Impact of Service Package Offered on Student Involvement: Case of Distance Education in Sri Lanka

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Abstract

Despite its effectiveness, a higher student drop-out rate and lower student academic excellence are perceived as critical issues in the Distance Education (DE) system. Previous studies have emphasised on diverting attention towards core and peripheral services offered by DE institutes as a contextual solution. However, overcoming these issues only via the services offered is questionable as Students Involvement (SI) has been identified as a success factor in DE. Therefore, this paper investigates the impact core and peripheral services offered by DE institutes have on SI. Two hypotheses were developed through a literature review and tested using a sample of 356 undergraduates of a DE institute, drawn using simple random technique. Data analysis supported the significant positive impact of peripheral services on SI yet, rejected that of core services. These findings are imperative in designing services offered by DE institutes and, thereby addressing the prevailing issues that hinder the system's effectiveness.

Keywords: Core Services, Peripheral Services, Student Involvement, Distance Education

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Introduction

Higher Education (HE) has been exponentially developing as a direct consequence of the communication revolution (He & He, 2015; Rajesh, 2015; Wang & Liu, 2003). Traditionally, the teacher and the student used to meet at a pre-determined time in a classroom environment where face-to-face interaction was a salient feature (O'Malley & McCraw, 1999; Sachar & Neumann, 2003). However, communication and technological development, particularly the internet, enabled to build new modes and platforms upon which education could be delivered. The physical face of HE was gradually altered; online classrooms, libraries and study materials became prominent by replacing traditional physical establishments. This change provides students with the comfort of studying at home or office or any other place without commuting to a HE institute. Prevailing geographical and temporal constraints for HE were eliminated consequently and thereby made education and learning possible anywhere, anytime and any pace. As a result, study programmes based on the DE platform became more popular among those who have a desire for HE (Gunewardene & Lekamge, 2010; O'Malley & McCraw, 1999; Sachar & Neumann, 2003; Wang & Liu, 2003).

Education systems are numerous and, DE is one of such systems. It can also be identified as a process of providing education. Most of the time teachers and students are based in different geographical locations and time zones; hence face to face interaction between the teacher and the student does not take place frequently teaching behaviours are executed apart from learning behaviours (Moore, Dickson-Deane, & Galyen, 2011; Moore as cited in Rumble, 1989; Simonson, Smaldion, Albright, & Zvacek, 2008; Woolls, Dowlin, & Loertscher, 2002). Students are provided with relevant study materials, instructions and guidance through printed, electronic or any other format at the beginning of the study programme. This arrangement enables students to make their own educational decisions related to content, timing, speed, and learning approaches (Moore et al., 2011; Shachar & Neumann, 2003; Mooreas cited in Rumble, 1989; United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2002). Therefore, students are offered a high level of flexibility and are vested with self-responsibility towards their academic activities (Bates, 1995).

DE has been gaining momentum and becoming more popular than the traditional on campus education system since the recent past. This can be attributed to unique structure and features of the system as well as changes in demographic factors (Attri, 2012). Rising adult population, changes in social requirements of people due to the

increasing interest towards education and pressure imposed on working adults to obtain educational qualifications as part time learners have placed an ever increasing demand on DE as the most appropriate means of accomplishing educational requirements (Wasala, 2010a, 2010b).

The Open University of Sri Lanka (OUSL) introduced the DE system to the Sri Lankan context (OUSL, 2016). It was established to deliver study programmes only using the DE platform with the primary aim of providing HE to working adults (OUSL, 2016). This can be identified as one of the most effective educational initiatives in Sri Lanka. Since the inception, there is an ever increasing demand and popularity for these study programmes among working adults as well as students who missed the admission to conventional national universities due to competitiveness and restricted entrance backed by resource constraints (Bataduwaarrachchi, 2011; OUSL, 2016; Wasala, 2010a, 2010b).

However, during the recent past, statistics related to student enrolment, graduation and academic performance in the DE system indicate existence of critical problems. This can be elaborated using the data collected from the OUSL and the pilot survey conducted with the management of the same institute related to one of the undergraduate degree programmes (ABC degree) offered there. As per Table 1, the number of students that graduated each year as a percentage of the registration count in the same year is less than 10 per cent. Majority have completed the degree with a general pass and, the proportion of completing the degree with a first class or second class upper division is considerably at a lower level.

Table 1: Statistics of ABC Degree Offered by the OUSL

Academic Year	Number of Registered Students	Number of Graduates	Academic Performance			
			First Class	Second Class (Upper Division)	Second Class (Lower Division)	General Degree
2008	478	41	01	03	06	31
2009	574	36	03	03	02	28
2010	797	53	01	07	07	38
2011	813	58	00	06	09	43
2012	886	71	01	03	07	60
2013	873	90	01	06	15	68
2014	1033	91	00	07	13	71
2015	973	88	00	03	14	71

Source: The Open University of Sri Lanka, 2016

Further, findings of the pilot survey revealed that on average 800 -1000 applicants register for the first year of the degree programme. However, the registration count for the second year is around 500 - 600 students. The drop in the registration rate can be partly attributed to lower examination results and thereby having to repeat courses; yet, a major portion has resulted from students giving up on studies. Students do not bother to complete the degree within the stipulated four years as there are flexible arrangements with regard to the degree completion. Mere qualification is targeted by majority of the students rather than achieving excellent results with first class or second class upper division.

Nevertheless, the above affirmed circumstances are not unique to the OUSL. Studies conducted in different countries in the DE context have identified that there is a tendency of students dropping out of study programmes without completing them on time. On the other hand, academic performances of DE based students are comparatively at a lower level (Arinto, 2016; Attri, 2012; Dadigamuwa & Senanayake, 2012; Li & Killian, 1999; Willging & Johnson, 2004). Accordingly, they have emphasised on diverting attention towards contextual factors as suggestions to overcome the identified issues. These factors can be broadly categorised as academic and non-academic related solutions. Lectures, style of delivery, nature of study materials, face to face sessions, student evaluation, teacher student communication, feedback, and provision of information can be identified as solutions related to academic factors (Attri, 2012; Dadigamuwa & Senanayake; 2012; Edge & Loegering, 2000; Farajollahi & Moenikia, 2010; Lowes, Lin, & Wang, 2007). Non-academic related solutions include student support, induction to the DE system, administrative services, financial aids and facilities, counselling, and career guidance activities (Attri, 2012; Dadigamuwa & Senanayake, 2012; ALowes et al., 2007).

HE is a professional service of which students are the primary customers. It addresses the need of learning and acquisition of knowledge, skills, and expertise (DeShields, Kara, & Kaynak, 2005; Licata & Maxham, 1999; Nyangau & Bado, 2012; Raj, Raguraman, & Veerappan, 2013). DE institutes are therefore a category of HE service providers. The above suggested solutions are the constituents of what these institutes offer their customers in the form of core (main) services and peripheral (supportive) services. Since services are offered as a bundle of tangible and intangible elements, combination of all the above discussed factors can be termed as the service package offered by DE institutes to their students (Gronroos, 1978; Lovelock & Writz, 2013; Roth & Menor, 2003).

Consequently, suggestions of previous studies on overcoming the identified issues indirectly yet primarily emphasise on the service package offered by the DE institutes. However, it is arguable whether the service package by itself can overcome the identified issues as students play a prominent role bearing self-responsibility towards their academic activities. As Pace (1984) highlights, institutes bear the responsibility of establishing an environment that has the capability of enhancing student learning and development. However, students have to dedicate time and effort on their own for academic activities in order to become successful. This can be further elaborated using the Theory of Student Involvement (Astin, 1984). One of the five postulates of the theory emphasises that student learning and development is positively related to their investment of time and effort on academic activities which is termed as student involvement (Astin, 1984). Students' role is emphasised by researchers mentioning that student involvement plays a mediating role by linking input and output of the learning process. Input is the services offered by the DE institute (i.e. the service package) and, output is student success, retention and performance (Astin, 1984; Neumann & Neumann, 1993).

It is proven empirically that student involvement serves as a driver of favourable student outcomes which includes student retention, learning and development, and superior student performance (Arinto, 2016; Moore et al., 2011; Simpson, 2016;). However, identifying its antecedents, has not yet received due concern in the existing knowledge base. Particularly as per the Theory of Student Involvement, the impact of contextual elements in enhancing student involvement is subject to empirical validation (Astin, 1984; Dassanayake, Nishantha, & Senevirathne, 2017). Therefore, this study primarily aims to investigate the impact of the service package as a contextual element in the DE system to improve student involvement and thereby overcoming issues in the DE system. For this purpose, two Research Questions (RQ) are expected to be answered through the findings of the study.

RQ1: Do core services offered by DE institutes in Sri Lanka affect student involvement?
RQ2: Do peripheral offered by DE institutes in Sri Lanka affect student involvement?

Literature Review

Service Package

In the present times, services are offered as a mix of tangible and intangible elements to provide benefits and to add value to target customers. All these value

generating elements as a whole is termed as service package (Gronroons, 1978; Roth & Menor, 2003). The service package describes the characteristics of a service, what needs these characteristics will satisfy and how they will be satisfied. The service package typically consists of core services and peripheral services. Benefits offered by core services address the basic need that customers desire to fulfil. This includes sensual or experiential benefits of customers (explicit services), psychological benefits that customers may sense vaguely (implicit services), physical or structural resources that must be available to deliver the service and material that are consumed in the service delivery process (supportive facilities and goods). On the other hand, core services are supplemented by peripheral services. They provide additional benefits to enhance the value and thereby differentiate the service from substitutes. There are two main categories of peripheral services as facilitating services and enhancing services. Consumption of core services is supported by facilitating services whereas value and appeal of the service is improved by enhancing services (Edvardsson & Olsson, 1996; Gronroos, 1978; Lovelock & Writz, 2013; Roth & Menor, 2003; Sasser, Olsen, & Wyckoff as cited in Roth & Menor, 2003).

Service Package Offered by Distance Education Institutes

Reviewing scholarly work on DE revealed that studies that have specifically focused on service package are limited (Astin, 1984; Dassanayake et al., 2017; Fraser, Walberg, Welch, & Hatties, 1987). However, there are studies on quality dimensions of, and assessment of quality in DE. Quality of a product represents its ability to satisfy needs of customers which are stated or implied, through its characteristics (Dursun, Oskaybas, & Gokmen, 2013). Therefore, in order to deliver value to customers the product should possess characteristics that can meet and exceed customer expectations which in turn can be identified as the elements of the service package.

Accordingly, the nature of courses, teacher characteristics, teaching and learning, and assessment and evaluation can be considered as the explicit services provided. Implicit services include how students are treated and the feeling that their best interest is being served. Physical and technological infrastructure such as lecture halls, computer laboratories, Learning Management Systems (LMS) and their usefulness as well as course materials, other recommended and supportive study materials can be considered as supporting facilities and goods (Douglas, Douglas, & Barnes, 2006; Jung, 2012; Mbwesa, 2014). These explicit services, implicit services, and supporting facilities and goods together form core services of the service package offered by DE institutes.

Similarly, peripheral services offered include facilitating services such as administrative support, advisory services, induction programmes, career guidance, counselling, information management, and provision of required and timely information. Services such as financial support, online and multiple payment methods, online registration, online helpdesk, opportunities for extra-curricular and recreational activities, and special attention to those who need differentiated services are constituents of enhancing services (Douglas et al., 2006; Foreman & Retallick, 2013; Jung, 2012; Kretovics, 2003).

Student Involvement

Theory of Student Involvement defines student involvement as "the amount of physical and psychological energy that a student devotes to college experience" (Astin, 1984, p. 518). This is a behavioural phenomenon hence participate in, take interest in, devote oneself to, and tackle to stand for the same meaning (Astin, 1984; Butzow & Williams, 1977). Particularly, student engagement has been used widely as a synonym to SI (Jaafar, Hashim, & Ariffin, 2012). If a student is involving, it can be observed through behaviour and measured quantitatively and qualitatively. For instance, the number of hours a student devotes for studying is a quantitative measure whereas the way she or he studies is a qualitative measure (Astin, 1984; D'arcy, 2014; Foreman & Retallick, 2013; Wolfe-Wendel, Ward, & Kinzie, 2009). Additionally this is connected with the individual student. It represents the ability of the student to identify the gaps in their own knowledge and to set goals to address them while bearing the responsibility towards the approach (Bates, 1995; Wolfe-Wendal et al., 2009). Thus, the concept is more relevant to students in the DE system as they bear self-responsibility towards their own academic activities.

Student involvement can take place inside or outside the classroom. It can be in-class such as participating in in-class discussions and out-of-class such as studying for the class and reading course materials at home (Sidelinger & Booth-Butterfield, 2010). Academically involved students utilises time on reading study materials, logging onto the LMS, referring the library, and preparing their own notes on subject matters. They attend lectures regularly and actively take part in classroom discussions. Collaborative and peer learning are other characteristics of these students. They interact with their teachers to obtain feedback on academic performance and to discuss subject matters as well as their academic and career related plans (Astin, 1984; Huang & Chang, 2004; Jaafar et al., 2012; Pass, 2013; Sidelinger & Booth-Butterfield, 2010).

Conceptualisation

Theory of Student Involvement provides the theoretical foundation as to why student involvement is significant in overcoming identified issues in the DE system as well as what is the impact core services and peripheral services have on student involvement. The theory defines the concept of student involvement and has identified it as a behavioural phenomenon. It consists of five postulates and two of them are relevant to this study (Astin, 1984). One of the postulates of the theory highlights that quality and quantity of student involvement has a direct positive relationship to the learning and development of the student. Greater the student involvement higher will be student learning and development such that making the student involved in the academic activities is crucial (Astin, 1984).

Another postulate of the theory, which is subject to empirical validation, proposes that student involvement in academic matters could be improved through effective educational policies and practices (Astin, 1984). Policies and practices outline the actions to be followed when dealing with a problem or any other matter under concern. They are directed towards the fulfilment of specified goals (Harman as cited in Bell & Stevenson, 2006). On this platform, educational policies and practices of an institute provide the ground rules for its functionality. They specify the nature of the service offer; study programmes, their content, teaching methods, nature of evaluation, supportive services, and infrastructure facilities they use to deliver the service. As a whole, these factors are related to the services offered by educational institutes and thereby it demarcates that those educational policies and practices encompass core services and peripheral services offered (Dassanayake et al., 2017). Theory of Student Involvement further highlights that students are more likely to be involved when there are high quality educational programmes and services which challenge students and stimulate them (Astin, 1984). Therefore, it can be argued that when effective core services and peripheral services are offered by the DE institutes it can result in enhanced student involvement.

Review of scholarly work indicated that they have not explicitly investigated the research questions to be answered by this study. Particularly, they have not defined service package in the DE context. Majority of studies have identified consequences of student involvement rather than what drives students towards academic involvement. They have considered student involvement as an independent variable which is contrary to this study where student involvement is investigated as a dependent variable (Astin, 1984; Dassanayake et al., 2017; Fraser et al., 1987; Pace, 1984). However, by analysing scattered findings in the same study context, a

relationship between core services and peripheral services on student involvement can be established.

Core services consist of explicit services, implicit services and supportive facilities and goods. The programme structure and curriculum enable active student participation in academic activities. Well-designed study materials encourage students to seek new knowledge by themselves which is essential in DE. The interactive nature of study materials bridges the gap between the teacher and the student and makes the student feel that they are interacting with teachers (Astin, 1984; Attri, 2012; Dadigamuwa & Senanayake, 2012; Farajollahi & Moenikia, 2010). Teacher characteristics and teaching style are other important aspects. If the teacher is aggressive, rude, not friendly, and not willing to maintain a cordial relationship with the student, it will negatively affect the student's academic involvement (Myers, Edwards, Wahl, & Martin, 2007; Powell, 1979). When the teacher uses active and collaborative teaching techniques rather than passive learning approaches, students tend to participate more in learning. Therefore, effective teaching can affect and sustain student involvement (Jung, 2012; Pintrich & DeGroot, 1990; Skinner & Belmont, 1993). When student assessments are based on higher order learning skills such as critical thinking and synthesis, and if they are targeted at learning rather than mere grades, it naturally demands more effort from the student's side making them more involved in studies than mere memorising of facts (Pass, 2013; Webber, Krylow, & Zhang, 2013). Further, provision of adequate facilities such as well-equipped and arranged lecture halls can make the learning environment more comfortable and appealing for studies. They encourage students to attend lectures and visit the university frequently (Astin, 1984; Sam et al., 2013). The student interface of the LMS, its user friendliness, and continuous functioning of it without failure is of paramount importance (Jung, 2012; Mbwesa, 2014). Accordingly, previous findings indicate that if the components of the core services are better they make the service more appealing for students and encourage them to put more time and effort into academic activities. Even though it is not explicitly stated, through the above discussion, it can be established that core services offered have a positive impact on student involvement hence, this study proposes the following hypothesis.

H_1: Core services offered by DE institutes in Sri Lanka positively influence student involvement

Other than the identified factors related to core services, peripheral services offered are also important in enhancing student involvement. As identified by previous studies, student support services (i.e. peripheral services) result in effective student involvement (Foubert & Grainger, 2006; Hopland, 2016; Huang & Chang,

2004; Pascarella, 1985). Facilitating services like administrative support and provision of timely information bring the isolated student closer to the DE institute by eliminating the alienation feature. Enhancing services such as online and flexible payment driven by technological innovations offer convenient learning opportunities to students as many of them are entrusted with numerous responsibilities. Particularly, financial aid such as scholarships and payment in instalments reduce the burden vested on students. These peripheral services create hassle free learning conditions which in turn motivates the student to engage in academic activities (Hopland, 2013, 2016; Omar, Ariffin, & Ahmad, 2015). This results in enhanced effort towards academic activities and thereby better performance and reduced dropout rates (Foreman & Retallick, 2013; Kretovics, 2003; Sam et al., 2013). Based on these findings, this study proposes the following hypothesis related to peripheral services.

H_2: Peripheral services offered by DE institutes in Sri Lanka positively influence student involvement

Accordingly, this study proposes the following conceptual framework based on the literature review and the Theory of Student Involvement.

Figure 1: Conceptual Model
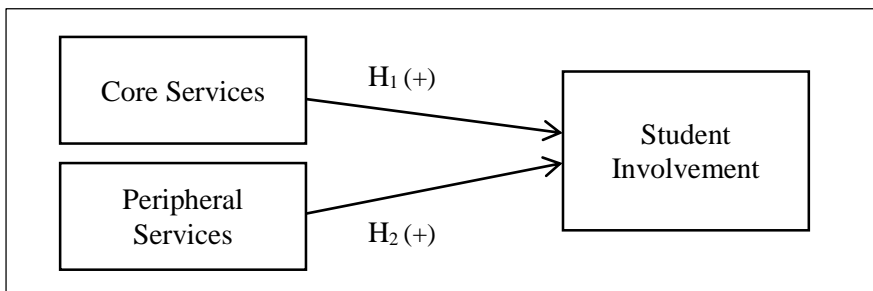
Operationalisation of Variables

The existing measures were modified to operationalise the study variables. Table 2 presents the operationalisation of the study variables. Indicators of the core service variable are related to curriculum, delivery, evaluation, respecting students, making students feel comfortable, and infrastructure and supporting material. Induction, information dissemination, usage of technology, administrative services, financial services, and student support services are considered as the indicators of the peripheral service variable. Student involvement variable consists of indicators that include attending day schools, active participation in discussion, connecting learning to societal problems, interaction with faculty members, monitoring progress, and peer

learning. All the variables were measured using a five point Likert scale and, points were anchored as 1 = Strongly Disagree to 5 = Strongly Agree.

Table 2: Operationalisation of Variables

Variable	Dimension	Literature Source
Core services Basic problem solving benefits of the service package offered by the DE institute that fulfils the needs of students	Explicit services Implicit services Supporting facilities and goods	Douglas et al., 2006
Peripheral services Supplementary services to core services offered by the DE institutes to provide additional benefits while enhancing service value to students	Facilitating services Enhancing services	Jung, 2012
Student Involvement Physical and psychological effort devoted for academic activities by students who are attached to the DE system	Active participation Self-learning Student faculty interaction Learning with peers	Indiana University, 2017

Methods

The methodology of this study is guided by the positivistic research approach. It attempts to establish relationships among study variables hence can be identified as an explanatory study. Hypotheses developed through the literature review were tested using a quantitative approach based on the cross sectional survey design (Saunders, Lewis, & Thornhill, 2011). Through a comprehensive literature review a structured self-administered questionnaire was developed and used as the main tool in collecting primary data. Procedural remedies were taken at the designing stage of the questionnaire to overcome Common Method Variance (CMV). A cover letter was attached to the questionnaire to make the respondents aware of the study and to ensure their anonymity. Further, measures were psychologically separated by providing clear instructions (Podsakoff, MaCkenzie, Lee, & Podsakoff, 2003).

This study was conducted in the DE context in Sri Lanka. The study population is restricted to all the undergraduates of the OUSL. Due to the availability of a defined sample frame, the simple random sampling technique was adapted and the sample was drawn using random numbers. A total of 700 questionnaires were distributed online using Google forms. Reminder messages were sent to improve the response rate. After removing incomplete questionnaires, missing values, and outliers, a

sample of 356 questionnaires were used in data analysis (Krejice & Morgan, 1970; Saunders et al., 2011).

Considering the demographic data of the sample, majority is female (60 per cent) and employed (67 per cent). The sample consists of 33 per cent of dependent students whereas 57 per cent bears family responsibilities as one of the income earners of their families. Similarly, the sample represented 33 per cent of married students and the average age is 27 years. 81 per cent of the sample is below the age of 30 years.

The preliminary data analysis was conducted by testing parametric assumptions of normality, linearity, homoscedasticity and multicollinearity. Exploratory Factor Analysis was performed to ensure the unidimensionality of scales. The reliability of scales was tested using Cronbach's alpha value (Saunders et al., 2011; Sekaran & Bougie, 2014; Hair, Black, Babin, & Anderson, 2009). Thereafter, data were entered to AMOS 21.0 version to derive the measurement model and tested with Confirmatory Factor Analysis. In order to enhance the model fit, modification indices were used and items with a standardised factor loading below 0.45 were removed. The model fit was ensured by Goodness-of-Fit (GOF) indices (Hair et al., 2009). Average Variance Extracted (AVE) and Composite Reliability (CR) values were calculated for each construct to ensure convergent validity whereas AVE was compared against squared correlations among dimensions to ensure discriminant validity (Hair et al., 2009). Absence CMV was ensured using Harman's single factor analysis (Podsakoff et al., 2003). Finally, to test the hypotheses of the study, the structural model was derived using the validated measurement model (Hair et al., 2009).

Results and Discussion

Reliability and Validity

Reliability was tested using the Cronbach's alpha. Table 3 summarises the alpha values of each construct. Accordingly, all the values are above 0.60 indicating high internal consistency (Sekaran & Bougie, 2014; Saunders et al., 2011; Hair et al., 2009).

Table 3: Cronbach's Alpha Values

Construct	Cronbach's Alpha
Core services	0.86
Peripheral services	0.76
Student involvement	0.86

Validity of measures was ensured based on standardised factor loadings, AVE, CR and squared correlations of each construct values. Standardised factor loadings of each item were above 0.50. Summarised values of AVE, CR and squared correlations of each construct are presented in Table 4. Accordingly, all the CR values of all the constructs are greater than 0.60 whereas AVE values are greater than 0.50 (Hair et al., 2009). Therefore, based on CR, AVE and factor loading values, the convergent validity of the measures used in this study could be established. On the other hand, discriminant validity is also established as AVE values are greater than the corresponding squared correlation coefficients (Hair et al., 2009).

Table 4: Average Variance Extracted, Composite Reliability, and Squared Correlation of Each Construct

	Core Services	Peripheral Services	Student Involvement
Core Services	0.58		
Peripheral Services	0.70	0.57	
Student Involvement	0.20	0.33	0.76
Composite Reliability	0.65	0.80	0.94
Average Variance Extracted	0.58	0.57	0.76

Note: Diagonal values are AVE, and values below the diagonal are squared correlations among constructs

Descriptive Analysis

This study focuses on three variables: core services, peripheral services and student involvement. Table 5 presents the summary measures of those variables. The mean and standard deviation of constructs vary from 3.47 to 3.51 and 0.48 to 0.56 respectively. The student involvement variable has the highest mean whereas core services represent the lowest variation from the mean with the minimum standard deviation.

Table 5: Descriptive Statistics of Study Variables

Construct	Minimum	Maximum	Mean	Standard Deviation
Core services	1.79	4.82	3.47	0.48
Peripheral services	1.75	4.90	3.44	0.55
Student involvement	1.77	4.75	3.51	0.56

Results

Based on the validated measurement model, the structural model was developed to test the hypotheses of the study, which were developed based on theoretical and empirical literature. Figure 2 presents the structural model used to test the hypotheses.

Figure 2: Structural Model
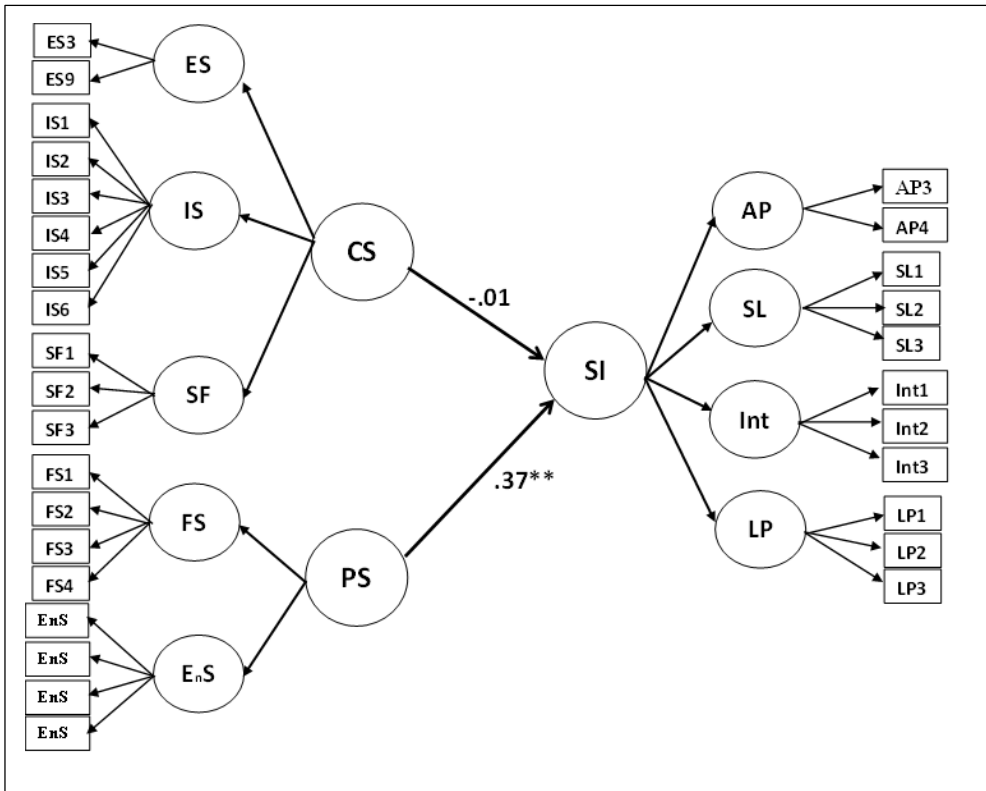
The goodness of the model was evaluated based on a number of Goodness-of-Fit measures which are presented in Table 6 (Hair et al., 2009).

Table 6: Goodness-of-Fit Indices of the Structural Model

Absolute				Incremental			Parsimony
CIMIN/DF	**GFI**	**AGFI**	**RMSEA**	**IFI**	**TLI**	**CFI**	**PRATIO**
2.42	0.85	0.82	0.06	0.84	0.82	0.84	0.90

Absolute, incremental and parsimony indices have met the appropriate cut-off values. CIMIN/DF is below 3, GFI, AGFI, IFI, TLI, and CFI are closer to 0.9 whereas

PRATIO has reached 0.9. RMSEA is well below 0.08. Therefore, it can be concluded that GOF for the structural model is an acceptable level. Accordingly, this model was used to test the hypotheses of this study. Table 7 summarises the statistical findings of hypotheses testing.

Table 7: Results of the Hypotheses Testing

Hypotheses	B	*p*	Result on Hypotheses
H_1: Core services offered by DE institutes in Sri Lanka positively influence student involvement	-0.01	0.91	Not supported
H_2: Peripheral services offered by DE institutes in Sri Lanka positively influence student involvement in DE	0.37	0.00[**]	Supported

Note:[**]*p<0.01*

As per the results of the hypothesis testing, the impact of peripheral services on student involvement is significant at 95 per cent confidence level and has a positive impact. However, the impact of core services on student involvement is negative and not significant. Therefore, the first hypothesis was rejected and the second hypothesis was accepted. Accordingly, it can be concluded that core services offered by the DE institutes do not have an influence on student involvement whereas peripheral services offered positively influence student involvement in the Sri Lankan context. Further, R^2 value of the model is 30 per cent. This represents an acceptable level of predictive power of the overall model (Moksony, 1992) hence, it can be concluded that changes in student involvement can be explained by the service package up to a considerable level.

Discussion

Theory of Student Involvement provided the theoretical foundation for the impact of core services and peripheral services on student involvement. Even though studies which are specifically focused on the service package offered by DE institutes are limited (Astin, 1984; Fraser et al., 1987), based on studies that have indirectly focused on elements of the service package it was hypothesised that core services and peripheral services positively influence student involvement in DE in Sri Lanka. Despite the proposed relationship, according to the findings of this study, the impact of core services on student involvement was not substantiated in the Sri Lankan context. This is contrary to the present knowledge since previous studies on the elements of core services that include programme curriculum, delivery mechanism,

teacher characteristics, teaching style, student teacher relationships, student evaluation, study materials, and other facilitating materials and equipment have been identified as influencing factors in determining the amount of time as well as the effort utilised by the student on academic matters (Attri, 2012; Dadigamuwa & Senanayake, 2012; Hopland, 2016;Jung, 2012; Pass, 2013; Webber et al., 2013). Particularly, core services represent the basic problem solving benefit that the service offers to customers. It is the main reason behind customer's purchase decision. Conversely, findings of the study indicate that in the Sri Lankan context the main services offered by the DE institutes are not imperative in enhancing students' academic involvement. However, the findings partially support Hopland (2013, 2016) as he has identified a weak impact of elements of core services on student effort on academic activities. Nevertheless, the finding can be attributable to own intention and characteristics of students. Majority of students who get enrolled in DE based study programmes have missed their higher education opportunities due to social, economic or any other reason such that they have a real need to pursue higher education. Therefore, it can be argued that despite the level of services they receive, they tend to utilise their effort and time on academic activities with the aim of becoming academically qualified (Attri, 2012; Dadigamuwa & Senanayake, 2012; Gunewardene & Lekamge, 2010). However, this is an area to be further investigated by incorporating students from different DE institutes to give a wider coverage. Therefore, the first finding creates new avenues for further studies.

On the other hand, as per the findings of this study, the impact of peripheral services on student involvement was validated in the Sri Lankan context. This aligns with previous findings related to DE (Dassanayake et al., 2017; Foubert & Grainger, 2006; Hopland, 2013 2016; Huang & Chang, 2004; Pascarella, 1985; Usun, 2004). Specifically, previous studies have identified that peripheral services include effective administrative support, financial aids, psychological assistance, career guidance, well designed orientation and advisory programmes for students, proper dissemination of information, use of modern technologies and opportunities for extra-curricular activities that would result in enhanced student involvement (Hopland, 2013, 2016; Myers et al., 2007; Zhao & Kuh, 2004; Astin, 1984). These peripheral services are supplementary to core services and facilitate the use of the latter and enhance its value while differentiating. Specifically, majority of students in the sample were part time students with numerous commitments. When they are offered with better supportive services in the form of administrative support, multiple and flexible payment methods, quick response to academic related matters, career guidance and counselling, it makes the learning process more convenient and

interesting without creating extra burden. These well designed peripheral services make the typically detached student closer to the DE institute. Provision of comprehensive peripheral services therefore makes sure that the student can continue academic activities in a hassle free environment. It encourages them to get involved in academic activities. Accordingly, the second finding of the study supports the existing knowledge claiming that student involvement is directly and positively influenced by the peripheral services offered by the DE institutes in Sri Lanka.

Conclusion, Implications and Further Studies

This paper investigated two of the prevailing, critical, and inherited problems in the DE context in Sri Lanka which are higher student dropout rate and lower academic excellence. Even though there are multiple suggestions to overcome them, there is a lacuna in studies that have attempted to link contextual elements of those suggestions with the contribution made by the student in terms of utilising time and effort on academic activities. Therefore, this study argued that core services and peripheral services offered by the DE institutes have an impact on student involvement. The positive impact of peripheral services was validated whereas surprisingly, the impact of core services was rejected in the Sri Lankan context. Therefore, it can be concluded that when better and comprehensive peripheral services are offered, it will positively influence students and encourage them to utilise their time and effort on academic matters. However, it should be noted that the impact of core services should not be completely rejected as it requires further investigation as to why the relationship was not validated in the Sri Lankan context.

This study presents a novel conceptual framework which was developed on the basis of the Theory of Student Involvement. The study validates one of the postulates of the theory which is subject to empirical validation according to the proponent, Astin (1984). Specifically, rather than investigating the consequences of student involvement, this study diverted its focus on identifying the antecedents of the variable - service package, which has not gained significant attention in previous studies. Similarly, there were no properly defined scales available to measure core services and the peripheral services in the DE context. This study modified the available scales to match the study context while ensuring validity and reliability. Therefore, the scales can be used to measure the variables in the same context in future studies as well.

Most importantly, there are practical implications in the study findings as this study addresses prevailing issues in the DE context. Even though those issues are

attached to the system, perhaps due to its uniqueness, the purpose of any education provider would be academic and professional success of their students. Thus, creating an environment to facilitate student success is essential. Therefore, it is not only vital to investigate root causes but identifying solutions for prevailing issues in the system are of paramount importance. Since the findings affirmed that better the peripheral services offered higher will be student involvement, it will eventually result in higher student performance and lower student drop out. Therefore, the study findings facilitate in diverting the management focus on designing and redesigning the services offered, particularly the peripheral services. DE based students always demand for hassle free learning environments that include convenient administrative procedures, online based service provision, use of modern high technology based services, online based flexible payment methods and examinations, and virtual classrooms which makes peripheral services more appealing. Career guidance, consultancy, and advisory services need to be provided as and when the student requires. Specifically, a well-designed orientation programme which provides an overall introduction to the DE system and guidelines for success emphasising self-learning concepts will make the student prepared from the inception. However, these initiatives need to be well matched with educational philosophies along with existing market trends and organisational capabilities in order to reap maximum benefits. As a whole, the findings are enriched with societal value since DE offers the opportunity to learn while working for those who missed other educational opportunities due to socio-economic or demographic factors. Therefore, finding loopholes in the system and coming up with suggestions will not only facilitate the students to accomplish their targets but will also contribute to improve the literacy of the country and ultimately influence their wellbeing.

Despite the theoretical and the practical contributions, this study has few limitations which open avenues for further studies. The sample of the study was selected only from undergraduates of the OUSL. Since there are a number of public and private institutes that operate on the DE platform, further studies can expand into these institutes as well as different disciplines of study programmes. This study restricted its scope to the contextual elements. There are student related predictors of student involvement which includes their intentions, experience, and entry qualifications. These variables can be considered as predictors of student involvement in future studies or can be incorporated into the same model as control variables (Attri, 2012; Dedigamuwas & Senanayake, 2012). Generally, DE institutes offer the same core services and peripheral services to all their students. Yet, the student involvement can vary among the students due to student's background or

characteristics as well as student's perception on those services, particularly the perception on experience they gain by consuming the services can have an impact on the relationship considered. Therefore, further studies can incorporate these variables as mediators or moderators on the same framework used in this study (Attri, 2012; Cui, 2013; Lawless & Richardson, 2002; Omar et al., 2015; Diseth, 2007; Sharma, Chen, & Luk, 2013). Most importantly, contrary to the previous findings, the impact of core services on student involvement was not validated in the Sri Lankan context. This can be further explored in future studies by considering a diversified sample from different DE based institutes.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

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