A Study on Undergraduates' Perception on The Transition of Learning from On-Campus to Online

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Abstract*: Sri Lanka gained independence in the 1948. With that after the economic turbulences and downturns, Sri Lanka is managing to give higher education to children on campus for a longer time. As a result of that, student interaction has been achieved, and the education achievement has taken in far with developed countries. In this rapid transition, undergraduates must adapt themselves accordingly to virtual platforms. Though the technology is very poorly developed in the country as per the literature reveal to come out due to this Covid-19 pandemic new term has arrived at Sri Lanka. Though it is a new platform, through a lot of difficulties try to manage it. By considering the above facts, the objective of this study is to find out factors affecting the undergraduate perception of online learning, and how it can be used to improve the efficiency and effectiveness of online education. As a sample 373 undergraduates are going to be selected for the quantitative study using a simple random sampling method while for the qualitative study 10 industry experts and academic experts are going to be selected by using the judgmental sampling method. As the data collection method for the quantitative component, the semi-structured questionnaire is going to be used while, for the qualitative component focus group discussions and interviews are going to be used which is in the consistent method in research methodology. Finally, as the data analytical path for the qualitative study thematic approach is going to be used while for the quantitative study linear regression model is going to be used as parameter estimates. As a statistical tool for a quantitative study, SPSS version 22 to be used while, for the qualitative study QDMINSER is going to be used.*

Keywords: *Online Learning, Undergraduate Perception, Transition*

1. Introduction

A. Background of the study

Sri Lanka is a developing nation situated in South Asia. Education in Sri Lanka has a long history that dates back two millennia, and the Constitution of Sri Lanka provides for education as a fundamental right (Devapriya, 2019). Sri Lanka's population has a literacy rate of 92%, higher than that expected for a third world country; it has the highest literacy rate in South Asia and overall, one of the highest literacy rates in Asia (Higher Education in Sri Lanka, 2016). As higher education plays a pivotal role in life and Sri Lankan society placed a high value on higher education (Devapriya, 2019). In this context, higher education is primarily provided through universities. The origins of the modern university system in Sri Lanka dates back to 1921 when a University College, the Ceylon University College was established which was

affiliated with the University of London (Devapriya, 2019).

The transition of Sri Lankan higher education was occurred in mainly four steps. They are Traditional courses, Web-Facilitated courses, Blended/Hybrid courses, and Online courses (Allen and Seaman, 2016). Sri Lankan traditional learning system is based on classroom instructions, and it is known to be lecturer-centered and requires passive learning by the student (Paul and Jefferson, 2019). First, the learning process is happened through only within the lecture hall, and content is delivered in writing or orally. Students are still required to attend class, learn the material, submit assignments, and complete group (Paul and Jefferson, 2019).

B. Problem Statement

According to Dias and Eliatamby (2020), Sri Lankan higher education system is basically dominated by the traditional education system. This was proven with the difficulties many Universities faced during the adaptation of online learning platforms during the recent pandemic. However, according to L. Smart & J. Cappel (2006) undergraduate perception on this transition is quite controversial as there are both positive and negative responses. While some undergraduates argue that as Baber (2020), the online learning is beneficial as it gives a frameless technological gateway to the world of knowledge, J. W. Lee et al. (2012) shows others oppose this as they believe it has set a barrier to their scope of study. When it comes Sri Lankan context, even from Jayatilleke & Gunawardena (2016), it can be seen that this major debate on perceptions has not been analysed sufficiently as a matter of concern before switching the education platforms from traditional to online which has ultimately created a dilemma around the online education.

2. Literature Review

A. Behaviorism Theory

According to Reber behaviorism is define as A psychological approach that claims that the only relevant subject matter for scientific psychological inquiry is observable, measurable behavior (Reber., 1987). The assertion that only things that could be directly observed were scientifically meaningful comes from the work of the finding of the founder of the term 'behaviorism'(Clavijo, 2013). When considering the perceptions of the undergraduates, the proposition and the opposition is based on personal thoughts rather than the actual level of ideas (Jayatilleke & Gunawardena, 2016), where the evidence shows a reluctance to undergo this transition even though the student achievement is high (Shachar & Neumann, 2010). So far, these theories have not been evaluated effectively to understand the undergraduates' perceptions.

According to Miltenberger, behavior meaning what people say and do. The behaviorism theory concentrates on the study of overt behaviors that can be observed and measured(McInerney, 2005) .It considers the mind to be a "black box" in the sense that it may be monitored statistically in reaction to stimuli, completely dismissing the notion of cognitive processes taking place in the mind. All theories, according to behaviorists, should include observable processes such as actions. Because inner states such as intentions or mental states cannot be examined objectively, only overt conduct should be studied and recorded for them. (Ngandu and Hambulo, 2013).

3. Methodology

A. Conceptual Framework

Based on the research objectives, research questions and the review of literature, the conceptual framework has been shown below in Figure 1. It represents the relationships

between several independent variables and dependent variable which has been identified based on the literature review.

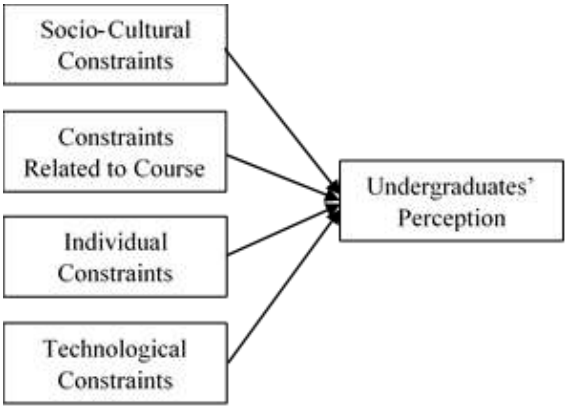

Figure 1. The Impediment Factors on Undergraduates' Perception

Source: Developed by the Authors Based on the Review of Literature (2021)

According to the figure 1 as above, the independent variables are constraints related to course delivery, Societal/Cultural, Individual and Technology, while the dependent variable is the undergraduates' perception. Kundu and Bej (2021) have found out that students are constantly disappointed on the lack of self-regulating skills and poor time management during e-learning and based on this the authors have identified individual constraints as a valid variable. Lee (2017) says that the students viewed educator's teaching quality and presence of a flexible course design affected the effectiveness of online education and based on this the authors have identified course-related constraints as a valid variable. Gopal, Singh and Aggarwal (2021) denote student have been striving to participate in online lessons due to problems with internet access, connectivity and technology and based on this the authors have taken technological constraints. In addition to that, Bali & Liu (2018); Jayatilleke & Gunawardena (2016) mention that Societal/Cultural constraints and Perception positively influence each other. And therefore, based on these variables the authors have developed our entire platform.

$$Y=f(X1_{ij}, X2_{ij}, X3_{ij}, X4_{ij})\ err$$

B. Formulation of Empirical Model

The formulation of the empirical model of the research was developed based on the conceptual framework of the study as shown below.

Where,

Y = Vector of Undergraduates' Perception
X1 = Vector of Constraints Related to Course Delivery
X2 = Vector of Societal and Cultural Constraints
X3 = Vector of Individual Constraints
X4 = Vector of Technological Constraints
i = An Undergraduate
j = of General Sir John Kotelawala Defence University
err = Error term

C. Sampling Frame and Sample Size Calculation

The study is a quantitative study. Therefore, as per the formula shown below 373 students are expected to be selected using simple random sampling method. Population is undergraduates of General Sir John Kotelawala Defence University (KDU). Sample framework is the list available in each faculty. Element is the student. As the study is a quantitative one, in order to collect the primary data structured questionnaire method is expected to be taken.

D. Data Presentation and Analysis Methods/Tools

In the data analytical part, the quantitative analysis study has expecting to conduct a

linear regression model as the empirical model, and SPSS Version 22 and AMOS version 21 are going to be used as statistical tools (Sekaran and Bougie, 2016). In analytical part basically in the quantitative side comprise of univariate analysis, bivariate analysis, and multivariate analysis. The multivariate analysis stands in the empirical testing the estimate in reliability, validity, sample adequacy, the goodness of fitness, model fit, and parameter are going to be conducted (Sekaran and Bougie, 2016).

4. Quantitative Analysis

A. Assessment of Credibility

According to Lincoln and Guba (2012), research should necessarily be credible. Credibility is the degree to which a research study is plausible and the extent to which the results of the study connect with the actual world. For the Assessment of Credibility of the research, the Reliability, Validity, Sample Adequacy and Normality tests were conducted.

B. Reliability

The reliability test was used to determine the internal consistency and the extent to which the scale's elements measure the specific indicator.

Table 1. Reliability of the Instruments

On-Campus		Variable	Online	
No. of Items	**Cronbach's Alpha**		**No. of Items**	**Cronbach's Alpha**
4	0.549	Socio Cultural Constraints	4	0.593
11	0.957	Course Related Constraints	11	0.919
7	0.813	Individual Constraints	7	0.805
7	0.924	Technological Constraints	7	0.893

Source: Survey Data (2021)

According to the above Table 1, the Cronbach's Alpha values range from 0.549 to 0.957. It is observed that apart from the variable "Socio-Cultural Constraints (both On-campus and Online)" which account to a 0.549 and 0.593 respectively, all the other Cronbach's Alpha values are above 0.6, which was the benchmark value recommended by Nunnally (1967).

C. Sample Adequacy

In addition, SPSS has a convenient tool for determining if the sample is large enough. As a result, the KMO-test (Kaiser-Meyer-Olkin-test) is used to determine the sample adequacy. In SPSS, the Bartlett's test of sphericity is used to see whether the sample is sufficient to go for the further data screening. Table 2 summarizes the output of the KMO-test in relation with On-campus learning and Online learning respectively.

Table 2. KMO and Bartlett's Test

On-Campus		Online
0.747	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.706
493.467	Approx. Chi-Square	431.544
10.000	Df	10.000
0.000	Sig.	0.000

Source: Survey Data (2021)

The KMO when it comes to On-campus learning is 0.747, as seen in Table 2 For the factor analysis to be regarded suitable, Bartlett's test of sphericity must be statistically

significant at $p < 0.05$. The KMO index ranges from 0 to 1, with 0.6 suggested as the minimum value for good factor analysis (Tabachnick & Fidell 2007). Thereby, the sample result represents 74.7 percent of the population changes in On-campus learning while the Online learning sample result represents 70.6 percent of the population changes.

D. Normality Test

Generally, in order to conduct a statistical analysis, especially in Linear Regression Analysis, as the dependent variable is measured using ratio data, the normality test has to be conducted in order to see whether the data is normally distributed. For this, we use the Skewness and Normality tests. The results of the Skewness and Normality tests can be expess as follows.

According to the above table, for the purpose of determining that the data is normally distributed and a proper bell-shaped curve is obtained, the Skewness should be between -1 to +1, whereas the Kurtosis value can occupy any value that ranges between -3 to +3. As per the information obtained from the Normality tests conducted by SPSS, it is evident that all the figures are within these two ranges and therefore, it can be concluded that all the variables related to On-Campus and Online are normally distributed.

E. Uni-variate Analysis

In this test, English Literacy is not having a transition while others are obtaining. Rest indicators which are social interaction, reluctant to take uncertain risks and narrowed the conservative gap between lecturers and students having a significant transition of on-campus to online.The inner behavioral pattern and competitive behavioral pattern, it is clear that in the case of English Literary Proficiency, there is no significant transition from On-campus to Online while Social Interactions, the Reluctancy to take Uncertain Risks and the Narrowed Conservative Gap between the Lecturers and Students have an inverse transition from On-campus to Online.

It is observable that there is no considerable transition from on campus to online with respect to assignment submission. A positive transition is visible for the time saved in on campus verses online whereas the rest (Conducting exams, Delivery of subject content, Practical sessions, Reading materials. Self- Learning, Lecturers' knowledge to handle resources when delivering lectures, Time spent on academic work, Workload and Engagement in Non-academic activities) signify a negative transition.

The inner behavioral pattern and the comparative behavioral pattern of the indicators of Individual Constraints such as the Ease of adapting to new situations, Feeling More challenged, Feeling demotivated on the long-run, Facing more economic challenges, the Student- student interactions, the Student-lecturer interactions and the Feeling of isolation as shown in Table 5.15. Kundu and Bej (2021) identified Individual Constraints as an Independent Variable that influences the shift of learning from real to virtual.

F. Goodness of Fitness

The assessment of Goodness of fitness measures what percentage of the dependent variable is measured by the independent variable. R^2, which is the measure of Goodness of Fitness, has shown a 72.6 percent when it comes to traditional On-Campus learning. This indicates that 72.6 percent of the changes of the dependent variable (Undergraduates' perception on the improvement of learning via physical platform) can be observed from the independent variables (Socio-Cultural Constraints, Course Related Constraints, Individual Constraints and Technological Constraints).

For Online learning, R square is equal to 74.7 percent. This implies that the independent factors Undergraduates' Perceptions of learning improvement via Digital platform) account for 74.7percent of the changes in the dependent variable (Socio-cultural Constraints, Course Related Constraints, Individual Constraints and Technological Constraints). As a result, the fact that the independent variables identified by the researchers can reflect more than 50% of the changes in the dependent variable, it indicates that the dependent and independent variables have an ideal Goodness of Fit.

G. Model Fit

Model Fit is the measure which is used to see whether the selected independent variables are the right set of variables to see the variance of the dependent variable. To find whether the independent variables really matter in order to influence the dependent variable, the ANOVA analysis was used. The ANOVA significance was calculated, and the obtained result is shown. Accordingly, the significance value (Sig.) obtained was 0.000b, which is below 5 percent ($p < 0.05$) of confidence interval. This signifies that the error of margin is zero. Thus, it can be comprehended that the selected independent variables are the right set of independent variables which can adequately measure the changes of dependent variable. According to Sekaran & Bougie (2016) and Saunders et al. (2015) the model fit should be less than 0.05, otherwise, the result of the quantitative analysis may become void.

H. Parameter Estimates using Linear Regression Analysis

Having completed the Uni-variate Analysis which tried to see the inner behavioral pattern of the indicators and the independent variables; the Bi-variate Analysis was conducted to see the association the independent variables and the dependent variables. However, the expected result of the research objective cannot be derived either from Uni-variate analysis or Bi-variate analysis alone because in the study, the research objectives are formed in order to find the Effect Analysis or Impact Analysis. In order to measure the Effect analysis and Impact analysis as per Sekaran & Bougie (2016) none of the correlation analysis and univariate analysis can be helpful, but these two can used as Subsidiary Analytical Tools. However, in order to do the hypothesis testing and the coefficient, effect, impact analysis; the Multivariate Analysis (Parameter Estimates) has been conducted and the result is discovered.

The independent variables in this study are Socio-Cultural Constraints, Course Related Constraints, Individual Constraints and Technological Constraints while the dependent variable is the Undergraduates' perception on the improvement of learning with regard to its transition from On-Campus to Online. outcome shows the impact of changes in independent factors on the dependent variable.

Socio-Cultural Constraints showed a significant impact on the outcome variable during On-Campus learning, and with the transition to the digital platform, the impact from this constraint, although yet again is significant, however has a lesser impact. A very spectacular point to note with respect to this constraint is the shift of signs from negative to positive, in the unstandardized and standardized coefficients. Here, it implies that the more the Socio-Cultural Constraints are, the more negative perception will the Undergraduates' have on the improvement of learning On-Campus. Contrastingly, the increase in Socio-Cultural Constraints has a lesser impact on the improvement of learning for Undergraduates on the Online platform.

Table 3. Coefficient Analysis

Coefficients[a]						
On-Campus			Variable	Online		
Unstandardized Coefficients	Standardized Coefficients	Sig.		Unstandardized Coefficients	Standardized Coefficients	Sig.
B	Beta			B	Beta	
-1.62		0.419	(Constant)	-3.489		0.086
-0.182	-0.175	0	Socio-Cultural Constraints	0.281	0.307	0.028
0.071	0.44	0.003	Course Related Constraints	0.011	0.044	0.394
0.381	0.417	0.003	Individual Constraints	0.071	0.446	0.002
0.004	0.017	0.749	Technological Constraints	0.128	0.185	0.002
a. Dependent Variable: Undergraduates' Perception on the improvement in learning						

Source: Survey Data (2021)

Course-related Constraints showed significance (0.003) with respect to the dependent variable during On-campus learning, however, became a non-significant factor (0.394) when it came to Online. This suggests that course-related constraints have a similar impact on the progress of learning in both traditional and digital platforms, but it is more significant in the traditional one.

The third independent variable, which is Individual Constraints is a significant factor that has a great impact on the outcome variable, the Undergraduates' Perception on the improvement in both On-Campus and Online education. However, its significance has comparatively increased as a result of the transition. Here, it infers that the more the Socio-Cultural Constraints are, the more unfavorable the Undergraduates' view of the betterment of learning Online will be due to factors such as demotivation and reluctance to a brand-new environment.

The shift from being non-significant (0.749) to significant (0.002) is a particularly striking feature of the fourth restriction which is Technological Constraints. During On-Campus learning, Technological Constraints had a minor influence on the Dependent variable. Nevertheless, with the move to the digital platform, the impact of this limitation, became substantially influent. This is justifiable, given the fact that the online learning platform built entirely on digital platform will majorly be impacted by Technological Constraints such as poor network connections, discontinuity of learning and unavailability of technological devices.

5. Findings, Conclusion and Recommendation

A. Findings

The section objectively examines the findings to the research questions that were established in chapter one.

Objective 01: To Identify the Impact of Constraints Related to Course Delivery on Undergraduates' Perception regarding the Transition of Learning.

According to the univariate analysis, the highest significant factors for this is Course Delivery Constrains, while as indicated by the correlation analysis the association between these two variables are positive and according to the parameter in the table 3 the Course Delivery Constraints has a positive impact upon the academic achievement of the undergraduates in earlier On-Campus situation than the online state.

Objective 02: To Assess the Influence of Societal/Cultural Constraints on Undergraduates' Perception regarding the Transition of Learning.

According to the univariate analysis, Societal/Cultural Constraints are positively affected on the academic performances of the undergraduates in the earlier On-Campus situations than online scenario.

Objective 03: To Determine the Effect on Undergraduates' Perception by Individual Constraints regarding the Transition of Learning.

univariate analysis shows that individual constraints also having a specific acceptable significance. By observing the statistical analysis results, researcher can find that Individual Constraints are positively impact on current online platforms rather than previous on-campus situation.

Objective 04: To Identify whether Technological Constraints Affect Undergraduates' Perception regarding the Transition of Learning.

Corresponding to the univariate analysis, the Technological Constrains having a proper significance, while as implied by the correlation analysis the association between these two variables are positive. Statistics shows that technological constraints have a positive impact on undergraduates' academic performances on novel online learning rather than earlier on campus learning.

B. Discussion

Understanding and analyzing the Undergraduates' Perception on the Transition of Learning from On-campus to Online is a critical requirement of today to provide quality education (Bali & Liu, 2018). In Chapter One, the researchers have acknowledged the Research Problem and derived four main Research Questions. The researchers came up with a Core Objective accompanied by Sub Objectives, while attempting to resolve these Research Questions. With the help of recent statistical data, this study aims to provide a critical analysis of how the Undergraduate Perception has been evaluated in light of the aforementioned constraints, and how these constraints can be considered to improve the efficiency and effectiveness of online learning platforms. Chapter Two was constructed on the basis of the Research Gap identified from the existing literature. Furthermore, by reviewing literature, the researchers have identified four main Independent variables; Socio-Cultural Constraints (Clarke, 2006), Course Related Constraints (Jayatilleke and Gunawardena, 2016), Individual Constraints (Cantor *et al.*, no date) and Technological Constraints (Thaheem et al., 2021)to impact the Undergraduates' Perception on the Improvement of Learning with regard to its transition from On-Campus to Online, which is the Dependent Variable. Understanding these constraints with regard to the renowned theories lead this research to be an exceptional one (Tansey, Spillane and Meng, 2014). An analysis of Cultural, Technological, Individual and Course Related Constraints with reference to World Renowned Theories; Theory of Behaviorism (Bali and Liu, 2018), Theory of Evolution (Muthuprasad *et al.*, 2021)and Socio-cultural (Andersson and Grönlund, 2009)done in the chapter two. When pertaining to the perception of the undergraduates, the proposition and the opposition is based on their personal thoughts rather than stereotypical and mythical ideas existing in general (Jayatilleke and Gunawardena, 2016), where the evidences show a reluctancy to undergo this transition even though the student achievement is high towards the end of this shift in (Smart and Cappel, 2006). So far, these particular constraints have not been evaluated effectively to understand the undergraduate perception.

A systematic search of the literature from 1996 through July 2008 identified more than a thousand empirical studies of online learning (James and Yun, 2018). However, none of the researchers have paid much attention on how the Constraints related to the academic Courses, Societal/Cultural constraints, Individual Constraint and the Technological Constraints can have an impact on the Undergraduates perception on the shift of learning from real to virtual (Smart and Cappel, 2006). This research intends to support future researchers and educational experts to understand the actual reasoning behind the perceptions of undergraduates and thereby, improve the online education system far better in future than it is today.

According to the quantitative and qualitative data analysis, the researchers have discovered that the Societal/Cultural Constraints have positively affected the academic performance of the undergraduates in the early On-Campus situations whereas there is an inverse relationship with the current online scenarios. Statistical data also proves that the highest significant transition from On-campus to Online is with regard to this constraint (the shift in the signs of the unstandardized and standardized coefficient values from positive to negative) (Societal/Cultural related constrains were examined under four indicators and they are English (Devapriya, 2019), social interaction (Marjoribanks, 2003), reluctancy to take uncertain risks and the narrowed conservative gap between lecturers and students (Lee, Becker and Nobre, 2012)As per the results obtained from the paired tests, although there is an insignificant transition of the English literacy factor, the undergraduates do believe that they are experiencing fewer social interactions, an increase in the conservative gap between lecturers and the students and that they are less reluctant to take uncertain risks when it came to Online as opposed to On-campus. In addition to these factors there are some other social cultural constraints which affected the Undergraduates' Perception on this shift in academia. They are Power/ Wealth Distance (Gunawardena et al., 2001), Collectivism (Mercado et al., 2004), Gender Role (Mercado et al., 2004), Family Background (Marjoribanks, 2003), Religion (Keengwe & Kidd, 2010) and Native Language (Jayatilleke & Gunawardena, 2016). Some of these factors have been investigated through the Undergraduates' demographic factors via the quantitative analysis. These factors have made a significant effect to the improvement of learning in the previous On-campus situation, but in recent online education they are not that impactful. The qualitative study of Chapter four (Figure 4.3) also provides some evidence for the results of the quantitative analysis. Prior mentioned facts prove that the most prominent factor that has contributed to the Undergraduates' Perception on the improvement of learning as a result of the transition from On-Campus to Online is Social-Cultural Constraints.

Technological constraints are discovered to have made the next most impact on Academy performances of undergraduates within current online education rather than previous on campus education. It is in common knowledge that the Online education is necessarily built on a digital platform. By considering the statistical test results researcher can clearly indicate that technological constraints have prominent significant difference been transforming on campus to Online. This study has identified seven indicators from the qualitative analysis which depict the constraints related to technology. Although the undergraduates utilize the Internet even before the transition and availability of a few devices would suffice the need of the undergraduates, when it came

to online the insufficient access to technological devices and network connectivity issues hugely impacted the undergraduates during online learning. Students responded that the affordability and use of blended learning was more applicable on-campus, because when it shifted to online learning during the pandemic, academia was entirely based on a virtual platform. The technology integration was more influential in online learning. A significant difference was observed in learning amidst of power failures (Kartawidjaja, 2020) and stability of Internet connection (Bisht et al., 2020) because students believe that is a major issue when it comes to online than traditional learning. Technological constraints also include mode of access (Janaka Selvaras, 2020), source of access (Bisht et al., 2020), status of devices and Internet (Thaheem et al., n.d.), technology platforms and connectivity (Selvaras, 2020). Qualitative analysis (chapter five) provides evidence to confirm that the technological factors have had a huge impact on the undergraduates' perception with regard of this transition. By considering above statements and arguments, it can be concluded that Technological constraints have the second highest impact towards the Undergraduates' Perception on the improvement of learning as a result of the transition from On-Campus to Online.

Individual constraints were deduced to be the third most influential factor on the Undergraduate's view on the shift in academia from traditional to the digital platform. As per the statistical data, it is evident that Individual constraints, although being a significant indicator during both on campus and online, resulted in a slow transition due to the small difference between the coefficients and significant numbers obtained. Through the qualitative analysis, the researchers were able to identify seven sub themes under the main theme "Individual Constraints". According to the trends depicted in the Paired test under Univariate Analysis, it is observed that the undergraduates are reluctant to adapt to the online platform due to the general belief of online learning being more challenging to engage in than on campus. Moreover, it is understood that the students feel demotivated on the long run probably due to the isolation and lack in social interactions between students and students; and between students and lecturers when engaging in the digital in comparison with On campus education (Alawamleh et al., 2020). The Emotional Stability (Kartawidjaja, 2020), Self-Directed Learning, Pessimism (Cole et al., 2014), Economic difficulties, Technological Confidence, Social Support, Excessive screen-tine that leads to fatigue and Time management (Kamal et al., 2020) are some other individual constraints that were discovered to prevail among the undergraduates. Chapter four reveals some evidence which confirm the revelations above. After contemplating the above arguments, that researchers declare the individual constraints to be the third most prominent variable to influence the Undergraduates' Perception on the improvement of learning as a result of the transition from On-Campus to Online.

Course Delivery Constraints was found to be the least contributing factor on the Undergraduates' Perception on the transition of learning from real to virtual. As identified by the in-depth interviews, the Course- related constrains were tested under eleven indicators which are Conducting Exams (L. Smart & J. Cappel, 2006), Delivery of Subject Content (Bali & Liu, 2018), Practical Sessions (Jayatilleke & Gunawardena, 2016), Assignment Submission (Mercado et al., 2004), Reading Materials (Ahmad et al., 2015), Self-learning, Lecturers' knowledge to handle Resources when Delivering Lectures

(Grensing-Pophal, 2020), Time Saving (H. Lee, 2021), Time Spent on Academic Work, Workload and Engagement in Non-Academic Activities (Jayatilleke & Gunawardena, 2016). According to the paired test, there is a substantial difference between administering exams on campus and online. It was relieved that the respondents favor physical tests over online examinations. Also, when it comes to the delivery of subject content, the undergraduates prefer on-campus settings. A major significant transition can be seen in conducting practical sessions, where the students showed very high preference to on campus practical sessions. The indicator, Assignment Submission shows a very small transition where either On-campus or online makes no much difference. Utilizing reading materials is mostly seen to impact on campus education than online (Halabi et al., 2014). Engagement in self learning is also viewed as a prominent feature that has been encouraged during on campus learning than online. Undergraduates believe that lecturers' knowledge to handle resources while delivering lectures On campus is more favored than that done online, because of the inline platform being a foreign tool for many traditional lecturers (Baticulon et al., 2021). A spectacular preference of Undergraduates is observed towards Online learning with regards to their time being saved. However, it is also worthy to note that the undergraduates seem to have spent more time on academic work during on campus than online. With the transition of learning to Online, it is also statistically evident that the Undergraduates are burdened with a heavier Workload than before. The engagement in non-academic activities during On-Campus was reported to be significantly higher during traditional learning in comparison with the virtual platform. Following qualitative data provide evidence for the above stated facts. Thereby, it can be concluded that the Course Delivery Constraints have the least impact when it comes to the Undergraduates' Perception on the improvement of learning as a result of the transition from On-Campus to Online.

C. Conclusion

Due to the current global pandemic Sri Lankan higher education system has to move into the online platform and had to overcome barriers and under graduates also has to face some difficulties as well as got some benefits through this transition. This study will provide a proper explanation about this switch of platforms. The major purpose of this study is to reveal the relationship between undergraduate study performance and constrains (course related, socio-cultural, individual, technological). According to the quantitative analysis and qualitative analysis, the most prominent transition has happened in social cultural constraint, which a significant movement from negative to positive. The second conspicuous transition has happened in technological constraints, which a non-significant factor has become a significant value. There is a sluggish transition happened individual constraint and course related constraints.

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