

Review of Studies with Utaut2 as Conceptual Framework

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Published Online: March Issue 2015

Abstract: The aim of this study is to contrast and combine results from different studies using the Unified Theory of Acceptance and Use of Technology (UTAUT2) and its extensions, in the hopefulness of identifying patterns among studied results, sources of discrepancy among those results, or other existing relationships that may come to light in the context of these study. Studies from which this paper was prepared were derived from Emerald, Science Direct, EBSCOhost databases. Out of 17 studies gleaned 2 were on education, 2 on social, 4 were on mobile, 2 were on the consumer, 2 were on the web, 3 were on Health, 1 were on banking and 1 were on different forms. Results from these studies are varied. This paper tabulate thematically and chronologically literature where the Unified Theory of Acceptance and Use of Technology (UTAUT2) have been applied. The review identified the Topic, Author, Sample Size, and Location where the study have been carried and theoretical model used. It also includes the Statistical techniques applied, the objectives of the study and the results.

Keywords: Effort Expectancy, Performance Expectancy, Social Influence, Facilitating Conditions, Behavioral Intention, hedonic motivation, price value, and habit.

1. Introduction

UTAUT1

Researchers have conducted technology acceptance studies for over two decades now. They have used various theories and models to carry out these studies in different contexts with different unit of study. Findings from these researches vary. The authors of UTAUT model unified eight theories and models which include Theory of reason Action (TRA) Technology acceptance model (TAM), Motivational model (MM), Theory of planned behavior (TPB) combined TAM and TPB (C-TAM-TPB) Model of PC Utilization MPCU. Innovation Diffusion Theory (IDT) and Social Cognitive.(Aggelidis & Chatzoglou, 2009; Hennington & Janz, 2007; Hsieh, 2013; Karuri, Waiganjo, & Manya, 2013; Phichitchaisopa & Naenna, 2013; Taiwo & Downe, 2013; Venkatesh, 2012; Williams, 2011)

Theory (SCT) Bandura (1986). The unification by the researchers sum up all the constructs from the eight models to four determinants, which predicts intentions, usage, and four moderators of the key relationships Morris, Hall, Davis, Davis, & Walton, (2003). Figure 1 illustrates the relationships that exist in the UTAUT model. The model has four EV, which refers to exogenous variables, EE, which refers to effort expectancy, PE which indicates to performance expectancy, SI which refers to social influence, and FC which mea facilitating conditions. The endogenous variables are the technology intention to use and behavior. There are other four moderators namely age, experience, gender and voluntariness. Performance expectancy is known, as a degree individual believes in the benefit of the system to performance (Hennington & Janz, 2007; Wills, 2008).

The degree of ease associated with the use of the system is an important indicator towards technology intention to use which calls effort expectancy. The degree of an individual perceives on the important of new system used is also significant indicator towards technology intention to use. The degree of an individual believes on the effective of organizational and technical infrastructure exists that needs to support the use of the system is an important indicator which called facilitating condition.

The selection of this model in this paper is justified by its global and integrative approach, incorporating a wide variety of explanatory variables from the main theoretical models developed to explain technology acceptance and use. In particular, Morris et al., (2003) carried out an in- depth analysis of literature on this topic and proposed a unified model that integrates the contributions common to the previous theories. Therefore, it is reasonable to expect a theory that integrates the most important contributions from other models to be superior to the previous theories explanation of technology acceptance and use

UTAUT2

(Venkatesh, 2012) extends the unified theory of acceptance and use of technology (UTAUT) to investigate acceptance and use of technology in a consumer context. That the goals of UTAUT2 integrates three concepts into UTAUT: HM, PV, and HT. the demographic characteristics of service users' were used as moderatos variables namely experience, age and gender to control the effect on the BI and the use of technology. The findings have derived from two-channels online survey conducted with user of technology. The data collected took four months from 1,512 of the clients of mobile. As compared to UTAUT, the additions proposed in UTAUT2 produced a substantial improvement in the variance explained in BI.

Hedonic Motivation (HM)

Hedonic motivation (HM) can defined as the intrinsic motivation such as fun, enjoyment or pleasure when using a technology because of technology for its own sake, and it has known an important construct in determining technology acceptance and use. HM is

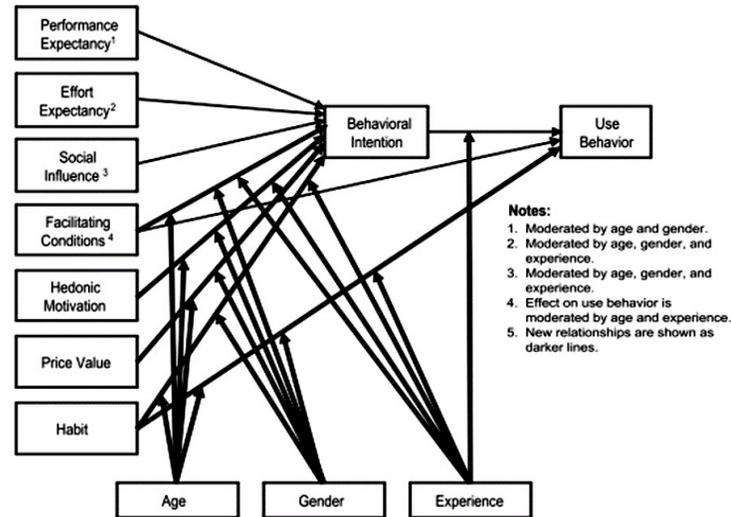


FIGURE 1: UTAUT 2 conceptual model

similar to perceived enjoyment or playfulness to TAM as an intrinsic motivation factor, (Kang, Liew, Lim, Jang, & Lee, (2015); Technologies, Impact, & Usage, (2013); Venkatesh, (2012)

Price Value (PV)

In general, people chose the services or products when their benefit gives more than the price value compared with its cost .Therefore, price value can be defined as learners' cognitive tradeoff between the perceived benefits of the applications and the monetary cost, Raman & Don, (2013); Technologies et al., (2013); Venkatesh, (2012)

Habit (HT)

Habit (HT) is one of a strong predictor of future technology use Raman & Don, (2013). Habit has been known as the degree to which individuals incline to implement behaviors routinely because

of learning Kang et al.,(2015); Venkatesh,(2012)

topic	Author	Simple, size, location & model	Statistical technique	Objective	Results
education					
An Application of the UTAUT2 Model. Preservice Teachers Acceptance of Learning Management Software:	[20]	320 Malaysia Utaut2	(PLS) (AVE) (CR)	Studied the interactions among the hypotheses that may influence the acceptancy of teachers in Learning Zone (Moodle) and evaluating the effect of difference on UTAUT2 elements to intention to usage exclude PV	PE and EE have impact on behavioral intention. social influence seems significant HM, shows positive influence on BI use
Understanding Undergraduate Students' Adoption of Mobile Learning Model: A Perspective of the Extended UTAUT2	[21]	182 China Utaut2	(CFA) (AVE)	This study examined the direct as well as indirect influences of self-management of learning on students' intention to adopt m-learning	1-self-management negative intention to use 2-effect of hedonic motivation on intention to use m-learning is greater than that of performance expectancy 3- social influence has a positive effect on undergraduate student's intention to use m-learning 4- effort expectancy no significant 5-price value exerted a positive impact
Social					
An Application of UTAUT2 in Social Network Games: Understanding Users' Continued Use of Online Games	[22]	3919 China Utaut2	(CFA) AVE (CR)	This paper is intended to scrutinize the Factors that play in perpetuation intention in online gaming through using UTAUT2. They found that the UTAUT2 can be a good theoretical model in their context	Factors including achievement, SI, perceived enjoyment, fantasy, PV, and HT all have significant and direct influences on continuance intention to play the SNG Impact of SI is stronger Than other factors.
An Application of UTAUT2 on Social Recommender Systems:	[23]	266 UTAUT 2 User's social	Questionnaire PLS AVE	This study utilizes UTAUT2 to explore the user acceptance of social recommender systems that have become more attractive	The user's social network information, profile information, and reading behavior positively influence performance expectancy and

Incorporating Social Information for Performance Expectancy		network information, profile information, and reading behavior		owing to improved content personalization and adaptation to user preferences	the intention to adopt a social recommender system
Mobile					
Adopting An Extended UTAUT2 To Predict Consumer Adoption Of mobile-Technologies In Saudi Arabia	[24]	Systematic review 287 researches Kingdom of Saudi Arabia UTAUT 2, Trust, Risk	Systematic review	This research examines the consumer adoption of M-Internet and M-Government. This study will reflect upon a number of studies in different countries that tested UTAUT2 variables in addition to the trust and perceived risk	-----
Mobile Technologies and Services Development Impact on Mobile Internet Usage in Latvia	[19] 2013	Latvia UTAUT 2 + Society and media 2000	Cronbach alpha (α)	Is to develop mobile internet prevalence model that would let determine levels of mobile internet acceptance and use, and they impacting factors	Genders are less affected by elements social influence and price Behavioral intention is most strong Affected by the elements performance expectancy, effort expectancy, and facilitating conditions
Investigating the Determinants of Mobile Learning Acceptance in Korea Using UTAUT2	[18]	Korea 305 UTAUT 2	Stepwise multiple regression analysis	To examine the determinants of the Korean university students' m-learning acceptance by using UTAUT2	Results showed that five out of the seven variables were significant determinants of behavioral intention to use m-learning, namely, performance expectancy, social influence, hedonic motivation, facilitating condition and habit which are consistent with previous researches EE and PV were not significant to predict BI
Adoption of Mobile Internet Services in Chile: An Exploratory	[25] 2014	Chile 501 Utaut2	Kruskal–Wallis one-way Cronbach alpha (α)	The main objective of this study is to explore differences on the adoption of mobile Internet services on a sample of Chilean users	The findings indicate slight gender Differences in mobile Internet users. Men are presented as little

Study					savvier and more utilitarian oriented than women. Women are presented as little more enjoyers and with a little more frequent use of mobile Internet services than men
Consumer					
CONSUMER ACCEPTANCE AND USE OF INFORMATION TECHNOLOGY : EXTENDING THE UNIFIED THEORY OF ACCEPTANCE AND USE OF TECHNOLOGY 1	[4]	1,512 Utaut2 Hong Kong	Online survey (PLS) The average variance extracted (AVE)	Proposed UTAUT2 incorporates three constructs into UTAUT: hedonic motivation, price value, and habit	Behavioral intention (56 percent to 74 percent) and technology use (40 percent to 52 percent)
Consumer Acceptance and Use of Information Technology: Adding consumption theory to UTAUT2	[26]	UTAUT 2 Consumption theory suggests income (absolute income, relative income, and permanent income)	Proposes a theoretical model	to focus on the consumer context (individual level), develop and empirically test a new model based on UTAUT2	-----
web					
Role of Web Personalization in Consumer Acceptance of E-Government Services	[27]	India	Questionnaire (PLS) (SEM) confirmatory factor analysis (CFA)	This study seeks to understand how web personalization influences consumer technology acceptance in an E-Government setting	Results show that personalizing the web by self-reference and content relevance has a significant moderating effect on the relationship between the determinants of intention to use and user acceptance in certain cases.
Web Personalization in Technology	[28]	Indian 150 Utaut2 +	PLS Cronbach alpha (α)	The effect of web personalization in context of technology acceptance	WBP moderates Hedonic motivation and Price value. Hedonic motivation stated to

Acceptance		Wbp			influence the technology acceptance and use. With WBP the effect of price value on intention to buy is more as compared to its effect without WBP
Health					
Importance of Mobile Technology in Successful Adoption and Sustainability of a Chronic Disease Support System	[29]	UTAUT 2 self-management interventions including the care provider, family and social support, education	Theoretical model	The objective of this paper is to show the importance of using mobile technology adoption and sustainability of the use of a m-Health system which will result in commercially sustainable Self-Management support, for chronically ill patients	-----
Electronic Health Record Portal Adoption by Health Care Consumers	[30]	30 UTAUT 2 Concern for Information Privacy (CFIP)	(PLS) (SEM)	The aim of this study is to identify a set of determinants of adoption of electronic health records (EHR) portals by health care consumers. Based on extensive literature review, we suggest a new research model based on the unified theory of acceptance and use of technology in a consumer context (UTAUT2) by integrating a second order construct, Concern for Information Privacy (CFIP) framework and a moderator, chronic disability.	-----
An extension of the UTAUT 2 in a healthcare context	[31]	UTAUT 2	Theoretical models	This study explored an established technology acceptance model (UTAUT2) (10), which guides research towards the importance of age in a	-----

				healthcare context.	
Others					
Examining Factors Affecting Customer Intention And Adoption Of Internet Banking In Jordan	[32]	384 Jordan UTAUT 2 Perceived risk (PR) and trust (TR)	(SEM) (CFA)	This study aims to propose and validate a conceptual model demonstrating the main factors predicting customers' intention and adoption of Internet banking in Jordan	Statistical results approved that all predictors of behavioral intention (BI) have been recognized as significant
COMPUTER-ASSISTED AUDITING TOOLS ACCEPTANCE USING I-TOE: A NEW PARADIGM	[33]	Malaysia 500 UTAUT 2 +TOE framework	Framework	This study contributes to enrich adoption literature and accounting professional practice by presenting a better understanding on predicting CAATs adoption factors that are essential to public accounting firms.	-----

Key: ADSU - Adamawa State University, AVE- Average Variance Extracted, ATUT - Attitudes Towards Use of Technology , BI - Behavioral Intentions, CFA - confirmatory factor analysis , CR- composite reliability, DLE - Digital Learning Environment, EE- Effort Expectancy, e-LM - E-learning motivation, FC-Facilitating Conditions, IQ - Information Quality, IWB-interactive whiteboard ,KMO- Kaiser-Meyer-Olkin, LASU - Lagos State University, PC- Perceived Credibility , PE- Performance Expectancy, PFC perceived financial cost, PLS- Partial Least Squares, PR- Perceived Risk, PSE- Perceived Self Efficacy, PU- Perceived Usefulness, PEOU- Perceived Ease of Use, SEM - Structural Equation Modeling, SQ- Systems Quality, TTF - Task Technology Fit, SI-Social Influence,UB-Use Behavior, WBQAS - Web Based Question-Answer Services,

Conclusion

As shown in the literature above, UTATUT 2 has used to determine the service users' acceptance or adoption technology in various scopes. The importance of this theory is due its factors that play critical role in evaluating technology intention and acceptance. Those factors either exogenous or endogenous have validated in many studies from different environments and at different disciplines. The affective factors of exogenous are PE, EE, SI, FC, HM, PV and HT, which have positive effect on the endogenous factor of BI.

Study by [20], determines the effective factors that influence the preservice teachers approval of learning management software in Malaysia. The

findings of this study emphasis that the effort expectancy and PE have influence on BI. Moreover, the SI and hedonic motivation have positive influence on BI use.

Study by [21], examines the effective factors that influence the examined the direct as well as indirect influences of self-management of learning in China. The findings of this study emphases that self-management had negative influence on intention to use. While the effect of hedonic motivation on intention to use mobile learning is positive. Moreover, the social influence, price value exerted a positive impact have positive impact on intention to use M-learning.

The UTUAT2 has been used by many studies such as [18], [19], [22], [24], [25], [27], [28], [32], to examine the effective factors that influence technology intention to use and acceptancy. The findings of these studies indicate that the factors of UTATUT 2 namely PE, EE, SI, FC, HM, PV and HT have positive effect on the endogenous factor of BI.

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