Student Satisfaction and Perception of Performance in the E-Learning Environment during the Covid-19 Pandemic in Higher Education

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Abstract

Covid-19 as a global public health crisis has had an impact on the economy, education and food security of all people in the world, regardless of national boundaries. The sectors affected include tertiary education, which presented one of the barriers during the period*lockdown*considering that most major countries have kept important economic activities running. The results of this study indicate that: student computer skills are correlated with home infrastructure, the quality of E-learning has a positive effect on student satisfaction, student satisfaction has a positive effect on student performance, and motivation in online classes has a positive effect on student learning perceptions.

Keywords: Student Satisfaction, Perception of Performance, E-Learning, Covid-19 Pandemic

INTRODUCTION

COVID-19, as a global public health crisis, has impacted the economy, education and food security of people around the world, regardless of national borders. Affected sectors include tertiary education, which presented one of the obstacles during the lockdown period as most countries have tried to keep their essential economic activities going. Likewise, the activity extended to higher education institutions (PT), which closed completely after the cessation of face-to-face activities in an effort to avoid the spread of the virus among students and their staff.

DOI :
ISSN :

The public tends to access public services directly, while the supporting infrastructure for online-based public services is still not optimal, both in terms of organizers and socialization in the community towards online access to public services. Policies in the midst of the pressure of the Covid-19 pandemic, with the implementation of health protocols, of course, make access to public services limited. This can be used as an effort for public service providers to maximize public services by switching to an online system.

However, education uses various digital media, e-learning platforms, and video conferencing systems. As a result, e-learning has become a mandatory educational process. Much of the world of education is facing this online mode of delivery for the first time, making this transition very demanding to adapt quickly. Both faculty and students today find themselves in a new environment, where some seem better at adapting than others. This means that the quality of teaching and learning requires special consideration.

To understand the impact of COVID-19 on the academic field, especially on the effectiveness of student learning, here we explore the factors that influence students' perceptions of their academic performance since the start of e-learning. Student satisfaction in the e-learning environment has been studied since the first time using communication information technology, with previous researchers having tried to reveal the factors that shape success with the implementation of e-learning systems, but how successful e-learning is during this Covid-19 pandemic.

LITERATURE REVIEW

According to previous research and considering new circumstances such as Alsoufi et al (2020) and Rahm et al (2021), the model to explain the perceived academic performance of students, to identify relevant variables that positively affect student performance, used data from research studies from various

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countries. This study significantly contributes to the understanding of student satisfaction and performance in the online environment. Research findings may be of interest to higher education planners, faculty, support services, and students worldwide.

According to the International Association of Universities (IAU), more than 1.5 billion students and young people worldwide have been affected by the suspension of school and university classes due to the pandemic. Thus, in order to maintain continuity in learning while working to overcome the pandemic, higher education must rely heavily on e-learning modalities, which can be defined as learning experiences with the help of online technology. However, most higher education institutions are not prepared to effectively deal with the sudden shift from on-site classrooms to online platforms, either because of the unavailability of infrastructure or the lack of suitable pedagogical projects. In order to understand the mechanism and depth of the effects of COVID-19, many studies have been conducted around the world. Before COVID-19, when new technology was developed, Various e-learning modalities such as blended learning and massive open online lectures have gradually spread throughout the world over the last few decades. Therefore, e-learning is deeply rooted in adequate planning and instructional design based on available theories and models. It should be noted at the outset that what has been installed in many higher education institutions during the pandemic cannot even be considered elearning, but emergency distance teaching, which is not necessarily as efficient and effective as established and strategically organized systems. However, all over the world online platforms, for example Zoom, MS Teams, Moodle, Google Classroom, and Blackboard are being used.

Motivation is an internal force that drives a person to take an action or move towards a goal (Harmon-Jones, Harmon-Jones, & Price, 2013). Cole, Feild, and Harris (2004) define student motivation as power, creativity, and readiness. students to learn and participate in classroom learning. Kanuka and Jugdev (2006) suggest that remoteness and disconnection in an online environment can increase

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dropout rates, as well as feelings of isolation that can reduce learning motivation (Inoue, 2007). Bolliger, Supanakorn, and Boggs (2010) stated that motivation is an important factor to make students satisfied in an online classroom setting. Students with high motivation will be more successful in an online environment than students with low motivation (Barbour & Reeves, 2009; Hsu, Wang, & Levesque-Bristol, 2019; Nelson, Oden, & Williams, 2019).

According to Puljak et al. (2020) while most students have been satisfied with how they have adapted to e-learning, they have missed lectures and personal communication with their lecturers. They state that e-learning cannot replace traditional learning experiences; only 18.9% of students are interested in e-learning exclusively in the long term. Inadequate.

Student satisfaction has proven to be a reliable proxy for measuring the success of implementing ICT-based initiatives in e-learning environments. Scholars have documented a strong relationship between how students perceive their academic performance and how satisfied students are with their e-learning environment. The literature reveals important antecedents related to student satisfaction with e-learning training, such as online interaction, computer efficiency, online skills, lecturer support, lecture design, lecturer feedback, quality of information and activities and technical support. During the COVID-19 pandemic, environmental aspects such as temperature, lighting, and noise have been identified as significant determinants of student e-learning performance.

Their research identified several quality factors that facilitate e-learning through factors related to: students (mental health, self-efficacy and student attitudes), lecturers/instructors (attitude and response time given by lecturers), technology (quality of technology and the Internet).), curriculum (quality and flexibility of curriculum), design (usability and complexity of design) and environment (interactivity and diversity of assessment). This pandemic has challenged higher education institutions around the world as e-learning requires physical equipment such as computers, servers, learning and communication

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platforms, but also software applications, operating systems, and experts in the use of these technologies. However, One of the most relevant factors related to success in implementing e-learning relates to how online education is carried out. This includes receiving timely feedback, lecturer efforts to organize, delivering lectures online (and recording them), adapting this learning model's instructions, and helping students follow lectures and seek feedback on their experiences.

In some cases, students have not been properly guided through their coursework, overloaded with too many assignments, while there is a general concern about the lack or loss of practical instruction, which is thus not fully incorporated into their elearning experience. According to Chopra et al (2019), timely feedback and responses to student actions are the key to effective online delivery. Another study also found a positive relationship between e-service and information quality with student satisfaction.

CONCEPTUAL MODELS AND RESEARCH HYPOTHESES

This study proposes a conceptual model to analyze students' perceived academic performance during the COVID-19 pandemic period, which forced the transition from face-to-face to on-line teaching and learning. In this study, we combine theoretical results from previous studies on e-learning with switching to various online modes in response to the pandemic. The proposed conceptual model builds on the model of student satisfaction with e-learning suggested by Sun et al. (2008) as well as the D&M model by DeLone (2003), which is used to describe the success of different information systems, including e-learning systems. Cidra et al (2018) studied similar key aspects of a quality e-learning system. In this conceptual model proposes a multidimensional E-learning Quality construct of five components.

Computer skills describe students' skills in using computers and different learning platforms, which are very important for active participation in online

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modes. The lecturer dimension refers to the teaching organization in the new e-learning environment. Studies show organization and delivery of subject matter is important for student satisfaction and performance. Three constructs related to lecturers are defined in the model. The Delivery Method corresponds to the various forms used in online lectures, tutorials or practical classes that provide learning materials and assignments, such as video conferencing, audio recordings, forums or email.

Lecturers play a valuable active role in the online environment by guiding students through learning content and providing them with timely responses and information. No less important is to prepare assignments that encourage and motivate students to study independently at home. Online Instruction focuses on the active role and attitudes of lecturers towards online teaching. The construct was described by Information Quality and two other aspects assessed in our questionnaire,namely preparing routine assignments and being open to student suggestions. Information Quality measures the responsiveness of lecturers to students, such as timely feedback or answering questions in an e-learning environment. It also proposes the construction of a Quality System, consisting of the learner and teacher dimensions: Home Infrastructure and Delivery Methods.

Previous studies revealed that IT service support has a positive influence on users' perceptions of their satisfaction with the system. As the transition to online study occurs quickly and without any prior training, support from IT and administrative services is essential to ensure that students are satisfied with their new learning environment. In our model, Quality of Service refers to aspects of administration, technical assistance and learning. To compensate for the lack of social contact while studying from home, various forms of online interaction are possible. Lecturer-student or student-student interaction has proven to be an important factor in satisfaction with the e-learning system.

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The online interaction signal construct describes how often a student communicates with colleagues from lectures, lecturers or administrative staff. To summarize, Quality of E-learning is a multidimensional construct of the five components of Student Computer Skills, Quality of Systems, reflecting Delivery Ways and Home Infrastructure,. Online Instruction is assessed through Information Quality, Online Service Quality and Online Interaction with colleagues, lecturers and staff. then the hypothesis is:

H1 : Student's Computer Skills Correlate with Home Infrastructure
H2 : E-learning quality has a positive effect on Perceived Student Satisfaction.
H3 : Perceived Student Satisfaction has a positive effect on Perceived Student Performance.
H4 : Motivation in online classes has a positive effect on students' learning perceptions
H5 : E-learning quality has an indirect relationship (mediated by high student satisfaction).

CONCEPTUAL MODEL

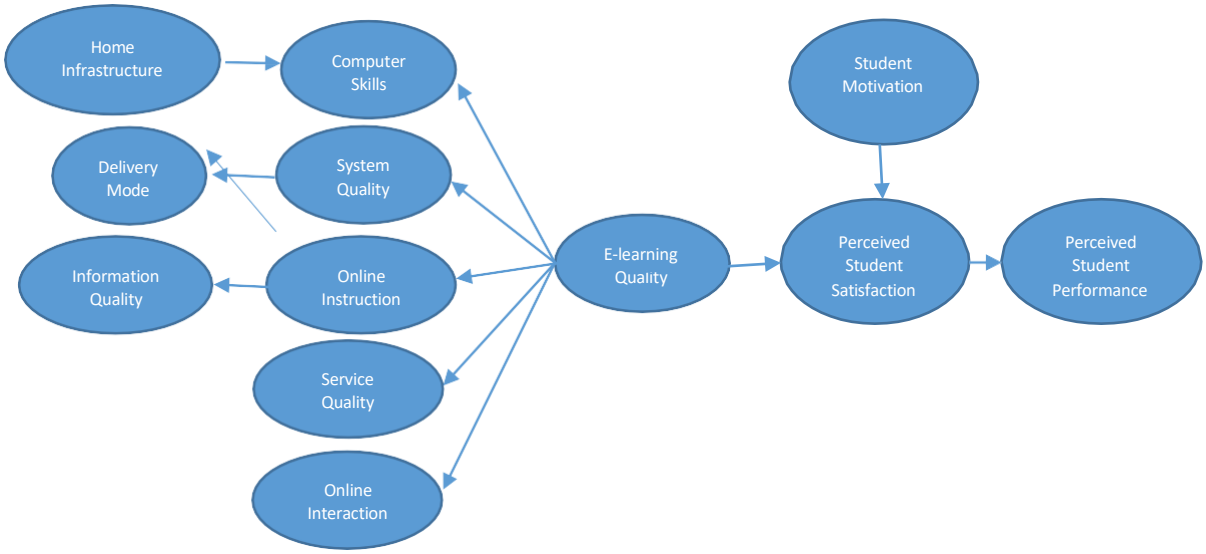

Figure 1. Conceptual model of student performance perception in e-learning during the COVID-19 pandemic.

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DISCUSSION

1. Student Computer Skills Correlate with Home Infrastructure

   Two factors related to student satisfaction according to the student dimension are included in the proposed model, namely Home Infrastructure and Computer Skills. The rapid transition to online study means students are moved to a home environment where many do not enjoy the conditions suitable for study, neither quiet places nor digital equipment with access to the (high-performance) Internet, which is so necessary for effective online study. Therefore, the latent variable of Home Infrastructure includes the condition of ICT at home, namely having their own computer or access to a computer, the necessary software, a webcam, and a stable and fast Internet connection (Chopra G et al; 2019). The greater the knowledge and previous experience of students in using digital media, the easier the transition to e-learning.

2. E-learning quality has a positive effect on Perceived Student Satisfaction.

   Previous studies revealed that IT service support has a positive influence on users' perceptions of their satisfaction with the system. As the transition to online study occurs quickly and without prior training, support from IT and administrative services is essential to ensure that students are satisfied with their new learning environment (Cidral WA et al ; 2019). In our model, Quality of Service refers to aspects of administration, technical assistance and learning. To compensate for the lack of social contact while studying from home, various forms of online interaction are possible. Lecturer-student or student-student interaction has proven to be an important factor in satisfaction with the e-learning system.

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3. Perceived Student Satisfaction has a positive effect on Perceived Student Performance.

   On perceived student satisfaction. Students who are more satisfied with the quality of their e-learning experience are generally more satisfied with their education, which in turn more positively affects their perceived academic performance. students who are more satisfied with their online education also perform better in school. The results highlight the role of student satisfaction in their academic performance (DeLone WH et al; 2003). At the same time, we can conclude that students who use online learning modes more often perceive their educational performance to be higher.

4. Motivation in online classes has a positive effect on students' learning perceptions.

   Bulic and Blaževic (2020) suggest an inverse relationship between student motivation and online teaching. Modern teaching methods and online environment increase students' motivation to study in that environment. The learning environment also affects human motivation. A case study of adult students from distance education by Chyung, Winiecki, and Fenner (1998) stated that the reason for dropping out of online courses was dissatisfaction with the learning environment. Gray and DiLoreto (2016) stated that graduate students are often more independent, therefore online learning does not affect their learning outcomes and the need to interact with peers online. Chen and Jang (2010) did not find a significant relationship between self-determined motivation and student learning outcomes.

   Student motivation is an important element of successful learning outcomes in both offline and online education. The online environment distances people from campus and peers, which makes motivation a more important determinant of student learning

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outcomes and satisfaction. The COVID19 pandemic is driving student online learning and it is even more important to study their motivation in this setting. Students are not prepared or prepared for this learning, and their motivation to initiate and continue learning is critical to positive learning outcomes. These results indicate that student motivation to study in an online environment during the COVID19 pandemic is an important determinant of success and satisfaction with learning outcomes. Bolligers et al. (2010) and Hsu et al. (2019)

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DOI :
ISSN :