

# Students' Acceptance of Online Courses and Perceived Risk: A Study of UTAUT in the Sri Lankan State Universities

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## ABSTRACT

*This study systematically assessed the validity of the unified theory of acceptance and use of technology (UTAUT) with independent construct Perceived Risk in a voluntary environment with respect to Sri Lankan higher education. State University students, who are partaking online learning experience, have considered, as the target population of the research and the model tested with a sample of 348 respondents. A questionnaire with the 5-point Likert scale was used to obtain data. The regression analysis emphasized the relationships demarcated in the theoretical model of the study. Consequently, the hypotheses substantiated, by highlighting the relationship between antecedents and dependent variable acceptance. The variables, which are greatly influential to augment the level of acceptance of online courses, were filtered, in order to take management decisions.*

**Keywords:** *Perceived Risk, Technology Acceptance, UTAUT, Online Courses, Information Systems.*

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## I. INTRODUCTION

Online courses are in the middle of the latest teaching and learning trends. The virtual and intangible nature of the online course platform enables students to quickly learn and interconnect academic context by achieving a great degree of knowledge and information coverage, disregarding time limitation and geographical proximity (UUK, 2012a). At the same time, online courses, cost ominously less than the conventional pedagogical method since the need for resources is abridged (HEA, 2012b). Features such as tracking abilities, review competences, costless learning and teaching opportunities and self-paced learning capabilities have made online courses much more advantageous (Marcum, 2014). Regardless of the benefits of online courses, the acceptance of online courses in Sri Lankan state universities, as not as anticipated (Department of Census and Statistics, 2013). Furthermore, the attrition rates are relatively high in online courses (Abeysekera, and Perera, 2015; Crompton et al. 2016; Hung, 2012). In addition, only insufficient amount of studies on online courses have conducted in Sri Lankan university context. For that reason, the research attempted to classify the critical factors influencing the acceptance of online courses by considering parsimony and giving more attention to external factors.

## 2. THEORETICAL BACKGROUND AND RESEARCH MODEL

The Unified Theory of Acceptance and Use of Technology model has considered as the conceptual foundation of the study. Validated constructs, Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation and Habit are rooted to the study. Performance Expectancy (PE) defines the degree to which the individuals believe that the use of the technologies will results in performance gains. The Effort Expectancy (EE) delineates the degree of ease associated with the use of the system. Facilitation Conditions (FC) explain the students' judgment about the resources, which are offered to use the system. The Social Influence (SI) outlines the level to which students perceive that important others believe that they should do an online course. Hedonic Motivation (HM) describes the satisfaction gained from operating the system, while Habit (HT) states the level that users operate the system automatically, owing to experience. Perceived Risk (PR), is related with perceptions on self-

disclose and data loss, is considered in the study, as psychological risks are important in decision-making (Balladares et al. 2017; Thiesse, 2007). Acceptance or Behavioural Intention (BI) can express the extent of the intention to use the facility (Venkatesh et al. 2012; Rogers, 2003; Cheng et al. 2006; Davis, 1989). There are eight variables in the theoretical framework including PE, EE, SI, FC, HM, HT, EF and BI. The theoretical model of study releases seven hypotheses in total. First six Hypotheses have proposed based on Venkatesh et al. (2012). The seventh hypothesis is according to Balladares et al. (2017).

*H1: Performance Expectancy arouses the behavioural intention to use online courses.*

*H2: Effort Expectancy boosts the behavioural intention to use online courses.*

*H3: Social Influence induces the students' intentions to accept online courses.*

*H4: Facilitating Conditions positively related to students' intentions to accept online courses.*

*H5: Hedonic Motivation positively influence on students' intentions to accept online courses.*

*H6: Habit positively impact on students' intentions to accept online courses.*

*H7: The greater the Perceived Risk, the lesser the intention to accept online courses.*

### **3. RESEARCH METHOD**

#### **3.1. Data collection**

The government university (State University) students currently enrolled in online diploma courses, in Sri Lanka has taken as the target population of the study. 4878 students were selected out of 25 courses among five universities. The sample size was 348 and it was determined in relation to Krejcie and Morgan (1970). The simple random sampling has selected in the study with the benefit of the higher generalizability due to more within the group differences than among group differences, in the Sri Lankan higher educational context (Silva et al., 2013). Respectively, all elements in the population have considered equally as a result of the selected sampling method (Sekaran and Bougie, 2014). The questionnaire established according to the theoretical background and objectives of the study. Prominently, Venkatesh et al. (2012), Venkatesh et al. (2003), Davis (1989), Balladares et al. (2017) and Thiesse, (2007) were considered at the operationalization process (Appendix 1). The measuring instrument has derived after the reliability and validity test of the original instrument. The finalized instrument was consisted with two parts (Part 1 and Part 2). Part 1 questions targeted to obtain the demographic attributes of the respondents. Part 2 focused to test the conceptual framework. All the constructs belong to Part II have measured on five-point Likert-type scale.

#### **3.2. Data analysis**

78.4% students were within the age 20 to 40 while, 67.5 % of were female students. 83% of participants were unmarried and 92.8% were fulltime students. Most of the students (43.1%) were having 1 to 3 years online learning experience while, 64.7% were students. There were 61 workers, 59 executives and 3 top managers within the respondents. At the same time, the weighted means of the variables scanned to distinguish the peak of the responses to the measuring instrument (questionnaire). Similarly, the mode values and median values were premeditated. Out of the theoretical model variables, all the mean values were above 3. It specifies that the students were pleased with the services delivered by the educational institutes with related to all eight variables. The lowest mean value was for Social Influence (2.98) and highest for Performance Expectancy (3.54) out of independent variables. According to the factor analysis, items for all the constructs correlate sufficiently as all seven constructs explained within 0.3 to 0.9 correlation. Similarly, the KMO figures were above 0.7. The KMO value of Social Influence, was middling with a value between 0.7 to 0.8 (0.753) and other variables were meritorious with values between 0.8 to 0.9 (Kaiser, 1974). A factor extracted for all the constructs and TVE was above the threshold (50%) in their corresponding items.

Table 1 - Summary of Factor Analysis

Variable	Mean	KMO Value	Correlation	Factors	Item	Variance
PE	3<	0.844 Meritorious	0.3 to 0.9	Single	4	79.25%
EE	3<	0.827 Meritorious	0.3 to 0.9	Single	4	63.26%
BI	3<	0.884 Meritorious	0.3 to 0.9	Single	7	74.01%
PR	<3	0.802 Meritorious	0.3 to 0.9	Single	4	73.72%
FC	3<	0.836 Meritorious	0.3 to 0.9	Single	4	78.67%
HM	3<	0.863 Meritorious	0.3 to 0.9	Single	4	87.12%
HT	3<	0.846 Meritorious	0.3 to 0.9	Single	4	79.78%
SI	~3	0.753 Middling	0.3 to 0.9	Single	4	64.36%

According to the regression coefficient output, the independent variable Social Influence (SI) is having a P-value greater than 0.05 (.546). Therefore, it is not a significant predictor of Online Course Acceptance (BI). At the same time, P-values for PE, EE, HM, HT, FC and PR are having a P-value below 0.05. Hence, the independent variables, PE, EE, HM, HT, FC and PR are significant predictors of BI. The construct Perceived Risk causes (-) 0.089 variation in the acceptance of online courses. In terms of the absolute value, PR causes the lowest variance in acceptance. When consider the inter-correlations amongst the independent variables in the regression model, no variable represents a variance inflation factor (VIF) figure higher than five, except UTAUT variable Habit (HT). The VIF of variable HT is slightly above five with 5.83. Mostly, the VIF values, which surpass value seven, viewed as having multicollinearity (Holmbeck, 1997). Henceforth, there is no any severe concern of multicollinearity, with related to model variables. The R-squared value of the stepwise regression increased from 0.713 to 0.846 towards the addition of each independent variables. This describes that the independent constructs (HT, PE, EE, HM, FC and EF) explain 84.6 % of the variation in online courses acceptance (BI). At the same time, the residual plot displays less heteroscedasticity, since the residuals evenly distributed as the prediction moves from small to large. According to the Coefficients (Stepwise Regression), the regression equation explains as follows.

**Equation: BI = -1.088 + .462 (PE) + .447 (HT) + .377 (EE) + .217 (HM) + .218 (FC) - .089 (PR)**

Table 2: Coefficients (Stepwise Regression)

Model	Unstandardized		Standardized	t	Sig.	Collinearity Statistics		
	Coefficients		Coefficients			Tolerance	VIF	
	B	Std. Error	Beta					
6	(Constant)	-1.088	.640					
	HT	.447	.092	.245	4.872	.000	.179	5.583
	PE	.462	.092	.236	5.023	.000	.205	4.879
	EE	.377	.086	.188	4.374	.000	.244	4.096
	HM	.217	.081	.126	2.675	.008	.203	4.927
	FC	.218	.072	.119	3.006	.003	.287	3.486
	PR	-.089	.075	.115	2.745	.006	.259	3.863

a. Dependent Variable: BI

4. CONCLUSIONS

This research intended to cultivate an UTAUT model with independent variable Perceived Risk to predict students' behavioural intentions with regard to the acceptance of online courses, in the state university context. Most importantly, the linear model of the study explicated that the predictor variable caused 84.6% variance in the dependent variable online courses acceptance. Out of all seven independent constructs, HT, PE, EE, HM, FC and PR are significant predictors of the acceptance of online courses, while

the concept SI was not significant. According to the regression outcomes, the Performance Expectancy (PE) considered as the most influential independent variable, with representing 0.462 change in the acceptance. The lowermost variance triggered by the construct Perceived Risk (PR) with only -0.089 alteration in the acceptance. However, the hypothesis (H7); the greater the PR, the lesser the intention to accept online courses, was substantiated. Secondly, as per the residual plot outcomes, the cantered dispersal of the plot of residuals interprets that the estimations and statistical forecasts are reasonable. At the same time, the homogeneously scattered residuals vary from smallest to largest prediction movement illuminated the less heteroscedasticity with identical variance in the acceptance across the range of values of independent variables. In addition, the less multicollinearity showed with lesser VIF values proves that the model predators are not adversely related each other. Hence, it is possible to claim that the conceptual framework is parsimonious. Subsequently, the institutional repercussions based on the study outcome reveal, that the progressions of online course service features with related to performance improvement, easy procedure, facilitation conditions, more practise, motivating topographies, proper regulation structure and security systems are imperative to intensify the online course acceptance among Sri Lankan university students.

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### APPENDIX I (Operationalization)

Note: Online Course = OC

Variable	Questions	Source
Performance Expectancy	I think the OC enables me to accomplish my studies more quickly.	Venkatesh et al. (2003).
	I think the OC would make it easier for me to carry out my other work.	Venkatesh et al. (2003).
	I think the OC is not useful.	Venkatesh et al. (2003).
	OC increases my chances of achieving things that are important to me.	Venkatesh et al. (2003).
	Overall, I think the OC develops my capability.	Venkatesh et al. (2003).
	Overall, I think the OC is helpful to me.	Researcher
Effort Expectancy	I think studying via OC would be easy.	Venkatesh et al. (2003).
	Studying from OC does not require a lot of mental effort.	Venkatesh et al. (2003).
	I think that handling OC’s platform is difficult.	Venkatesh et al. (2003).
	My interaction with OC is clear and understandable.	Venkatesh et al. (2003).
	It is easy for me to become skilful at the OC.	Venkatesh et al. (2003).
	It is easy to study from OC without help from others.	Researcher
Intention to Use / Acceptance	I would use the OC for my study needs.	Davis (1989) and Cheng et al. (2006)
	Studying from OC is something that I would do.	Davis (1989) and Cheng et al. (2006)
	I would see myself using an OC for my study needs.	Davis (1989) and Cheng et al. (2006)
	I will continue to use OC in long-term.	Davis (1989) and Cheng et al. (2006)
	I have a plan to study OC in the near future.	Venkatesh et al. (2012)
	I would love to use OC to gain knowledge.	Venkatesh et al. (2012)
	I do not have any intention to use an OC.	Venkatesh et al. (2012)

	I intent continue to OC to improve convenience.	Venkatesh et al. (2012)
	If it were affordable, I would study an OC.	Venkatesh et al. (2012)
	I plan to continue to use OCs frequently.	Venkatesh et al. (2012)
Perceived Risk	I would not feel totally safe providing privacy information over the OC.	Balladares et al. (2017),
	I am worried to use OC, as others may be able to access my studies.	Balladares et al. (2017),
	I would not feel secure sending critical information across the OC's platform.	Balladares et al. (2017),
	I am scared to submit my study work via OC's platform.	Balladares et al. (2017),
	It is not risky to use OC's platforms.	Researcher
	I am hesitant to believe the facts, which are published on OC.	Researcher
Social Influence	People who are important to me think that I should study an OC.	Venkatesh et al. (2003).
	People who influence my behaviour think that I should study an OC.	Venkatesh et al. (2003).
	People whose opinions that I value prefer that I study an OC.	Venkatesh et al. (2003).
	People who influence my behaviour values OC.	Venkatesh et al. (2003).
	Studying an OC is not giving me a good social recognition.	Venkatesh et al. (2003).
	People who are important to me are impressed with my OC.	Researcher
Facilitating Conditions	I have the resources necessary to study the OC.	Venkatesh et al. (2003).
	I do not get adequate support to study the OC.	Venkatesh et al. (2003).
	I have the knowledge necessary to study the OC.	Venkatesh et al. (2003).
	OC is compatible with other technologies I use.	Venkatesh et al. (2003).
	Specialized instructions concerning use of the OC is available to me.	Venkatesh et al. (2003).
	I have enough internet coverage for my living area to carry out my OC studies.	Researcher
Hedonic Motivation	Studying OC is pleasurable.	Venkatesh et al. (2012)
	OC is exciting.	Venkatesh et al. (2012)
	Studying OC is a lethargic activity.	Venkatesh et al. (2012)
	Studying OC is entertaining.	Venkatesh et al. (2012)
	OC is motivating me to carry out my studies.	Researcher
	OC is attractive.	Researcher
Habit	The OC has become a habit for me.	Venkatesh et al. (2012)
	I am addicted to study the OC.	Venkatesh et al. (2012)
	I must study an OC.	Venkatesh et al. (2012)
	OC is link with my lifestyle.	Venkatesh et al.

		(2012)
	I tend to use OC systems routinely, as it is very familiar.	Researcher
	I have to force myself to use OC for my education purposes.	Researcher

**APPENDIX II (Sample Size for Population)**

<i>Total</i>	<i>Sample</i>	<i>Total</i>	<i>Sample</i>	<i>Total</i>	<i>Sample</i>
10 ⇒	10	220 ⇒	140	1200 ⇒	291
15 ⇒	14	230 ⇒	144	1300 ⇒	297
20 ⇒	19	240 ⇒	148	1400 ⇒	302
25 ⇒	24	250 ⇒	152	1500 ⇒	306
30 ⇒	28	260 ⇒	155	1600 ⇒	310
35 ⇒	32	270 ⇒	159	1700 ⇒	313
40 ⇒	36	280 ⇒	162	1800 ⇒	317
45 ⇒	40	290 ⇒	165	1900 ⇒	320
50 ⇒	44	300 ⇒	169	2000 ⇒	322
55 ⇒	48	320 ⇒	175	2200 ⇒	327
60 ⇒	52	340 ⇒	181	2400 ⇒	331
65 ⇒	56	360 ⇒	186	2600 ⇒	335
70 ⇒	59	380 ⇒	191	2800 ⇒	338
75 ⇒	63	400 ⇒	196	3000 ⇒	341
80 ⇒	66	420 ⇒	201	3500 ⇒	346
85 ⇒	70	440 ⇒	205	4000 ⇒	351
90 ⇒	73	460 ⇒	210	4500 ⇒	354
95 ⇒	76	480 ⇒	214	5000 ⇒	357
100 ⇒	80	500 ⇒	217	6000 ⇒	361
110 ⇒	86	550 ⇒	226	7000 ⇒	364
120 ⇒	92	600 ⇒	234	8000 ⇒	367
130 ⇒	97	650 ⇒	242	9000 ⇒	368
140 ⇒	103	700 ⇒	248	10000 ⇒	370
150 ⇒	108	750 ⇒	254	15000 ⇒	375
160 ⇒	113	800 ⇒	260	20000 ⇒	377
170 ⇒	118	850 ⇒	265	30000 ⇒	379
180 ⇒	123	900 ⇒	269	40000 ⇒	380
190 ⇒	127	950 ⇒	274	50000 ⇒	381
200 ⇒	132	1000 ⇒	278	75000 ⇒	382
210 ⇒	136	1100 ⇒	285	100000 ⇒	384

Source: Krejcie & Morgan, (1970).