (see Appendix 3). The online questionnaire was subsequently sent and throughout the spring semester, over 216 individuals participated in the survey.

F. Data Analysis

In October 2023, the researcher began analysing the data after successfully collecting it for the study. The acquired quantitative data underwent analysis using IBM SPSS (Version 23). The first phase entailed arranging the unprocessed data to enable methodical analysis. Afterwards, the questionnaire's reliability level was calculated, and the normality of the data sets was evaluated by examining the skewness and kurtosis values.

Prior to doing multiple regression analysis, the correlation values were carefully examined to determine the links between variables. The study utilised hierarchical multiple regressions to efficiently answer the research topics. A Mann-Whitney U test was used to assess the influence of students' genders and prior experiences on their acceptance of e-learning. Additionally, Kruskal-Wallis tests assessed the influence of students' age and learning style on the adoption of e-learning.

The process of writing the thesis began in June 2023 and ended in January 2024, coinciding with the completion of the data analysis phase. During this period, the researcher diligently gathered and analysed all pertinent data, which encompassed details about students' genders, prior experiences, age, and learning style. The purpose was to assess how these factors influenced the acceptability of e-learning. The application of regression models facilitated a comprehensive comprehension of these

variables and their potential influence, while also considering any confounding effects by adjusting for demographic variables in the research. In summary, our careful and detailed approach resulted in significant findings regarding the elements that influence students' willingness to embrace e-learning.

IV. FINDINGS

The findings chapter of this study represents a pivotal point in the investigation of GETAMEL. In the previous chapters, the researcher extensively explored the theoretical framework, research methods, and data collection processes that underpin this study. The current chapter marks the shift to the empirical phase, in which the researcher aims to uncover the significant insights and disclosures obtained from the study's efforts. The researcher intends to gain a thorough comprehension of the phenomenon being studied by analysing the collected data. The findings chapter will provide a comprehensive examination of the data, emphasising significant patterns, trends, and linkages that surfaced throughout the investigation. Furthermore, it will provide significant insights for future investigations and actual implementations in the GETAMEL model.

This chapter is focused on presenting, analysing, and evaluating the large dataset collected during the investigation. Its purpose is to reveal the empirical results of the research. The research findings are provided in a careful manner, providing a comprehensive summary of the quantitative data. This includes the model's analysis, descriptive statistics, scale reliability, and participant demographics. This chapter presents the results of extensive research, offering a thorough examination of the specific details discovered using the GETAMEL model.

A. Demographics of the Participants

The study explored the socio-demographic attributes of the participants by analysing their distribution in terms of frequency and percentage. The meticulous analysis of their distribution, as presented in Table 2, serves as a crucial lens through which to understand the composition and characteristics of the participant group. The total number of participants was 216. This table provides valuable insights into the composition of the participant group, shedding light on factors such as gender, age distribution, educational levels, device preferences for internet access, engagement with online learning, prior experience with online education, and internet usage

patterns. These findings serve as a foundation for understanding the participant profile and are crucial for shaping the research context and design.

Table 2 Demographics of the Participants (n=216)

Variable	Group	f	%
Gender	Female	118	54.6
	Male	98	45.4
Age group	Below 17	2	.9
	18-20	169	78.2
	21-23	34	15.7
	24-26	5	2.3
	27 and above	6	2.8
Level of study	Undergraduate	199	92.1
	Graduate or postgraduate	17	7.9
Which device do you use most frequently to access the Internet?	Smartphone	199	92.1
	Tablet or iPad	20	9.3
	Laptop	104	48.1
	Desktop computer	28	13.0
Most of the courses you are currently studying are	Completely face-to-face	12	5.6
	Completely online	147	68.1
	Blended	57	26.4
Do you have any previous experience with online learning?	Yes	195	90.3
	No	21	9.7
I use the Internet	Daily	210	97.2
	Irregularly	6	2.8
On average, how much time do you spend on Internet-related activities (email, browsing, social media) daily?	<1 hour	8	3.7
	1-2 hours	37	17.1
	3-5 hours	95	44.0
	>5 hours	74	34.3
	Do not use daily	2	.9

Table 2 indicates that female participants make up 54.6% of the study, while male participants constitute 45.4%. This suggests a relatively balanced gender distribution in this sample. The majority of participants fall within the age group of 18–20 (78.2%), indicating that a significant portion of the participants are young adults. Smaller percentages of participants belong to other age groups, with those below 17 (0.9%) and those 27 and above (2.8%) having the lowest representation.

The majority of participants are undergraduates (92.1%), while a smaller percentage are graduate or postgraduate students (7.9%). This suggests that this research primarily focuses on undergraduate students. The smartphone (92.1%), laptop (48.1%), tablet or iPad (9.3%), and desktop computer (13.0%) are the most frequently

used devices for accessing the internet. This indicates a strong preference for mobile devices among the participants.

When analysing the choices of devices used for internet access, it is evident that smartphones are the most popular option, accounting for 92.1% of participants. This highlights the significant role of mobile technology in their online activities. The participation distribution between entirely online (68.1%) and blended (26.4%) courses suggests a strong preference for online and hybrid learning methods. The data reveals that a significant majority (90.3%) of individuals possess previous exposure to online learning, highlighting their adeptness with digital educational platforms.

The daily internet usage pattern demonstrates a significant level of involvement, as 97.2% of participants visit the internet on a daily basis. The significant proportion of individuals spending 3-5 hours per day engaging in internet-related activities (44.0%) indicates a strong and consistent online presence.

To summarise, the participants can be described as young adults who have an equal representation of both genders. They have a strong preference for smartphones and actively participate in online and blended courses. Additionally, they have a significant amount of past experience with online learning. The findings offer useful insights into the demographic attributes of the participants, laying the foundation for a detailed examination of their perspectives and experiences within the framework of the GETAMEL model.

B. Descriptive Statistics

Descriptive statistics offer valuable insights into the attributes of the data gathered for this study. Table 3 presents the average values and the measure of variability of the participants' responses to each item of both the core and external variables.

Table 3 provides the skewness and kurtosis values for each item in the research questionnaire. Kurtosis and skewness are both indicators of a distribution's asymmetry, as well as its peakedness or flatness. Most of the items in the constructs show negative skewness, which suggests that participants tend to rate these items higher than the midpoint (above 3.00), indicating a generally positive sentiment or agreement with the statements. The skewness values range from -2.157 to 0.361, indicating varying

degrees of skewness, but none of them are extreme. Notably, "Search for and find information you need on the Internet" in the ICT Self-Efficacy construct has the most negative skewness value (-2.157), suggesting that participants are quite confident in their ability to perform this task.

The kurtosis values for most items fall below 2.20, indicating that the data are relatively platykurtic (less than normal) or flatter than a normal distribution. The item 4 "Search for and find information you need on the Internet" in the ICT Self-Efficacy construct has a kurtosis value of 4.325, indicating a more peaked distribution for this specific task.

Table 3 Descriptive Statistics and Skewness and Kurtosis Values of Variables

Construct	Items	n	Mean	SD	Skewness	Kurtosis
ICT Self-Efficacy (ICTSE)	1. Search for and find a file on your computer;	216	5.079	1.3218	-1.451	1.319
	2. Edit digital photographs or other graphic images	216	3.838	1.6890	-.240	-1.087
	3. Create or edit documents (e.g., assignments for school);	216	4.778	1.4775	-1.052	.087
	4. Search for and find information you need on the Internet;	216	5.329	1.2040	-2.157	4.325
	5. Create a multimedia presentation (with sound, pictures, or video)	216	4.287	1.6314	-.614	-.743
	6. Upload text, images, or video to an online profile.	216	4.671	1.5275	-.933	-.230
Enjoyment (ENJ)	7. It is very important to me to work with a computer.	216	4.540	1.4652	-.744	-.240
	8. I think using a computer is fun.	216	4.777	1.3796	-1.064	.389
	9. It is more fun to do my work using a computer than without a computer.	215	4.600	1.5340	-.912	-.210
	10. I use a computer because I am very interested in the technology.	216	4.367	1.6118	-.674	-.683
	11. I like learning how to do new things using a computer.	216	4.688	1.4599	-.988	.055
	12. I often look for new ways to do things using a computer.	216	4.326	1.6366	-.664	-.734
	13. I enjoy using the Internet to find out information.	216	5.326	1.1745	-2.009	3.726
Actual Use (AU)	14. How much time they spent on the online learning system.	216	5.583	1.8832	-1.086	-.152
Experience (EXP)	15. Before the outbreak of this pandemic, what is your experience of having a fully online English course like the one we are having this semester?	216	1.167	.3735	1.801	1.257
Subjective Norm (SN)	16. My instructor thinks that the Internet is valuable for online English learning.	216	4.574	1.5262	-.910	-.143
	17. My instructor's opinions are important to me.	216	4.861	1.3431	-1.186	.707
	18. My classmates think that using the Internet is valuable for online English learning.	216	4.213	1.5253	-.579	-.549
	19. My classmates' opinions are important to me.	216	3.884	1.4372	-.146	-.733
	20. My school is committed to supporting my efforts to use the Internet for learning.	216	4.25	1.6146	-.653	-.669
	21. The use of online learning is important in my university.	216	4.065	1.5478	-.443	-.828

Table 3 (continued)

Construct	Items	n	Mean	SD	Skewness	Kurtosis
Behavioural Intention (BI)	22. If possible, I intend to use online learning system as a supplementary way to learn English.	216	3.616	1.6804	-.173	-1.173
	23. I will always try to use online learning system in my daily English learning.	216	3.468	1.6136	.102	-1.068
	24. If university continues to provide online English courses, I plan to use the online learning system frequently	216	3.310	1.8353	.154	-1.372
Perceived Usefulness (PU)	25. Using online learning system will improve my English learning.	216	3.338	1.6172	.092	-.985
	26. Using online learning system will make my English learning more convenient.	216	3.245	1.6594	.121	-1.158
	27. Using online learning system will make me more effective in English learning.	216	3.171	1.6742	.230	-1.050
	28. Overall, I find the online learning system to be useful in English learning.	216	3.278	1.6752	.182	-1.086
Perceived Ease of Use (PEU)	29. I find the online learning system to be clear and understandable.	216	3.273	1.6911	.193	-1.194
	30. I find that the online learning system does not require a lot of mental effort.	216	3.296	1.6383	.123	-1.100
	31. I find the online learning system to be easy to use.	216	4.032	1.6005	-.459	-.865
Attitude Toward Technology (ATT)	32. I think that using the online learning system is a good idea.	216	3.046	1.7700	.361	-1.148
	33. I think that using the online learning system is beneficial to me.	216	3.032	1.7637	.341	-1.161
	34. I have positive perception of using the online learning system.	216	3.259	1.8089	.188	-1.307

The detailed examination of various constructs within the context of GETAMEL provides a comprehensive understanding of participants' perceptions and behaviours related to the online English learning system. Across different dimensions, the findings suggest positive attitudes and engagement, offering valuable insights into the dynamics of technology acceptance.

In terms of ICT Self-Efficacy (ICTSE), participants exhibit high levels of confidence in various computer-related tasks. The consistently elevated mean scores above 3.00 reflect a robust self-efficacy, indicating that participants feel capable and proficient in utilizing information and communication technology. The standard deviations, ranging from 1.204 to 1.689, suggest some variability in participants' responses, but overall, there is a consistent level of self-efficacy across these tasks.

The Enjoyment (ENJ) construct underscores participants' positive attitudes towards working with computers and technology. The overall mean scores above 3.00 indicate that participants find computer-related activities enjoyable, contributing to a favourable environment for technology acceptance. This construct assesses individuals' enjoyment and interest in using computers. Participants generally express a positive attitude towards working with computers and using technology. The

standard deviations, ranging from 1.364 to 1.689, suggest some variation in the extent to which participants find these activities enjoyable, but the overall trend is positive.

Actual Use (AU) reveals a substantial engagement with the online learning system, as participants report spending significant time on the platform. The high mean score suggests an active utilization of the system, emphasizing its relevance and integration into participants' learning routines. Participants report spending a substantial amount of time on the online learning system. The mean score is relatively high at 5.583, suggesting that participants actively engage with the system. The standard deviation of 1.883 indicates some variability in the time spent, with some participants spending more time than others on the system.

Subjective Norm (SN) reflects the influence of others' opinions on participants' use of the internet for online English learning. Participants generally perceive that their instructors and classmates value the use of the Internet for online English learning, as indicated by mean scores above 3.00. The standard deviations, ranging from 1.3431 to 1.6146, suggest some variability in these perceptions, but overall, participants seem to think that their learning environment supports online learning.

Behavioural Intention (BI): This construct measures participants' intention to use the online learning system. Participants express moderate intentions to use the online learning system as a supplementary tool for learning English. The mean scores for all items in this construct are between 3.310 and 3.616. The standard deviations indicate some variability in participants' intentions, but there is a general tendency towards considering the system for future use.

Perceived Usefulness (PU) and Perceived Ease of Use (PEU): Participants generally perceive the online learning system as useful and easy to use, with mean scores above 3.00 for all items in these constructs. The standard deviations suggest some variability in these perceptions, but overall, participants view the system positively in terms of its usefulness and ease of use.

Attitude Toward Technology (ATT): Participants generally have a positive attitude toward using the online learning system. The mean scores for all items in this construct are above 3.00. The standard deviations indicate some variability in participants' attitudes, but there is an overall positive perception of technology's benefits for learning.

In summary, the data analysis reveals that participants generally have high self-efficacy in computer-related tasks, find working with computers enjoyable, and perceive the online learning system as useful and easy to use. They also report spending a significant amount of time on the system, even though their prior experience with fully online English courses was limited. Additionally, participants tend to have positive attitudes toward technology and show moderate intentions to continue using the online learning system. These findings offer insightful information about how EFL students view e-learning platforms in the context of GETAMEL. However, more research is required to examine the relationships between these concepts and how they affect real usage behaviour, including regression and correlation analysis.

C. Validity and Reliability

The Cronbach Alpha coefficient results were within satisfactory reliability levels, which can be seen in Table 4 below.

Table 4 Cronbach's Alpha Value for Each Construct of the Research Questionnaire

Construct	N of Items	Mean	SD	Cronbach's α
SN	6	4.30	1.49	.775
ENJ	7	4.66	1.46	.913
ICTSE	6	4.66	1.47	.875
PU	4	3.25	1.65	.963
PEU	3	3.53	1.64	.713
ATT	3	3.11	1.78	.934
BI	3	3.46	1.70	.840

n = 216; SN, subjective norm; ENJ, enjoyment; ICTSE, ICT self-efficacy; PU, perceived usefulness; PEU, perceived ease of use; ATT, attitude toward technology; BI, behavioural intention.

The strong Cronbach's alpha values seen across the different constructs in this study show that the measured parts within each construct are very consistent with each other. These results affirm the reliability of the questionnaire items, reinforcing the notion that participants' responses are consistently aligned with the intended concepts.

Particularly noteworthy is the perceived usefulness construct, which stands out with an exceptionally high Cronbach's alpha value of 0.963. This exceptionally strong internal consistency among its items underscores the reliability and coherence of the perceived usefulness measure. Such high reliability enhances confidence in the accuracy of the assessments related to participants' perceptions of the utility of the online learning system.

The acceptable limits of Cronbach's alpha for the majority of constructs further substantiate the reliability of the questionnaire. This implies that the items within constructs such as ICT Self-Efficacy, Enjoyment, Actual Use, Subjective Norm, Behavioural Intention, Perceived Ease of Use, and Attitude Toward Technology exhibit strong internal consistency. The reliability of these constructs reinforces the validity of the questionnaire in capturing participants' perceptions and attitudes accurately.

Overall, the consistently strong Cronbach's alpha values provide a solid foundation for the reliability of the research instrument. Researchers and practitioners can have confidence in the internal consistency of the questionnaire, allowing for dependable assessments of participants' attitudes, perceptions, and intentions related to the online learning system. These reliability findings contribute to the overall robustness of the research methodology employed in this study.

D. Correlation

The Pearson correlation data shows the correlation coefficients between different variables in this research. Table 5 demonstrates the correlations between the GETAMEL variables.

Table 5 Correlations of GETAMEL Variables

Correlations

		ICTSE	ENJ	SN	BI	PU	PEU	ATT	AU	EXP
ICTSE	Pearson Correlation	1								
	Sig. (2-tailed)									
ENJ	Pearson Correlation	.548**	1							
	Sig. (2-tailed)	.000								
SN	Pearson Correlation	.297**	.380**	1						
	Sig. (2-tailed)	.000	.000							
BI	Pearson Correlation	.228**	.245**	.556**	1					
	Sig. (2-tailed)	.001	.000	.000						
PU	Pearson Correlation	.192**	.316**	.524**	.791**	1				
	Sig. (2-tailed)	.005	.000	.000	.000					

Table 5 (continued)

PEU	Pearson Correlation	.212**	.239**	.449**	.613**	.653**	1			
	Sig. (2-tailed)	.002	.000	.000	.000	.000				
ATT	Pearson Correlation	.130	.172*	.469**	.738**	.789**	.693**	1		
	Sig. (2-tailed)	.056	.011	.000	.000	.000	.000			
AU	Pearson Correlation	.168*	.057	.140*	.065	.072	.037	.074	1	
	Sig. (2-tailed)	.013	.403	.039	.339	.291	.585	.276		
EXP	Pearson Correlation	.083	-.003	.124	.220**	.144*	.070	.138*	-.013	1
	Sig. (2-tailed)	.224	.967	.069	.001	.034	.306	.042	.847	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The study reveals significant positive correlations among several variables, like ICTSE, ENJ, SN, BI, PU, PEU, and ATT, indicating the interconnectedness of these constructs. These findings indicate that as individuals demonstrate greater confidence in their ICT skills, they also experience increased pleasure in utilising technology. Furthermore, there is a strong positive relationship between SN, BI, PU, PEU, and ATT, suggesting that these aspects are closely linked and tend to occur together in a favourable manner.

Significance values below 0.05, denoting statistical significance, enhance the credibility of the observed associations. The low p-values indicate that the observed correlations are highly unlikely to be due to random chance, which enhances the reliability of the findings.

It is important to emphasise, however, that correlation does not indicate causality. Although these correlations offer valuable insights into the connections between various dimensions, they do not demonstrate a causal relationship. Further study methodologies, such as regression analysis, are necessary to gain a more comprehensive knowledge of the magnitude and direction of these connections, as well as to investigate potential cause-and-effect relationships. Regression analysis can be utilised to ascertain the magnitude and characteristics of the connections between these concepts, providing further insight into the dynamics of their interactions. A comprehensive approach is essential for acquiring a detailed understanding of the intricate interaction among the variables within the setting of the GETAMEL model.

E. Multiple Regression

The study used multiple regression analysis as a reliable statistical technique to examine how the independent factors, both collectively and individually, predict the dependent variable. This methodology allows for a thorough analysis of how several factors, treated as separate variables or predictors, contribute to the overall forecast of the dependent variable. Furthermore, multiple regression analysis provides valuable insights into the distinct impact of each element while considering the influence of other factors in the model.

The research utilises a hierarchical type of multiple regression to conduct a thorough investigation of the interactions between many independent factors and a single dependent variable. This approach enables a systematic assessment, where the influence of each group of predictors is evaluated in a sequential manner. The hierarchical multiple regression approach offers a detailed comprehension of the hierarchical structure and the varying influence of different predictors on the dependent variable.

The magnitude and orientation of the associations between variables are crucial elements that multiple regression analysis can clarify. Through quantification, researchers may determine the degree to which each independent variable contributes to predicting the dependent variable. This allows them to assess both the overall predictive capability of the model and the individual contribution of each factor (Al-Shihi, Sharma, & Sarrab, 2018).

To summarise, the decision to use hierarchical multiple regression analysis in this work demonstrates a careful and methodical approach to examine the intricate relationships inside the GETAMEL model. It provides the researcher with the means to determine the interactions between various predictors and their overall impact on the dependent variable (Sarah, Amine, & Jinot, 2023). This provides a comprehensive overview of the variables that influence individuals' acceptance of technology in the context of English as a Foreign Language (EFL) e-learning.

First Regression Model

For the first case, as you can see in Table 6, the independent variables would be the constructs such as ICTSE, SN, PU, PEU, ENJ, EXP, AU and ATT while the dependent variable would be the BI in order to find answers for RQ1 to RQ1g.

Table 6 First Regression's Model Summary Table

Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics				
					R^2 Change	F Change	df1	df2	Sig. F Change
1	.613[a]	.376	.373	1.18002	.376	129.084	1	214	.000
2	.801[b]	.642	.639	.89584	.266	158.311	1	213	.000
3	.815[c]	.664	.659	.87048	.022	13.589	1	212	.000
4	.818[d]	.669	.663	.86513	.006	3.630	1	211	.058
5	.824[e]	.679	.671	.85457	.010	6.246	1	210	.013
6	.824[f]	.679	.670	.85599	.000	.305	1	209	.582
7	.834[g]	.696	.686	.83558	.017	11.334	1	208	.001
8	.834[h]	.696	.685	.83712	.000	.239	1	207	.626

a. Predictors: (Constant), PEU

b. Predictors: (Constant), PEU, PU

c. Predictors: (Constant), PEU, PU, ATT

d. Predictors: (Constant), PEU, PU, ATT, ICTSE

e. Predictors: (Constant), PEU, PU, ATT, ICTSE, EXP

f. Predictors: (Constant), PEU, PU, ATT, ICTSE, EXP, ENJ

g. Predictors: (Constant), PEU, PU, ATT, ICTSE, EXP, ENJ, SN

h. Predictors: (Constant), PEU, PU, ATT, ICTSE, EXP, ENJ, SN, AU

Dependent Variable: BI

Table 6 provides information about the overall fit of the models. The R^2 values show how much of the variance in the dependent variable the independent variables can explain (Al-Qeisis, 2009). The R2 value in the final model (Model 8) is 0.696, indicating that the independent variables in the model can account for about 69.6% of the variance in behavioural intention.

As the researcher adds more predictors from model 1 to model 8, the R^2 value increases, and the models become more statistically significant. This suggests that the additional predictors are contributing to the explanation of the dependent variable, BI. The F change values and associated p-values suggest that the addition of the external and internal variables all significantly contributed to the prediction of behavioural intention (BI).

Table 7 First Regression's Coefficients Table

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
8	(Constant)	-.319	.372		-.858	.392
	PEU	.069	.063	.062	1.107	.269
	PU	.449	.064	.474	6.968	.000
	ATT	.209	.061	.234	3.408	.001
	ICTSE	.094	.060	.073	1.555	.122
	EXP	.350	.156	.088	2.239	.026
	ENJ	-.076	.061	-.060	-1.233	.219
	SN	.236	.070	.163	3.393	.001
	AU	-.015	.031	-.019	-.488	.626

a. Dependent Variable: BI

Overall, the results of the multiple regression analysis suggest that the combination of these independent variables has strong predictive power for behavioural intention. The findings highlight the importance of factors in influencing individuals' intentions to use the online learning system for English learning (Abdullah, Ward, & Ahmed, 2016).

Table 7 demonstrates the coefficients table, and PU has a p-value of 0.000<0,05, and ATT and SN coefficients have a p-value of 0.001<0,05. Also, EXP has a p-value of p=0.026<0,05. This indicates that PU, ATT, SN, and EXP coefficients are statistically significant, meaning they have a significant effect on the dependent variable. The other variables are higher than.05. The first regression succeeded in explaining RQ1 to RQ1g.

Second Regression

For the second case, as you can see in Table 8, the independent variables would be the constructs such as ICTSE, ENJ, SN, PEU, EXP, ATT, and AU, while the dependent variable would be the PU in order to explain RQ2 to RQ2f.

Table 8 Second Regression's Model Summary Table

Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics				
					R^2 Change	F Change	df1	df2	Sig. F Change
1	.653[a]	.426	.423	1.19400	.426	158.936	1	214	.000
2	.660[b]	.436	.431	1.18658	.010	3.684	1	213	.056
3	.706[c]	.498	.491	1.12180	.062	26.312	1	212	.000

Table 8 (continued)

4	.712[d]	.507	.497	1.11481	.009	3.666	1	211	.057
5	.826[e]	.682	.674	.89735	.175	115.655	1	210	.000
6	.827[f]	.683	.674	.89783	.001	.775	1	209	.380
7	.827[g]	.683	.672	.89997	.000	.007	1	208	.933

a. Predictors: (Constant), PEU

b. Predictors: (Constant), PEU, EXP

c. Predictors: (Constant), PEU, EXP, SN

d. Predictors: (Constant), PEU, EXP, SN, ENJ

e. Predictors: (Constant), PEU, EXP, SN, ENJ, ATT

f. Predictors: (Constant), PEU, EXP, SN, ENJ, ATT, ICTSE

g. Predictors: (Constant), PEU, EXP, SN, ENJ, ATT, ICTSE, AU

Dependent Variable: PU

Model 7 has the highest R2 value. All the variables enter into the equation. As it is shown in the Sig. column, four variables (PEU, SN, ENJ, and ATT) are statistically significant. Other variables, which were EXP, ICTSE, and AU, are higher than.05.

Table 9 Second Regression's Coefficients Table

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		**B**	**Std. Error**	**Beta**	**t**	**Sig.**
7	(Constant)	-.828	.396		-2.095	.037
	PEU	.179	.066	.151	2.705	.007
	EXP	.165	.168	.039	.984	.326
	SN	.190	.074	.124	2.577	.011
	ENJ	.202	.064	.153	3.127	.002
	ATT	.563	.053	.600	10.624	.000
	ICTSE	-.057	.065	-.042	-.881	.380
	AU	.003	.033	.003	.084	.933

a. Dependent Variable: PU

Third Regression

Third regression is conducted to explain RQ3 to RQ3e. The regression has assessed the influence of EXP, ATT, AU, PE, ENJ, SN, and ICTSE on PEU.

Table 10 Third Regression's Model Summary Table

Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics				
					R^2 Change	F Change	df1	df2	Sig. F Change
1	.070[a]	.005	.000	1.32574	.005	1.051	1	214	.306
2	.449[b]	.202	.194	1.19029	.197	52.477	1	213	.000
3	.455[c]	.207	.196	1.18887	.006	1.508	1	212	.221
4	.458[d]	.210	.195	1.18969	.003	.710	1	211	.400
5	.714[e]	.510	.499	.93866	.301	128.945	1	210	.000
6	.716[f]	.512	.498	.93916	.002	.776	1	209	.380

a. Predictors: (Constant), EXP

b. Predictors: (Constant), EXP, SN

c. Predictors: (Constant), EXP, SN, ENJ

d. Predictors: (Constant), EXP, SN, ENJ, ICTSE

e. Predictors: (Constant), EXP, SN, ENJ, ICTSE, ATT

f. Predictors: (Constant), EXP, SN, ENJ, ICTSE, ATT, AU

Dependent Variable: PEU

Table 10 demonstrates that the highest R square value was .510 at Model 5, which means this model explains 51 percent (.510x100) of the total variance. Lastly, the coefficient table (Table 11) was controlled. There are two variables (SN and ATT) whose significance value is lower than .05 ($p<.05$).

Table 11 Third Regression's Coefficients Table

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
6	(Constant)	.979	.407		2.405	.017
	EXP	-.140	.175	-.039	-.802	.423
	SN	.164	.076	.128	2.161	.032
	ENJ	.046	.067	.041	.679	.498
	ICTSE	.092	.067	.081	1.376	.170
	ATT	.494	.044	.624	11.362	.000
	AU	-.031	.035	-.044	-.881	.380

a. Dependent Variable: PEU

F. Summary of the Results

According to Singh (2013, p. 203) "$p < 0.05$ is referred as statistically significant and $p < 0.001$ as statistically highly significant". First, PEU was not significantly related to BI ($\beta = 0.062$, n.s.). Thus, RQ1 was not supported. However, PU had a

significantly strong and positive influence on BI (β = 0.474, p < 0.001) and ATT had a significantly strong and positive influence on BI (β = 0.234, p < 0.001), while ICTSE was not significantly related to BI (β = 0.073, n.s.). Thus, RQ1a and RQ1b were supported, but RQ1c was not.

Second, SN is significantly and positively related to BI (β = 0.163, p < 0.001), and EXP is statistically significant and positively related to BI (β = 0.088, p < 0.05); therefore, RQ1d and RQ1f were also supported. However, no significant impact of ENJ (β = -0.060, n.s.) and AU (β = -0.019, n.s.) on BI was discovered, and thus, RQ1e and RQ1g were not supported.

Third, ATT is significantly and positively related to PU (β = 0.600, p < 0.001); therefore, RQ2d was supported. PEU (β = 0.151, p <0,05), SN (β = 0.124, p <0,05), and ENJ (β = 0.153, p <0,05) are statistically significant and positively related to PU, and therefore, RQ2, RQ2b, and RQ2c were also supported. However, EXP (β = 0.039, n.s.), AU (β = 0.003, n.s.), and ICTSE (β = -0.042, n.s.) were not significantly related to PU. Thus, RQ2a, RQ2e, and RQ2f were not supported.

Finally, ATT is significantly and positively related to PEU (β = 0.624, p < 0.001), and SN is statistically significant and positively related to PEU (β = 0.128, p < 0.05); therefore, RQ3a and RQ3d were also supported. EXP (β = -0.039, n.s.), ENJ (β = 0.041, n.s.), ICTSE (β = 0.081, n.s.), and AU (β = -0.044, n.s.) were not significantly related to PEU. Thus, none of the RQ3, RQ3b, RQ3c, and RQ3e were supported in this context. A summary of the research path testing results is shown in Table 12.

Table 12 Research Question Testing Results

Research Questions	**Path**	**β-value**	**Result**
RQ1	PEU → BI	.062	No Relationship
RQ1a	PU → BI	.474	Positive Relationship
RQ1b	ATT → BI	.234	Positive Relationship
RQ1c	ICTSE → BI	.073	No Relationship
RQ1d	EXP → BI	.088	*Positive Relationship
RQ1e	ENJ → BI	-.060	No Relationship
RQ1f	SN → BI	.163	Positive Relationship
RQ1g	AU →BI	-.019	No Relationship
RQ2	PEU → PU	.151	*Positive Relationship
RQ2a	EXP → PU	.039	No Relationship
RQ2b	SN → PU	.124	Positive Relationship
RQ2c	ENJ → PU	.153	*Positive Relationship
RQ2d	ATT→ PU	.600	Positive Relationship

Table 12 (continued)

RQ2e	ICTSE → PU	-.042	No Relationship
RQ2f	AU→ PU	.003	No Relationship
RQ3	EXP → PEU	-.039	No Relationship
RQ3a	SN → PEU	.128	*Positive Relationship
RQ3b	ENJ → PEU	.041	No Relationship
RQ3c	ICTSE ↔ PEU	.081	No Relationship
RQ3d	ATT→ PEU	.624	Positive Relationship
RQ3e	AU → PEU	-.044	No Relationship

$p < 0.001$; n = 216; SN, subjective norm; ENJ, enjoyment; ICTA, ICT anxiety; ICTSE, ICT self-efficacy; PU, perceived usefulness; PEU, perceived ease of use; ATT, attitude toward technology; BI, behavioural intention; EXP, experience; AU, actual use.

* $p < 0.005$ is referred as statistically significant.

G. Age, Gender, Level of Study, and Online Learning Experience

Gender

The Mann-Whitney U test was used to see if there were any gender differences in a number of factors (Sumak, Pusnik, Hericko, & Sorgo, 2017), including how easy someone thought something was to use (PEU), their confidence in their ability to use information and communication technology (ICTSE), how much they enjoyed using it (ENJ), their attitudes toward technology (ATT), their plans to use it (BI), how useful they thought it was (PU), how useful they thought it was (PU), how they actually used it (AU), and their experience (EXP). The results are shown in Table 13.

The Mann-Whitney U test is a non-parametric test used to assess whether there are differences between two independent groups (Karadimitriou & Marshall, 2023). The Z value indicates the significance of the difference between the two groups (Khan & Qudrat-Ullah, 2021). A larger absolute Z value suggests a more significant difference. The Asymp. Sig. (2-tailed) value is the p-value, which is used to determine the statistical significance of the observed differences. If the p-value is less than the significance level (commonly set at 0.05), the results are considered statistically significant (Stats.oarc.ucla.edu, 2023).

In this sample, there is only marginal significance, suggesting a potential difference between genders in terms of PEU ($p = 0.073$). The difference in BI is not statistically significant ($p = 0.129$). For the other variables, no statistically significant differences were identified between genders ($p > 0.05$).

Table 13 The Mann Whitney U Test Statistics: Gender

Test Statistics[a]

	PEU	ICTSE	ENJ	SN	BI	PU	ATT	AU	EXP
Mann-Whitney U	4965.500	5658.000	5302.000	5484.000	5089.500	5294.500	5092.000	5600.500	5422.000
Z	-1.791	-.272	-1.052	-.653	-1.518	-1.070	-1.518	-.431	-1.220
Asymp. Sig. (2-tailed)	.073	.786	.293	.514	.129	.285	.129	.667	.223

a. Grouping Variable: Gender

Online Learning Experience

In this sample, a significant difference exists between the two groups, suggesting that individuals with previous online learning experience have higher ICTSE ($p = 0.033$). The results indicate notable differences in ICTSE ($p = 0.033$), ENJ ($p = 0.014$), and AU ($p = 0.046$) between individuals with and without previous experience with online learning. These findings provide insights into the potential impact of prior online learning experiences on various perceptions and behaviours related to technology use in the context of education. The results are shown in Table 14.

Table 14 The Mann Whitney U Test Statistics: Online Learning Experience

Test Statistics[a]

	PEU	ICTSE	ENJ	SN	BI	PU	ATT	AU	EXP
Mann-Whitney U	1895.000	1470.500	1380.500	1793.500	1770.000	1962.000	1651.000	1547.000	1993.500
Z	-.562	-2.127	-2.457	-.935	-1.022	-.315	-1.466	-1.996	-.307
Asymp. Sig. (2-tailed)	.574	.033	.014	.350	.307	.752	.143	.046	.759

a. Grouping Variable: Do you have any previous experience with online learning?

Level of Study

For variables PEU, ICTSE, ENJ, SN, BI, PU, and AU, the p-values are greater than the common significance level of 0.05. Therefore, there is insufficient evidence to reject the null hypothesis of no difference between graduate and undergraduate levels for these variables.

However, for ATT, the p-value is 0.031, and for EXP, the p-value is 0.032, both less than 0.05. This suggests that there may be a statistically significant difference between graduate and undergraduate levels for these variables. The results are shown in Table 15.

Table 15 The Mann Whitney U Test Statistics: Level of Study

Test Statistics[a]

	PEU	ICTSE	ENJ	SN	BI	PU	ATT	AU	EXP
Mann-Whitney U	1345.000	1353.500	1447.000	1437.000	1273.500	1284.500	1160.000	1622.500	1349.500
Z	-1.406	-1.371	-.991	-1.030	-1.694	-1.652	-2.162	-.303	-2.142
Asymp. Sig. (2-tailed)	.160	.170	.322	.303	.090	.099	.031	.762	.032

a. Grouping Variable: Your level of study: Graduate or Undergraduate

Age

Table 16 presents the results of the Kruskal-Wallis test, which is a non-parametric test used to assess whether there are statistically significant differences between the mean ranks of three or more independent groups. In this sample, the test was applied to explore differences in perception across various variables based on the different age groups of the students.

For PEU, the p-value is 0.003, indicating a statistically significant difference in perception among different age groups. This suggests that age may play a role in how individuals perceive the ease of using a particular technology. For ATT, the p-value is 0.077, indicating that it is not statistically significant. However, for the other variables, the p-values are greater than 0.05, suggesting no statistically significant differences in perception among age groups for these variables.

Table 16 Kruskal Wallis Test: Age

Test Statistics[a,b]

	PEU	ICTSE	ENJ	SN	BI	PU	ATT	AU	EXP
Chi-Square	15.781	2.719	6.473	3.759	6.197	3.709	8.419	6.204	3.568
df	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000
Asymp. Sig.	.003	.606	.166	.440	.185	.447	.077	.184	.468

a. Kruskal Wallis Test

b. Grouping Variable: Your age group Below 17, 18-20, 21-23, 27 and above

Learning Style

Table 17 presents the results of the Kruskal-Wallis test, which was conducted to examine potential differences in perception across various variables based on the style of learning (traditional face-to-face, completely online, or blended).

For PEU, BI, and ATT, the p-values are less than 0.05, indicating statistically significant differences in perception among individuals with different styles of

learning for these variables. However, for the other variables, the p-values are greater than 0.05, suggesting no statistically significant differences in perception based on the style of learning.

Table 17 Kruskal Wallis Test: Style of Learning

Test Statistics[a,b]

	PEU	ICTSE	ENJ	SN	BI	PU	ATT	AU	EXP
Chi-Square	10.973	.458	.063	4.046	11.052	5.112	8.052	3.349	4.618
df	2	2	2	2	2	2	2	2	2
Asymp. Sig.	.004	.796	.969	.132	.004	.078	.018	.187	.099

a. Kruskal Wallis Test

b. Grouping Variable: Most of the courses you are currently studying are Traditional face-to-face, Completely online, Blended

V. DISCUSSION AND CONCLUSION

A. Discussion

The ever-changing realm of technology has undoubtedly become an integral part of daily existence, leading to an increasing interest in people's willingness to embrace new technological progressions. This study explored the acceptance of e-learning among English as a Foreign Language (EFL) students, using the General Extended Technology Acceptance Model for E-learning (GETAMEL) as the theoretical framework. As technology becomes increasingly integrated into daily routines, it is of utmost importance to comprehend the elements that influence its acceptability, particularly in an educational setting.

The reliability and validity of the study instrument were thoroughly evaluated, specifically focusing on the results of the Cronbach's alpha coefficient. The perceived usefulness construct demonstrates robustness and internal consistency, as seen by the unusually high Cronbach's alpha value of 0.963 obtained from the questionnaire. Additional dimensions also exhibited satisfactory levels of reliability, confirming the validity of the collected perceptions and attitudes. The findings of this study inspire confidence in the research methods, establishing a strong basis for further analysis.

The study examined the GETAMEL model in the context of e-learning for university students, confirming its validity and providing detailed insights into the interaction between internal and external factors. Although the internal components received significant backing, certain external factors raised doubts regarding their construct validity. The limited correlation between Enjoyment (ENJ) and Perceived Usefulness (PU), as well as the absence of significant associations between Experience (EXP), ICT Self-Efficacy (ICTSE), and Actual Use (AU) with PU or Perceived Ease of Use (PEU), indicate complex dynamics within the technology acceptance paradigm.

The Pearson correlation analysis unveiled significant positive correlations among various factors within the GETAMEL model. These correlations suggest an interconnectedness of constructs, indicating that individuals with higher confidence in ICT skills tend to experience increased enjoyment in utilizing technology. Moreover,

the positive correlation between subjective norms, behavioural intention, perceived usefulness, perceived ease of use, and attitude toward technology suggests a harmonious relationship among these aspects. The observed statistical significance adds credibility to these correlations, although it is essential to emphasize that correlation does not imply causation.

The hierarchical multiple regression analysis provided a detailed examination of the complex relationships within the GETAMEL model. The overall R2 values demonstrated the predictive power of the independent variables collectively, explaining a substantial portion of the variance in BI. Notably, PU, ATT, SN, and prior EXP emerged as statistically significant predictors of BI. These findings align with the theoretical framework, offering valuable insights into the factors influencing individuals' intentions to use the online learning system for English learning.

An examination of demographic variables, including age, gender, level of study, and online learning experience, yielded detailed insights into the potential impact of these factors on individuals' attitudes and actions about technology utilisation. The small gender disparities and the impact of previous online learning experiences on ICTSE, enjoyment, and actual usage are significant. Also, there are statistically significant differences between graduate and undergraduate levels in how people feel about technology and how much experience they have with it. This means that academic level needs to be taken into account when creating treatments or support services.

The analysis of age groups revealed a statistically significant difference in PEU, indicating the potential impact of age on how individuals perceive the ease of using technology. Furthermore, the style of learning influenced perceptions of PEU, BI, and ATT. In contrast to previous research, this study discovered that prior EXP did not have a significant effect on PU. This lack of influence may be due to the students' limited exposure to the e-learning system. Furthermore, the reduced impact of enjoyment on perceived usefulness indicates a problem: students see e-learning systems as unenjoyable, which affects their level of involvement and their perception of the platforms' usefulness.

Interestingly, ATT was found to be a strong factor that positively influenced students' beliefs in PU, PEU, and BI towards e-learning. This is consistent with prior

studies, demonstrating that ATT acts as a mediator for the influence of PU on BI. Nevertheless, the study revealed a remarkable divergence: the attitude of students towards online learning had a substantial impact on both PU and PEU, which contradicted previous research findings. The intricacies highlight the intricate nature of the various aspects that impact students' attitudes and actions towards online education.

The study examined the difficult transition from traditional in-person classrooms to independent computer-based learning, uncovering a less favourable setting for language learners. Therefore, the anticipated relationship between external pleasure and internal conceptions was difficult to establish. Interestingly, although it was considered crucial in prior studies, ICT Self-Efficacy did not show a significant effect. This raises questions about students' confidence in their abilities without instruction.

The study provides unique insights into the complex dynamics of technology acceptability in the field of EFL e-learning, emphasising the need for further investigation of these linkages and their impact on educational practices.

B. Conclusion and Implications

This study aimed to validate the GETAMEL in the specific setting of an EFL preparatory school. The findings demonstrate a positive correlation, showing the successful implementation of the model in an e-learning system for English as a Foreign Language (EFL) learners. An important discovery is the significant influence of the e-learning system on students' motivation, emphasising the necessity of seamlessly integrating technology into their educational experiences. This study provides unique insights into the factors that influence attitudes and intentions towards e-learning, serving as a pioneering effort to prove the effectiveness of GETAMEL for EFL students.

The study recognises the changing characteristics of classroom learning environments, highlighting the importance of taking into account specific contextual factors when explaining the acceptance and use of technology. The pandemic necessitated the adoption of an e-learning system for students, regardless of their level of proficiency in using ICT and their level of satisfaction with online learning. This

situation introduces a level of intricacy to the analysis of the results, indicating that external factors may have distinct impacts in various learning settings.

The study emphasises the significant impact of e-learning quality and self-efficacy on user happiness, urging universities to prioritise and improve these variables. Universities play a crucial role in fostering the development of top-notch e-learning materials that are in line with students' educational requirements. The findings also highlight the interdependence of the quality of e-learning, the capabilities of hardware, and the entire learning experience.

In order to improve students' confidence and ability to study online, it is strongly recommended that instructors and administrators offer extensive support, both through digital platforms and in-person interactions. Suggesting the prioritisation of user-friendly e-learning content and learning management systems as an effective technique to positively transform students' mindsets and cultivate a sense of fulfilment. The feeling of satisfaction derived from e-learning serves as a motivating force for ongoing and passionate participation.

The study highlights the importance of students' role in the e-learning ecosystem. Students have the responsibility of gaining the essential abilities to explore e-modules and other digital resources as active participants. The study highlights the potential advantages, such as enhanced typing proficiency and increased ease in written communication that students can acquire through e-learning. However, it also recognises prevailing preconceptions that cast doubt on the calibre of online learning in comparison to traditional face-to-face formats.

To summarise, this study highlights the complex dynamics of accepting e-learning, emphasising the importance of a comprehensive approach that considers factors such as self-efficacy, quality, and user friendliness (Alkhaldi, Ali, Mahmoud, Alrefai, & Bahou, 2021). The findings support the idea that educators, administrators, and students should work together to create an atmosphere where technology is smoothly incorporated into the learning process, improving both accessibility and satisfaction.

C. Limitations and Future Research

The work diligently acknowledges its limitations, illuminating areas that require meticulous evaluation in future research endeavours. A significant constraint of the study is its limited capacity to thoroughly assess the overall quality of all e-learning experiences. The limited extent of the sample, derived from a solitary educational institution, necessitates a prudent methodology when evaluating and extrapolating the findings. In order to address this constraint in future studies, the researchers propose a more comprehensive research framework that includes a wide range of departments and universities. This comprehensive method is expected to provide a more intricate comprehension of students' perspectives on online learning in different educational environments.

The study primarily examines the viewpoints of students and highlights a noticeable lack of comprehension regarding the self-confidence and effectiveness of teachers in the e-learning setting. Given the existence of this discrepancy, the researchers highlight the importance of conducting further investigations that explore the perspectives of both students and teachers. These thorough studies should emphasise the complex dynamics of interaction and collaboration among these essential parties. The form of this engagement and collaboration is considered crucial, as it directly impacts students' inclinations to continue participating in e-learning. Further research should go into these factors in greater depth to offer a thorough understanding of the e-learning environment.

The study's findings, which provide a basis for understanding the factors that influence student satisfaction with e-learning, emphasise the crucial role of universities in this setting. The researchers propose that institutions broaden their scope beyond the technological components of e-learning platforms. Alternatively, they suggest giving priority to the comprehensive well-being and requirements of students engaged in e-learning procedures. The comprehensive approach is considered crucial in maintaining the quality of the educational experience and establishing a suitable environment for effective and fulfilling e-learning practices.

Essentially, the study not only provides useful insights into the present understanding of e-learning adoption but also establishes a clear agenda for future research areas. The observed limits act as guiding indicators for improving research

methodology and broadening the scope, ensuring a more thorough and inclusive investigation of the complex environment of e-learning.

D. Personal Recommendation

Globalization has led to a variety of causes of disruption in education, not just pandemics. Future agenda items should include wars, local conflicts, and various natural disasters as potential sources of disruption (Yılmaz Özden, Shinas, & Hamutoğlu, 2022). To give better and more timely answers, emergency distance learning or re-engineered distance learning should collaborate with various stakeholders. It is critical to develop solutions on a broader scale because, in times of crisis, it is not just the delivery of material that is crucial but also the care and support of learners. According to Goksel, in reality, what we teach during such times may be secondary. It is important to keep in mind that students' lasting recollections will not be of the specific content presented but rather of the emotions, they experienced throughout these challenging periods (Goksel, 2021). By adopting an empathic approach, the focus of the tale will shift from the successful delivery of instructional information to the way in which learners recount their experiences during these moments.

The global environment is always changing, and pandemics are not the only thing interfering with education. Various natural disasters are important issues that need to be constantly taken into account as potential disruptors of learning. Recent events, such as the Russo-Ukrainian (2022), Israel-Hamas war (2023) and the Turkey-Syria earthquake on February 6, 2023, demonstrate the need for a wide range of approaches to prepare for and mitigate the impact of unexpected problems. The development of more comprehensive solutions becomes imperative as crises include concerns beyond the mere provision of academic content. Care and support for learners during difficult times is a priority. Recent examples, including the war and the earthquake, have highlighted that the focus should extend beyond the delivery of programs to the emotional well-being of students. These events demonstrate that their impact on students goes beyond academic content and influences their overall experiences and perceptions.

It is essential to recognize that, despite the adversity, students will remember not only the educational content that has been presented but, more importantly, how they

feel. Thus, the adoption of an empathy approach becomes vital in shaping the narrative of education during crises. This approach shifts the focus from the mechanics of delivering educational content successfully to the collective story of how learners navigate and record their experiences in challenging times. In considering the evolving educational landscape, educators, researchers, and stakeholders must unite in their efforts. By encouraging a collaborative and friendly approach, the education community can create a resilient framework that gives priority not only to academic content but also to the well-being and narratives of learners in the face of a changing and unpredictable world.

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APPENDIX

APPENDIX-1 Questionnaire

APPENDIX-2 Permission E-mail

APPENDIX-2 Istanbul Aydın University Approval Letter

APPENDIX-1 Questionnaire

GETAMEL Questionnaire

Dear Students,

I am an MA student at İstanbul Aydın University. This questionnaire is designed to better understand EFL Learners' Technology Perspectives on E- Learning. Your cooperation will be highly appreciated. Your responses will be kept confidential and will only be used for this research. Please respond to all the questions by following the instructions.

Thank you for your cooperation
Emine GEDİK UĞUR

Section 1

Background Questions

1. Gender: □Female □Male
2. Your age group: □Below 17 □18-20 □21-23 □24-26 □27 and above
3. Your level of study: □Undergraduate □Graduate or postgraduate
4. Which device do you use most frequently to access the Internet? (tick all that apply):

   □ Smartphone □ Tablet or iPad □ Laptop □ Desktop computer

5. Most of the courses you are currently studying are:

   □ Traditional face-to-face □ Completely online □ Blended, where some components of the study are done online

6. Do you have any previous experience with online learning? □Yes□No
7. I use the Internet:

   □ Daily □ Alternate days □ Once a week □ Irregularly □ Rarely □ Never

8. On average, how much time do you spend on Internet-related activities (email, browsing, social media) daily?

   □ <1 hour □ 1-2 hours □ 3-5 hours □ >5 hours □ Do not use daily

9. Do you own any of these devices?

Devices	Yes	No, but I plan to buy one in the next 12 months	No, and I do not plan to buy one in the next 12 months
Desktop computer	□	□	□
Laptop	□	□	□
Smartphone	□	□	□
Tablet device (e.g. iPad)	□	□	□

10. Do you have access to any of these devices at your university?

Devices	Yes, provided by the university	Yes, I use my personal device in the university	No, my university does not allow me to use these
Desktop computer	□	□	□
Laptop	□	□	□
Smartphone	□	□	□
Tablet device (e.g. iPad)	□	□	□

Section 2

a. ICTSE

How well can you do each of these tasks on a computer?

1. Search for and find a file on your computer;
2. Edit digital photographs or other graphic images
3. Create or edit documents (e.g., assignments for school);
4. Search for and find information you need on the Internet;
5. Create a multimedia presentation (with sound, pictures, or video)
6. Upload text, images, or video to an online profile.

"1 = I do not know how to do this" to "6 = I know how to do this."

b. ENJ

7. It is very important to me to work with a computer.
8. I think using a computer is fun.
9. It is more fun to do my work using a computer than without a computer.
10. I use a computer because I am very interested in the technology.
11. I like learning how to do new things using a computer.
12. I often look for new ways to do things using a computer.
13. I enjoy using the Internet to find out information.

"1 = strongly disagree" to "6 = strongly agree."

c. AU

14. How much time they spent on the online learning system and choose among the seven options of time interval estimate.

"1 = Never" to "2 = 1–15 min every day" to "7 = More than 90 min every day"

with an interval of 15 minutes each

d. EXP

15. "Before the outbreak of this pandemic, what is your experience of having a fully online English course like the one we are having this semester?"

"1 = I have never had any experience of online English learning" to "4 = I always participate in online English learning."

e. SN

16. My instructor thinks that the Internet is valuable for online English learning.
17. My instructor's opinions are important to me.
18. My classmates think that using the Internet is valuable for online English learning.
19. My classmates' opinions are important to me.
20. My school is committed to supporting my efforts to use the Internet for learning.
21. The use of online learning is important in my university.

"1= completely not true of me" to "6 = completely true of me."

f. BI

22. If possible, I intend to use online learning system as a supplementary way to learn English.
23. I will always try to use online learning system in my daily English learning.
24. If university continues to provide online English courses, I plan to use the online learning system frequently

"1= completely not true of me" to "6 = completely true of me."

g. PU

25. Using online learning system will improve my English learning.
26. Using online learning system will make my English learning more convenient.
27. Using online learning system will make me more effective in English learning.
28. Overall, I find the online learning system to be useful in English learning.

"1 = strongly disagree" to "6 = strongly agree.

h. PEU

29. I find the online learning system to be clear and understandable.
30. I find that the online learning system does not require a lot of mental effort.
31. I find the online learning system to be easy to use.

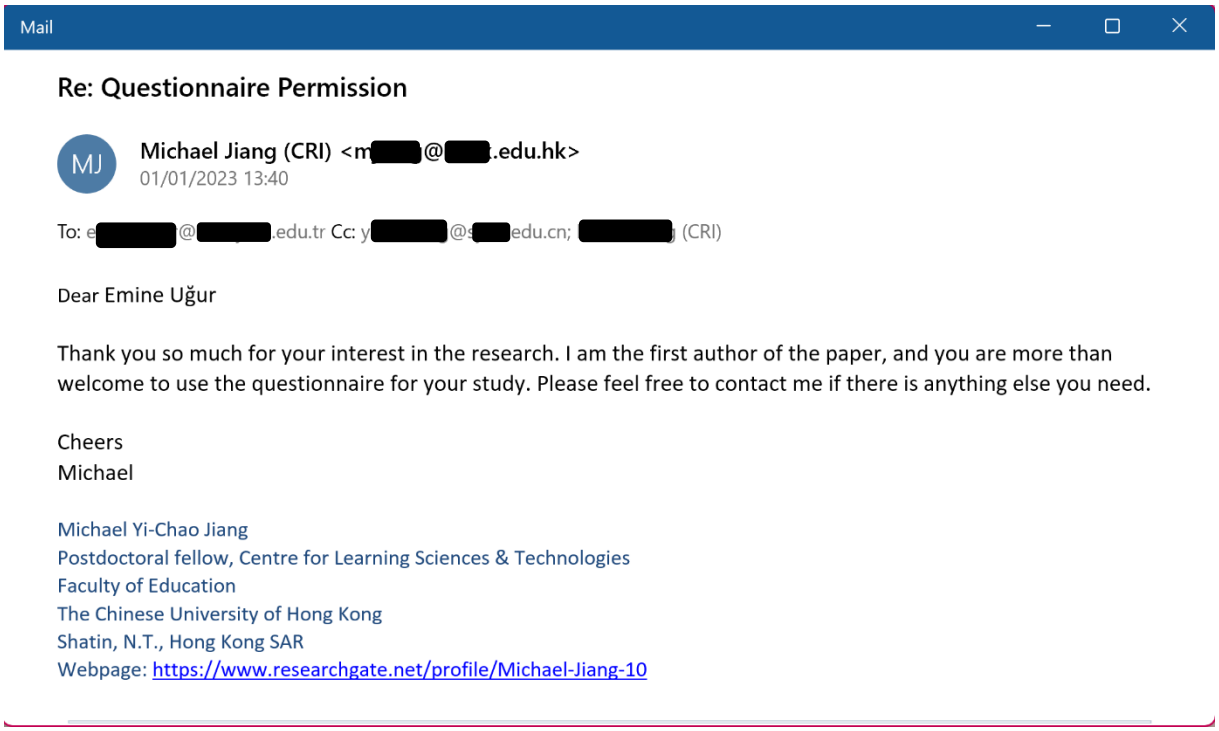
"1 = strongly disagree" to "6 = strongly agree.

i. ATT

32. I think that using the online learning system is a good idea.
33. I think that using the online learning system is beneficial to me.
34. I have positive perception of using the online learning system.

"1 = strongly disagree" to "6 = strongly agree.

APPENDIX-2 Permission E-mail



Mail

Re: Questionnaire Permission

MJ

Michael Jiang (CRI) <m[redacted]@[redacted].edu.hk>
01/01/2023 13:40

To: e[redacted]@[redacted].edu.tr Cc: y[redacted]@s[redacted]edu.cn; [redacted] (CRI)

Dear Emine Uğur

Thank you so much for your interest in the research. I am the first author of the paper, and you are more than welcome to use the questionnaire for your study. Please feel free to contact me if there is anything else you need.

Cheers
Michael

Michael Yi-Chao Jiang
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APPENDIX-3 Istanbul Aydın University Approval Letter

Evrak Tarih ve Sayısı: 17.10.2023-99635

T.C.
İSTANBUL AYDIN ÜNİVERSİTESİ REKTÖRLÜĞÜ
Lisansüstü Eğitim Enstitüsü Müdürlüğü

Sayı : E-88083623-020-99635 17.10.2023
Konu : Etik Onayı Hk.

Sayın Emine GEDİK UĞUR

Tez çalışmanızda kullanmak üzere yapmayı talep ettiğiniz anketiniz İstanbul Aydın Üniversitesi Eğitim Bilimleri Etik Komisyonu'nun 02.10.2023 tarihli ve 2023/10 sayılı kararıyla uygun bulunmuştur.
Bilgilerinize rica ederim

Dr.Öğr.Üyesi Alper FİDAN
Müdür Yardımcısı

Bu belge, güvenli elektronik imza ile imzalanmıştır.

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RESUME

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