



**UNIVERSITI PUTRA MALAYSIA**

***PERCEIVED LEARNING AS A MEDIATOR BETWEEN INSTITUTIONAL  
FACTORS, INSTRUCTOR IMMEDIACY BEHAVIOR, LEARNER  
CHARACTERISTICS AND COURSE SATISFACTION AMONG  
UNDERGRADUATE DISTANCE LEARNERS***

**AZADEH AMOOZEGAR**

**FPP 2018 9**



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By

**AZADEH AMOOZEGAR**

**Thesis submitted to the School of Graduate Studies, Universiti Putra Malaysia  
in Fulfillment of the Requirement for the Degree of  
Doctor of Philosophy**

**November 2017**

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree Doctor of Philosophy

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**AZADEH AMOOZEGAR**

**November 2017**

**Chairman : Shaffe Mohd Daud, PhD**  
**Faculty : Educational Studies**

Distance learning in Malaysia has seen phenomenal growth especially in higher education where there are numerous universities offering online courses that have specifically provided access to students who were challenged by space and time constraints. In spite of the dramatic increase of online courses and student enrollment, there are many indications that online courses are unsuccessful at meeting students' needs and students are dissatisfied with their online course experiences, which brings about a serious concern regarding the dropout rates of online courses. For solving this issue, it is crucial that researchers identify and study the factors that lead to student satisfaction with online courses because course satisfaction is considered to be the largest determinant in reducing dropout in distance learning environment. Hence, the purpose of this study is to identify factors contributing to course satisfaction among distance learners in Malaysian research universities. The factors are categorized into institutional factors (administrative support, technology support, and university support), learner characteristics (motivation, self-regulated learning and self-efficacy) and instructor immediacy behavior. Further, investigate the role of perceived learning as a mediator, and finally, develop a model for course satisfaction in distance education setting. These factors were selected based on the social presence and transactional distance theory and on previous studies on satisfaction of students.

This study is based on a quantitative descriptive design with sample size of 367 undergraduates' students in the third-fourth years at Universiti Kebangsaan Malaysia (UKM) and Universiti Putra Malaysia (UPM). The sample was selected based on the proportional stratified technique. The main instrument used was a questionnaire, which was adopted from previous studies whose content validity was checked by panel

of experts. A pilot study was conducted on 30 students to assist the reliability of the instrument, which ranged from 0.79 and 0.88 by the value of Cronbach's alpha.

The data was analyzed descriptively using IBM SPSS and inferentially using the Analysis of Moment Structure (AMOS). The descriptive findings indicated that course satisfaction level was a moderate. Among eight variables affecting course satisfaction only motivation and self-efficacy were found to be high; whereas the level of other variables including perceived learning, technical, administrative, and university support, instructor immediacy behavior and self-regulated learning were moderate. Among 22 hypotheses were tested, 20 were supported. Two hypotheses did not support in this study. The first one is the influence of technical support on perceived learning, which is rejected. Perceived learning also was not identified as mediator factor that influence technical support towards course satisfaction.

The most salient factor influencing course satisfaction was instructor immediacy behavior ( $\beta = 0.236$ ,  $P < 0.01$ ), followed by administrative support ( $\beta = 0.198$ ,  $P < 0.001$ ), university support ( $\beta = 0.229$ ,  $P < 0.001$ ), and self-efficacy ( $\beta = 0.179$ ,  $P = 0.01$ ). Contrary, technical support ( $\beta = 0.11$ ,  $P = 0.039$ ) and self-regulated learning ( $\beta = 0.11$ ,  $P = 0.034$ ) perceived as less important factor influencing course satisfaction among distance learning students in Malaysian Research Universities. The findings of this study concurred that the influence of administrative support ( $\beta = 0.06$ ,  $P = 0.007$ ), university support ( $\beta = 0.049$ ,  $P = 0.013$ ) and instructor immediacy behavior ( $\beta = 0.094$ ,  $P = 0.001$ ) partially mediated by perceived learning, whereas the influence of motivation ( $\beta = 0.058$ ,  $P = 0.021$ ), self-regulated learning ( $\beta = 0.042$ ,  $P = 0.038$ ), and self-efficacy ( $\beta = 0.076$ ,  $P = 0.003$ ) fully mediated by perceived learning. The results attained from the analyses also produced a model that predicts the satisfaction of students among the undergraduates, which explained 69.7% of course satisfaction.

Several implications were also drawn from the findings of this study. The proposed model is a definitive model that synthesizes what is known and provides knowledge to guide future research in related field.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**PEMBELAJARAN TERANGGAP SEBAGAI MEDIATOR ANTARA  
FAKTOR INSTITUSI, TINGKAH LAKU LANGSUNG INSTRUKTOR, CIRI  
PELAJAR DAN KEPUASAN KURSUS DALAM KALANGAN PELAJAR  
PRASISWAZAH PENDIDIKAN JARAK JAUH**

Oleh

**AZADEH AMOOZEGAR**

**November 2017**

**Pengerusi : Shaffe Mohd Daud, PhD**  
**Fakulti : Pengajian Pendidikan**

Pembelajaran jarak jauh di Malaysia telah memperlihatkan fenomena pertumbuhan, terutama dalam pendidikan tinggi yang melibatkan pelbagai universiti yang menawarkan kursus atas talian yang secara khusus memberikan akses kepada pelajar yang dicabar oleh kekangan dari segi ruang dan masa. Walaupun terdapat peningkatan yang dramatik dari segi kursus atas talian dan enrolmen pelajar, terdapat banyak petunjuk bahawa kursus atas talian adalah tidak berjaya untuk memenuhi keperluan pelajar dan pelajar tidak berpuas hati dengan pengalaman kursus atas talian mereka yang membawa kepada perhatian yang serius mengenai kadar keciciran kursus atas talian. Bagi menangani isu ini, adalah penting bagi penyelidik untuk mengenal pasti dan mengkaji faktor yang menyebabkan kepuasan pelajar terhadap kursus atas talian kerana kepuasan kursus dianggap sebagai penentu utama dalam mengurangkan kadar keciciran dalam persekitaran pembelajaran jarak jauh. Oleh sebab itu, tujuan kajian ini adalah untuk mengenal pasti faktor penyumbang kepada kepuasan kursus dalam kalangan pelajar jarak jauh di universiti penyelidikan Malaysia. Faktor tersebut dikategorikan kepada faktor institusi (sokongan pentadbiran, sokongan teknologi, dan sokongan universiti), ciri pelajar (motivasi, pembelajaran pengaturan sendiri dan kecukupan sendiri) dan tingkah laku langsung instruktur. Di samping itu, kajian ini juga menyelidiki peranan pembelajaran teranggap sebagai mediator dan akhirnya, membangunkan model bagi kepuasan kursus dalam seting pendidikan jarak jauh. Faktor tersebut dipilih berdasarkan kewujudan sosial dan teori jarak jauh transaksional dan berdasarkan kajian lepas mengenai kepuasan pelajar.

Kajian ini berdasarkan reka bentuk deskriptif kuantitatif dengan saiz sampel sebanyak 367 pelajar prasiswazah dalam tahun ketiga-keempat di Universiti Kebangsaan

Malaysia (UKM) dan Universiti Putra Malaysia (UPM). Sampel dipilih berdasarkan teknik bertumpu proporsional. Instrumen utama yang digunakan ialah soal selidik yang telah diadaptasikan daripada kajian lepas yang kesahannya kandungannya telah disemak oleh panel pakar. Kajian rintis telah dijalankan ke atas 30 orang pelajar bagi membantu kebolehpercayaan instrumen yang ber julat dari 0.79 dan 0.88 pada nilai alfa Cronbach.

Data telah dianalisis secara deskriptif menggunakan SPSS IBM dan secara inferensi menggunakan Analisis Struktur Momen (AMOS). Dapatan deskriptif menunjukkan bahawa tahap kepuasan kursus adalah sederhana. Antara lapan pemboleh ubah yang memberi kesan pada kepuasan kursus, hanya motivasi dan kecukupan sendiri didapati tinggi; manakala tahap pemboleh ubah lain, termasuk pembelajaran teranggap, sokongan teknikal, pentadbiran, dan universiti, tingkah laku langsung instruktur dan pembelajaran pengaturan sendiri adalah sederhana. Antara 22 hipotesis yang diuji, 20 menyokong. Dua hipotesis tidak menyokong dalam kajian ini. Faktor pertama ialah pengaruh sokongan teknikal terhadap pembelajaran teranggap yang telah ditolak. Pembelajaran teranggap juga tidak dikenal pasti sebagai faktor mediator yang mempengaruhi sokongan teknikal terhadap kepuasan kursus.

Faktor paling penting yang mempengaruhi kepuasan kursus ialah tingkah laku langsung instruktur ( $\beta = 0.236$ ,  $P < 0.01$ ), diikuti oleh sokongan pentadbiran ( $\beta = 0.198$ ,  $P < 0.001$ ), sokongan universiti ( $\beta = 0.229$ ,  $P < 0.001$ ), dan kecukupan sendiri ( $\beta = 0.179$ ,  $P = 0.01$ ). Sebaliknya, sokongan teknikal ( $\beta = 0.11$ ,  $P = 0.039$ ) dan pembelajaran pengaturan sendiri ( $\beta = 0.11$ ,  $P = 0.034$ ) dianggap sebagai faktor kurang penting yang mempengaruhi kepuasan kursus dalam kalangan pelajar jarak jauh di Universiti Penyelidikan Malaysia. Dapatan kajian ini menyimpulkan bahawa pengaruh sokongan pentadbiran ( $\beta = 0.06$ ,  $P = 0.007$ ), sokongan universiti ( $\beta = 0.049$ ,  $P = 0.013$ ) dan tingkah laku langsung instruktur ( $\beta = 0.094$ ,  $P = 0.001$ ), sebahagiannya dipengaruhi oleh pembelajaran teranggap, manakala pengaruh motivasi ( $\beta = 0.058$ ,  $P = 0.021$ ), pembelajaran pengaturan sendiri ( $\beta = 0.042$ ,  $P = 0.038$ ), dan kecukupan sendiri ( $\beta = 0.076$ ,  $P = 0.003$ ), sepenuhnya dipengaruhi oleh pembelajaran teranggap. Dapatan yang diperoleh daripada analisis juga menghasilkan suatu model yang dapat menjangkakan kepuasan pelajar prasiswazah yang memperlihatkan sebanyak 69.7% kepuasan kursus.

Beberapa implikasi juga telah diperoleh daripada dapatan kajian ini. Model yang dicadangkan merupakan model definitif yang mensintesis perkara yang diketahui dan memberikan ilmu pengetahuan bagi membimbing penyelidikan masa hadapan dalam bidang berkaitan.



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I certify that a Thesis Examination Committee has met on 23 November 2017 to conduct the final examination of Azadeh Amoozegar on her thesis entitled "Perceived Learning as a Mediator between Institutional Factors, Instructor Immediacy Behavior, Learner Characteristics and Course Satisfaction among Undergraduate Distance Learners" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

Members of the Thesis Examination Committee were as follows:

**Ramli Basri, PhD**

Senior Lecturer  
Faculty of Educational Studies  
Universiti Putra Malaysia  
(Chairman)

**Ahmad Fauzi bin Mohd Ayub, PhD**

Associate Professor  
Faculty of Educational Studies  
Universiti Putra Malaysia  
(Internal Examiner)

**Azizan bin Asmuni, PhD**

Associate Professor  
Faculty of Educational Studies  
Universiti Putra Malaysia  
(Internal Examiner)

**Lynne Schrum, PhD**

Professor  
Nova Southeastern University  
United States  
(External Examiner)



---

**NOR AINI AB. SHUKOR, PhD**

Professor and Deputy Dean  
School of Graduate Studies  
Universiti Putra Malaysia

Date: 26 April 2018

This thesis submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfillment of the requirement for the Degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

**Shaffe Mohd Daud, PhD**

Senior Lecturer  
Faculty of Educational Studies  
Universiti Putra Malaysia  
(Chairman)

**Rosnaini Mahmud, PhD**

Associate professor  
Faculty of Educational Studies  
Universiti Putra Malaysia  
(Member)

**Habibah Ab Jalil, PhD**

Associate professor  
Faculty of Educational Studies  
Universiti Putra Malaysia  
(Member)

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**ROBIAH BINTI YUNUS, PhD**

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Committee: Dr. Shaffe Mohd Daud

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Name of  
Member of  
Supervisory  
Committee: Associate Professor Dr. Rosnaini Mahmud

Signature: \_\_\_\_\_

Name of  
Member of  
Supervisory  
Committee: Associate Professor Dr. Habibah Ab Jalil

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## LIST OF ABBREVIATIONS

MEB	Malaysian Education Blueprint
MoHE	Ministry of Higher Education
RU	Research University
HEIs	Higher Learning Institutions
ICT	Information Communication Technology
LMS	Learning Management System
UM	Universiti Malaya
UKM	Universiti Kebangsaan Malaysia
UPM	Universiti Putra Malaysia
USM	Universiti Sains Malaysia
UTM	Universiti Technology Malaysia
UMS	Universiti Malaysia Sarawak
UNIRAZAK	Universiti Tun Abdul Razak
OUM	Open University Malaysia
WOU	Wawasan Open University
AVE	Average Variance Extracted
EFA	Exploratory Factor Analysis
CFA	Confirmatory Factor Analysis
SEM	Structural Equation Modeling
GOF	Goodness-of-Fit
GFI	Goodness of Fit Indicator
CFI	Comparative Fit Index
RMSEA	Root Mean Square Error of Approximation
AGFI	Adjusted Goodness of Fit Indicator
NFI	Normed Fit Index
TLI	Tucker-LewisIndex

# CHAPTER 1

## INTRODUCTION

### 1.1 Background of the study

Higher Education Institutions (HEIs) in Malaysia become interested in implementing Information and Communication Technology (ICT) in teaching and learning activities (Ali, 2015). In order to implement the computer and Internet technology in educational settings, new instructional methods integrated with technological tools are provided. Therefore, the possibilities of Internet technology in educational settings have made distance learning as an effective method for teaching and learning and also distance learning becomes prevalent for pedagogical purposes, which have obtained acceptance among students, teachers, and parents (Bolandifar, 2017). Further, it is being regarded as one of the most practical ways that universities across the world are increasingly adopting in order to increase access to university education (Chawinga & Zozie, 2016). Hence, distance learning as a more developed method of instruction has become established and the public higher educational institutions in Malaysia are moving toward using distance learning as a most acceptable method of learning.

Distance learning has been utilized since the early 1990s, especially with the advance of the online technical revolution (Mitchell, 2014). Distance learning is very different from traditional learning. Students are responsible for their own learning because they do not have to be physically present a regular classroom and they can decide when, where, and how long to access the learning materials (Wang, 2010). However, distance learning provides freedom of choice for the students regarding the time and place for their instruction and practice, to personalize learning, to reduce facilities' costs, and to broaden access to the educational resources. According to Kauffman (2015), distance learning is much more convenient compared to regular face-to-face classes, especially when it comes to the requirements of those students who juggle between their occupations, families and their academic pursuits. In conjunction with this, many universities and institutions of higher education are adopting distance learning courses and programs as a method of instruction at a rapid pace (Adadi, 2015). For example, according to Allen and Seaman, the proportion of academic leaders who report that distance learning is critical to their institution's long-term strategy has grown from 48.8% in 2002 to 70.8% in 2015. This highly significant growth of demand and acknowledgement of distance learning by these academic leaders only shows the enormous positive effect and benefit for the learners and the institutions simultaneously.

In spite of the dramatic increase of online courses and student enrollment internationally, there are many indications that online courses are unsuccessful at meeting students' needs (Khalid, 2014; Rovai & Downey, 2010; Conrad & Donaldson, 2012) and students are dissatisfied with their online course experiences

(Artino, 2008; Lee, Srinivasan, Trail, Lewis, & Lopez, 2011), which brings about a serious concern regarding the dropout rates of online courses (Doe, Castillo, & Musyoka, 2017). Wang (2003) noted that in any educational institution, the satisfaction of students with online courses can be determined from their level of pleasure as well as the effectiveness of the education, which the student experiences. Students with higher levels of satisfaction towards online courses are reported to show considerably higher level of learning than students with low level of satisfaction (Ali & Ahmad, 2011).

It is important to acknowledge that student satisfaction with online courses is one of the most prominent factors in assessing the effectiveness of a distance-learning course. The lack of course satisfaction has been identified as an important factor leading to attrition among distance students worldwide (Khalid, 2014; Yu & Richardson, 2015). In this respect, several research studies have mainly focused on course satisfaction because it is considered to be the largest determinant in reducing dropout in distance learning settings (Watts, 2015; Chen & Lien, 2011; Hart, 2012). Clearly, the number of dropouts are still much higher in distance learning education compared to regular courses, in a range of 10% to 50% all in all (Kauffman, 2015). For example, Lee & Choi (2011) reported that compared to face-to-face learning, the retention rates for online learning is 10% to 25% less. Smith (2011) also indicated that in total, 40% to 80% of online students tend to drop from online classes. Hence, it is crucial to identify and study the factors that lead to student satisfaction in online courses, which in turn has poorly been studied so far (Bookout, 2010).

There are a number of factors that the researchers have spotted as influencing the overall learning experience of students (as defined by their satisfaction and level of perceived learning), but the strength of this influence is not always clear (Tao, 2009). Accordingly, Hermans, Haytko, and Mott-Stenerson (2009) urge the researchers to identify the factors that strongly influence student satisfaction regarding distance learning. In this context, the study of the distance learning success factors has been a priority for distance education researchers and practitioners. Therefore, in this study we opt for scaling a number of contributing factors at the same time and assessing the amount of influence they have on student satisfaction with online courses. The opportunity that measurement of several factors simultaneously creates, allows us to measure the strength of the influence on student satisfaction and identify the factors, which are more influential in the same online course of study. Showing collective and individual influences of these factors is only the first step on the way to having more successful online students in Malaysian higher education.

### **1.1.1 Distance Learning in Malaysian Higher Education**

In its aspiration to become a developed nation by 2020, Malaysia has embarked on an initiative to democratize higher education (Ministry of Higher Education (MOHE), 2011). In response to this initiative and with the advent of rapid information and communication technology change, higher education institutions have been improving



the system of delivering higher education by offering distance learning courses and programs (San, 2010). Distance learning by providing the accessibility, affordability and flexibility has made a positive impact on the democratization of education in Malaysia (Issham, Siti Sarah & Rozhan, 2010). Consequently, it could be expressed that implementation strategies have been designed for distance education in order to prepare cost-effective ways of democratizing education and giving access to lifelong learning for the Malaysians (Ismail, Johari, & Idrus, 2010).

Distance learning has long been prosperous in Malaysia ever since the mid-1980s (Mok, 2011) and a rapidly developing industry in Malaysia since it provides a new dimension to education through its flexibility and accessibility (Ahmad & Chua, 2015). Moreover, distance learning compensates for the inequality in opportunities for higher education between working adults and full-time university students (Johari & Ismail, 2011). In terms of distance learning, much success has been reported in Malaysia, which gives the country a higher position in comparison with most Asian countries. According to Insight (2015), Malaysia has been countered as one of the three countries with highest growth rate in utilization of distance and e-learning industry, as reported by 2015 census. Based on the importance of distance learning in Malaysia, the government has set an ambitious target to have a large number of the country's graduates produced via distance learning in the long run. Many higher education institutions have committed to distance learning due to its effectiveness as an alternative method to the traditional classroom method of learning (Ahmad & Chua, 2015); hence, the issue of distance learning activities is very interesting and worthy of exploring in Malaysian context (Abubakar, Harandez, & Magaji, 2009).

To enrich and enhance the achievements of the local universities, Malaysia has launched the status of Research Universities (RU). RU in Malaysia refers to the public universities that are acknowledged and pledged to be focal mainly on research activities and education based on research and development (Ministry of Higher Education (MOHE), 2011). RUs feature competitive enrolment, which ensures the quality of students and lecturers, and the appropriate ratio of undergraduates to postgraduates, which should idealistically be 50:50 (Ramli et al., 2013). Research universities status was designated under the Malaysian Research Assessment Instrument by the Ministry of Higher Education (MOHE) to the Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Teknologi Malaysia (UTM), Universiti Putra Malaysia (UPM), and Universiti Sains Malaysia (USM) (Ramli et al., 2013). These universities are recognized as research universities in Malaysia for their crucial position in research expansion and commercialization activities. However, the mission and vision for RUs calls for leading the development and expansion of innovation nation-wise, creating world-standard of academic research and creation, and finally maintaining a high potential medium for innovative research studies (Tan & Noor, 2013). Thus, providing distance-learning options has pushed older teaching establishments to become more innovative (Puteh, 2007).

Research Universities (RU) have become the fastest way for the government to move the nation towards the knowledge-based economic country and achieving greater prosperity (Ramli et al., 2013). The formation of RU has also led to the enhancement of quality research outcomes, mainly due to the competitiveness among them in securing external fund to finance their research projects (Amran et al., 2014). A research university seeks to actively participate in new adventures of ideas, experiment with innovative methods, and take intellectual initiatives to further discover and expand the frontiers of knowledge. However, the RUs shall have an overall research master plan with specific blueprints for identified research thrust areas (Establishment of RU in Malaysia, 2004), which distance learning is one of these plans. Distance learning, by offering course programs beyond the mainstream, is an innovative response to the diverse demands for higher education in Malaysia (Azman & Morshidi, 2014). In this respect, Malaysian government requires setting up systems of quality assurance and accreditation to ensure that distance-learning strategies are indeed superior to traditional and on-campus approaches (Vicziány & Puteh, 2004).

Despite the rapid increase of student enrolment in distance learning courses because of their flexibility, convenience, and their affordability, higher education institutions in Malaysia face the problem of high dropout rate of students before completing their studies and earning a degree (San, 2010). Consequently, several research studies have identified the main factors that play role in making the online courses successful in Malaysia. For instance, Khalid (2014) demonstrated three main presence factors including social, pedagogical and cognitive factors that leverage learner satisfaction in their online courses in Malaysia. In another research, Hidayah and Noor (2015) investigated campus services, technology, and campus facilities and student's satisfaction in University Utara Malaysia (UUM), Kedah, among 337 undergraduate students and found that only campus services are significant with student satisfaction.

In Malaysian context, a comprehensive quantitative study conducted by Lo, Ramayah and Hong (2011) explored into learner satisfaction of Malaysian students and identified a number of correlating factors that each could be considered as an independent variable per se. The study was cross-sectional and investigated over 300 students from 20 different Malaysian public universities to determine the relationship between satisfaction and method of delivery (medium of learning transmission), content of the course, system (infrastructure and technical support), and interaction between student and instructor and peers. Lo et al. (2011) accordingly proposed that the above-mentioned factors correlated with another moderately and were predictors for learner satisfaction. Thus, content, the learning system, delivery method, and interaction were determined to have a significant influence on distance learning satisfaction. However, in Malaysia, student satisfaction with online courses is considered as an essential quality measure in higher education regarding the impact it has on how students react towards their distance learning courses and their decisions to continue with the course or not (Roslina, Shaminah, Nur & Sian-Hoon, 2013).

### 1.1.2 Student Satisfaction with Online Courses

While distance learning has come a long way in a short time, there are still concerns about the satisfaction of students in distance learning environment (Shen, Yu & Khalifa, 2010; Peterson & Romereim-Holmes, 2011). Student satisfaction is commonly used as a measurement for assessing distance learning, which could briefly be defined as the degree to which a student likes or desired a distance learning course together with the student's perception of the degree of effectiveness of the course based on the learning overall experience (Yu, 2014). Student's perception of the delivered online course is influential upon the decision student makes about continuing or quitting a course. The student perception also impacts the degree to which they are satisfied by the online course collectively (Bollinger & Wasilik, 2009). The definition for student satisfaction with online courses could simply be meeting the expected results and having experience of learning to an agreeable level (Gray & Daymond, 2010). An alternative definition suggests subjective assessment of different results and experiences of a distance-learning course by the student based on their participation in learning (Roslina et al., 2013). In other words, student satisfaction, which reflects how positively students perceive their learning experiences, is an important indicator of program- and student-related outcomes.

The importance of student satisfaction with online courses cannot be under estimated, as it is one of the main factors in measurement of student success, more prominently in distance learning context (Thompson, 2011). As distance-learning clients are tending increasingly to higher education and the number of institutions that take advantage of the demand and make the option available together with face-to-face classes (Noel-Levitz, 2009), the welcoming institutions are paying serious attention to student satisfaction. According to Bookout (2010), the responsibility that comes with the increase of the number of the students of online courses place premium on their needs and demands, thus their satisfaction becomes a crucial issue of research and investigation by the universities conducting the courses. The reason for which satisfaction of the students become fundamental to assessment is that satisfied learners show more persistence and less tendency to quit the course (Wang, et al., 2013; Butterfield, 2014), while conversely, the less satisfied students could bring about unfavorable reputation for the university and cause decrease in rate of enrolment (Roslina et al., 2013). Consequently, student satisfaction has attracted much attention of researchers and scholars as the relevant literature displays.

When quality of education is being analyzed, there are a number of factors that come into the frame and student satisfaction is one of those playing a major part, as the rest include being cost-effective, learning-effective, satisfaction towards faculty and towards having access to the resources (Yukselturk & Yildirim, 2008; Yen & Abdous, 2011). Student satisfaction is rather derived from learner engagement, better performance in course of study, and it boosts learner motivation and rate of acquisition, leading the student to greater position in being successful (Bolliger & Halupa, 2012; Watts, 2015). Wang (2003) were cited in the research study of Ali and Ahmad (2011) purporting that regardless of the academic institution, the degree to

which a student is satisfied by the course could also be estimated through the amount of pleasure the student takes in attending the online course of study, together with the student's idea of the effectiveness of the course based on the individual's own experience. By these reasons, student satisfaction found to be a good source of information about the quality of distance courses (Lambert, 2011). Thus, through the data regarding student satisfaction, course designers, educators, and administrators can identify areas where improvement is needed (Kuo et al., 2013).

Student satisfaction has held a central role in many studies as one of the measurements for the success of online courses (Mtebe, 2015; Ali, Ramay & Shahzad, 2011; Beqiri, Chase, & Bishka, 2009; Lewis, 2011). For example, Paechter et al. (2010) conducted a cross-sectional quantitative in Austria on 2196 students from 29 different Austrian universities to find out that the agreement of perceived knowledge and acquired skills with expectations and experiences brings about positive correlation between student satisfaction and the expectations from the course and experiences of the course by the online course students. In another study, Lin, Lin and Laffey (2008) surveyed 110 distance learners at a mid-west state university and found that student satisfaction in online courses was positively correlated to learners' perceived task value, self-efficacy, and social ability. Thus, the necessity could well be sensed for the institutions to assess student satisfaction, so that provide a more satisfactory course that serves the students more effectively. Understanding satisfaction analysis enables better planning and development and the opportunity to add efficiencies in order to create a more effective distance-learning environment (Bookout, 2010). However, the researchers should identify several elements influencing student satisfaction in distance learning to improve the level of satisfaction and reduction of dropout (Bolliger & Wasilik, 2009).

### **1.1.3 Factors Influencing Student Satisfaction with Online Courses**

In order to achieve success in making distance learning as enduring part of higher education, it is critical to understand the driving factors that are responsible for its success (Bookout, 2010). Al-Fahad (2010) suggested that a critical issue for researchers and practitioners alike is to understand clearly the factors influencing student satisfaction with online courses. Several issues of concern to educators are examined as antecedent determinants of student satisfaction with online courses. Past studies have examined factors associated with student satisfaction, but the factors examined in each study have been limited and they only identified or studied a couple of factors influencing student satisfaction while the relevant literature indicates that there are a multitude of such variables affecting satisfaction (Hermans, Haytko, & Mott-Stenerson, 2009).

The concern cited in distance learning literature is that the instructor and students are separated. In this regard, there are two theories that address the issue (Marino & Reddick, 2013). Transactional distance theory provided the first comprehensive way of understanding the consequences of physically separating learner and instructor



(Starr-glass, 2015). Moore (1993) developed TDT as a psychological and communications gap that is a function of the interplay among structure, dialogue, and autonomy and used to determine the factors influencing the satisfaction of students. Moore and Kearsley (1996) noted that success in distance learning is determined by the extent to which the instructor and the institution are able to provide appropriate structure and the appropriate quality and quantity of dialogue between instructor and learner, taking into account the extent of the learner's characteristics. This means increasing dialogue and developing support materials to reduce transactional distance, depending on the needs of individual learner characteristics (Stein et al., 2005). Further, social presence theory, which is known as psychological distance, indicates the feeling of separation and isolation (Marino & Reddick, 2013). This theory is connecting the learner socially and emotionally without face-to-face interaction (Tschetter, 2014). The literature suggests that the instructor is responsible firstly to provide this social presence (Aragon, 2003). In this respect, an instructor immediacy behavior embodies in the social presence theory to enhance satisfaction and may aid in retention of students (Peterson & Romereim-Holmes, 2011).

Many researchers have adopted the Online Interaction Learning Model, Transactional Distance Theory (TDT) and Social Presence Theory (SPT) in investigating as well as including constructs that play an influencing role in satisfaction of distance-learning students (Peterson & Romereim-Holmes, 2007; Vasiloudis, Koutsouba & Giossos, 2015; Ustati & Hassan, 2013). Most of the previous studies confirmed these theories, and several researchers attempted to expand the theories to add more factors (Starr-Glass, 2012; Alhawiti, 2013). The present study aimed to develop a model to identify the most important factors that influence the satisfaction of students with online courses, which are institutional factors in terms of support (technical support, administrative, and university), instructor immediacy behavior, learner characteristics (motivation, self-regulated learning, and self-efficacy), and perceived learning as a mediating factor.

Institutional factors are considered as the overall support delivered by the distance learning system to the learners who use this system (Bhuasiri et al., 2012). The success of distance learning is likely to depend to a considerable extent on the level of support students can obtain from their institutions (Melton, 2004; Islam, Jalali & Ariffin, 2011; Cheawjindakarn et al., 2013). In the present study, institutional factors that are the offshoots online course support services are assessed and investigated as prominent variables that directly and significantly impact student satisfaction regarding distance-learning environment. Mwenje and Saruchera's (2013) study concluded that monitoring and assessing quality of support services in distance learning is increasingly becoming critical to distance learning, as institutions seek to reach out to more students and maintain higher levels of student retention. Furthermore, as institutions strive to make their distance education programs successful, they need to solve the support issues that often become barriers to achieving this goal.

As distance learning program developed in haste to meet growing demand, but support entities are often not in place to promote the demand (Tallen-Runnels et al., 2006) as institutional support for distance learning are subpar in many institutions (Meyer & Barefield, 2010). Chaney, Chaney and Eddy (2010) claimed that successful distance learning requires a significant amount of institutional support to satisfy student's needs and bring them closer to university functionaries. Hence, research studies should put greater emphasis on investigating the role of institutional factors in terms of support services on student satisfaction, because dissatisfaction with institution represents a serious waste of resources that are scarce. However, there are different types of institutional factors in terms of support that could influence satisfaction of students (Obasuyi & Okwilagwe, 2016), but one of the most comprehensive lists of elements has been developed by Keast (1997). He identified distinctive types of support for distance learners including administrative support, technical support, and academic support. Hence, this study considered the above-mentioned support services, which fall under Keast's categories.

Instructor immediacy is a construct that determines the virtual and psychological remoteness between the instructor and the students (Marino & Reddick, 2013). The presence of instructor immediacy promotes increased feelings of closeness and connectedness between students and instructors, and therefore enhances instructional interaction, which in turn has been demonstrated to have a positive effect on both student learning and student satisfaction (Bohnstedt, 2011). Arbaugh (2010) found that instructor immediacy behavior is a critical foundation for the development of community amongst online learners and influences social presence. Moreover, he suggests that instructor immediacy behavior is a strong predictor of student perceived learning and course satisfaction than instructor experience or technological experience. Baker (2008), McLaren (2010), Wendt and Nisbet (2015) reported that when instructors employ immediacy behavior, students demonstrate increased motivation, enhanced satisfaction, and achieve higher level of learning outcomes.

The literature on the impact of student characteristics on success is extensive and well documented (Yusof, 2012; Ergul, 2004; Ng et al., 2012; Gunawardena et al, 2010). While most people make decision to seek distance learning based on personal and practical decision, it is necessary to look at learner characteristics more closely when trying to predict online courses success (Lambert, 2011). Nakayama et al. (2014) recognized learner characteristics as a major factor, which affect online course completion rates. Aktan (2010) suggested that the study of characteristics could shed light on the learner performance, providing information for planning and designing the appropriate tasks and methods of delivery that boost the involvement of the student in an online course. Similarly, Kintu and Zhu (2016) pointed out that successful design of distance learning environment requires a successful examination of learner characteristics. According to Kauffman (2015), identification of learner characteristics that lead to online success versus failure could help in predicting possible learning outcomes and save students from enrolling in online courses.

In order to design online courses or programs to fit the needs of distance learners, it is necessary to investigate the characteristics of online learners (Yukselturk & Bulut, 2007). Thus, there is considerable evidence to support learner characteristics for promoting the satisfaction of students with online courses. In this respect, various learners' characteristics may affect learning outcomes of distance learning. Kauffman (2015) points out factors such as motivation, self-regulation and self-efficacy play important roles in online learning. However, as the literature for learner characteristics categories is extensive and well documented, the current study has selected motivation, self-regulated learning, and self-efficacy as crucial characteristics of distance learning students based on previous empirical studies (Ergul, 2004; Wang, 2010; Kuo, Walker, Schroder, & Belland, 2014; Yusuf, 2011).

Assessing perceived learning as an outcome variable for academic success has marked a shift in this area of research. Researchers have previously looked at learning assessed by grade point average, by final course grade, or by grade on an assignment but students required learning extends beyond course content. Students need to acquire learning that will be directly useful in their careers (Lambert, 2011). Perceived learning is defined as what students perceive as gains from taking a distance-learning course. A considerable amount of literature supports the direct effect of the perceived learning on course outcomes (Eom, Wen, & Ashill, 2006; Chu & Chu, 2010; Nyachae, 2011). For example, Shin and Chan (2004) provided the outline for the majority of research studies examining perceived learning in distance education and found that perceived learning was directly related to overall success. According to Sharma and Chandel (2014), Richardson and Swan (2003), high level of perceived learning will influence student satisfaction with online courses. Hence, based on the strong positive relationship between perceived learning and course satisfaction, it is identified as a mediator in this study.

It should be expressed that the present study is the outcome of this researcher's vast and encompassing review of literature on student satisfaction of distance-learning online courses. The review confirmed that no single set of factors exist that is able to predict course satisfaction. So, several common variables emerged from this literature review that affect student success, which by understanding these factors and implementing procedures to increase learning outcomes, higher education institutions can ensure the course or program quality meets credibility standards (Yukselturk & Bulut, 2007). Therefore, the present study designed a hypothesized model borrowing from prior empirical research studies and determined the relationship between diverse influential factors by means of Structural Equation Modeling (SEM) to tackle the obstacles on the way to success of online courses.

## **1.2 Problem Statement**

The exponential growth of learner population is making Malaysian distance learning an increasingly popular choice (Abedalaziz & Muaidi, 2015), which puts Malaysia in a good position to harness the power of distance learning to widen access to good



quality content, enhance the quality of teaching and learning, lower the cost of delivery, and bring Malaysian expertise to the global community (Malaysia Education Blueprint 2013-2025 (2013). As distance learning established itself as an option in higher education and is poised to take larger role in Malaysia, the rate of students who fail to complete their online courses has continued to increase (Khodabandelou, 2014). Navarro and Shoemaker (2000) theorize that high student satisfaction should result in lower dropout rates, which is one of the most significant issues for Malaysian distance learning developers, university management, and faculty members particularly in higher education (San, 2010; Ng & Confessore, 2011; Khalid, 2014). A review of available literature on student satisfaction in distance learning revealed that few empirical studies investigated student satisfaction (Ham, 2005). Thus, much more attention is required on conducting a study to highlight student satisfaction in Malaysian Research Universities.

As distance learning are becoming the norm in higher education, little is known about the variables that contribute to student satisfaction (Keeler, 2006; Kuo et al., 2013). The most important solution that can be offered up for the issue is studying the influencing factors of student satisfaction based on theories and research models. There are many factors that had reported in previous literature influencing student satisfaction such as the main factors of online interaction learning model namely; students' self-construal, students' prior CSCL experience, and technology's usability (Ali, 2015). Variables included in transactional distance theory and social presence theory are self-efficacy, level of technical support, interactivity with instructor, (Ham, 2005), instructional support, peer, and technical support (Lee et al., 2011), and immediacy behavior (Bai, 2002; Schutt, 2010) but finding a unified theory/model which developed to account for this is still a challenge (Kostina, 2011). Moreover, in the context of Malaysia, a few studies have combined institutional factors; instructor immediacy behavior and learner characteristics simultaneously to examine whether these factors can predict student satisfaction. For this reason, there is a need for research to be done in Malaysia to investigate factors influencing student satisfaction by using these theories. Investigating such these factors can reduce the theoretical gap in student satisfaction domain.

Institutions in Malaysia are facing the challenge of increasing the educational opportunities to advance the country into a developed status (Parsons, 2008). Given such need, it is imperative that institutions equip their students with the necessary of support services (San, 2010) because lack of these supports is one of the main challenges in Malaysian distance learning institutions (Embi, 2011). The result of the study on the experience of 22 multinational and multilingual students in a distance learning program indicates that the students felt dissatisfied by the course because their needs in terms of support services are not fully attended to. The study shows that students in distance learning program are quite frustrated when the support services are incompetent or unreliable (Ustati & Hassan, 2013). According to Lorenzi, MacKeogh and Fox (2004), Mullen and Tallent-Runnels (2006) and Croxton (2014), support services are the most contribute factors, which are positively related to course satisfaction and perceived learning. Previous research has also widely investigated the

relationship between institutional factors in terms of support services and student satisfaction (Kee et al., 2012; Marinakou, 2014; Ramírez, 2015). However, the results obtained are inclusive or even contradictory. Consequently, Lee et al. (2011) have concluded that more research is needed in that area.

Research on instructor immediacy behavior has demonstrated that when instructors employ immediacy behaviors, students demonstrate increased perceived learning and satisfaction (Arbaugh, 2000; Swan, 2001; Richardson & Swan, 2003). In reference to Kim and Moore (2005), when students perceive and regard instructor immediacy behavior highly, they tend to be more satisfied with instruction in online courses. This interaction between student and instructor, cause to lowered feeling of isolation as well as reduction in likelihood that they will drop out of their online courses (Croxtan, 2014). While these findings received a lot of attention in the communication literature, most of the studies were conducted in traditional face-to-face and very few studies have examined instructor immediacy in the distance learning (Keeler, 2006; Marino & Reddick, 2013; Spiker, 2014). Despite the lack of research on immediacy in the context of distance learning, a body of research in distance learning suggest that there is a need to extend the existing research of instructor immediacy from traditional to distance learning (Baker, 2010; Taha & El-Hajjar, 2012; Schutt, 2010).

The presented literacy background leads to the claim that adequate knowledge about the direct relationship between learner characteristics and student satisfaction with online courses is not provided (Bolliger & Erichsen, 2012; Keller & Karau, 2013; Cohen & Baruth, 2017). Even though there is previous evidence regarding the relationship between learner characteristics in terms of motivation, self-regulated, and self-efficacy with student satisfaction in distance learning environment (Sun, 2009; Kintu & Zhu, 2016), this relationship has not been studied enough, and the role that it can play in this area was not taken into consideration (Katt & Collins, 2013). Ng and Confessore (2011) pointed out that a substantial percentage of distance learners in Malaysia show a relatively low level of learner characteristics. Low level of these characteristics causes obstacles to student satisfaction. The awareness of learners' characteristics may help in designing high-quality online courses that meet the needs of learners and improve the level of satisfaction from the course (Kauffman, 2015) but little is known about how to identify the characteristics of the learners who are at the risk of dropping online courses (Asdi, 2015). However, in the absence of sufficient evidence in previous research for the relationship between learner characteristics and student satisfaction, and also mixed findings from prior studies, further research on studying this relationship is necessary (Jan, 2015).

The examination of perceived learning as the mediator variable through which the institutional factors, instructor immediacy behavior, and learner characteristics affects course satisfaction is still scare. Due to the reason that very few scholars have empirically investigated the mediation variables in the relationship between independent factors and course satisfaction (Gebara, 2010; Khalid, 2014; Marinakou, 2014) , this research relying on Online Interaction Learning Model (Benbunan-Fich et al., 2005), which attempt to investigate the mediation effect of learning process in

order to increase student satisfaction. According to Benbunan-Fich et al. (2005), aspects of learning process such as perceived learning occupy the central place in the online interaction-learning model. Having due consideration, instructors will know how to improve the learning process for students in terms of perceived learning. Therefore, studies focusing on perceived learning as a factor in student success are seriously needed.

The aforementioned problems may impede the satisfaction of students with online courses at distance learning centers in Malaysian Research Universities, which are not in line with the modernization that students in this country are going through. Inattention to these problems faces higher education institutions with serious challenges in Malaysia. Therefore, this dissertation may make a contribution through studying the factors influencing student satisfaction because high level of satisfaction may be reflected in lower drop out rates as well as rising demand for online courses (Cohen & Baruth, 2017).

### **1.3 Research Objectives**

The objectives of the current research are:

1. To determine the level of course satisfaction, perceived learning, institutional factors (technical support, administrative support, and university support), instructor immediacy behavior and learner characteristics (motivation, self-regulated learning, and self-efficacy) among the undergraduate's distance learners in Malaysian Research Universities.
2. To determine the influence of institutional factors (technical support, administrative support, and university support), instructor immediacy behavior, learner characteristics (motivation, self-regulated learning, and self-efficacy) on course satisfaction among the undergraduate's distance learners in Malaysian Research Universities.
3. To determine the influence of institutional factors (technical support, administrative support, and university support), instructor immediacy behavior and learner characteristics (motivation, self-regulated learning, and self-efficacy) on perceived learning among the undergraduate's distance learners in Malaysian Research Universities.
4. To examine the role of perceived learning as a mediator for the relationship between institutional factors (technical support, administrative support, and university support), instructor immediacy behavior and learner characteristics (motivation, self-regulated learning, and self-efficacy) with courses satisfaction among the undergraduate's distance learners in Malaysian Research Universities.

5. To develop a model that predicts the course satisfaction among the undergraduate's distance learners in Malaysian Research Universities.

#### **1.4 Research Questions**

Five research questions were addressed for objective one.

Q<sub>1</sub>.What is the level of course satisfaction among undergraduate distance learners in Malaysian Research Universities?

Q<sub>2</sub>.What is the level of perceived learning among undergraduate distance learners in Malaysian Research Universities?

Q<sub>3</sub>.What is the level of technical support among the undergraduate distance learners in Malaysian Research Universities?

Q<sub>4</sub>.What is the level of administrative support among the undergraduate distance learners in Malaysian Research Universities?

Q<sub>5</sub>.What is the level of university support among the undergraduate distance learners in Malaysian Research Universities?

Q<sub>6</sub>.What is the level of instructor immediacy behavior among the undergraduate's distance learners in Malaysian Research Universities?

Q<sub>7</sub>. What is the level of motivation among the undergraduate distance learners in Malaysian Research Universities?

Q<sub>8</sub>.What is the level of self-regulated learning among the undergraduate distance learners in Malaysian Research Universities?

Q<sub>9</sub>. What is the level of self-efficacy among the undergraduate's distance learners in Malaysian Research Universities?

#### **1.5 Research Hypotheses**

The research hypotheses are developed based on the literature and theoretical background. The focus of the study is on the influence of institutional factors (technical support, administrative support, and university support), instructor immediacy behavior and learner characteristics (motivation, self-regulated learning, and self-efficacy) on course satisfaction among the undergraduate distance learners in Malaysian Research Universities. Additionally, the study intended to ascertain the role of the mediation effect of perceived learning in the relationship between

institutional factors, instructor immediacy behavior and course satisfaction. A total of 18 hypotheses were formulated based on objective two, three, and four, as follows:

**Objective Two:**

H<sub>1</sub>: Technical support has a significant influence on course satisfaction.

H<sub>2</sub>: Administrative support has a significant influence on course satisfaction.

H<sub>3</sub>: University support has a significant influence on course satisfaction.

H<sub>4</sub>: Instructor immediacy behavior has a significant influence on course satisfaction.

H<sub>5</sub>: Motivation has a significant influence on course satisfaction.

H<sub>6</sub>: Self-regulated learning has a significant influence on course satisfaction.

H<sub>7</sub>: Self-efficacy has a significant influence on course satisfaction.

**Objective Three:**

H<sub>8</sub>: Technical support has a significant influence on perceived learning.

H<sub>9</sub>: Administrative support has a significant influence on perceived learning.

H<sub>10</sub>: University support has a significant influence on perceived learning.

H<sub>11</sub>: Instructor immediacy behavior has a significant influence on perceived learning.

H<sub>12</sub>: Motivation has a significant influence on perceived learning.

H<sub>13</sub>: Self-regulated learning has a significant influence on perceived learning.

H<sub>14</sub>: Self-efficacy has a significant influence on perceived learning.



#### **Objective Four:**

H<sub>15</sub>: Perceived learning has a significant influence on course satisfaction.

H<sub>16</sub>: Perceived learning mediates the influence of technical support on course satisfaction.

H<sub>17</sub>: Perceived learning mediates the influence of administrative support on course satisfaction.

H<sub>18</sub>: Perceived learning mediates the influence of university support on course satisfaction.

H<sub>19</sub>: Perceived learning mediates the influence of instructor immediacy behavior on course satisfaction.

H<sub>20</sub>: Perceived learning mediates the influence of motivation on course satisfaction.

H<sub>21</sub>: Perceived learning mediates the influence of self-regulated learning on course satisfaction.

H<sub>22</sub> : Perceived learning mediates the influence of self-efficacy on course satisfaction.

#### **1.6 Significance of the Study**

Distance learning has become one of the major trends in education, especially in the 21<sup>st</sup> century. It has opened the opportunity for learners from all walks of life to continue with their academic pursue (Ustati & Hassan, 2013). Now, the higher education institutions are equipped with distance learning to provide realistic and practical opportunities for students to make learning as independent, useful, sustainable and expansive as possible (Aziz & Abdullah, 2014). Ham (2005) theorizes that high distance learner satisfaction should result in lower dropout rates. He thinks that satisfied distance learners are less apt to drop classes, while dissatisfied distance learners are more likely to drop. Understanding the profile of a successful and satisfied distance learners can guide decisions that administrators make about investing time, resources, and effort into the development of online courses and programs.

The significance of this study lies in the fact that higher education administrators and decision makers make daily decision to invest time and money to enter or increase their positions within the distance education market. Yet they have little empirical data

about what factors actually relate to student satisfaction and success in distance learning. Identifying success factors, provide reliable data about students' perception of their online course experience. Such data can inform decision-making about investments in and the organization of distance learning program development at higher education institutions.

From the theoretical perspective, one of the most significant current discussions in higher education is distance learning in institutions. Although many studies have been conducted about distance learning, large-scale studies from different issues and different point of view are needed to explore perceived learning as mediator between success factors and course satisfaction. In this regard, the current study bridges this gap by exploring the elements of institutional factors, learner characteristics, and instructor immediacy with student satisfaction from students' point of view in distance learning environment. If the results of the current study show that there is relationship between these elements and course satisfaction through the mediation role of perceived learning, it can help policy makers advocate for distance learning that features these elements and better meets students' needs. Data from this research should also help higher learning institutions create better programs and support services that foster effective learning environments.

The researcher hopes that the findings of this study can provide useful insight into improving online courses offered in higher education programs in Malaysian Research Universities. At this juncture, the current study can be important for understanding how IVs influence perceived learning and satisfaction in distance learning environment. It can also be important for examining perception of students' learning as well as institutional factors, instructor immediacy, and learner characteristics in their online courses. Moreover, understanding more about students' perceptions of these variables and perceived learning would be meaningful in the field of educational technology studies. Research such as this study is significant to all students, that is, to make use of alternate formats to meet their educational needs.

From the practical perspective, based on the available body of research literature, activities directed towards establishing the relationship between the institutional factors (technical, university, and administrative support), instructor immediacy, and learner characteristics (motivation, self-regulated learning, and self-efficacy) and perceived learning as mediator with course satisfaction in countries such as Malaysia are extremely rare. Therefore, the present study is seriously needed in research area because its findings will hopefully solve problems in learning practices in distance learning environment in higher education institutions. Lastly, this effort should help to achieve the goals of Ministry of Higher Education to transform Malaysia into a Knowledge-based economy by further planning and developing distance learning.



## 1.7 Limitations of the Study

The limitations of this study are in terms of population, research design, variables and research universities. The population of this study was limited to UPM and UKM only, because these two universities in Malaysia have the highest number of students in distance learning program. The selected population of the present study was limited only to the third-year and fourth-year undergraduates from distance learning centers at research universities. The participants of this study were undergraduate students whose background and experiences have been different from postgraduate or undergraduates of first and second years, because it is assumed that the undergraduates already have good experience in learning through this kind of program. In this respect, the evaluation of students can take place after more than two years of attending the online courses. During the third year and fourth year of studying in university, the students are already believed to have gained experience in using distance-learning program in learning purposes (Tabib, 2016). Hence, the results cannot be generalized to the entire spectrum of distance learners.

In this research, the data was collected through questionnaires, which relied on the perception of the higher education students. This research needs to be acknowledged and accepted as being based on the accuracy of the data and honesty of the respondents. The present research study data collection took place via survey, which relied on self-reported information. In fact, the present study would not be able to assume that all answers of respondents were accurate. However, the primary assumption is the participants understand all the items of the questionnaires and responded truthfully. Hence, the findings and conclusion of the study are limited to the extent that this method yields accurate and honest responses.

There are many variables, which may have an influence on student satisfaction, for example, delivery method, content, technical support, infrastructure, and interaction. To add to the former, we can also count individual creativity, self-efficacy, student attitude, administrator support, instructor support, relative advantage, being compatible, and complexity of the subject of the study (Kee et al., 2012; Lo et al., 2011). However, this study pursued to investigate the influence of a number of factors (institutional factors, instructor immediacy behavior, learner characteristics, and perceived learning) on course satisfaction, since investigation of all factors was beyond the scope of this study. Further, this study used student satisfaction with their online courses as the only measure of course quality but there are many other measures of quality that are important such as objective measurement of students' knowledge.

Data from this study was obtained only from undergraduate students in higher education and may not be applicable to students at other levels, such as postgraduate and PhD students or the instructors. This study is also limited to Malaysian research universities and may not be generalized to all undergraduates' population in other higher institutions in Malaysia in terms of accessible population, due to time, energy, and financial constraints. Furthermore, the findings of this study may not be

generalized to all Malaysian public universities because not all universities have distance-learning centers. Therefore, the generalization of the present study can only be applied to studies that have similar characteristics with this research and may need considerations when it is applied in other setting environment or circumstances. Although there are some limitations, it is hoped that the results of this study will be significant for further research and justification.

## **1.8 Definition of Terms**

The definition of terms should clarify any possible ambiguities within the terms used in this study and help the reader understand what the researcher intends to convey.

### **1.8.1 Distance Learning**

Distance learning is defined as the instruction where students and teachers are separated by distance and sometimes by time. It is designed to deliver education to students who are not physically “on site” (San, 2010). Distance learning refers to instruction that takes place online and there are no requirements for face-to-face meetings between instructors and students (Cheawjindakarn et al., 2013). In this study, distance learning refers to the instruction characterized by separation of teacher and learner in time and/or place; uses multiple media for delivery of instruction; involves two-way communication and occasional face-to-face meeting.

### **1.8.2 Course Satisfaction**

Course satisfaction defined as the degree to which a learner is satisfied with or grateful for the learning experience online (Khalid, 2014). Course satisfaction refers to students’ overall perceptions with online course experiences and the value perceived from the courses (Wang, 2010). In this study, course satisfaction refers to the degree that the expectations of distance learners match the experiences of them with online courses.

### **1.8.3 Perceived Learning**

Perceived learning is the extent to which learners recognize that they have obtained new knowledge or corrected their shortcomings in their earlier knowledge (Nyachae, 2011). Lambert (2011) defined perceived learning as what individual student perceives as gains from taking an online course. In this study, perceived learning is defined as distance learning students’ self-report and assessment of how much they have cognitively learned and gained from online courses.

#### 1.8.4 Institutional factors

Institutional factors refer to quality and difficulty of instructional materials, access to and quality of tutorial support, and the administrative and other support services provided (Williams, Nicholas & Gunter, 2006). In this study, institutional factors refer to overall support delivered by distance-learning system to the learners who use this system, which consists of technical support, administrative support, and university support.

**Technical support:** Technical support refers to assistance and support in technology use including easy access, prompt response, and tips on how to use electronic/media programs (Song, 2004). Barbera, Clara and Linder-Vanberschot (2013) defined technical support as the help that learner receives as how to make use of the virtual medium of online course. In the current study, technical support refers to services provided by experts to assist distance-learning students in utilizing the computer and technology for their online courses.

**Administrative support:** Administrative support defined as what administrators do to facilitate the students' effective use of technology in the learning processes (Deryakulu & Olkun, 2008). In this study, administrative support refers to advising, assisting and actions performed by administrators to maintain a vital and functional distance-learning environment by facilitating the use of technology to promote the interest of students efficiently with online courses.

**University Support:** University support is defined by Libron-Green (2004) as the tools, methods, facilities, personnel, and services offered by the educational establishment to assist and encourage students in their learning. The university support refers to the measures that university top officials take as to provide the online course, adopt and adapt based on the context, merchandise and upgrade (Kee et al., 2012). In this study, university support refers to measures taken by the Malaysian research universities admissions to design, maintain and upgrade their online courses as to support students to have a successful distance learning experience.

#### 1.8.5 Instructor Immediacy Behavior

Instructor immediacy behavior is a measure of the psychological distance between instructor and student (Marino & Reddick, 2013). Corona (2012) defines instructor immediacy behavior as communication behaviors that decrease the psychological gap between learner and instructor. Instructor immediacy behavior is verbal and visual behaviors of instructors that reduce the psychological distance between themselves and students (Baker, 2008). In the present study, instructor immediacy behavior refers to the learner's perception of instructor's communicative measures to lessen the psychological gap between learner and instructor.

### 1.8.6 Learner characteristics

Learner's characteristics refer to one's methodical approach and the way that the individual processes information, which is considered to be a measurement tool for learning (Cohen & Baruth, 2017). In this study, learner characteristics is defined as a collection of skills and learning strategies that the learner uses to handle the learning task efficiently and effectively to promote their satisfaction with online courses, which consists of motivation, self-regulated learning, and self-efficacy.

**Motivation:** Motivation is defined as the internal force that drives individuals to function and reason in the manner they do (Grassl, 2010). According to Amro (2014) motivation refers to the desire or determination to work and complete course through stimulus or incentive that causes a person to act. In this study, motivation refers to the degree to which undergraduate students of online courses are driven by their desire to set educational goals and go forward with the course until they feel self-confident in understanding and comprehending the course.

**Self-Regulated Learning:** Self-regulated learning is defined as the ability of learners to control the factors or conditions affecting student learning (Sun, 2009). Self-regulated learning is a proactive process that students use to acquire specific academic skills (Peterson, 2011). In this study, self-regulated learning refers to the degree to which a learner is able to plan, monitor and assess one's goal and one's progress in the course, manage timing and distance learning environment to fulfill the given learning tasks.

**Self-Efficacy:** Self-efficacy is learner's belief in one's capability to perform a specific task (Kee et al., 2012). Self-efficacy also refers to self-confidence of learner regarding one's capability to do the tasks and manage online learning environment (Abbad et al., 2009). In the current study, self-efficacy refers to student's perception of their ability to fulfill learning tasks in their online courses.

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