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## Higher Education EFL Online Success Model-An Adaptation to the DeLone and McLean IS Success Model



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### Abstract

This study aims to adapt and extend the DeLone and McLean Information System (IS) success model in the context of an online English as a Foreign Language (EFL) higher education foundation program. The objective is to enhance teaching, learning, and knowledge-sharing experiences within a virtual community of practice (vCoP). The research involved eight experienced full-time university lecturers with master's degrees in English language teaching as participants. They were presented with six open-ended questions followed by interviews. The study addresses the gap between research and practice by assessing the effectiveness of the model in measuring knowledge-sharing and user interaction within the EFL vCoP. The findings highlight the need for tailored models in specific online learning domains, such as EFL, rather than applying a generalized approach to education. The findings have practical implications for designing and evaluating online educational programs and communities, ultimately enhancing the quality of online learning experiences. The study proposes potential indicators of success, paving the way for future research in the field of online education. By identifying and refining these indicators, educators and researchers can better assess the impact of online learning platforms and communities on student outcomes, engagement, and knowledge-sharing.

**Keywords:** higher education, virtual community of practice (vCoP), knowledge sharing, user interaction, EFL, TEL

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**Data Availability Statement:** All relevant data are within this paper.

## Introduction

The outbreak of the SARS-Cov-2 virus and subsequent declaration of the COVID-19 pandemic led educational institutes to swiftly transition to online learning. Starting from late February 2020, governments implemented measures suspending on-campus study and introduced guidelines for the implementation of remote learning. This shift to online education highlighted the importance of evaluating the success of online courses and the models used, with a particular focus on knowledge sharing and user interaction within the communities of practice (CoPs). As Moore (2008) emphasizes, communities of practice play a crucial role in connecting research and practice, challenging traditional notions of learning and knowledge distribution. In response, universities have made substantial investments in information systems (IS) to cater to the needs of students, instructors, and staff (Sinclair et al., 2016), with e-learning systems being a vital component of these IS investments (Islam, 2016).

To assess the effectiveness of the models employed in the educational sector, various studies have sought to extend the DeLone and McLean model (Seddon, 1997). These models and frameworks serve as valuable tools for evaluating knowledge sharing in online environments, as demonstrated by a systemic review conducted by Pour et al. (2018) and Wang (2017). This study provides evidence that the DeLone and McLean model is an effective tool for evaluating knowledge sharing in online environments, particularly in the context of e-learning. However, a systematic review conducted by Sabeih et al. (2021) found that most studies developed a hybrid/extended model and identified gaps in the literature. This study aims to address this gap by adapting the DeLone and McLean's IS success model and proposing a conceptual model for measuring the success of an online course within the English as a Foreign Language (EFL) foundation program. The focus will be on the perceptions of the lecturers who form the virtual community of practice (vCoP) within the higher education institute.

By examining the success of the online course within the EFL foundation program, this study aims to contribute to the understanding of effective online education practices. Specifically, it seeks to identify the factors that influence the success of the course from the perspective of the lecturers who participate in the virtual community of practice. The insights gained from this study will not only inform the development and improvement of the online course but also contribute to the broader knowledge base of online education in the higher education context.

Based on the perceptions of members in a virtual community of practice and existing literature, this study aims to identify the following:

1. What adaptations and extensions, if any, can be made to the DeLone and McLean IS updated success model to effectively measure the success of an English as a Foreign Language (EFL) foundation online program?
2. How do the identified adaptations and extensions enhance our understanding of the factors influencing the success of the EFL foundation online program?

## Literature Review

### Virtual Communities of Practice in Education

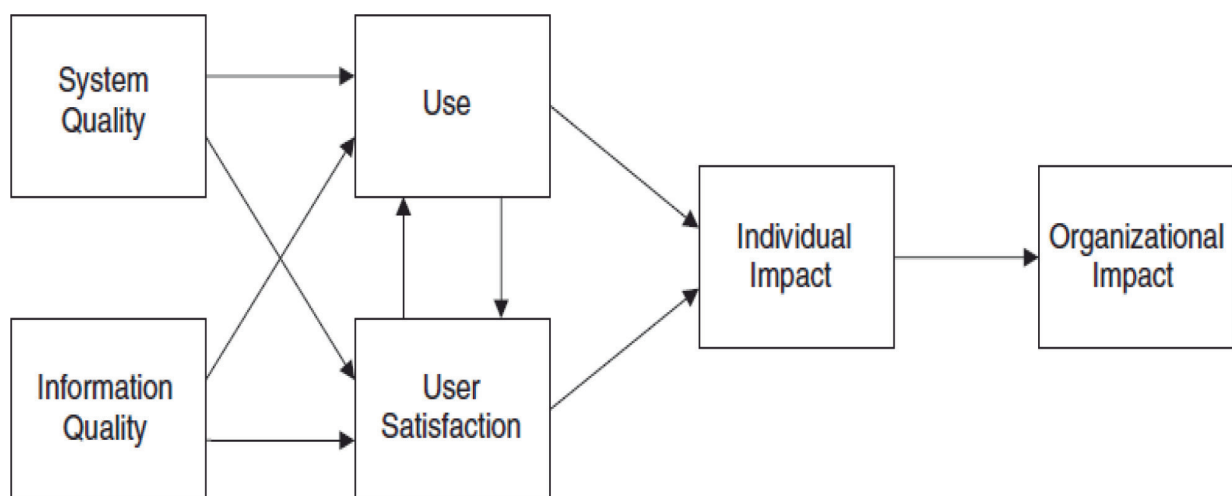
A virtual community of practice (vCoP) is a platform that “attracts professionals operating in a specific knowledge domain, who share a common problem, interest, or topic” (Bolisani et al., ). They function as an interdependent network over an extended period of time, with the shared goal of furthering their “practice” or improving the quality of their work (Wenger, 1998). Virtual communities of practice

(vCoP) are comprised of community members who are from different parts of the world or from within the same location but who cannot communicate face-to-face due to various circumstances, so that they have to rely on technological means to communicate with each other. Wenger (2000) reported that communities of practice have helped organizations improve their overall performance, enhance their communication structure, and support their goals. Communities of practice (CoPs), whether face-to-face or virtual, are not new in education. However, with the Covid-19 pandemic the need to implement vCoP was urgent and the continuation of education was dependent on it. Nonetheless, the implementation did not go without challenges as the need for infrastructure and devices were necessary for its success (UNESCO, 2020), as well as the need to educate and train both learners and educators which lead to virtual CoPs being revitalized (Bolisani et al., 2020). This allowed for educators to collaborate and share resources in ways they have never done before, as well as experiment with new teaching methods to enhance learning and student engagement whilst using technology (Chaturvedi et al., 2021). As we move forward vCoPs continue to play an important role in education, providing opportunities for collaboration, knowledge sharing and professional development in all fields (Murtagh & Rushton, 2023).

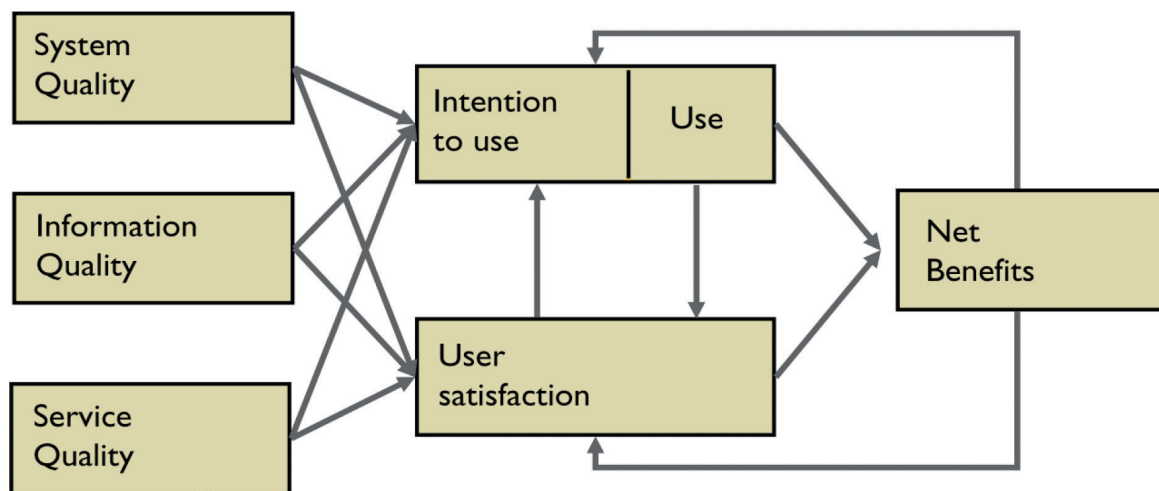
### DeLone and McLean IS Success Model

The DeLone and McLean IS success model aims to create a comprehensive taxonomy model, which consists of interrelated dimensions for evaluating IS success (DeLone & McLean, 1992). DeLone and McLean's original IS model is considered the foundation for research in the component content management system (CCMS) domain and in the evaluation of information systems in IS research (Adeyinka & Mutula, 2010). The original model (Figure 1) identifies six constructs for IS success. It suggests that success can be represented by the system quality, information quality, the use, and user satisfaction which will affect the individual impact and ultimately the organisational impact (DeLone & McLean, 1992). This model provides a scheme for classifying the multitude of IS success measures and suggests the temporal and causal interdependencies between the six dimensions.

DeLone and McLean proposed a modified version in 2003 (figure 2). The updated constructs are system, information, and service quality, intention to use, use, user satisfaction, and net benefits (DeLone & McLean, 2004). They added intention to use as an alternative measure of use in order to assess the attitude of the users. Finally, they combined individual and organisational impact into one dimension, named net benefits. This enabled the expansion of their model to cover different contexts.



**Figure 1** The original information system success model proposed by DeLone and McLean (1992).



**Figure 2** *The Updated DeLone and McLean Model of Information Systems Success (2003).*

### Exploring the DeLone and McLean IS Success Model in Online Education

A considerable amount of research has been conducted on the use of the DeLone and McLean IS success model in online learning. Additionally, since the World Health Organization (WHO) declared COVID-19 a global pandemic in early 2020, there has been a surge in research on learning and teaching (Alaghbary, 2021). In a research study titled “A Systematic Literature Review on the Application of the D&M IS Success Model in E-Learning: Key Findings and Future Research Directions,” researchers conducted an in-depth analysis of 92 primary studies published between 2010 and 2020 (SabeH et al., 2021). The goal of this study was to investigate the application of the DeLone and McLean Information Systems Success (D&M IS Success) model within the context of e-learning. Specifically, the study aimed to understand the success, utilization, and adoption of e-learning systems using the D&M IS Success model as a framework. The research identified the D&M IS success model was also integrated by scholars with other models namely: Technology Acceptance Model (TAM), Expectation-Confirmation Model (ECM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Task-Technology Fit (TTF).

The research identified TAM was the most popular model that was extensively integrated with the DeLone and McLean Information Systems Success (D&M) model, particularly in terms of perceived usefulness and perceived ease-of-use constructs.

The research conducted highlights that IS-related factors and user-related factors are significant predictors of success, utilization, and adoption of e-learning systems (SabeH et al., 2021). However, it primarily focuses on the broader context of online learning without specifically addressing eLearning in higher education, as although 85% of the studies analyzed were in education, it did not particularly focus on higher education itself.

A study conducted by Seta et al. (2018) was more specific and was based on eLearning in a higher education environment. The researchers formed an integrated model with the DeLone & McLean IS success model and an e-learning adoption model to assess the impact of various factors on user satisfaction, system use, and individual performance. It explores the factors influencing the success of e-learning implementation in higher education with the focus on Indonesian universities. Their research model integrates variables such as technical system quality, service quality, content and information quality, use, user perceived satisfaction, and individual impact.

It emphasizes the readiness of universities to implement e-learning, discussing factors such as technology, human resources, organization, and finance. The success of e-learning systems is discussed, with a focus on the positive impact of user satisfaction and system use on student performance. The researchers propose an integrated model of e-learning success by adapting the DeLone & McLean IS success model to the Indonesian context.

The findings indicate that content and information quality influence system use, while technical system quality and educational system quality significantly impact user perceived satisfaction. The study also establishes a positive relationship between use and user perceived satisfaction, and their impact on individual performance. However, service quality did not have a significant effect on user satisfaction and system use, and content and information quality did not significantly impact user satisfaction.

The case study incorporates variables such as technical system quality, educational system quality, service quality, content and information quality, use, user perceived satisfaction, and individual impact. Although these variables incorporate the higher education environment in eLearning, they do not encompass the complete range of factors relevant to measuring success in an EFL foundation online program, in which the definition and measurement of success may extend beyond traditional metrics such as satisfaction and perceived usefulness. It is important to consider additional factors such as language proficiency gains, learner engagement, and intercultural competence development to capture the comprehensive success of the program (Almaiah et al., 2020; Lee et al., 2023; Tran & Duong, 2018).

The research papers mentioned the integration of other models with the DeLone and McLean model, but it fails to address any previous studies or research gaps specifically related to the adaptation of the model for measuring the success of an EFL foundation online program. This gap highlights the need for further investigation and exploration in the specific context of EFL education.

By proposing adaptations and extensions to the DeLone and McLean IS success model, including the incorporation of EFL-specific factors and conducting comparative analyses, a more comprehensive understanding of the factors influencing success in EFL foundation online programs can be achieved. These modifications will facilitate the development of a tailored success model that effectively measures success in the EFL context. Therefore, this study, focusing on the adaptations and extensions required to effectively measure the success of an EFL foundation online program, will contribute significantly to filling these gaps and advancing our understanding of the factors influencing the success of such programs.

## **Methodology**

### **Background**

The EFL foundation program utilized Blackboard as its learning management system (LMS). The program consisted of three distinct courses: Reading and Vocabulary, Writing and Grammar, and Listening and Speaking. These courses were further categorized into synchronous and asynchronous formats. The synchronous courses comprised live sessions with teachers, allowing direct interaction and real-time engagement. On the other hand, the asynchronous courses involved self-study, where students watched pre-recorded lessons and completed assignments independently. The total learning hours for the program amounted to 13 hours. The program was structured into two levels based on the Common European Framework of Reference for Languages (CEFR): Level 1 (CEFR A2) and Level 2 (CEFR B1). Both levels incorporated formative and summative examinations to assess students' progress. The LMS served as the primary communication platform, facilitating interactions and information exchange between students and instructors throughout the program.

## **Research Design**

In this study, a qualitative approach was employed to analyze the findings and refine the DeLone and McLean IS success model in the context of an online EFL higher education foundation program. The analysis process involved several steps to gain a comprehensive understanding of the participants' perspectives and their implications for model adaptation.

Firstly, semi-structured interviews were conducted with lecturers who were actively involved in teaching the online EFL course. These interviews allowed for in-depth exploration of their experiences, insights, and suggestions regarding the effectiveness of the existing model and its applicability to the online learning environment. The interviews were designed to elicit rich qualitative data, capturing nuances and individual perspectives.

The interview data were transcribed and carefully reviewed to identify common themes and patterns related to the success factors, challenges, and potential areas for improvement within the EFL vCoP. Thematic analysis was employed to systematically code and categorize the data, ensuring rigorous analysis and interpretation.

The identified themes were then compared and contrasted with the existing DeLone and McLean IS success model. This comparative analysis aimed to identify gaps, discrepancies, and areas where adaptation and extension of the model were needed to align with the specific requirements of the online EFL program. The analysis process involved critically examining the model's components, factors, and relationships to assess their relevance and applicability in the context of the EFL vCoP.

## **Research Participants**

The selection criteria for participants focused on full-time university lecturers with extensive teaching experience in higher education and a master's degree in English language teaching. The targeted population possess a deep understanding of the challenges and dynamics involved in EFL education. By selecting participants who met these criteria, the study aims to gather perspectives from individuals who have first-hand experience in implementing digital collaboration in an EFL online learning environment. Their insights and observations will contribute significantly to understanding of the practice and assessment of knowledge sharing and user interaction of virtual community of practice (vCoP) members. In addition to a postgraduate degree in EFL teaching, all 8 chosen participants hold a Microsoft Certified Educator (MCE) certification, which signifies their proficiency in integrating technology skills and innovative teaching methods. The MCE certification is a recognized professional development program that enables educators to deliver tailored learning experiences, incorporating critical 21st-century skills using Microsoft tools. By establishing this population, the study ensures that the participants possess the necessary qualifications and expertise to provide valuable insights to this study.

## **Data Collection**

Three open-ended questions were sent by email to the participants in order to stimulate their thoughts regarding the matter their perspectives on the research question of this study. The participants were required to provide answers by email to the following questions within two weeks. Q1) What are the different aspects of the DeLone and McLean's Model that are applied to the online English foundation program? Q2) What are the gaps within the DeLone and McLean's Model regarding the application to EFL e-learning? Q3) How does being a member of a vCoP benefit the success of the knowledge management system used in the EFL foundation program.

All questions serve the aim of this paper, which is to adapt the DeLone and McLean's IS success model and propose a conceptual model for measuring the success of the online course used in the English as a Foreign Language (EFL) foundation program based on the perceptions of the lecturers' who form the virtual community of practice (vCoP) within the higher education institute.

Following these three initial questions, in-depth interviews were conducted on Zoom with each participant individually to elaborate further on their answers to the open-ended questions sent earlier. Semi-structured interviews using guide questions based around a set of themes to facilitate the conversation (Cousins, 2008). The online interviews were conducted between February and July 2022, while interview questions covered the period from when the shift to online teaching started (February 2020) to the current time, which is June 2022.

### **Ethical Concerns**

As the participants are from a higher education institute, the rules and regulations regarding the institution's research and publication policy was followed. As there are several ethical positions and concerns to be considered when expressing one's thoughts related to the institution and the program, it was made clear to the participants not to involve any institutional or student data that might cause damage to any party. The participants were also assured that their names would not be used in the publication, and it was stated that clearly in the ethics form. It was also made sure that the participants read their part and the entire study before the final submission.

## **Findings**

### **Data Analysis of Respondents Perspective of the components of the DeLone and McLeans IS Success Model**

The research involved an analysis of three open-ended questions followed by an interview. The responses of both were analyzed, to come to an understanding of if the DeLone and McLean's IS success model needs to be adapted, and if so, how can it be adapted to measure the success of the English language foundation program. In order to align the responses common key words were identified.

In analyzing the responses, it was clear that they all believed that the model needed to be adapted for a higher educational setting and more specifically an EFL environment.

One participant states that an extension of subcategories is needed in order for the model to fit the educational setting, as the respondent believes the model is more suitable for the corporate organization.

*"The Model shows only the main components on a general level, but I think that there are several subcategories that need to be included depending on the institution it is going to be implemented at. As an EFL professional, it is difficult to use this model as and how it can be applied in our educational setting. **It is more suitable for a corporate /client-oriented organisation.** However, it is understandable how the flow of the process is applicable but with some adaptation."*

More specifically, another respondent believes the model is applicable in the University setting, however for it to successfully measure the delivery of the program, some components are missing. The respondent focuses on the need to engage the learner and collaboration.

*“I think system quality, information quality and service quality can be used in our Foundation program. If we look at the University as an educational system, then definitely our program was designed to add to the system quality. However, the application of DM model to EFL learning to measure students satisfactory does not take into consideration of choice. Students (due to the pandemic) were forced to take the courses online. **The model also focuses on means of sending information rather than on receiving information. It measures how the information is sent but not how well a student receives the information.**” Respondent 1*

The terminology in the DeLone and McLean’s IS success model was also suggested to be adapted by the respondents, in order to successfully measure the success of the English language foundation program. For instance, **Content Quality** was suggested as a more relevant term to capture the nature of educational knowledge management, replacing information quality as it better reflects the educational context, as seen as a respondent’s statement below:

*“Although information quality (which I would suggest calling **digital content quality**) of the EFL foundation online program was somewhat substandard, it still proved to be effective. The consistency, availability, accuracy, usefulness, and reliability all were applied with poise. The limitation of IQ were related to the level of interaction with digital content by the students in comparison to paper books.” Respondent 2*

Additionally, participants emphasized the need to measure how well students receive information, highlighting the importance of incorporating factors related to knowledge reception in the adapted model. It was also suggested to replace system with **Delivery Quality** (Teaching online) to better reflect the overall support provided by the online course. The aspect of system quality was deemed applicable as it is in the original model, but participants stressed the need to consider security and accessibility aspects specific to online learning environments.

The need to measure how well the information is received is also an important factor indicated by the participants, as we can see from the following quote and how it emphasizes **Delivery Quality**.

*“In the EFL foundation program, the level of the student (A1 to A2) sometimes hinders the students’ ability to make use of the information or online books. The aspects of the DeLone and McLean model does not relate or measure how well **students receive this information.**” Respondent 1*

Although, Delivery Quality is identified to be important, some respondents believed that **Service Quality** is just as important as seen in the response below:

*“The EFL foundation program used Blackboard as its sole LMS platform to deliver classes which although may help with **reliability**, but its drawback was in the limitation to what a teacher could do in the classroom.” Respondent 4*

Service Quality is important as it defines the measurement of the information system processing in any IS model which is equally applicable to an online program structure. Nevertheless, service quality in the context of online learning requires the consideration of aspects such as security and accessibility based on the respondent’s perspective which can be seen below:

*“As this concerns educational provision, I think that the model should take into account security, particularly when it comes to assessments. By **security**, I mean that there is no room for collusion – this may be included in **service quality.**” Respondent 6*



Also, the following participant believes that the system quality aspect of the DeLone and McLean's Model is a good measurement for the reliability and accuracy of the online EFL course. This is shown in the response below:

*“The foundation online system was able to achieve many of DeLone and McLean's model system quality. The material provided for the students was easy to access and asynchronous nature of the material made it very space and time convenient. The easy layout of the **system** eased students' ability to navigate among the material of the same course or shift from one course to another. The online courses were also very **sophistic efficient which enhanced its reliability and accuracy.**” Respondent 7*

### **Data analysis of respondents' perspectives of ways that vCoP benefit the Knowledge Management System**

Respondents also emphasized the importance of Virtual Communities of Practice (vCoP) for a knowledge management system, or more specifically a learners management system (LMS).

According to the participants, virtual communities of practice (vCoP) benefit both educators and learners by enhancing their job performance, supporting their learning processes, and facilitating knowledge sharing. Participants emphasized the reliability, trustworthiness, and continuous support provided by the online program. They expressed how vCoP contributed to effective information and resource sharing, as well as enabling prompt assistance to students' needs. The perspectives shared by the participants highlight the importance of the online community in fostering an effective and supportive learning environment, emphasizing the importance of continuous support and trust (**Service Quality**) in the system quality. One participant stated that:

*“The foundation program members showed a great readiness to assist students need within a very short time. The online program was committed to providing **services and continuous support** for both students and lecturers (reliability). Both teachers and students felt a **sense of trust in the system** as all information maintained a high level of privacy. The method of sharing information and resources, the way all involved were able to ask questions and get answers are all a realistic sense of an effective online educational community.” Respondent 6*

Another participant seconds the opinion of virtual communities of practice benefiting the learners and educators, and if to be based on the current DeLone and McLean model, the overall process of learning can be considered successful.

*“Since I'm coming from an educational background, we often look at matter from a pedagogical perspective similar to the learning that goes on in the traditional classroom, and the reality is obviously it is an online program and looking at it from the perspective of DeLone and McLean IS success model, **the process is a natural flow that represents the main factors** of the online EFL foundation program.” Respondent 8*

### **Data analysis of respondents' perspectives of the Limitations of the existing DeLone and McLean Model**

Some participants identified certain limitations of the DeLone and McLean's IS success model when applied in an educational context. They emphasized the need to include constructs such as collaboration, motivation, and cultural background, which play crucial roles in an EFL classroom. The model was also criticized for its focus on measuring tangible features and its limited evaluation of active

learning and students' engagement. The participants expressed that the ultimate measure of success in any language learning course, including online programs, lies in achieving the intended learning outcomes.

Thus, underlining the importance of adding such factors to the success model to better evaluate the online EFL program. Goodhue and Thompson (1995) adapted utilization from DeLone and McLean's Model (1992); they state that an information system should be utilized in order to determine performance, but they fail to stipulate how or to what level of utilization must occur. The following participant clearly agrees with the statement above by expressing the downsides of DeLone and McLean model, which lacks the measurements of some aspect of the online EFL program by saying the following:

*“DeLone and McLean's Model lacks measuring **the cultural background** of students. Things like **students' interaction** with other students in an e-learning environment is extremely important in an EFL classroom. The model does not measure collaboration or motivation. It fails to see the humane side of the student and other than 'empathy' no other personal attributes are measured. It may evaluate passive learning of students by measuring tangibles features (time, format ...etc) but it does not extend **its evaluation to active learning** (student's engagement, knowledge application, motivation, etc).”*  
Respondent 4

Another participant also adds:

*“All aspects of the model apply to the Foundation programme - some more than others. I think the only questionable aspects would be the purpose to use in an educational environment as you would need to identify **users (intrinsic) motivation** to truly gauge their intention(s).”* Respondent 6

One main factor was that the ultimate aim of any language learning course, whether online or not, is to achieve the **course's intended learning outcomes**. Only then the net benefits of the program can be measured as we can see from the following opinion:

*“I think the only questionable aspects would be intention to use as you would need to identify students' (intrinsic) motivation to truly gauge their intention(s). As for user satisfaction, I believe that this is, more often than not, geared towards the **achievement of the course intended learning outcomes** for the particular courses being performed online.”* Respondent 8

## Discussion

Based on the participants perspectives, it was clear that they believed the DeLone and McLean IS updated success model is a useful tool to assess the quality of knowledge sharing in an educational context, however they were satisfied to a certain extent, as each respondent recommended that for it to successfully measure the success of an English as a foreign language (EFL) foundation online program, adaptations need to be implemented (*Source: Respondents 1, 2, 3, 4, 5, 6, 7, & 8*). The importance of the use of terminology that aligns with the program was also emphasized.

Furthermore, feedback received from the participants also clearly indicated that their membership in the virtual Community of Practice (vCoP) significantly facilitated the exchange of knowledge and information (*Source: Respondents 4, 6, & 8*). This exchange was not limited to interactions among educators, but also extended to include students, thereby fostering a dynamic and collaborative learning

environment. This highlights the pivotal role of vCoP in promoting knowledge sharing and enhancing the overall educational experience in a digital learning context.

The limitations of the DeLone and McLean model identified by the participants is its emphasis on traditional measures of success, such as system quality and user satisfaction (*Source: Respondents 1 & 6*) which may not fully capture the unique dynamics of online language learning environments. The feedback from participants in this study emphasized the importance of redirecting certain factors towards assessing students' collaborative activities and validating online assessment methods (*Source: Respondent 8*). These adjustments align with existing solid theories in the field, such as the Community of Inquiry (CoI) framework proposed by Garrison, Anderson, and Archer (2000). The CoI framework recognizes the importance of cognitive presence, social presence, and teaching presence in fostering meaningful online learning experiences. Incorporating these elements into the adapted model would provide a more comprehensive understanding of success in EFL online courses.

Furthermore, the existing expansions and criticisms of the DeLone and McLean model should not be overlooked. As mentioned earlier scholars have already proposed alternative models and identified additional constructs that contribute to the success of information systems in educational contexts (Aparicio et al., 2019; Sabah et al., 2021). For instance, the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) have gained prominence in studying users' acceptance and adoption of technology in various domains. Integrating these theories with the adapted DeLone and McLean model would enrich the understanding of success factors in EFL online courses, especially in terms of learners' acceptance and utilization of the e-learning system.

As a result of this study, the concept model illustrated below (Figure 3) attempts to measure the success of an EFL online course by adapting and extending DeLone and McLean's updated success model and incorporating UTAUT constructs and moderators. and opening the door for future research to test this model on similar and other disciplines.

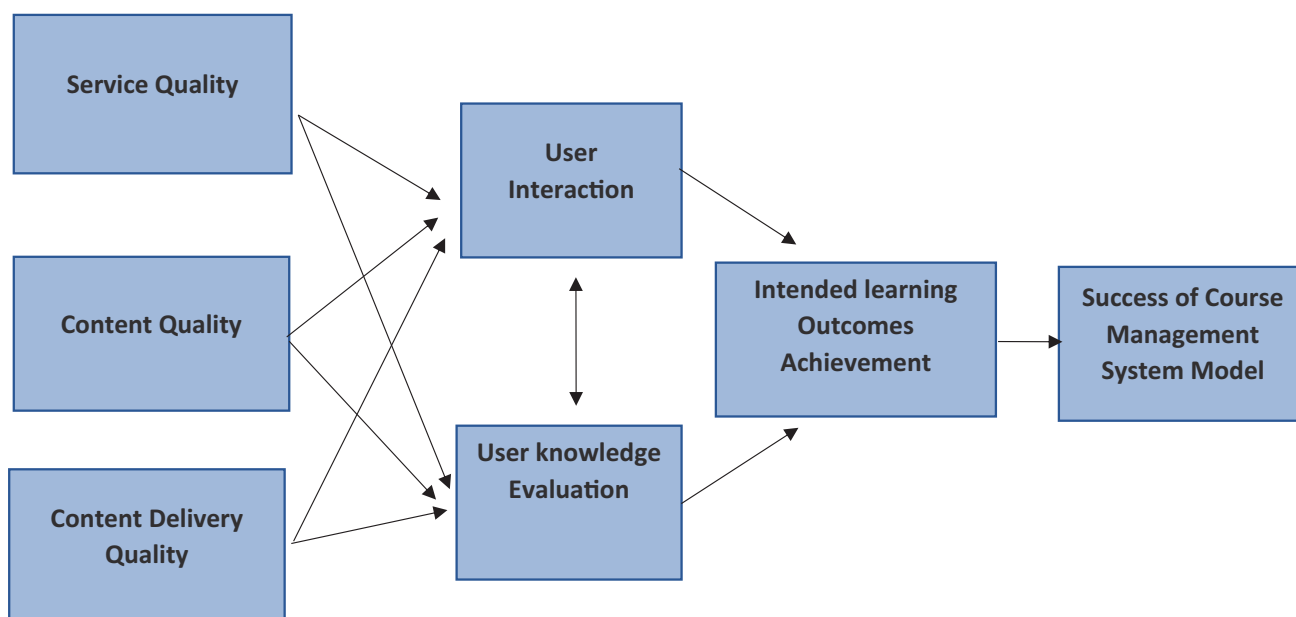
The following updates based on the respondents' feedback has been applied to the constructs of the original DeLone and McLean's updated success model:

**Service Quality:** The construct service quality has not been changed, as any system including an LMS needs to have the required support from an IT team, ensuring the reliability and security of the system.

**Content Quality:** As identified by the respondents, namely respondent 2, there is a need to change the terminology utilized in the original model to align with educational terminology. Information can be considered to the information provided by the university about a program or course descriptions, while on the other hand content quality refers to the quality of the educational materials and resources, provided by an institution which helps in attracting and engaging the students and achieving the required goal (Wiggins et al., 2005).

**Content Delivery Quality:** Content delivery quality encompasses of the technology utilized to deliver the content, which is similar to the system quality construct mentioned in the DeLone and McLean's updated success model and was identified as an important factor by nearly all of the respondents. However, the terminology utilized in the new model covers more than just the system. It covers the importance of promoting understanding, engagement, and retention of the learners.

**User Interaction:** One of the constructs in the DeLone and McLean's updated success model is intention to use, however this may not be considered applicable for the learner and educator as the foundation program is online, hence the intention to use the system is not optional. In the proposed model the



**Figure 3** *The Concept Success Model Based on the Updated DeLone and McLean Model.*

construct user interaction is utilized instead. The importance of user interaction was highlighted by respondent 2 and 4, where both believed that user interaction leads to success of the program.

**User Knowledge Evaluation:** The DeLone and McLean updated success model measures success through user satisfaction. However, in the field of higher education, the success of a program is determined not only by user satisfaction but more importantly knowledge gained from the content (Respondents 2 & 4). Hence, the use of this construct when evaluating the success of the EFL foundation online program in this context.

**Intended Learning Outcomes (ILOs) Achievement:** A new level of construct was added to the existing model, as the importance to identify if a program is successful is to first identify if the learners have achieved the measurable goals of intended learning outcomes (Biggs & Tang, 2011). The importance of ILOs was highlighted by Respondent 8.

**Success of Course Management System Model:** In the original model, the construct of Net Benefits is considered to be the measure of success. However, in the proposed model, achievement is more specifically defined as the successful implementation of the CMS. This refinement allows for a more precise evaluation of the success of the CMS, enhancing the educational experience.

The adaptations and extensions to the DeLone and McLean IS success model are outlined, highlighting the need to incorporate EFL-specific factors and align with existing theories such as the Community of Inquiry (CoI) framework. As the identified adaptation and extension enhances our understanding of the factors influencing the success of the EFL foundation online program by recognizing the importance of collaborative activities, online assessment methods, cognitive presence, social presence, and teaching presence.

## Conclusion

In conclusion, this research addressed two key research questions. Firstly, it explored adaptations and extensions to the DeLone and McLean IS updated success model, specifically tailored to evaluate the

success of an English as a Foreign Language (EFL) foundation online program. Secondly, it delved into the implications of these adaptations and extensions for our comprehension of the factors contributing to the program's success.

The findings highlight the importance of customizing established models to effectively assess the success of online language learning initiatives like EFL online foundation programs. While the DeLone and McLean model served as a valuable starting point, our study revealed the need for specific adjustments and extensions to align the model with the unique objectives and challenges of EFL courses.

By incorporating elements from the Community of Inquiry framework and drawing on theories such as TAM and UTAUT, our adapted model offers a more comprehensive perspective on success factors in online language learning environments. This customized framework takes into account not only technical and informational aspects but also the social and pedagogical dimensions that are critical in EFL education.

Furthermore, the research highlighted the need for future investigations to delve deeper into the proposed success model and its applicability across various educational disciplines. Such inquiries can inform education policy decisions, account for psychological factors affecting both educators and learners, and guide the development of logistical educational systems.

In addition, this study underscores the significance of adapting and extending existing models to evaluate the success of online language learning programs. By refining our understanding of the factors that drive success in these contexts, we can shape more effective educational practices and enhance the overall learning experience for students. Given the ongoing evolution of virtual communities of practice and knowledge-sharing models, this research points toward the importance of continued exploration in this field, paving the way for future advancements in online education.

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