FACTORS INFLUENCING TO STUDENTS' ACADEMIC PERFORMANCE TOWARD ONLINE EXAMINATIONS IN SRI LANKAN STATE UNIVERSITIES DURING THE COVID-19 PANDEMIC

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INTRODUCTION

The COVID-19 pandemic has created the most significant education system collapse in history (Giusti et al., 2020). Therefore, online platforms were introduced as a solution to the learning-teaching process (Rizun & Strzelecki, 2020). The pandemic has hit schools and universities, and E-learning is spreading fast. Universities worldwide have successfully faced this situation and have gone digitalization (Dhawan, 2020). Under these circumstances, activities such as conducting online exams, continuous assessments, and online lectures are being restructured through E-education. Planning online exams has become essential to measure the continued performance of students in universities. Online examinations conduct without the physical participation of both the instructor and the students in one place (Muzaffar et al., 2021). Most researchers argue that developing countries face a lack of infrastructure facilities, such as a lack of stable network platforms, a lack of high-speed network connections, and financial problems (Atoum et al., 2017). Computer literacy of students also affects to performance of online examinations. Some students do not have a good level of computer literacy. Therefore, students with low computer literacy face challenges in taking online exams and quizzes. This condition also affects special-needs students (Gamage et al., 2020). Furthermore, students face various difficulties presenting their assignments through LMS (Gamage et al., 2020). To maintain the efficiency of online exams, various tools and techniques have been developed (McCoy et al., 2015). Researchers state that the psychological and emotional effects of COVID-19 gradually increased in various forms (Roy et al., 2020). Approximately 1.6 billion students in more than 190 countries and on all continents have been affected by COVID-19 pandemic. Closing schools and other learning institutions has affected 94 percent of the world's student population (Giusti et al., 2020). As a result, higher education institutions are turning their attention to online platforms. Therefore, students and teachers face many problems because they suddenly transferred to an online platform (Arora et al., 2021). Researchers state that it is necessary today to review the latest online exam progress, essential features that are difficult to find in the literature (Butler-Henderson & Crawford, 2020). When evaluating previous studies, there is a gap between actual performance and existing performance of online examinations of university students. Under these circumstances, Sri Lankan university students face online examinations with many facilities and difficulties that affect their performance. Accordingly, there is a problem "What is the level of factors influencing students' performance toward online examinations during COVID-19?" This research will help to measure the effectiveness of the online exam and the online teaching and learning process of Sri Lankan state university students during COVID-19 and the factors affecting them. The finding could be used to make practical online exams in the future to enhance student performance. The results of this study will benefit not only the state universities but the private university system and the entire education system.

In the University system of Sri Lanka, there are 17 universities governed by the University Grants Commission and other private universities. However, this study considered only state university undergraduates. It may not be enough to get a response from the student's point of view alone for the research. A large number of factors affect the performance of students' online examinations. However, only a few factors were considered in this study. Moreover, there are only a handful of literary reviews to find here, as researchers have been focusing on COVID-19 research in recent times. The main objective of this study is "to identify the level factors influencing students' performance toward online examination in Sri Lankan state university during COVID-19". Specific objectives are "to identify the level of IT infrastructures, examination organization, psychological conditions, computer literacy and learning environment effect on the student's performance toward online examination in Sri Lankan state university during COVID-19".
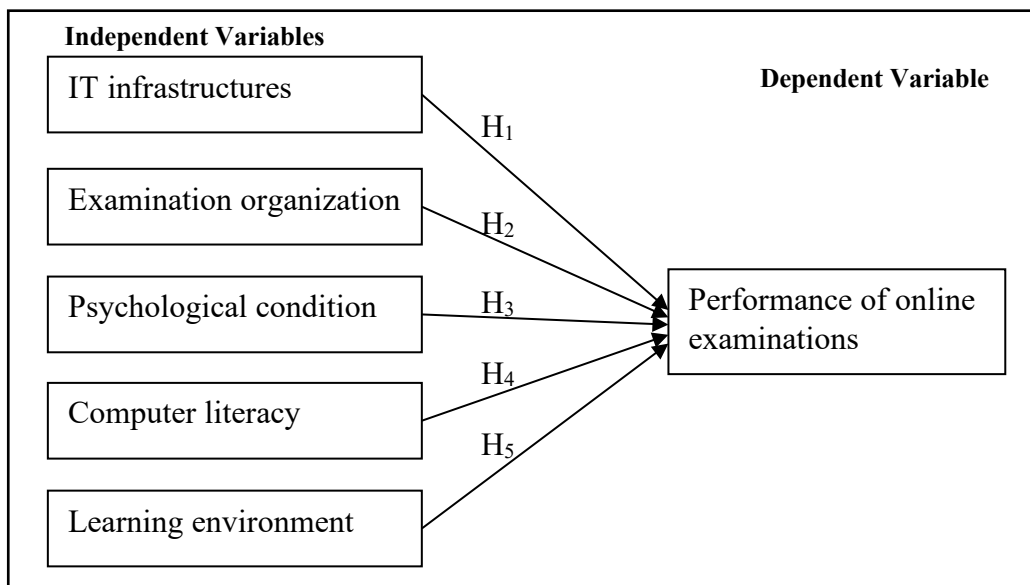
METHODOLOGY

Figure 1 Conceptual Framework

Based on the previous researcher's literature, the following hypotheses were developed.

H_1: There is a positive effect of IT infrastructures on Sri Lankan state university undergraduates' online examination performance during COVID-19.

H_2: There is a positive effect of examination organization on Sri Lankan state university undergraduates' online examination performance during COVID-19.

H_3: There is a negative effect of psychological conditions on Sri Lankan state university undergraduates' online examination performance during COVID-19.

H_4: There is a positive effect of computer literacy on Sri Lankan state university undergraduates' online examination performance during COVID-19.

H_5: There is a positive effect of the learning environment on Sri Lankan state university undergraduates' online examination performance during COVID-19.

The approach of this research is the deductive approach, where the known fact is applied in to narrow scope. This is basic research and explanatory research that continues to examine the relationship among the factors available in the literature. The time horizon of this study is cross-sectional survey research as it gives several outcomes through a single period. Methodology of the study refers to justifying the primary object of the study by quantitative method, whereby research hypotheses are empirically verified. The population of this study is all state university undergraduates in Sri Lanka. There are seventeen state universities have been established under the authority of the University Grants Commission Sri Lanka. For this study, the researcher selected 384 out of a population (all Sri Lankan state university students) from the University of Kelaniya, University of Moratuwa, and Rajarata University using the cluster and simple random sample technique. Furthermore, the researcher used structured online questionnaires as the primary data source for data collection and used journal articles, magazines, websites, reports, and books as secondary data sources. The researcher analyzed data using the Statistical Package for Social Sciences (SPSS). Both descriptive statistical techniques (including; mean, standard deviation, and skewness) and inferential statistic techniques (analysis of coefficient correlation and simple linear regression analysis) are used to analyze the data gathered from the questionnaire.

RESULTS AND DISCUSSION

The reliability test checks the internal consistency of the constructions used to measure the leading independent and dependent variables. The value of all independent variables was between 0.706 – 0.867. Accordingly, all the independent variables have more than 7.0 Cronbach's Alpha value that fulfills the appropriate accepted level of the reliability test. Furthermore, the researcher has done descriptive analysis to identify the essential nature of the research variables by calculating the Mean, Standard Deviation, and the Skewness of the dependent and independent variables. According to the descriptive analysis, the mean values of the variables range from 1.7505 to 4.31, and overall mean values are relatively high except for psychological conditions. It was 1.7505 psychological conditions, and all other variables were 3.98 to 4.31. SD values range from 0.33 to 0.75. However, all variables are negatively skewed except learning environment and psychological conditions. Finally, five hypotheses were tested to investigate the effect of the independent variable on the dependent variable using correlation analysis and regression analysis. Accordingly, the results of correlation analysis and regression analysis to check hypotheses can be summarized in the following table.

Table 1 Correlation and Regression Analysis

Variable	Correlation Analysis		Accept Or Reject	Regression Analysis		Accept Or Reject
	Pearson Correlat-ion	Sig. Value		Coefficients (Beta)	Sig. Value	
IT infrastructure	0.362	0.000	Accept	.015	.751	Reject
Examination Organization	0.489	0.000	Accept	.194	.011	Accept
Psychological Conditions	-0.381	0.000	Accept	-.211	.001	Accept

Computer Literacy	0.468	0.000	Accept	.238	.004	Accept
Learning Environment	0.510	0.000	Accept	.722	.000	Accept

According to regression analysis R^2 value implies that 43% of the factors affecting students' online examination performance by IT infrastructure, examination organization, psychological conditions, computer literacy, and learning environment. Accordingly, 57% percent of students' performance in online examinations is decided by other factors which are explicit to the study. Pearson's correlation analysis accepted all hypotheses (H_1, H_2, H_3, H_4, and H_5). The Sig value of all variables is less than 0.05 in correlation analysis. Furthermore, the regression analysis concluded that only IT infrastructure (H_1) did not significantly affect students' performance in online examinations in Sri Lankan state universities during COVID-19 because the sig value was more than 0.05.

CONCLUSIONS AND IMPLICATIONS

COVID-19 has severely affected university education in Sri Lanka, and the university system resorted to online examinations. This research mainly focused on investigating factors influencing students' performance toward online examinations in Sri Lankan state universities during COVID-19. Accordingly, IT infrastructure, examination organization, psychological conditions, computer literacy, and learning environment were tested as factors that affect students' online exam performances. According to the results of regression analysis, it can be seen that examination organization, psychological conditions, computer literacy, and learning environment significantly affect Sri Lankan State university students' online examination performance during the COVID-19. Therefore, universities should design effective online examination systems, and UGC should investigate their effectiveness. Furthermore, results show that students learning environments and psychological conditions significantly affected students' online examination performance during the COVID-19. It will be difficult for the university administration to control this effect because students are in their homes during the pandemic and do examinations in their places. However, research results showed a significant effect on that. Also, computer literacy has a significant effect on students' online examination performance. If some students do not have good computer literacy, that can affect their performance. Therefore, it shows that should give proper training to students. Taking care of these factors will help students increase their online examination performance and implement adequate online examinations in the future.

*Keywords***:** Computer literacy, examination organization, IT infrastructure, learning environment, online examination

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