

FACTORS AFFECTING ONLINE LEARNING STUDENT SATISFACTION: A SYSTEMATIC REVIEW

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Abstract

Online learning is a way that can help institutes to continue their education regardless to the physical location. Therefore, the number of the online learners is expanded annually. During the COVID-19 pandemic, the educational space has been transformed and most educational institutes around the world and all institutions in Oman shifted to online learning spaces. Therefore, student enrollment and preservation are an essential concern for all higher education institutions. Therefore, it is important to monitor student level of compensation using the internet and the social network. The main aim of this research is to define a systematic review for the factors affecting online learning student satisfaction. The researcher followed the Preferred Reporting Items for Systematic Reviews guidelines, as well as a systematic mapping study, which identifies, extracts and analyzes relevant publications across two databases of scientific literature.

1. INTRODUCTION

Online learning is education that takes place over the Internet. Some described it as e-learning, an online learning as a type of distance learning (Griffith, Faulconer, and McMasters 2021). Due to the COVID-19 pandemic, there has been a motive to use the online learning instead of face-to-face learning. Online learning platforms and social networking used produced a wealth of information that can be extracted using smart data mining algorithms. This type of unstructured data can be utilized to understand student attitudes toward online learning. All universities also continue their activities of the academic year using online technologies and platforms and decide to online delivery for the academic year 2021 (Taghizadeh et al. 2021). And, with the growth of the internet technology, the social network, opinions, reviews and recommendations produced by the user of the technology.

With the growth of the online e-learning usage around the world, it is important to understand the student satisfactions in order to understand their behavior and improve the teaching and learning process. In addition, understanding the factors that may affects the online learning is very important to do so. Different types of technology have been

used by the institutions and the educators. Therefore, many researchers focus on studying the factors that may affect student's satisfaction of online learning.

Consequently, many institutions interested to offer the courses online due to the communication channels has been used with the educators. Therefore, institutions use the internet and social media network improve students learning. Furthermore, it is important to see the factors that may affect the student's satisfaction due to the delay of response and absence of relationships between the students and instructors.

The research questions of this article are:

1- What are the factors that could affect the student satisfaction of online learning?

The purpose of this study is to present a systematic literature review (SLR) of research on factors that affecting. Search parameters were used and results from the search parameters were then filtered by three research questions that were devised to conclude. The review presented the factors affecting student satisfaction in online learning.

2. METHODOLOGY

2.1 Information source

This search strategy was based on PRISMA, or preferred reporting items for systematic reviews and meta-analyses, as summarized in Figure 1. For the article search, download, extraction, and drafting of this review. The main database was used which is google scholar which Scientific papers from various academic disciplines can be found on this site and get resources cited by Science Direct database, Scopus, and others. It consists of a wide variety of scientific publications that are related to different scientific fields.

2.2 Inclusion and exclusion criteria

Factors affecting students satisfaction in online learning was studied in detail. Consequently, the articles were selected based on factors affecting online learning. In addition this research focused on limited time between 2016 and 2021.

The search terms focused exclusively on synonyms of "Allintitle ((Factors OR issues OR influences OR reasons) AND (affecting OR upsetting OR disturbing OR distressing) AND (Higher education OR Education context OR online courses OR e-learning OR online learning OR MOOC) AND (Learner OR undergraduate OR higher education students) AND (Pleasure OR happiness OR joy OR contentment OR enjoyment))", some articles were excluded from this study as they were not related to the main points searched for. In addition, non-English articles were also excluded from this study.

2.3 Study selection and Data Extraction

We screened the articles based on the titles and abstracts of the identified citations, according to the selection criteria described in the previous section. A full-text reading was then conducted after reading the titles and abstracts of the articles. Information extracted from these sources is presented in tables 1, 2, and 3 which include the factors that affect online learning, sentiment analysis frameworks in learning, and existing language feature extraction methods.

2.4 The Search results

Figure 1 shows how articles are screened to determine whether they are eligible to include in this study. Following an academic database search, 320 journals were found, with titles and abstracts initially screened. 162 articles could not be reviewed because they did not meet the inclusion and exclusion criteria.

The full text of 27 articles was then reviewed. Finally, 29 articles met the criteria for the factors affecting online learning. In addition, Figure 2 illustrates the chart including the year and the results appearing in the search result 2016 and July 2021.

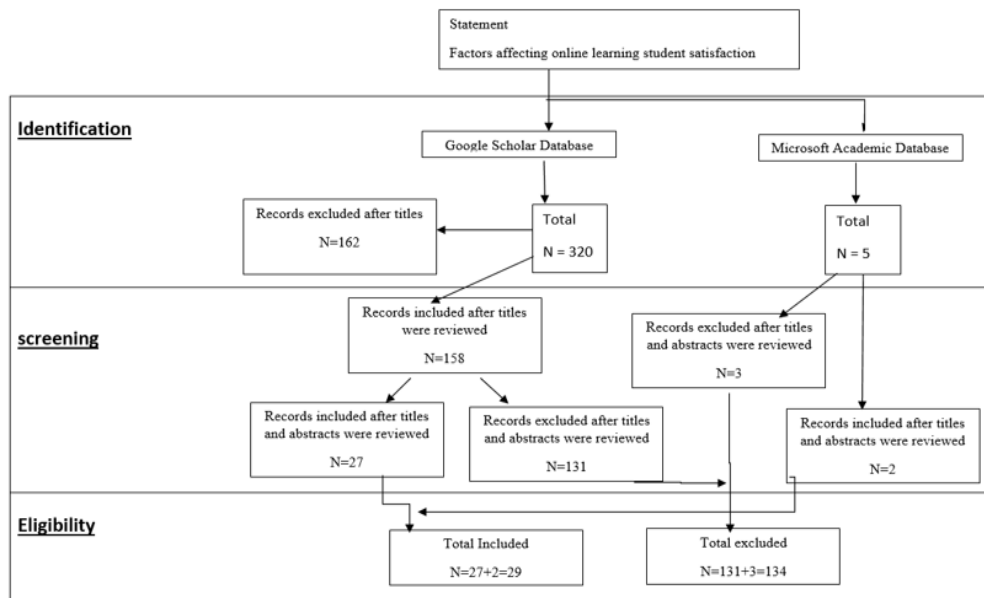


Figure 1: SLR strategy

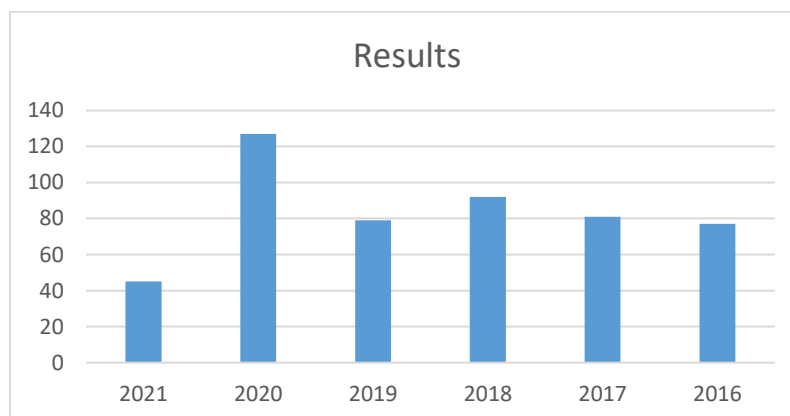


Figure 2: Search statistics

3. FINDINGS

In this part, the results of the SLR are presented based on the research questions provided above.

The factors that could affect the student satisfaction of online learning

Researchers reveals that a lot of research has been done in the online learning area. Figure 3 shows the factors affecting online learning student's satisfaction defined from different research. Organizational studies have long been concerned with factors affecting innovation in higher education institutions. In 2021, technical infrastructure (Taghizadeh et al. 2021) (Firat and Bozkurt 2020) (Malik et al. 2021) student support, such as financial assistance, is especially important for students who lack literacy abilities and self-reliance, and it helps to understand why some students drop out. In addition, academic staff support, and institutional leadership, along with government support and policy development, are factors related to the level of institutional adoption of online learning (Castro and Tumibay 2021) is one of the factors that affect the online learning in the higher education. Also, enjoyment and confidence because of this type of the online education (Cicha et al. 2021) is defined as a factor that can affects the online learning. In (Tang et al. 2021) (Kurdi et al. 2020) other factors defined that affects online learning like anxiety, introversion, low self-esteem, low confidence, lack of language proficiency before university, time constraints, negative evaluation fears, instructor comments; socio-cultural factors, including the lack of comprehensible information and exposure to the target language, parental presence, geographical location, social status. In (Taghizadeh et al. 2021) define actors of organization, technology, individuality, or culture. Among them are the performance expectations, effort expectations, social influence, facilitation conditions, hedonic motivations, and price values (Azizi, Roozbahani, and Khatony 2020) can affect student satisfaction in the online learning. In other research, usability, motivation, and self-efficacy are key factors to consider (Bettayeb, Alshurideh, and Al Kurdi 2020). Another factors defined in (Rasmitadila et al. 2020) as internal factors like difficulties arising from the student's home environment, such as interference from family members (younger and older siblings) and external factors like that arise are the disturbances from other students when implementing learning using an online application in a virtual classroom. Therefore, the research (Sarwar et al. 2019) defines the factors as promote the use of social networks for educational purposes among university students, perceived enjoyment, it is the perception of "usefulness" and of "ease of use" of a new technology that influences acceptance and adoption and Cyberbullying affects young people's learning activities and academic performance.

Universities should understand the demand of their students and provide them with the flexibility of the online learning. As a result of these benefits and factors, online learning courses are likely to become an increasingly important part of postsecondary and postgraduate education. Accordingly, universities, which offer open access to education, must ensure that students are able to do as well in online courses as they do in face-to-face courses.

As research results, table 1 includes the factors affecting online learning student satisfaction. Many researchers define the factors that may affect the student's satisfaction of online learning and divide it into categories such as social, technical, economic, cultural, and political factors. Most of researchers defines main factors that analyzed using TAM model. The Main factors includes the following:

- Perceived usefulness & satisfaction
- Learning preference and intention
- Perceived Ease of use
- Technology competence
- Perceptions and attitude

Table 1: Factors Affecting student's satisfaction

Main Factors	Sub factor	References
Main Factors	Perceived usefulness & satisfaction	(Dwidienawati et al. , 2020), (Hariyanto, Triyono, and Köhler , 2020), (Prasetyo et al. , 2020), (Siron, Wibowo, and Narmaditya , 2020)
	Learning preference and intention	(Prasetyo et al. , 2020)
	Perceived Ease of use	(Dwidienawati et al. , 2020), (Hariyanto, Triyono, and Köhler , 2020), (Prasetyo et al. , 2020), (Siron, Wibowo, and Narmaditya , 2020)
	Technology Competence	(Siron, Wibowo, and Narmaditya , 2020)
	Perceptions and attitude	(Hariyanto, Triyono, and Köhler , 2020), (Prasetyo et al. , 2020), (Siron, Wibowo, and Narmaditya , 2020)
Technical Factors	Technology infrastructure quality	(Castro & Tumibay, 2021), (Firat & Bozkurt, 2020), (Kurdi et al. , 2020), (Elrehail et al. , 2018), (Baticulon et al. , 2021)
	Technological support	(Castro & Tumibay, 2021), (Baticulon et al. , 2021), (Park & Choi , 2016)
	System Interactivity, and technical support.	(Azizi et al. , 2020)
	use of social networks for educational purposes	(Asuman et al. , 2018)
	lack of comprehensible information	(Malik et al. , 2021)
	student's home environment	(Rasmitadila et al. , 2020)
	facilitation conditions	(Bettayeb et al. , 2020)
	Time constraints	(Malik et al. , 2021)
Political Factors	academic staff support	(Castro & Tumibay, 2021)
	academic management role	(Castro & Tumibay, 2021)
	institutional	(Elrehail et al. , 2018), (Baticulon et al. , 2021)

	level of coordination between parties	(Castro & Tumibay, 2021)
	governmental support	(Castro & Tumibay, 2021)
	geographical location	(Malik et al. , 2021)
	Organizational	(Kurdi et al. , 2020)
	Domestic	(Baticulon et al. , 2021)
	policy development	(Castro & Tumibay, 2021)
Cultural factors	feeling of pleasure in this form of education	(Cicha et al. , 2021)
	a sense of self-efficacy	(Cicha et al. , 2021)
	Computer Self-Efficacy	(Kurdi et al. , 2020), (Azizi et al. , 2020)
	lack of language proficiency before university	(Malik et al. , 2021)
	Understanding level of difficulty to cultural	(Taghizadeh et al., , 2021), (Kurdi et al. , 2020), (Park & Choi , 2016)
	Conditions for Success	(Taghizadeh et al., , 2021), (Wang & Zhang , 2020)
	behavioral attention	(Wang & Zhang , 2020), (Park & Choi , 2016), (Taghizadeh et al. ,2021), (Thongsri et al. 2019)
	Motivation to learn	(Tang et al. , 2021), (Bettayeb et al. , 2020), (Rasmitadila et al. , 2020)
	Perceive learning	(Nortvig et al. , 2018)
	perceive usefulness	(Asuman et al. , 2018), (Wang & Zhang , 2020)
	Enjoyment	(Kurdi et al. , 2020), (Asuman et al. , 2018)
Economical Factors	Social status	(Bettayeb et al. , 2020)
	financial support	(Bettayeb et al. , 2020)
Social Factors	Organizational innovation	(Elrehail et al. , 2018), (Baticulon et al. , 2021), (Park & Choi , 2016)
	Disturbances from other students in a virtual classroom.	(Sarwar et al. , 2019)
	educational readiness	(Tang et al. , 2021)
	Family support	(Baticulon et al. , 2021)
	community barriers	(Baticulon et al. , 2021)
	instructor comments	(Malik et al. , 2021)
	Social Influence	(Azizi et al. , 2020)
	social integration	(Baticulon et al. , 2021)
	students' self-efficacy during the Coronavirus outbreak	(Tang et al. , 2021), (Rasmitadila et al. , 2020)
	gender differences and the differences between sub-degree (SD), undergraduate (UG) and postgraduate (PG) students	(Tang et al. , 2021)
	Comparative Advantage of traditional learning and online learning	(Taghizadeh et al., , 2021)
Motivational Hedonics	(Taghizadeh et al., , 2021), (Wang & Zhang , 2020), (Park & Choi , 2016), (Taghizadeh et al. ,2021), (Thongsri et al. 2019)	

Attitude	(Wang & Zhang , 2020), (Xu et al. , 2021)
Anxiety, introversion	(Malik et al. , 2021)
low self-esteem & low confidence	(Malik et al. , 2021)
negative evaluation fears	(Malik et al. , 2021)
parental presence	(Tang et al. , 2021)
Online learning Equivalence to traditional learning	(Taghizadeh et al., , 2021)
Individual level.	(Kurdi et al. , 2020), (Elrehail et al. , 2018), (Baticulon et al. , 2021), (Park & Choi , 2016)
motivation in terms of satisfaction	(Baticulon et al. , 2021)

4. CONCLUSION

In conclusion, the latest factors that affect the online learning student’s satisfaction are defined and might help students and their institutions to understand them and define the related issues related to the online learning and define a solution to these issues. Therefore, the main idea of the related research is to review research papers between 2016 and 2021 and define the factors that may affects the online learning student’s satisfaction. These factors defined and reviewed in Systematic Literature review (SLR). The review examined and discussed and analyzed the factors affecting student satisfaction in online learning. Therefore, the future work must discover and study more related factors.

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