

The Impact of Awareness and Usage of E-learning Platforms on Academic Satisfaction of Undergraduates in Management Faculties of State Universities Located in the Western Province of Sri Lanka

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Abstract

The surge in Information Communication Technology (ICT) has propelled eLearning to surpass traditional classroom-based learning on a global scale. The onset of the COVID-19 pandemic significantly disrupted education systems worldwide, leading higher education institutions and schools in Sri Lanka to adopt a 100% eLearning-based approach. Consequently, there is a pressing need to comprehend the factors influencing students' academic satisfaction. This study focuses on three variables: awareness of eLearning platforms (independent), usage of eLearning platforms (independent), and academic satisfaction (dependent). The research problem addresses whether there is an impact of awareness and usage of eLearning platforms on the academic satisfaction of undergraduates in Management Faculties of State Universities located in the Western Province of Sri Lanka. The nature of this study is analytical. Data were collected from a structured Google questionnaire and it was distributed among 255 undergraduates. Thus, the unit of analysis is individual undergraduate. The developed questionnaire ensures its validity and reliability. Data analysis was conducted using SPSS statistics software to achieve the research objectives. The findings indicate a highly significant positive impact from the awareness and usage of eLearning platforms separately on the academic satisfaction of undergraduates. Moreover, it is statistically evident that combined impact of awareness and usage of eLearning platforms on the academic satisfaction of undergraduates is highly significant and positive.

Key Words: Awareness, Academic Satisfaction, eLearning, Undergraduates, Usage,

Introduction

The modern revolution of information technology has turned our wishful thinking into reality. It facilitates people in every walk of life by making communication fast and free from geographical boundaries (Welsh et al, 2003). The advancement in information technology has opened up new avenues in the education sector as well. Universities are increasingly turning to online or blended formats to teach required courses (Wu et al, 2010). Even though, offering university courses online provides a number of benefits both to students, who can take courses even from remote locations with the flexibility of studying according to their own schedules, and to universities, which can serve more students without having to house the courses, online education also brings its own set of challenges (McGorry, 2003). Because of the COVID-19 pandemic situation, the Administrations of State Universities decided to convert physical lectures into online lectures and even business organizations encourage remote working (Opathaⁱⁱ, 2020¹). However, online learning often results in significantly higher student attrition than face-to-face education (Kauffman, 2015). Studies show that students enrolled in online courses are more likely to drop out than students taught in traditional classes (Patterson and McFadden, 2009). Though some research findings indicate that physical face-to-face teaching is better than online teaching, because of COVID-19, online teaching has replaced traditional face-to-face teaching to a certain extent (Dios and Charlo, 2021; Almeri et al, 2020). Even after COVID-19, under new-normal situations, most educational institutions are using hybrid learning systems combining both online and physical (Simonova et al, 2023). The quality of higher education provided by a university is of utmost importance as it has a direct influence on students' satisfaction which affects the academic performance of the students (Opathaⁱ, 2020).

This study investigates how the awareness and usage of e-learning platforms impact separately and jointly on the academic satisfaction of the undergraduates in Management Faculties of State Universities located in the Western Province of Sri Lanka. The researcher contends that exploring this area is crucial in the Sri Lankan context, given the current circumstances in the country. Notably, there appears to be a dearth of published studies providing empirical evidence on how the awareness and usage of e-learning platforms affect the academic satisfaction of undergraduates in state universities in Sri Lanka. This gap can be identified as a contextual deficiency. Additionally, there is a lack of empirical knowledge regarding the impact of awareness and usage of e-learning platforms on the academic satisfaction of undergraduates in Management Faculties of State Universities Located in the Western Province of Sri Lanka.

Literature Review

E-learning has gained significance as an educational tool, paralleling the development and progression of technology. Interestingly, there has been a greater emphasis on advancing technology rather than comprehending the individual needs and learning styles of students and instructional design. The 21st century has witnessed rapid advancements, particularly with the Internet and online learning (Land and Aronson, 2018).

Occasionally, established academic support e-tools and strategies are employed to enhance student learning, especially in the context of online education (Abdon et al, 2007). In addition, various communication methods, such as brief announcements and

emergency SMS alerts, are utilized by lecturers for effective communication with students in each course (Dhiman et al, 2014). Web 2.0 technologies, including Facebook, blogs, Twitter, and WhatsApp, prove to be efficient tools for promoting online communication, collaboration, and engagement (Alawamleh et al, 2022).

Presently, video-conferencing facilities like online discussion forums, webinars, Zoom meetings, and Microsoft Teams have gained popularity as effective online platforms. Lastly, scholarly articles, PowerPoint presentations by lecturers, and lesson demonstrations are employed to support student learning (Weigold, 2020).

Awareness of E-learning Platforms

Modica and Rustichini (1999) define awareness as "generally taking into account" or "being present in mind". Marcel (1983) characterizes awareness as the capacity to make decisions, better than chance, in forced-choice scenarios related to the identity or presence of the primes. Conversely, Merikle (1984) suggests that awareness is most accurately described as the ability to make forced-choice decisions. A good research needs working definitions of the variables being researched and they are nominal definitions (Babbie, 1986; Opathaⁱ, 2003). In the context of this research study, awareness of e-learning platforms is defined as a state of knowing and being informed about these platforms.

Usage of E-learning Platforms

Usage is defined as how something is employed or the proper method of making use of a word, phrase, or tool. According to Nyagorme et al (2017), the usage of e-learning platforms entails active engagement by students and teachers in utilizing these platforms to enhance their academic endeavours. The same authors also describe this as the utilization of e-learning platforms. Additionally, the usage of e-learning platforms, as articulated by Drent and Meelissen (2008), involves learning about information and communication technology (ICT) with the aim of enabling students to apply ICT in their daily lives. In the context of this research, the usage of e-learning refers to the manner or extent to which e-learning platforms are employed comfortably.

Academic Satisfaction

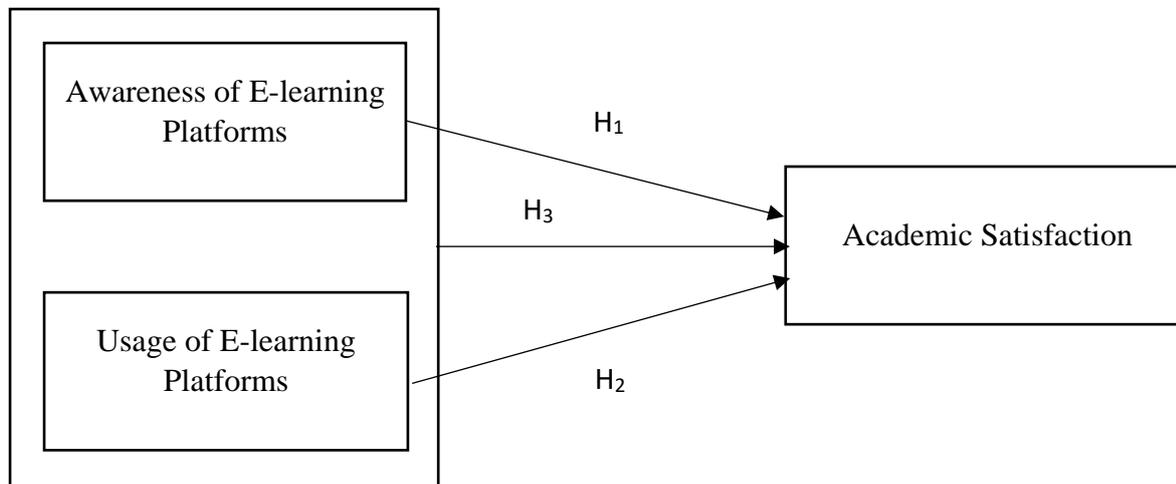
As per Zhao (2003), student satisfaction encompasses contentment with course quality, interactions with instructors, peer collaboration, and support services. It is an ongoing process influenced by repetitive experiences in campus life, as noted by Gruber et al (2010). In the context of this research, academic satisfaction is defined as the favorability of a student's subjective evaluation of the various outcomes and experiences associated with education, as articulated by Elliott and Shin (2002) as cited in Gruber et al (2010).

Conceptual Framework

A theoretical framework is a conceptual model of how one theorizes the relationship among the several factors that have been identified as important to the problem (Sekaran, 1992). This study has three variables. The research framework will represent the relationship between these variables. Those are awareness of e-learning platforms, usage of e-learning platforms and academic satisfaction. Awareness of e-learning platforms and usage of e-learning platforms are considered to be the independent variables because they

influence academic satisfaction. Academic satisfaction is considered as the dependent variable because it depends on the awareness and usage of e-learning platforms.

Figure 1. Conceptual Framework



The following hypotheses which were derived from the above conceptual framework were tested in this study.

H1: There is a positive and significant impact of awareness of e-learning platforms on the academic satisfaction of undergraduates.

H2: There is a positive and significant impact of the usage of e-learning platforms on the academic satisfaction of undergraduates.

H3: There is a positive and significant combined impact of the awareness of e-learning platforms and usage of e-learning platforms on the academic satisfaction of undergraduates.

Methodology

The research approach adopted for this study was the quantitative research approach. The rationale behind selecting this approach lies in the fact that the study aims for hypothesis testing, involving analytical and predictive aspects. With two hypotheses to be tested, it necessitates the quantitative measurement of relevant variables. The chosen research strategy was the survey method, and data were gathered from 255 individual undergraduates enrolled in the Management Faculties of State Universities situated in the Western Province of Sri Lanka and who were across all academic years - 1st year, 2nd year, 3rd year, and final year, using a Google questionnaire. Types of analysis were univariate analysis (mean, standard deviation) and bivariate analysis (linear regression analysis) which is a part of Human Resource Management predictive analytics that aims to find relationships and impacts between variables (Opathaⁱⁱ, 2020²).

The population under consideration comprises all undergraduates currently pursuing degrees in management faculties at State Universities located in the Western Province, amounting to approximately 8,500 individuals. To ensure representative sampling, the random sampling technique was employed as the chosen method for selecting

participants in this study. The sample will be drawn in a manner that reflects a diverse representation of the undergraduate population across different academic years. Moreover, the sample includes undergraduates from the University of Sri Jayewardenepura (USJ), the University of Colombo (UOC), the University of Moratuwa (UOM) and the University of Kelaniya (UOK).

Data Analysis

The reliability of the questionnaire was examined with Cronbach's Alpha test. The results of the Cronbach's Alpha test are shown below (Table 1), and the Cronbach's Alpha coefficient of each instrument is greater than 0.7 which means that the internal reliability of the questionnaire is satisfactory.

Table 1. Results of Cronbach's Alpha

Instrument	Cronbach's Alpha
Awareness of E-Learning Platforms	0.867
Usage of E-Learning Platforms	0.871
Academic Satisfaction	0.826

According to the above results, we can interpret that the consistency of respondents' responses to all the items in a measure is assured. In terms of demographic data, out of the total sample size of 255, 93 undergraduates were male, constituting 36.5%, while 162 undergraduates were female, accounting for 63.5%. Regional distribution showed that 90 undergraduates (35.3%) were from the Western province, 51 (20.0%) from the Southern province, and the remaining from various other provinces in varying percentages.

Concerning the universities, the majority of the sample, 202 undergraduates (79.2%), were from the University of Sri Jayewardenepura, followed by 19 (7.5%) from the University of Kelaniya, 17 (6.7%) each from the University of Colombo and the University of Moratuwa. In terms of academic years, 3rd year and final-year undergraduates each constituted 36.5% of the total sample, with 2nd-year undergraduates comprising 23.5%, and 1st-year undergraduates accounting for 3.5%. Regarding devices used for eLearning activities, 62.4% of the undergraduates used laptop computers, 36.9% used smartphones, 0.4% used desktop computers, and 0.4% used tablets. In terms of internet connection, 5.5% had fiber optic connections, 43.5% had home broadband connections, and 51.0% relied on mobile data.

For univariate analysis, the distribution of awareness of eLearning platforms, usage of eLearning platforms, and academic satisfaction within the total sample can be interpreted based on the statistics.

Table 2. Mean Values and Standard Deviation of Variables

	Mean Value	Standard Deviation
Awareness of E-Learning Platforms	4.4588	0.59300
Usage of E-Learning Platforms	4.2745	0.93654
Academic Satisfaction	3.3882	0.97319

For the awareness of eLearning platforms, the mean value of the total sample is 4.4588, indicating a high degree of awareness. The standard deviation is 0.59300, and the data range falls between 3.8658 and 5.0518, further supporting the conclusion of a higher degree of awareness. The skewness is -1.153, and the kurtosis is 3.942.

Regarding the usage of eLearning platforms, the mean value for the total sample is 4.2745, suggesting a high degree of usage. The standard deviation is 0.93654, with the data range between 3.33796 and 5.21104, affirming the conclusion of a higher degree of usage. The skewness is -1.298, and the kurtosis is 1.192.

For academic satisfaction, the mean value of the total sample is 3.3882, indicating a moderate degree of satisfaction. The standard deviation is 0.97319, and the data range falls between 2.41501 and 4.36139, supporting the conclusion of a moderate degree of academic satisfaction. The skewness is -0.379, and the kurtosis is -0.014.

Regression Analysis between Awareness of E-Learning Platforms and Academic Satisfaction

A regression was run by taking awareness of e-learning as the independent variable and academic satisfaction as the dependent variable. The results are shown in Table 3.

Table 3. Results for Hypothesis 1

R	R Square	Sig. Value	B Value
0.530	0.281	.000	0.336

According to the analysis, R square is 0.281 which means that 28.1 percent of the variance in academic satisfaction is explained by awareness of eLearning platforms. This positive impact is highly significant as sig. value is .000 and this value is less than .01. Thus, it is possible to accept the alternative hypothesis: "There is a positive and significant impact of awareness of e-learning platforms on the academic satisfaction of undergraduates". Therefore, there is statistical evidence to claim that undergraduates' awareness of eLearning platforms positively and significantly impacts their academic satisfaction. The relevant regression equation is,

$$\text{Academic Satisfaction} = 5.432 + 0.336 * \text{Awareness of eLearning Platforms}$$

Regression Analysis between Usage of E-Learning Platforms and Academic Satisfaction

Awareness of e-learning as the independent variable and academic satisfaction as the dependent variable were taken to run a regression. Table 4 shows the results.

Table 4. Results for Hypothesis 2

R	R Square	Sig. Value	B Value
0.732	0.536	.000	0.625

According to the analysis, R square is 0.536 which means that 53.6 percent of the variance in academic satisfaction is explained by the usage of eLearning platforms. Because of the

fact that sig. value is .000 which is less than .01, this positive impact is highly significant. Thus, it is possible to accept the alternative hypothesis: "There is a positive impact of the usage of e-learning platforms on the academic satisfaction of undergraduates.". Therefore, statistical evidence exists to claim that undergraduates' usage of eLearning platforms positively and significantly impacts their academic satisfaction. The relevant regression equation is,

$$\text{Academic Satisfaction} = 3.821 + 0.625 * \text{Usage of eLearning Platforms}$$

The Combined Impact of Awareness of E-Learning Platforms and Usage of E-Learning Platforms on Academic Satisfaction

The multiple regression analysis was carried out to find the combined impact of awareness of e-learning platforms and the usage of e-learning platforms on academic satisfaction. The results are depicted in Table 5.

Table 5. Results for Hypothesis 3

Combined Impact			Awareness of E-Learning Platforms			Usage of E-Learning Platforms		
R	R Square	Sig. Value	B Value	Beta	Sig. Value	B Value	Beta	Sig. Value
0.717	0.515	.000	0.142	0.217	.000	0.495	0.578	.000

Table 5 demonstrates that 51% of the variability in academic satisfaction can be accounted for by the presence of awareness and usage of e-learning platforms. Moreover, this joint influence on academic satisfaction is statistically significant, given the p-value of .000. The beta values associated with awareness of e-learning platforms and their usage are both positive and statistically significant. Notably, the impact on academic satisfaction is most pronounced in the case of usage of e-learning platforms, as reflected in its higher beta value compared to awareness of e-learning platforms.

Findings

The research problem centered on investigating whether there is an impact of awareness and usage of e-learning platforms on the academic satisfaction of undergraduates in the Management Faculties of State Universities in the Western Province. Drawing from theoretical insights, a conceptual framework was developed to assess the individual and joint influence of awareness and usage of e-learning platforms on academic satisfaction. The findings of the study reveal a positive and statistically significant impact of awareness of e-learning platforms on the academic satisfaction of undergraduates. Further, the research identifies a positive and significant impact of the usage of e-learning platforms on the academic satisfaction of undergraduates. Furthermore, the combined impact of awareness and usage of e-learning platforms on the academic satisfaction of undergraduates is statistically significant and positive. Notably, the impact of using e-learning platforms on academic satisfaction outweighs the impact of simply being aware of them.

Discussion

The results of the regression analysis indicate a positive impact of awareness of eLearning platforms on academic satisfaction, with an R square value of 0.281 implying that 28.1 percent of the variance in academic satisfaction can be explained by awareness of eLearning platforms. This impact is not only positive but also highly significant, as evidenced by the significance value of .000, which is less than 0.01. Moreover, the regression analysis results indicate a positive impact of the usage of eLearning platforms on academic satisfaction. The R square value of 0.536 suggests that 53.6 percent of the variance in academic satisfaction can be explained by the usage of eLearning platforms. This positive impact is not only considerable but also highly significant, as evidenced by the significance value of 0.000, which is less than 0.01. The last tested hypothesis of the study derives the finding that the joint influence of awareness and usage of e-learning platforms (51%) on the academic satisfaction of undergraduates is both statistically significant and positive. As the beta value of usage of e-learning platforms (0.578) is greater than the beta value of awareness of e-learning platforms (0.217), the impact of usage of e-learning platforms is dominant over the impact of awareness of e-learning platforms.

The results of this research align with the findings of previous scholars in their respective studies. In a recent study by Mohammadi (2015) conducted on the students of four public-sector universities in Iran to extract factors affecting the use of web-based learning systems, it was found that user satisfaction along with system quality, information quality, perceived ease of use, perceived usefulness and intention to use were considered primary factors driving users toward use of the web-based learning system.

To meet the information needs of university students in Jordan, Mobaideen et al. (2013) conducted a survey-based study to investigate the factors affecting students' satisfaction with web services; online registration, online marks query, online exam system, personal system, library system, e-mail and medical insurance systems. The findings of the study indicated that reliability (maturity, recoverability, fault tolerance), responsiveness (website does not crash often, is simple and easy to navigate, has a quick response to clicks, loads quickly), information quality (understandable, timely, accurate, relevant, detailed), security (using credentials, confirmation, available all time, authentication) and usability (navigate, understandable, learnability, operability, attractive, and provide help function) have an impact on the users' intention toward use and satisfaction with the web services.

In 2014, Luo and Remus conducted a study to predict satisfaction with web services of American university students. They found that the satisfaction of the users was positively associated with the level of usage. The usage of web services is entirely dependent on ease of use, usefulness, behavioural intention and entertainment motive of the users.

Several studies have reported the advantages of academic support in online learning spaces, using different types of platforms and e-tools. As cited in Drennan et al. (2005), Drinkwater et al. (2014) conducted a study using a web-collaborative learning tool for sharing and supporting students. The findings show that using a web-based learning platform supports student learning. Kuboni (2021) reported they incorporated a computer-

mediated communication tool together with face-to-face classes to support active learning and peer learning among learners.

Taking into account all these findings and the outcomes derived from this study, it is evident that awareness of eLearning platforms and usage of eLearning platforms are critical to enhancing the academic satisfaction of students, especially in maintaining a high-quality education.

Recommendations

Based on the findings of this study, several improvements can be suggested for the enhancement of eLearning systems in universities:

Implement Flexible Student Support Services:

Current student support services may lack flexibility. Addressing technical support inquiries within a more prompt timeframe can significantly enhance the overall support system.

Concessional Wi-Fi Packages:

Since 51% of undergraduates rely on mobile data for eLearning activities, collaborating with Internet Service Providers to establish concessional Wi-Fi packages for university students could alleviate challenges arising from weak mobile data signals.

Streamlined Access to E-Library Systems:

Simplify the process of accessing e-library systems for undergraduates. Consider introducing a common app or system, in collaboration with the University Grants Commission (UGC), that consolidates all university e-library systems. This unified system should allow access for every university student using their respective university registration number and credentials. This approach can foster better connectivity and convenience for students across universities.

The above implications will enhance the academic satisfaction of the undergraduates because they directly or indirectly boost the awareness and usage of eLearning platforms.

Conclusion

The primary objective of this research study was to assess the influence of awareness and usage of E-learning platforms on the academic satisfaction of undergraduates in the Management Faculties of State Universities located in the Western Province. The study utilized three main variables: awareness of eLearning platforms, usage of eLearning platforms, and academic satisfaction. A structured Google questionnaire was administered to a total of 255 undergraduates. The analysis of responses indicates a positive and highly significant impact of awareness of eLearning platforms on academic satisfaction. Similarly, the impact of the usage of eLearning platforms on academic satisfaction is also positive and highly significant. These findings suggest a noteworthy connection between the level of awareness, utilization of eLearning platforms, and the overall academic satisfaction of the surveyed undergraduates in the specified context.

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