Enhancing Student Involvement through Service Package Offered: Case of Distance Education in Sri Lanka

Dassanayake H. C.[1a]

Nishantha B.[b]

[a]*Department of Decision Sciences, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura*
[b]*Department of Management and Organizational Studies, Faculty of Management and Finance, University of Colombo*

Abstract

Distance education is an effective system of education as it allows students to make their own learning decision with greater flexibility while removing barriers for education. However, despite its effectiveness the system has been suffering from critical and inherited issues as higher student dropout rate and lower academic excellence of students. Even though previous studies emphasize on services offered by distant education institutes as solutions, students have a significant role to play as self-responsibility towards academic matters is crucial in the context. Therefore, this paper investigates the impact of core services and peripheral services offered by distance education institutes on student involvement in distance education in Sri Lanka. For this purpose, quantitative research approach based on cross-sectional survey design was adapted. Sample consisted of 400 undergraduates of the Open University of Sri Lanka, drawn using simple random sampling technique and data were collected using a structured questionnaire. Data which were analyzed using Structural Equation Modeling revealed that there is a positive significant impact of peripheral services on student involvement. Since the primary focus of this paper, service package in distance education context, which has not been concerned before, theoretically it provides a novel contribution. Essentially, findings are important for the management of distance education institutes in designing and redesigning their service offering. Well-designed services can improve student performance and lower their dropout via student involvement and ultimately result in effective distance education system which contribute to improve the literacy of the nation as a whole.

1. Introduction
1.1 Research Background

Communication revolution along with technological developments have been influencing and altering each and every aspect of human life, both personal and public. Business, healthcare, transportation, construction and all most all the industries are being affected and improved as a direct consequence of telecommunication revolution hence, education, particularly the Higher Education (HE) is not an exception (L. He & He, 2015; Rajesh, 2015; Wang & Liu, 2003).

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[1] Corresponding Author. Email: hansanidassanayake@gmail.com

Since the ancient era, teacher-teaching and student-learning is the primary mode of academic education. Particularly in the HE, the traditional delivery system is characterized by professor delivering a lecture and student listening and taking notes in a classroom environment which is predetermined (O'Malley & McCraw, 1999; Sachar & Neumann, 2003). However, with the telecommunication and technological advancement over time as postal services, printing machine, telephone, radio, television and most importantly the internet enable to build new modes and platforms upon which education could be delivered. Physical face of HE has been changing gradually since online classrooms, libraries and study material play a prominent role nowadays by replacing traditional physical establishments. Students are provided with the comfort of studying at home or office without commuting to university. Prevailed geographical and temporal constraints for HE have been eliminating consequently and thereby making education and learning possible at anywhere, anytime and any pace. This resulted in proliferation of study programmes based on Distance Education (DE) platform (Gunewardene & Lekamge, 2010; O'Malley & McCraw, 1999; Sachar & Neumann, 2003; Wang & Liu, 2003).

As the name stipulates, DE is an educational system or a process of providing education or any instructional arrangement where most of the time teacher and student are based on different geographical locations and timing, resulting teaching behaviors are executed apart from learning behaviors (Moore, Dickson-Deane, & Galyen, 2011; Moore, 1973 as cited in Rumble, 1989; Simonson, Albright, Smaldion, & Zvacek, 2008; Woolls, Dowlin, & Loertscher, 2002). This demands special course designing techniques, instructional techniques, organizational and administrative arrangements and effective methods of communication to bridge the gap between the teacher and the student (Woolls et al., 2002). Students are provided with relevant study material and other required information, instruction and guidance through printed or electronic or any other format which enable them to work by themselves at any time as per their convenient and requirement (Moore et al., 2011; Shachar & Neumann, 2003; Moore, 1973 as cited in Rumble, 1989). Instructional delivery includes an instructor who is physically located in a different place from the learner, as well as possibly providing the instruction at disparate times. Therefore, most importantly in DE, almost all the educational decisions, as what to learn, when to learn, how to and in which pace to learn are taken by the student rather than in the classroom (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2002) by offering students with high level of flexibility and responsibility towards their studies (Bates, 1995).

The rationale for DE from its earliest days has been to open opportunity for learners to study regardless of geographic, socio-economic or other constraints (Maxwell, 1995; Rumble, 1989). It can be referred to type of education of those who, for one reason or another, choose not to attend conventional schools, colleges, or universities but to study at home (Attri, 2012). It provides opportunity to those who missed education opportunities due to various economic or social factors and thereby ensuring lifelong learning concept which enable learners to start their education from the lowest level and reach the highest possible desired level (Attri, 2012; Gunewardene & Lekamge, 2010; UNESCO, 2002). Further, student characteristics are diverse where majority are adults who are employed, married, pay their own tuition fees and empowered by the DE system itself to become self-learners (Sachar & Neumann, 2003). This diversity in learner profile can have considerable impact upon

the learning outcomes and performance of individual learners as well as the performance of the entire system (Dadigamuwa & Senanayake, 2012; Sachar & Neumann, 2003).

DE has been gaining a momentum and becoming more popular than traditional on campus education system in the recent past which can be attributable to unique structure and features of the system (Attri, 2012). Further, changes in the demographic factors as rising adult population and changes in social requirements of people as increasing interest towards education as well as imposed pressure on working crowd to obtain educational qualifications as part time learners have placed an ever increasing demand on DE as the most appropriate mean of accomplishing educational requirements (Wasala, 2010a, 2010b).

1.2 Research Problem
In the Sri Lankan context, the Open University of Sri Lanka (OUSL) is the pioneer in DE which was established in the early 1980s. It has been established as per the exact characteristics of DE to deliver study programmes in different disciplines with the primary aim of providing HE to working adults. The university admission policy allows persons with basic literacy to enroll to study programmes at the lowest level and proceed towards the highest possible level such that study programmes range from foundation courses, certification courses, diplomas, degrees, master's degrees and doctoral degrees with the option of quitting at any level (The Open University of Sri Lanka [OUSL], 2016). This can be identified as one of the most effective educational initiatives in Sri Lanka since the inception as there is ever increasing demand and popularity among not only the working adults but also students who missed the admission to conventional national universities due to competitiveness and restricted entrance backed by resource constraints (Bataduwaarachchi, 2011; OUSL, 2016; Wasala, 2010a, 2010b). However, during the recent past the statistics relating to student enrollment, graduation and academic performance indicate existence of critical problems. This can be elaborated using the data extracted from the Management Information System (MIS) of the OUSL relating to the Bachelor Management of Studies (BMS) degree programme. This is a four year degree programme which has an increasing demand and recognition since the inception in 1980s.

As per the Table 1, students who graduate in each year as a percentage of registration count in the same year is less than 10%. On the other hand, considering the academic performance, majority has 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 low. Further, as per the pilot survey conducted through unstructured interviews with the management of the OUSL in June 2016, it was identified that on average 800 – 1000 applicants register for the degree programme yet, less than 100 students complete all the courses and become eligible to obtain the degree. Irrespective of high registration numbers in the level 3, around 500 - 600 students register for the level 4 academic activities. Drop in the registration rates can partly be attributable to lower examination results and thereby they have to repeat the courses, yet, major portion of the drop has resulted from giving up on studies. Since the university allows students to complete the degree within 12 years period, they do not bother to complete the degree within four years of registration. Considering the academic performance, majority of students merely complete the degree programme

with the objective of obtaining the paper qualification rather than reaching the standard required for the first class or second class upper division degree.

Table 1
Statistics of BMS Degree Offered by the OUSL

Academic Year	Number of Registered Students	Number of Graduates	Academic Performance			
			First Class (Honours)	Second Class (Upper Division)	Second Class (Lower Division)	General Degree
2008	478	41	1	3	6	31
2009	574	36	3	3	2	28
2010	797	53	1	7	7	38
2011	813	58	0	6	9	43
2012	886	71	1	3	7	60
2013	873	90	1	6	15	68
2014	1033	91	0	7	13	71
2015	973	88	0	3	14	71

However, these circumstances are not unique to the OUSL as previous studies on DE system in different countries have emphasized that student dropout and comparatively lower academic excellence are two of the critical and inherited issues in the DE system (Attri, 2012; Dadigamuwa & Senanayake, 2012; Li & Killian, 1999; Willging & Johnson, 2004). They arise due to student related reasons as well as reasons associated with the DE system itself. Inadequate knowledge on DE, not possessing special characteristics to succeed in DE platform and also personal and professional responsibilities are categorized as student related reasons (Aktan, 2010; Attri, 2012; Battalio 2009; Cui, 2013; Dadigamuwa & Senanayake, 2012; Li & Killian, 1999). Lacking face to face interaction, de-personalization of learning environment, technological issues are categorized as system specific reasons (Attri, 2012; Dadigamuwa & Senanayake, 2012; Willging & Johnson, 2004).

In order to overcome the identified issues, previous studies have emphasized mainly on contextual factors. Lectures and style of delivery, nature of study material and face to face sessions, appropriateness of student evaluation, teacher student communication and prompt feedback using multiple delivery methods and provision of correct information on time can be identified as suggestions related with the academic factors (Attri, 2012; Dadigamuwa & Senanayake; 2012; Farajollahi & Moenikia, 2010; Edge & Loegering, 2000; Lowes, Lin, & Wang, 2007). Non- academic related suggestions include comprehensive student support and orientation to the DE system specifically at the point of registration which are designed considering the student characteristics, background, needs and expectations to be fulfilled. Further, administrative services, financial aids and facilities, counseling and career guidance activities need to be properly organized in order to create a hassle free learning journey with the university. Specifically, physical facilities as library, computer labs, student areas and other recreations facilities need to be well designed to provide better learning environment at the institute (Dadigamuwa & Senanayake, 2012; Attri, 2012; Lowes et al., 2007).

HE is a professional service which caters to the need of learning and acquiring knowledge, expertise and skills of students who are the primary customers (DeShields, Kara, & Kaynak, 2005; Licata & Maxham, 1999; Nyangau & Bado, 2012; Raj, Raguraman, & Veerappan, 2013). DE institutes are therefore one category of HE service providers and above discussed suggestions as a whole represent what they offer to the market which consists of core services as teaching and evaluation and, peripheral services as administrative support and recreational facilities. Nowadays services are offered as a bundle of tangible and intangible elements, combination of core and peripheral is known as the service package offered by organizations to their customers to address unmet desires (Gronroos, 1978; Roth & Menor, 2003). Accordingly, previous studies on suggestions to overcome the identified issues mainly emphasize on service package offered by the DE institutes. However, it is arguable that service package by itself can overcome the identified issues as students have to play a prominent role since they are expected by the DE system to be self- learners who are responsible towards own academic work. As Pace (1984) highlights, even though institutes are responsible for establishing an environment with the capability of enhancing student learning and development, students by themselves have to dedicate their time and effort on academic activities in order to become successful. This has further elaborated by Astin (1984) as one of the five postulates in his theory of student involvement emphasizing that student learning and development is positively related to their investment of time and effort on academic activities which is termed as student involvement.   Role of the student emphasized by both these authors can be identified as the mediator that links input and output of the learning process where input is what is offered by HE institutes and output is student success, retention and performance (Astin, 1984; Y. Neumann & Neumann, 1993). Therefore, this paper attempts to link core services and peripheral services offered by DE institutes as suggestions specified by previous studies with student involvement in order to overcome identified issues. Accordingly, research problem addresses by this paper is "what is the impact of core services and peripheral services offered by DE institutes on student involvement in DE in Sri Lanka?" For this purpose two research questions are to be answered as "Do core services offered by DE institutes affect student involvement in DE in Sri Lanka?" and "Do peripheral offered by DE institutes affect student involvement in DE in Sri Lanka?"

2. Literature Review
2.1 Service Package
Nowadays services are offered as a mix of tangible and intangible elements together which provides benefits and adds value to target customers. All these value generating elements as a whole is termed as service package (Gronroon, 1978; Roth & Menor, 2003). They describe the characteristics of service, what needs these characteristics will satisfy and how they will be satisfied. Service package is typically consists of core and peripheral services where core services offer the basic problem solving benefits customer seeks or needs trying to fulfill and thereby the reason for their service transaction. 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 in place for the service to be delivered and material that are consumed in service delivery process (Supportive facilities and goods). On the other hand, peripheral services are supplementary to core services which provide additional benefits, enhance service value and contribute to differentiate service from substitutes. It includes services that facilitate the use of core

services (Facilitating services) and elements that enhance the value and appeal of core services (Enhancing services) (Edvardsson & Olsson, 1996; Gronroos, 1978; Lovelock & Writz, 2013; Roth & Menor, 2003; Fitzsimmons & Fitzsimmons, 2000 as cited in Roth & Menor, 2003; Sasser, Olsen, & Wyckoff, 1978 as cited in Roth &Menor, 2003).

2.2 Service Package Offered by Distance Education Institutes

Reviewing scholarly work on DE revealed that studies that have specifically focusing on service package offered are limited (Astin, 1999; Fraser, Walberg, Welch, & Hatties, 1987). Yet, there are studies on quality dimensions of, and assessment of quality in DE which can be used to identify the service package since quality is the totality of features and characteristics of a product that bear on its ability to satisfy stated or implied needs of customers (Dursun, Oskaybas, & Gokmen, 2013). Thus, in order to deliver a value to customers, product should possess characteristics that can meet and exceed customer expectations which in turn can be identified as elements of service package. Accordingly, nature of courses, teacher characteristics, teaching and learning, assessment and evaluation can be considered as the explicit services provided. Implicit services include how students are treated and feeling that their best interest being served. Physical and technological infrastructure as lecture halls, computer laboratories, Learning Management Systems (LMS) and their usefulness as well as course material, other recommended and supportive study materials can be considered as supporting facilities and goods (J. Douglas, Douglas, & Barnes, 2006; Jung, 2012; Mbwesa, 2014). These explicit services, implicit services and supporting facilities and goods together form core services of service package offered by DE institutes. Similarly, peripheral services offered include facilitating services as enquiry, admission and pre-study advisory services, career guidance and counseling services, record keeping, provision of timely and relevant information and information management and other administrative support as well as enhancing services as multiple payment methods and related applications, financial aids, online registration and related online support, differentiated services for students with special needs of one sort or another and extra-curricular and recreational facilities (Foreman, 2013; Jung, 2012; Douglas et al., 2006; Kretovics, 2003).

2.3 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). This is a behavioral phenomenon connected with the individual student hence if a student is involving, it can be observed through behavior and measured quantitatively and qualitatively (Astin, 1984; D'arcy, 1984; Foreman, 2013; Wolfe-Wendel, Ward, & Kinzie, 2009). Student involvement can take place inside or outside the classroom. It can be in-class as participate in class room discussions and out-of-class as studying for class and reading course material at home (Sidelinger & Booth-Butterfield, 2010). When a student is academically involved, he or she utilizes considerable amount of available time on reading course material, other relevant books, use library, logging to LMS frequently, make separate notes on subject matters, utilize their learning into day to day activities specifically in their work settings, attend lectures and actively participate in classroom discussions. They interact with lecturers to discuss subject matters, academic plans and tend to look for feedback on their performance as well as other academic and career related matters. Similarly, they take part in collaborative learning with peers, spend time with them in studying and tutoring as well as share

their experience on study programmes and future plans (Astin, 1984; Huang & Chang, 2004; Pass, 2013; Sidelinger & Booth-Butterfield, 2010).

2.4 Impact of Core Services, Peripheral Services on Student Involvement

Empirical studies that have explicitly investigated the problem addresses by this study as impact of service package on student involvement specifically in the DE context are limited. Majority of studies have focused on consequences of student involvement rather than identifying what drives students towards academic involvement. They have considered student involvement as an independent variable which is contrary to this study where this paper investigates it as a dependent variable (Astin, 1999, 1984; Pace, 1984, Fraser et al., 1987). However, by analyzing scattered findings in the same study context, it can establish a relationship between core services and peripheralservices on student involvement.

Core services consist of explicit services, implicit services and supportive facilities and goods. Programme structure and curriculum enable active student participation in academic activities and well-designed study materials encourage student to seek for new knowledge by themselves which is essential in DE. Interactive nature of study material bridges the gap between teacher and 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 student, it will negatively affect student academic involvement (Myers, Edwards, Wahl, & Martin, 2007; Powell, 1979). When teacher uses active and collaborative teaching techniques rather than passive learning approach, students tend to participate more in learning. Therefore, effective teaching can affect and sustain student involvement (Pintrich & DeGroot, 1990; Skinner & Belmont, 1993). When student assessment is based on higher order learning skills as critical thinking and synthesis and if they are targeted at learning rather than mere grades, it naturally demands more effort from student's side making them more involved in studies than mere memorizing of facts (Pass, 2013; Webber, Krylow, & Zhang, 2013). Further, provision of adequate facilities as well equipped and arranged lecture halls can make environment more comfortable, appealing for studies and encourage students to attend lectures and visit university frequently (Astin, 1984; Sam et al., 2013). Student interface of LMS, its user friendliness and continuous functioning of it without failure is paramount important (Jung, 2012; Mbwesa, 2014).

Other than the above identified factors relating to core services, peripheral services provided are also important in enhancing student involvement. It has identified that student support services result in effective student involvement in previous studies (Foubert & Grainger, 2006; Huang & Chang, 2004; Pascarella, 1985). Facilitating services as administrative support and provision of timely information address alienation feature unique to DE whereas enhancing services as multiple and flexible payment methods in line with modern technological innovations make it convenient for students to execute their studies without constraints. For instance, majority of learners in the DE system are working adults with family responsibilities. Thus, financial support in terms of scholarships or payment in installments can assist students in continuation of their studies. These support services provide a hassle free supportive learning environments and conditions for students where they feel

committed and comfortable with the institution resulting better performance and reduced dropout rates (Foreman, 2013; Kretovics, 2003; Sam et al., 2013).

2.5 Conceptualization

As per empirical findings, they suggest a positive impact of core and peripheral services on student involvement. When students are offered with better services they are more likely to involve in academic activities. Theory of student involvement provides the theoretical foundation for this relationship. The theory suggests five postulates and one of them, which is subject to empirical validation, proposes that if educational policies and practices of HE institute are effective, it will increase student involvement in academic matters. Policy and practices indicate the implicit or explicit specification of courses of purposive action being followed, or to be followed in dealing with a recognized problem or matter of concern, and directed towards the accomplishment of some intended or desired set of goals (Harman, 1984 as cited in Bell & Stevenson, 2006). On this platform educational policies and practices of an institute provide the ground rules for its functionality. They determine the nature of service offer; study programmes, their content, teaching methods and also infrastructure facilities they use. This indicates that service package is also influenced by and part of these educational policies and practices. Students are more likely to be involved if they have access to high quality programs and services that stimulate and challenge their learning (Astin, 1984).

Accordingly, as per the theoretical foundation provided by the theory of student involvement and empirical findings, the following hypotheses and conceptual framework are proposed in this paper.

H1:   Core services offered by DE institutes positively influence on student involvement in DE in Sri Lanka.

H2:   Peripheral services offered by DE institutes positively influence on student involvement in DE in Sri Lanka.
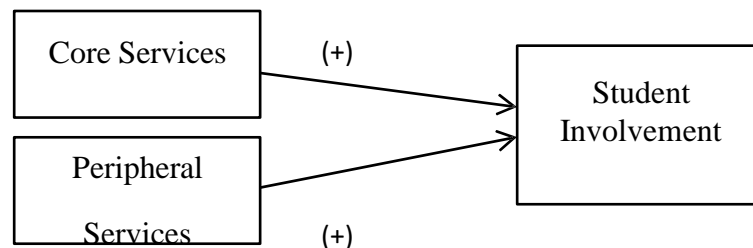

Figure 1. Conceptual framework

3. Methodology

This paper attempts to establish relationships among study variables hence can be identified as an explanatory study where hypotheses were tested using quantitative approach based on cross sectional survey design (Sekaran & Bougie, 2014; Saunders, Lewis, & Thornhill, 2011). Sample consisted of 400 undergraduates of the OUSL following the BMS degree, drawn using simple random sampling technique. Structured self-administered questionnaire was the primary data collection tool developed by modifying and adapting to existing scales. Table 2 presents the

operationalization of study variables. All the variables were measured using 5 point likert scale and points were anchored as 1 = Strongly Disagree to 5 = Strongly Agree.

Table 2
Operationalization of Study Variables

Variable	Dimension	Literature Source
Core services		
ʻ Basic problem solving benefits of the service package offered by the DE institute that fulfills the needs of students	Explicit services Implicit services Supporting facilities and goods	Douglas et al., 2006
Peripheral services		
ʻ Supplementary to core services offered	Facilitating services	
by DE institutes which provide additional benefits and enhance service value to students	Enhancing services	Jung, 2012
Student Involvement		National
ʻ Amount of physical and psychological effort devoted by a student for academic activities	Active participation Self-learning Student faculty interaction Learning with peers	Survey on Student Engagement [NSSE], 2016

Note. Adapted from literature review.

In order to overcome the Common Method Variance (CMV) at the designing stage procedural remedies were taken as attaching a cover letter to make respondents aware of the study and to ensure their anonymity. Further, measures were psychologically separated by providing clear instructions (P. M. Podsakoff, MaCkenzie, Lee, & Podsakoff, 2003). Total of 700 questionnaires were distributed using online method and reminder messages were sent to improve the response rate. After removing the incomplete questionnaires 382 were used in initial screening process.

Collected data were initially purified by treating for missing values and outliers, and 356 questionnaires were used in preliminary analysis. Parametric assumptions of normality, linearity, homoscedasticity and multicollinearity were tested and ensured as the next step. Exploratory Factor Analysis (EFA) was performed and ensured the unidimensionality of scales. Reliability of scales was tested using Cronbach's alpha value. The calculated Cronbach's alpha for all the constructs and dimensions were above 0.60 indicating high internal consistency (Sekaran & Bougie, 2014; Saunders, et al., 2011; 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 (CFA). In order to enhance the model fit, modification indices were used and items with standardized factor loading below 0.45 were removed (Hair et al., 2009). After the modifications, Goodness-of-Fit (GOF) indices of the measurement model indicated good fit as they met the cutoff values. Average Variance Extracted (AVE) and Composite Reliability (CR) of each

dimension. The constructs were calculated to ensure convergent Validity (where AVE was compared against squared correlations among dimensions to ensure discriminant

validity (Hair et al., 2009). Accordingly, all the CR values of dimension are greater than 0.60 and that of all the constructs are greater than 0.60. AVE value of all the dimensions are greater than 0.50. Further, standardized factor loadings of all the dimensions are greater than 0.50 (Hair et al., 2009). Therefore, based on CR, AVE and factor loading values, it could establish the convergent validity of the measures used in this study. On the other hand, discriminant validity also established as AVE values for all the dimensions are greater than the corresponding squared correlation coefficients (Hair et al., 2009).

Absence CMV was ensured using Harman's single factor analysis (Podsakoff et al., 2003). Result revealed the presence of eight distinct factors with eigenvalue greater than 1.00. The eight factors together accounted for 62.02% of the total variance; the first (i.e. the largest) factor did not account for a majority of the variance (24.14%). Thus, no general factor is apparent. Accordingly, these results do suggest that CMV is not of great concern and thus is unlikely to confound the interpretations of results. Finally, using the validated measurement model, structural model was derived in order to test the hypotheses of the study (Hair et al., 2009).

4. Results and Discussion
4.1 Sample Profile

Table 3
Sample Profile

Characteristic	Frequency	Percentage (%)
Gender		
Male	153	40
Female	229	60
Marital status		
Single	286	67
Married	96	33
Regional center student attached to		
Colombo	194	54
Kandy	113	32
Matara	49	14
Level in which student studying		
Level 3	36	9
Level 4	96	25
Level 5	79	21
Level 6	171	45
Employment status		
Employed	254	67
Unemployed	128	33
Family commitments of the student		
Only income earner	38	10
One of the income earners	217	57
Dependent	127	33

The sample consisted of undergraduates of the BMS degree programme. The above Table 3 summarizes the sample characteristics. Respondents are from Colombo, Kandy and Matara regional centers of the OUSL and majority belong to the Colombo

regional center. Among the respondents, majority are female when unmarried students. Aligning to typical characteristics of DE, 67% are employed and altogether, 67% contributing to the financial status of the family by bearing being the only income earner of one of the income earners. Further, when considering the age distribution, range ranges from 20 to 47 years where 27 is the average age. Contrary to the feature that majority of DE based students are adults, in the sample 81% is less than 30 years and 45% consisted of students who are 22-25 years old.

4.2 Descriptive Analysis

This study focuses on three variables as core services, peripheral services and student involvement. Following tables 4 presents the summary measures of those variables. Mean and standard deviation of constructs vary from 3.47 to 3.51 and 0.48 to 0.56 respectively. Student involvement variable has the highest mean whereas core services represents the lowest variation from the mean with the minimum standard deviation.

Table 4
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

4.3 Results

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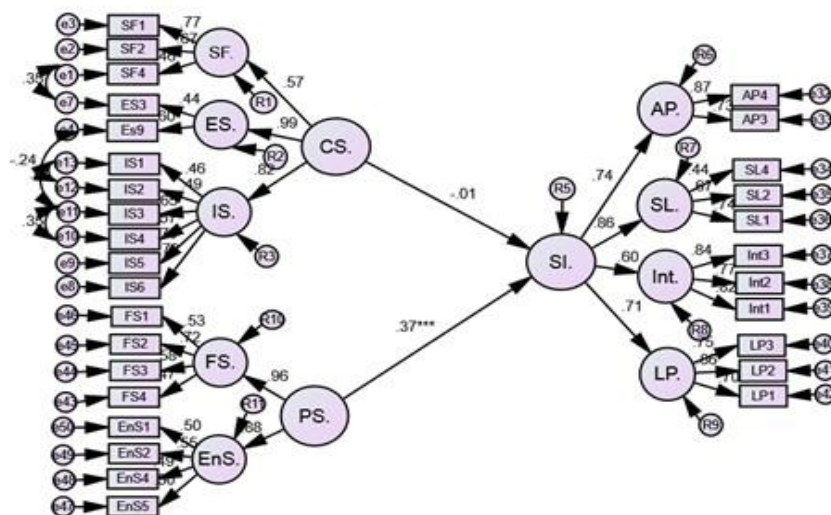

Figure 2. Structural model

The goodness of the model was evaluated based on number of GOF measures which are presented in the following Table 5 (Hair et al., 2009). As per the table, absolute, incremental and parsimony indices have met the appropriate cutoff values. CIMIN/

DF is below 3, GFI, AGFI, IFI, TLI and CFI are closer to 0.9 whereas PRATIO has reached 0.9 and RMSEA is well below 0.08. Therefore, it can conclude that GOF for the structural model is an acceptable level. Accordingly, this model was used to test the hypotheses of this study. Table 6 summarizes the statistical findings of hypotheses testing.

Table 5
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

Table 6
Results of the Hypotheses Testing

Hypotheses	β	P	Result on Hypotheses
H1:Core services offered by DE institutes will positively influence student involvement in DE in Sri Lanka	-0.01	0.91	Not supported
H2:Peripheral services offered by DE institutes will positively influence student involvement in DE in Sri Lanka	0.37	0.00[*]	Supported

Note. [*]P<0.05

As per the results of the hypotheses testing, impact of peripheral services on student involvement is significant at 95% 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 failed to reject. Thus, it can conclude that core services offered by DE institutes do not positively influence student involvement in DE in Sri Lanka whereas peripheral services offered by DE institutes positively influence student involvement in DE in Sri Lanka.

5. Discussion
Theoretical foundation for the impact of core and peripheral services on student involvement was mainly based on the theory of student involvement. Even though studies which are specifically focused on service package offered by DE institutes are limited (Astin, 1999; Fraser et al., 1987), based on studies that have indirectly focused on elements of service package, it was hypothesized that core services and peripheral services positively influence student involvement in DE in Sri Lanka. Despite the suggested relationship, as per the findings of this study, the impact of core services on student involvement was not validated in Sri Lankan context. This is contrary to previous studies as core services represent the basic problem solving benefit that the service offers to customers hence the main reason behind customer purchase decision. This finding can be attributable to student own intentions as students enroll to DE based study programmes since they have the real need for higher studies. Therefore, irrespective of programme structure, curriculum, teacher and teaching style and also physical and other supportive facilities they tend to utilize their time and effort on academic matters. However, this need to be further investigated by incorporating

students from different DE institutes to give a wider coverage. Therefore, the first finding of the study opens new avenues for further studies.

On the other hand, as per the findings of this study, impact of peripheral services on student involvement was validated in Sri Lankan context. This aligns to the previous findings with respect to DE (Foubert & Grainger, 2006; Huang & Chang, 2004; Pascarella, 1985). Specifically, previous studies have identified that peripheral services as 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 would result in enhanced student involvement (Myers et al., 2007; Zhao & Kuh, 2004; Astin, 1984). These peripheral services are supplementary to core services which 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 as administrative support, multiple and flexible payment methods, quick response to academic related matters and also career guidance and counseling, it makes the learning process more convenient and interesting without creating extra burden. These well designed peripheral services make the student closer to the institute who is typically detached form the DE institute. Provision of comprehensive peripheral services therefore makes sure that student can continue academic activities in a hazel 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.

6. Conclusion, Implications and Further Studies
This paper investigated two of the prevailing critical and inherited problems in the DE context in Sri Lanka. Even though, previous studies have identified higher student dropout rate and lower academic excellence as problems in the DE context and have provided suggestions to overcome them, there was no any study that attempted to link contextual elements of those suggestions with contribution of student to overcome them. Therefore, this paper investigated how core and peripheral services offered by DE institutes influence the student to utilize their time and effort into academic activities. Findings revealed that peripheral services offered by DE institutes have a significant positive impact on student involvement such that when better and comprehensive peripheral services are offered it will positively influence students and encourage them to utilize time and effort on academic matters.

The findings of this study are enriched with both theoretical and practical implications. Two of the five postulates of the theory of student involvement provide the theoretical foundation for this study. As per Astin (1984), these two postulates are subject to empirical validation hence this study fulfills this requirement. Further, rather than considering student involvement as an independent variable as in most of the previous studies, this study has diverted its direction in identifying its antecedents. Most importantly, the identified antecedent, the service package has not been well defined specifically in the DE context and also the conceptual framework has not been previously tested such that they provide a novel contribution to the existing knowledge base.

Most importantly, there are practical implications in the study findings as this paper addresses prevailing issues in the DE context. Even though, those issues are attached to the system perhaps due to its uniqueness, purpose of any DE provider would be enabling their students to complete study programmes within the permitted time with excellent results and encouraging and facilitating them to climb up in their academic and professional ladders. Therefore, not only investigating root causes but also identifying solutions for them are paramount important. Since the findings affirmed that better the peripheral services offered higher will be student involvement, as emphasized by previous studies as well as the theory of student involvement, it will eventually result in higher student performance and lower student drop out. Therefore, the study findings facilitate to divert the management focus on designing and redesigning the services offered, particularly the peripheral services. DE based student always demand for hassle free learning environment such that convenient administrative procedures, online based service provision and use of modern high technology based services, online based flexible payment methods, examinations, virtual classrooms make peripheral services more appealing. Career guidance, consultancy and advisory services need to be provided as and when student requires. Specifically, a well-designed orientation programmes which provide an overall introduction to the DE system and guidelines for success emphasizing self-learning concept will make the student prepared from the inception. However, these need to be well matched with educational philosophies along with existing market trends and organizational capabilities in order to reap the maximum benefits. As a whole, findings are enriched with societal value since DE offers the opportunity to learn while working for those who missed the 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 also will contribute to improve the literacy of the nation and ultimately influence on their wellbeing.

However, despite theoretical and practical contribution, this study has number of limitations which open avenues for further studies. The sample of the study was selected only from the undergraduates of the OUSL following the BMS degree programme. Since there are number of public and private institutes that operate on the DE platform, further studies can expand sample into these institutes as well as different disciplines of study programmes. The independent variables of the study are contextual variables related to the institute. Thus, future studies can incorporate other student specific variables as their intentions, experience, and entry qualifications and investigate their impact on student involvement or consider them in the same study framework as control variables. On the other hand, even though same core and peripheral services are offered by DE institute to all its students, student background or characteristics as well as student perception on those services, particularly the perception on experience they gain by consuming 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. Most importantly, contrary to the previous findings, 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.

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