

# Assessing the Factors Influencing Technology Acceptance Decision to Use of Information System (IS) Services: Insights from Academic Profession

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**Abstract :Background :** Information and Communication Technology (ICT) is one of the most important characteristics of our age and, like every new development, it has changed our lives to many extents. Researchers used these IS adoption models to explain technology acceptance in different contexts but fully skip the newly government IS services in academic institutions more specifically college. Nevertheless, measurement of IS services in educational institution has been largely ignored in the literature while the level of use's acceptance of information technology has broadly been confirmed as the indicators of IT success. Very few technology acceptances and use models have been developed and proposed to explain technology acceptance decision and behavioral intention to use of Information System (IS) services. The present research attempts to bridge this gap, by empirically examining the factors influencing technology acceptance and use behavior of Information System (IS) services.

**Objective:** The objective of this study was to develop and empirically test a model for predicting the factors influencing technology acceptance decision and behavioral intention to use of Information System (IS) Services in Academic Institution (AI) specifically College.

**Methods:** A survey instrument was administered to 310 participants from both college's teachers and staffs in whole Barisal Division. Structural Equation Modeling (SEM) was applied to analyze the causal effect of eight hypothesized predicting factors through Plugin: SPSS-22 and Analysis of Moment Structure (AMOS) Version-23 was used examine and refine the model relationship.

**Results:** Eight relevant predictors were confirmed in technology acceptance decision and behavioral intention to use of Information System (IS) Services, with Perceived Desirability ( $r = 0.30$ ;  $\beta = 0.76$ ;  $p < 0.001$ ), Perceived Feasibility ( $r = 0.49$ ;  $\beta = 0.60$ ;  $p < 0.001$ ), Effort Expectancy ( $r = 0.12$ ;  $\beta = 0.68$ ;  $p < 0.001$ ), Performance Expectancy ( $r = 0.16$ ;  $\beta = 0.88$ ;  $p < 0.001$ ), Facilitating Conditions ( $r = 0.40$ ;  $\beta = 0.50$ ;  $p < 0.001$ ), Precipitating Events ( $r = 0.39$ ;  $\beta = 0.65$ ;  $p < 0.001$ ), Propensity to Act and ( $r = 0.17$ ;  $\beta = 0.49$ ;  $p < 0.001$ ) having a direct impact on Behavioral Intention to use of IS services in AI. The model of eight predictors yielded 79.9% of the total variance explained in the final measured Behavioral Intention to Use of IS services by teachers and staffs in AI.

**Practical Significance:** The results of this study confirm the applicability of the integrated UTAUT and EEM model to measure the teachers and staff's perceptions towards technology acceptance decision and behavioral intention to use of Information System (IS) Services in Academic Institution (AI). The results of this study will help decision makers to gain better understanding of the factor that determine technology acceptance decision and behavioral intention to use of IS services in the academic institutions. Policy makers of education ministry may also use this framework to diagnose causes for the reluctance of teachers and to implement strategies accordingly to their higher authority concerns.

**Originality/value judgement:** This is first time education context of Bangladesh, the study revises the UTAUT and the EEM in order to develop a more robust model, and identify new variables that affect the relationship between technology acceptance decision and behavioral intentions to use of Information System (IS) services in academic institutions while overcoming UTAUT's and EEM's constructs limitations.

**Keywords:** Academic Profession (AP), Information and Communication Technology (ICT), Information System (IS), Technology Acceptance (TA)

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## I. INTRODUCTION

Information and Communication Technology, popularly known as ICT, has become a useful tool in promoting quality of education worldwide. It has been introduced in education with a belief that it can turn teaching-learning into an enjoyable event to the learners. The transformation from traditional teacher-centric classroom to learner-centric classroom can also be possible using ICT innovatively at anytime from anywhere. In recent years, aligned with the current trend, Bangladesh also has considered ICT seriously for educational

enhancement. ICT has got importance in policies and curriculum. The government, NGOs and development-partners are playing a significant role in introducing ICT in education (Babu and Nath, 2017).

There is a need to find the variables that will be able to capture the role of external factors that affect technology acceptance decision and behavioral intention to use of Information System (IS) services as well as factors that measure constructs toward behavior intention. Study shows that in the context of technology, Krueger and Brazeal (1994) developed the Entrepreneurial Potential Model to measure individual perceptions toward the intention to use of Information System (IS) services and the precipitating events as moderating variables that is able to capture the role of external factors on the relationship between technology acceptance decision and behavioral intention to use of IS-service. This study modified some items to better fit the current research context, measurement items for performance expectancy, effort expectancy, facilitating conditions, and behavior intention and use behavior were adopted from the technology acceptance literature (Venkatesh et al., 2003). Four other constructs; perceived desirability, perceived feasibility, precipitating events and propensity to activities related to the entrepreneurship context are adopted from the Entrepreneurial Potential Model.

Across the world, now using the IS to provide their officials with more convenient access to information and services. This study integrated the UTAUT-model and EEM-model to create a robust and parsimonious hybrid model, and provide a better understanding of the technology acceptance decision and their behavioral intention. With this integrative model, the limitations within the UTAUT-model can be overcome, which will provide a comprehensive understanding of the determinants that affect the technology acceptance decision and behavioral intention to use of Information System (IS) services.

Researchers used these IS adoption models to explain technology acceptance in different contexts but fully skip the newly government IS-services in academic institutions more specifically college. Nevertheless, measurement of IS-services in an educational institution has been largely ignored in the literature while the level of user's acceptance of information technology has broadly been confirmed as the indicators of IT success. Very few technology acceptances and use models have been developed and proposed to explain technology acceptance decision and behavioral intention to use of Information System (IS) services. The present research attempts to bridge this gap, by empirically examining the factors influencing technology acceptance and use behavior of Information System (IS) services.

The principal aim of this research is to develop and empirically test a model for predicting the factors influencing technology acceptance decision and behavioral intention to use of Information System (IS) services specifically in College. The current study is grounded in an integration of UTAUT and EEM model that will be utilized and achieve this goal. Consequently, the following questions have been identified to help to achieve this aim: How can the factors that influence the technology acceptance decision and behavioral intention to use of Information System (IS) Services in Academic Institution (AI) specifically College by using the Integration of UTAUT and EEM model?

However, in this study, the UTAUT-model and EEM-model was chosen as the base theoretical model for this study because of its comprehensive and high explanatory power in comparison to other technology acceptance and use models. The results of this study will help decision makers to gain a better understanding of the factor that influences technology acceptance decision and behavioral intention to use of Information System (IS) services in the academic institutions. This study adds precipitating events as a moderator between intention and behavior to fill the intention-behavior gap.

## **II. THEORETICAL BACKGROUND AND MODEL DEVELOPMENT**

All of the intention-based models are used to predict behavioral intention to use. This study supports the present investigation based on Krueger and Brazeal's (1994) Entrepreneurial Potential Model. The UTAUT-model does not measure the individual characteristic toward behavioral intention to adopt technology (attitude, self-efficacy), limitations that exist in the relationship between intentions and user behavior (intention behavior gap) and EPM's ability to measure individual's dimension toward technology adoption and capture the effect of external factors. In order to mitigate the limitations, the current study develops a new model by integrating the UTAUT-model and EEM-model to predict the intention to use of IS services. The research model is shown in Figure-1. Following this rationale, this study integrated constructs from the Entrepreneurial Potential Model to the UTAUT-model and developed the following hypotheses.

### **2.1 Perceived Feasibility (PF)**

Krueger et al., (2000) stated perceived feasibility in the EPM-model is defined as the degree to which one feels personally capable of performing a task. A higher level of perceived feasibility will lead to higher levels of behavioral intention and IT usage (Compeau and Higgins, 1999). Numerous studies have reported significant empirical relationships between the perceived feasibility and the intention across a wide range of behavioral domains (Veciana et al., 2005; Guerrero et al., 2008; Fitzsimmons and Douglas, 2011 and Sajjad et al., 2012). It reflects the perception of personal capability to do a particular job or set of tasks. In turn, the

intention to use will be able to predict use of IS-services. Accordingly, following the above rationale, this study developed the following hypothesis:

**H<sub>1</sub>:** *Perceived Feasibility (PF) will have a positive influence on the academic professional's intention to use of IS- services.*

## **2.2 Perceived Desirability (PD)**

Krueger and Brazeal (1994), argued that the intentions are driven by perception and that the outcome of the behavior is personally and socially desirable. Prior studies using the EEM Model confirmed that perceived desirability is the strongest determinant of behavioral intention (Shook and Bratianu, 2008; Linan and Santos, 2007; Zampetakis, 2008; Nasurdin et al., 2009). Thus, a higher level of perceived desirability will lead to higher levels of intention to take action (Devonish et al., 2010; Krueger, 1993). It is postulated that perceived desirability has a significant positive influence on the Behavioral Intention to use IS-innovation. Therefore, following this rationale above as a guideline and, developed the following hypotheses:

**H<sub>2</sub>:** *Perceived Desirability (PD) will have a positive influence on the academic professional's intention to use of IS- services.*

## **2.3 Effort Expectancy (EE)**

According to Venkatesh et al. (2003), Effort Expectancy (EE) is defined as “the degree of ease associated with the use of the system”. Thus, EE is posited to hold increasingly strong predictive power for BI (Arning et al., 2009). The UTAUT-model posits that the effort necessary to learn and use new technology will affect its acceptance and usage (Damanpour et al., 2006). It is an important predictor of technology acceptance. However, the authors of this study postulate that teacher and staffs would use IS-related services if the new technology is easy to use. Therefore, using the rationale above as a guideline, this study hypothesizes that:

**H<sub>3</sub>:** *Effort Expectancy (EE) will have a positive influence on the academic professional's intention to use of IS- services.*

## **2.4 Performance Expectancy (PE)**

Venkatesh et al. (2003) define performance expectancy as “the degree to which an individual believes that using the system will help him or her to attain gains in job performance”. Venkatesh et al. (2008) postulated that PE is the strongest determinant of a user's behavioral intention (BI) to adopt the technology. Pai and Huang (2011) indicated that PE affects BI to use information systems. Therefore, it is expected that the performance expectancy will positively influence High School teacher's behavioral intention to use IS-related innovation. The above discussion led this study to posit the following hypothesis:

**H<sub>4</sub>:** *Performance Expectancy (PE) will have a positive influence on the academic professional's intention to use of IS- services.*

## **2.5 Facilitating Conditions (FC)**

Facilitating conditions is defined as the degree to which individuals believe that appropriate organizational and technical infrastructure should be in existence to support the use of the system (Venkatesh et al., 2003). In UTAUT-2 facilitating conditions was hypothesized to influence both behavioral intention and use behavior directly (Venkatesh et al., 2012). A study by Boontarig et al. (2012) suggested that FC positively influences the behavioral intention and use behavior of using IS services. They argued that the effect of facilitating condition is stronger. The above discussion resulted in the following hypotheses:

**H<sub>5-(a)</sub>:** *Facilitating Conditions (FC) will have a positive influence on the academic professional's intention to use of IS- services.*

**H<sub>5-(b)</sub>:** *Facilitating Conditions (FC) will have a positive influence on the academic professional's actual use of IS- services.*

## **2.6 Propensity to Use (PU)**

Shapero and Sokol (1982) conceptualized propensity to act (use) as the degree to which an entrepreneur's perceived disposition to use IS innovations and it reflects volitional aspects of their intention to use of IS services. Shapero (1985) posited that higher level of propensity to use will increase the behavioral intention to use IS-services. According to Krueger (1993), without a significant propensity to act, it is hard to arrive at well-formed intentions. Thus, propensity to use can capture the role of external variables that can potentially impede or facilitate behavior. Therefore, this study hypothesizes that

**H<sub>6</sub>:**Propensity to Use (PU) will have a positive influence on the academic professional's intention to use of IS- services.

**2.7 Participating Events (EP)**

According to Krueger (1993), participating in events is defined as a certain exogenous variable that facilitates or ‘precipitates’ the realization of intention into behavior. Precipitating events is an important factor in the Entrepreneurial Potential Model that captures the effect of external factors on user’s intention to take action, and is considered as a moderator on the link between intention and behavior (Schindehutte et al., 2000). Extending the above finding, precipitating events is hypothesized to moderate the relationship between behavioral intentions and user behavior. Thus, consistent with this view, this study hypothesizes that:

**H<sub>7</sub>:**Participating Events (EP) will have a positive influence on the academic professional's behavioral intention and actual use of Information System (IS) services.

**2.8 Intention to Use Behavior of IS Services**

Krueger, et al., (2000) posited the intention is defined as a person’s willingness to pursue a given behavior and represent an individual’s commitment toward a target behavior. According to Krueger (1993), the intention is the best predictor of human behavior. Kijisanayotin et al. (2009) found that BI is a predictor of actual UB of Information System (IS) services. In this study, behavior intention is conceptualized as the degree to which has formulated conscious plans to use or reject an IS innovation to improve their business (Stopford and Baden-Fuller, 1994). In the current study, behavior intention is defined as the degree to which teacher formulate conscious plans to use of IS services to improve their professional jobs. Based on the above literature, this study posited the following hypothesis:

**H<sub>8</sub>:**Behavioral Intention (BI) will have a significant effect on the actual use of Information System (IS) services.

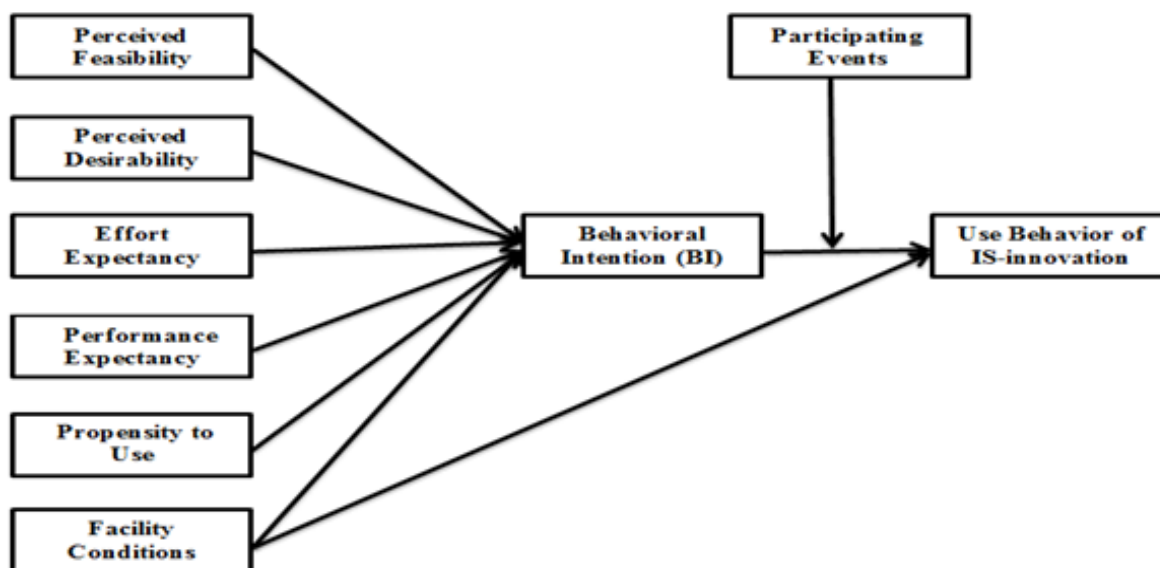


Figure-1: Research Model

**III. METHODOLOGY**

**3.1. Measurement Instruments**

This study modified some items to better fit the current research context. Measurement items for performance expectancy, effort expectancy, facilitating conditions, and behavior intention and use behavior were adopted from the technology acceptance literature (Venkatesh et al., 2003; Venkatesh et al., 2008). Four other constructs; perceived desirability, perceived feasibility, precipitating events and propensity to act related to the entrepreneurship context are adopted from the Entrepreneurial Potential Model literature (Krueger, 1993; Kruger and Brazeal, 1994; Krueger et al., 2000; Schindehutte et al., 2000). The detailed items of each construct and their sources are listed in the Table-1.

Construct	Code	Corresponding Items	Source
	PF-1	I would feel comfortable using IS services in my job.	

Perceived Feasibility (PF)	PF-2	I have the skills and capabilities required to use IS services.	Krueger et al., (2000)
	PF-3	I am confident, I can use new IS services in my job.	
	PF-4	It would be very feasible for me to use IS services in my job.	
Perceived Desirability (PD)	PD-1	Using IS services in my job is much more desirable for me.	Krueger et al., (2000)
	PD-2	Using IS services would increase quality of work in my job	
	PD-3	Using IS services in my business is an attractive idea.	
	PD-4	I am very enthusiastic to use IS services in my job.	
Effort Expectancy (EE)	EE-1	My interaction with IS-innovation would be clear and understandable.	Venkatesh et al., (2003)
	EE-2	I would find IS-related services easy to use.	
	EE-3	I find that using IS-innovation would be simple	
	EE-4	I find that using IS-innovation would be easy to learn	
Performance Expectancy (PE)	PE-1	I find the IS services to be useful in my job.	Venkatesh et al., (2003)
	PE-2	Using the IS services enable me to accomplish tasks more quickly.	
	PE-3	Using IS services increase my productivity.	
	PE-4	Using IS services, increase my chances of getting more benefit in my job.	
Facilitating Conditions (FC)	FC-1	I have resource necessary to use the IS services in my job.	Venkatesh et al., (2003)
	FC-2	I have the knowledge necessary to use the IS services.	
	FC-3	There is external/internal support group available for assistance with IS services difficulties.	
	FC-4	New services is not compatible with other IS systems I use.	
Propensity to Use (PU)	PU-1	I will learn to operate IS services in my job.	Krueger and Brazeal, (1994)
	PU-2	I will use IS services to achieve more opportunity in my job.	
	PU-3	I will use IS services because I cherish the feeling of a useful service.	
	PU-4	I will use IS services that enable me to run my business successfully.	
Participating Events (EP)	EP-1	If you experience any changes in your work situation, how much have these changes influenced your decision in using IS-services?	Krueger and Brazeal, (1994)
	EP-2	If you experience any change in your work environment, how much have these changes influenced your decision in using IS-services?	
	EP-3	If you decided to change your work situation due to recent opportunity or lack of opportunity, how much have these assessments influenced your decision in using IS-services?	
	EP-4	If you experience any technical change in your work environment, how much have these changes influenced your decision in using IS-services?	
Behavioral Intention (BI)	BI-1	I predict I would use IS services, if it is available in the future.	Venkatesh et al., (2003)
	BI-2	I have very seriously thought of using IS services in my business if it available, in next 2 months.	
	BI-3	I plan to use current IS services in my work in the next year.	
	BI-4	I intend to use similar IS services technology in the future.	
Use Behavior (UB)	UB-1	IS-innovation service is a pleasant experience.	Venkatesh et al., (2008)
	UB-2	I use IS-innovation service currently.	
	UB-3	I spend a lot of time on IS-innovation service	

Table-1: Summary of Construct with Measurement Items

### 3.2 Data Analysis Tools and Techniques

The Statistical Package for the Social Sciences software and its supplement AMOS were found to be the appropriate and the most suitable tools for analyzing the quantitative data for this study. Moreover, this study is applying the SEM techniques to evaluate the relationship in the constructs for parameter estimation and to test the hypothesis among the variables in the model. In this study, SPSS-22 was applied for data analysis and descriptive statistical parameter estimation. The current study used two exploratory procedures viz., Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) to identify the underlying data structure for each construct. EFA has been used to examine only a single relationship at a time and to explore the construct validity of the test scales. CFA has been used to assess the multidimensionality and factorial validity of the construct of the theoretical model.

## IV. RESULTS OF THE DATA ANALYSIS

The survey was completed by 310 respondents. These, 26% were staff and 74% were teachers in the academic institutions. The following section will describe each group and provide the findings of the analysis.



**4.1 Demographic Characteristics of Sample**

The following table-2 provides a general overview of the teacher and staffs demographic information, such as age, gender, educational level, computer knowledge and internet knowledge, and use experience. The demographic characteristics of respondents presented in Table-2 show those percentages who participated in the study.

Variable	Description	Frequency	Percentage	Cumulative Percent
Gender	Male	206	66.5	66.5
	Female	104	33.5	100.0
Age	20-40	154	49.7	49.7
	41-50	101	32.6	82.3
	51-60	55	17.7	100.0
Education	HSC	12	3.9	3.9
	Bachelor	150	48.4	52.3
	Masters	148	47.7	100.0
M/C Use experience	1-3	96	31.0	31.0
	4-6	114	36.8	67.7
	7-9	100	32.3	100.0
Computer knowledge	Poor	111	35.8	35.8
	Moderate	113	36.5	72.3
	Good	55	17.7	90.0
	Very Good	31	10.0	100.0

Table-2: Demographic Information’s of the respondents

As shown in the table, 66.5% were male and 33.5% were female. Also, the age distribution shows about half of the respondents 50% were aged 20 to 40 and the second group was aged 41 to 50 of 32.6%. The percentage of the 51 to 60 years old age group was 17.7% and the percentage of those who were older than 50 years. Respondent was asked to specify their education level. As shown in the table, above 48.4% have a Bachelor and degree level education, while 47.7% have a master’s degree, with 67.8% of them having more than 1-6 years of mobile phone usage experience. As table reveals, 36.5% of the respondents were from the moderate group, 35.8% of the participants were poor in computer knowledge while a small percentage of about 10% did not have very good computer skills or experiences. Based on the above statistics, we can predict that more of the teachers and staffs are nowadays engaging with information system services in their predefined workplace over time. Consequently, this result has a significant effect on technology acceptance decision and behavioral intention to use of Information System (IS) services.

**4.2 Assessment of Construct Validity and Unidimensionality**

In this study, the validity and unidimensionality of the scales were assessed by using Exploratory Factor Analysis (EFA) and examination of the correlation coefficients for all of the instrument’s scales. In addition, convergent and discriminant validity of the measurement scales was also assessed using Confirmatory Factor Analysis (CFA).

**4.2.1 Convergent Validity**

The Composite Reliability (CR) and the Average Variance Extracted (AVE) were used to measure the convergent validity of the constructs. In the Confirmatory Factor Analysis (CFA), convergent validity relies on the average variance extracted (AVE) and Composite Reliability (CR) as a base. According to standard research findings, AVE should be above at least 0.5. Table-3 shows that all composite reliabilities are above 0.70. In addition, it shows also, that the average variance extracted (AVE) for each construct is above 0.50. Table-3 shows that the estimated constructs loading ranged from 0.72 to 0.96 and AVE ranged from 0.64 to 0.82 and CR ranged from 0.84to 0.94 are greater than the recommended levels. In addition to all the results support the instrument’s adequate convergent validity. Since the factor loadings, composite reliabilities and average variance extracted of the construct are at acceptable levels.

Construct	Items	Mean	SD	Loading	AVE	CR
Perceived Feasibility	PF-1	4.08	1.08	0.75	0.69	0.89
	PF-2	3.99	1.05	0.83		

<b>(PF)</b>	PF-3	4.01	0.93	0.86	0.82	0.94		
	PF-4	3.98	0.96	0.88				
Perceived Desirability <b>(PD)</b>	PD-1	3.98	0.98	0.87				
	PD-2	4.11	0.92	0.86				
	PD-3	4.16	0.99	0.96				
	PD-4	4.17	0.93	0.94				
Effort Expectancy <b>(EE)</b>	EE-1	4.43	0.96	0.72			0.68	0.89
	EE-2	4.31	1.08	0.74				
	EE-3	4.13	1.11	0.92				
	EE-4	4.03	1.07	0.92				
Performance Expectancy <b>(PE)</b>	PE-1	3.78	0.92	0.85	0.71	0.90		
	PE-2	3.86	0.91	0.86				
	PE-3	4.15	0.87	0.89				
	PE-4	4.44	0.96	0.77				
Facilitating Conditions <b>(FC)</b>	FC-1	4.43	0.94	0.73	0.73	0.91		
	FC-2	4.29	1.05	0.78				
	FC-3	4.02	1.14	0.94				
	FC-4	4.08	1.07	0.96				
Propensity to Use <b>(PU)</b>	PU-1	4.55	0.86	0.90	0.67	0.89		
	PU-2	4.27	1.09	0.89				
	PU-3	4.26	1.07	0.72				
	PU-4	4.12	1.07	0.76				
Participating Events <b>(EP)</b>	EP-1	3.51	1.23	0.85	0.73	0.91		
	EP-2	3.91	0.93	0.90				
	EP-3	3.94	1.03	0.92				
	EP-4	4.27	0.96	0.74				
Behavioral Intention <b>(BI)</b>	BI-1	4.42	0.99	0.72	0.71	0.90		
	BI-2	4.17	1.10	0.86				
	BI-3	4.05	1.10	0.89				
	BI-4	4.04	1.08	0.90				
Use Behavior <b>(UB)</b>	UB-1	4.19	1.02	0.89	0.64	0.84		
	UB-2	4.52	.930	0.95				
	UB-3	4.26	1.08	0.94				

Table-3: Convergent Validity for the Constructs

#### 4.2.2 Discriminant Validity

In this study, discriminant validity was assessed by comparing the absolute value of the correlations between the constructs and the square root of the average variance extracted by a construct. When the correlations are lower than the square root of the average variance extracted by a construct, constructs are said to have discriminant validity. As shown in the table, all squares roots of the AVEs (diagonal cells) are higher than the correlations between constructs and that definitely confirms adequately discriminant validity. The results shown in Table-4 reveals that all constructs in this study confirm the discriminant validity of the data.

	<b>PF</b>	<b>PD</b>	<b>EE</b>	<b>PE</b>	<b>FC</b>	<b>PU</b>	<b>EP</b>	<b>BI</b>	<b>UB</b>
<b>PF</b>	<b>0.83</b>								
<b>PD</b>	0.43	<b>0.90</b>							
<b>EE</b>	0.76	0.58	<b>0.82</b>						
<b>PE</b>	0.44	0.49	0.43	<b>0.84</b>					
<b>FC</b>	0.61	0.54	0.65	0.61	<b>0.85</b>				
<b>PU</b>	0.66	0.64	0.41	0.44	0.49	<b>0.81</b>			
<b>EP</b>	0.49	0.52	0.66	0.56	0.58	0.63	<b>0.85</b>		
<b>BI</b>	0.59	0.68	0.67	0.61	0.68	0.55	0.48	<b>0.84</b>	
<b>UB</b>	0.60	0.56	0.45	0.57	0.68	0.43	0.44	0.65	<b>0.80</b>

Table-4: Discriminant Validity Results for the Measurement Model

#### 4.3 The Model Fit Indices

The fit indices are summarized in the table-5 while the proposed structural model is depicted. The results of the structural model show that the model achieved a good level of fit. Overall, model showed a good

level of fit ( $X^2 = 1190.83$ ,  $df = 385$ ,  $X^2/df = 3.09$ ,  $GFI = 0.940$ ,  $TLI = 0.920$ ,  $CFI = 0.978$ ,  $IFI = 0.978$ ,  $NFI = 0.975$ ,  $NNFI = 0.968$ ,  $RMSEA = 0.075$ ,  $SRMR = 0.057$ ). As illustrated in Table-5, the results of the fit indices showed that most of the fit indices are above their recommended values of 0.90, indicating that the data fits the model very well, making it valid and acceptable for this validation purposes. The model presents the possibility of factors influencing technology acceptance decision and behavioral intention to use of Information System (IS) services.

Index	Model value	Recommended Value	Acceptance
$X^2 = 1190.83; df = 385; (X^2/df)$	3.09	< 3 good fit < 5 reasonable fit	Good
GFI	0.940	Above 0.90	Good
TLI	0.920	Above 0.90	Good
CFI	0.978	Above 0.90	Good
IFI	0.978	Above 0.90	Good
NFI	0.975	Above 0.90	Good
NNFI	0.968	Above 0.90	Good
RMSEA	0.075	< 0.05 good fit < 0.10 reasonable fit	Reasonable
SRMR	0.057	< 0.05 good fit < 0.10 reasonable fit	Reasonable

Table-5: Model fit indices

#### 4.4 Structural Model Assessment Results

The assessment and results of the model's refinement are in the table. The findings reveal that the Perceived Feasibility (PF) construct in the technology acceptance decision positively predicted the behavioral intention (BI) constructs ( $p < 0.05$ ) to use of Information System (IS) services in academic institution (AI), thus supporting H1. Then, Perceived Desirability (PD), Effort Expectancy (EE), Facilitating Conditions (FC), Propensity to Use (PU), among are positively predicted the Behavioral intention (BI) construct ( $p < 0.05$ ), except Performance Expectancy (PE) and Participating Events (EP) therefore, H2, H3, H5-(a), H5-(b) and H6, was supported except H4, and H7. Finally, Behavior intention will have a significant effect on the actual use ( $p < 0.05$ ) of IS-services in their predefined jobs over time, therefore H8 was supported. According to the findings in the table-6, six out of the eight path coefficients (hypothesis) were statistically significant and were considered meaningful (ranging from 0.15 to 0.28). Therefore, H1, H2, H3, H5-(a), H5-(b), H6, and H8 were accepted in the current study. The study tested the relationship between dependent and independent variables by path coefficient ( $\beta$ ) and t-statistics. The results show that the relationships between PF & BI, PD & BI, EE & BI, FC & BI, FC & UB, PU & BI and BI & UB were significant.

Hypotheses	Relationship	Beta	t-value	Sig. level	Decision
H <sub>1</sub>	PF and BI	0.15	9.80	0.032	Accepted
H <sub>2</sub>	PD and BI	0.26	7.95	0.011	Accepted
H <sub>3</sub>	EE and BI	0.18	6.77	0.038	Accepted
H <sub>4</sub>	PE and BI	0.17	5.87	0.743	Rejected
H <sub>5-(a)</sub>	FC and BI	0.18	8.54	0.011	Accepted
H <sub>5-(b)</sub>	FC and UB	0.19	5.45	0.027	Accepted
H <sub>6</sub>	PU and BI	0.28	7.87	0.025	Accepted
H <sub>7</sub>	EP and BI-UB	0.13	4.87	0.817	Rejected
H <sub>8</sub>	BI and UB	0.25	7.87	0.036	Accepted

## V. DISCUSSIONS OF THE STUDY

The UTAUT-model and EEM-model of this research were closely examined to identify the effect of its constructs on the technology acceptance decision and behavioral intention to use of Information System (IS) services specifically in Colleges teachers and staffs. With respect to the main constructs of the research model, the findings show that perceived desirability, perceived feasibility, effort expectancy, performance expectancy, facilitating conditions, precipitating events and propensity to act contribute significantly to teachers and staffs influencing technology acceptance decision and behavioral intention to use of Information System (IS) services in institution. The first salient determinant of behavioral intention (BI) to use of IS-services is perceived feasibility. This finding indicates that it will not be an obstacle for academic institutions to adopt IS-services, once teachers and staffs feel comfortable about using the system and are confident that they can put in the effort needed to use it in their daily activities. The integrated model was empirically tested and the results provided strong empirical support for the new model. The findings suggest that perceived desirability is the strongest



factor toward the intention to use IS-services. This finding shows that in the beginning, teachers and staffs will consider the attractiveness of the new technology and their desire to use it. The link between Effort Expectancy and Behavioral Intention (BI) was significant and supported by the research findings (H3). This result confirmed that users prefer to adopt an easy to use the system which demanded little effort and less time than traditional methods to accomplish their tasks. Consequently, this finding is consistent with the results of other studies which also confirmed that effort expectancy has a strong effect on use intention of IS-services in their job. This study suggests that the teacher's performance expectancy for IS-services might be increased by focusing on the usefulness of IS service and the availability of such services through modern technological channels. The results reveal that participating events have a direct link between facilitating conditions and user behavior. With respect to the facilitating conditions include ICT infrastructure of government sectors, internet connectivity, and technical support services. Therefore, it is necessary to improve facilitating conditions in terms of both technological and human resource in order to improve and increase the use of IS-services in the academic institutions. The findings of this study suggest that the effect of the propensity to use towards behavioral intention to use IS-innovation services in their job is positive and significant. However, by including the precipitating events construct as a moderator variable, it strengthens the ability of intention to use the behavior of IS-innovation in their professional job. These precipitating events serve to encourage teachers and staffs to consider available alternatives on the best way to use of IS-services so that they are able to compete in their job performance. Furthermore, we discovered evidence of the influence of the perceived desirability, perceived feasibility, effort expectancy, performance expectancy, facilitating conditions, precipitating events and propensity to act on the college's teacher's and staff's technology acceptance decision and behavioral intention to use of Information System (IS) services. These factors are related to individual perception, and significantly affect intentions and behaviors. Applying this model in technology acceptance decision and behavioral intention to use of Information System (IS) services use will shed additional light on this area. New knowledge perspectives, this research results would have been increased our understanding of technology acceptance decision and behavioral intention to use of Information System (IS) services in the academic institution.

## **VI. CONCLUSIONS**

The integration of UTAUT-model and EEM-model is a definitive model, which provides a useful theoretical basis to identify individual factors applicable to the technology acceptance decision and behavioral intention to use of Information System (IS) services context. The results of this study showed that the data fit the model very well. The results confirmed the applicability of the integrated UTAUT-model and EEM-model to measure the teachers and staff's perceptions towards technology acceptance decision and behavioral intention to use of Information System (IS) services in the academic institution. The results of this study will help decision makers to gain a better understanding of the factor that determines technology acceptance decision and behavioral intention to use of IS-services in the academic institutions.

## **VII. IMPLICATIONS FOR POLICY GUIDELINES**

This study provides new information to policymakers and educational leaders that may be useful in understanding academic institutions teacher's and staff's technology acceptance decision and behavioral intention to use of Information System (IS) services. Whether Policymakers or developer want to implement IS-services they should consider the attractiveness of such innovation for the user. On the other hand, the policymakers should provide a special programme that would encourage teachers and staffs to have a strong motive concerning technology acceptance decision. Policymakers may also use this framework to diagnose causes for the reluctance of teachers and staffs to implement strategies accordingly to their higher authority concerns. Education planners may able to utilize this model to interpret the factors influencing technology acceptance decision and behavioral intention to use of IS-services specifically in college.

## **VIII. LIMITATIONS AND FUTURE RESEARCH**

The limitation of this study was a single cross-sectional study with the limited number of focus groups which was required to accommodate the amount of time allowed for the study. There are some other limitations in the study due to specific geographic context chosen for administering the survey. The nature of this study may restrict its generalizability to other research settings. Future research should expand the findings of this research to other theories, which examine the relationship between intention and behavior. Since this model measures teachers and staff's perception of IS-service toward technology acceptance in academic institutions, other research can apply this model to investigate the adoption of different technology in different context.

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