

**RESEARCH PAPER****Information Technology Continuance Intention Theories: A Systematic Literature Review****¹Aribah Saleem* and ² Dr. Bilal Mirza**

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***Corresponding Author** aribahsaleem29916@iqraisb.edu.pk**ABSTRACT**

The objective of this study is to understand evolution in technology continuance theories in the contemporary technological landscape. It is necessary to focus a shift from initial technology adoption to sustained usage, leading to an increased emphasis on users' post-adoption behaviors. This literature review explores various theoretical models relevant to technology acceptance and continuance intention in the Information Systems domain. The research methodology involved an extensive search for articles on technology acceptance and continuance intention in reputable databases such as Scopus and Google Scholar. The result shows that the Information System Continuance Model (ISCM) emphasizes factors such as perceived usefulness, user satisfaction, and confirmation of expectations. The Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB) delve into behavioral intention, attitude, and perceived behavior control. The Technology Acceptance Model (TAM) highlights perceived ease of use and perceived usefulness, with TAM3 representing its evolved form. The Unified Theory of Acceptance and Use of Technology (UTAUT) integrate eight different models, emphasizing constructs like social influence, effort expectancy, and performance expectancy. Lastly, the Information System Success Model considers individual impact, organizational impact, system quality, use, information quality, and user satisfaction.

Keywords: Information System Success Model, Information Technology, Technology Acceptance Model, Theory of Reasoned Action

Introduction

Technology acceptance theories focus on predicting initial technology adoption. Information technology (IT) continuance theories probe users' decisions to either continue or discontinue using the technology. Although technology acceptance and continuance theories share a similar theoretical path, but they differ in when continuance is concerned with the post-adoption phase after the initial use (Bhattacharjee & Lin, 2015). In the domain of continuance intention, attitude significantly influences users' intention to continue using a particular technology (Froughi et al., 2019).

Literature Review**Information System Continuance Model (ISCM)**

Information system continuance intention (ISCM) is established on three key factors: perceived usefulness, users' satisfaction and the confirmation of expectations. ISCM is mostly frequently implemented in the model in previous research relating to information technology continuance intention (Nabavi et al., 2016). For further research in the continuance intention domain, ISCM needs to be expanded with the addition of innovative antecedents related to distinctive characteristics of new technology to upsurge its predictive ability and robustness (Lin, Featherman & Sarker, 2017).

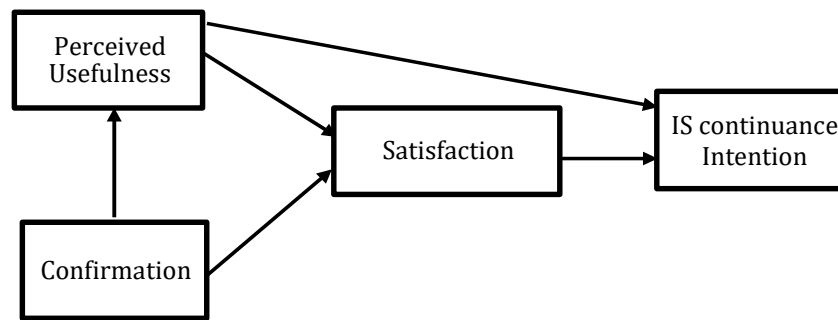


Figure-1 IS continuance expectation-confirmation model (Bhattacharjee, 2001)

Theory of Reasoned Action (TRA)

The theory of reasoned action (TRA) is rooted in the field of social psychology and proposes that an individual's intention to engage in a specific behavior directly influences their actual behavior (Fishbein & Ajzen, 1975). The key constructs of TRA include subjective norm, behavioral intention, and attitude. Despite its foundation in social psychology, TRA has been applied in numerous Information Systems (IS) research studies to predict behavioral intention towards the use of specific technologies. It suggests that TRA can effectively anticipate an individual's behavior if their attitude and intention align across dimensions such as action, time, target, and context. However, it should be noted that TRA is primarily suitable for forecasting volitional control behaviors (Yousafzai, Foxall & Pallister, 2010). TRA assumes that the intention of the behavior predicts by behavior regardless of money, space, and time may avert individuals to behave in a specific manner. Hence, it does not consider irrational decisions, habitual actions, or behaviors that are not intentionally well-thought-out (Samaradiwakara & Gunawardena, 2014).

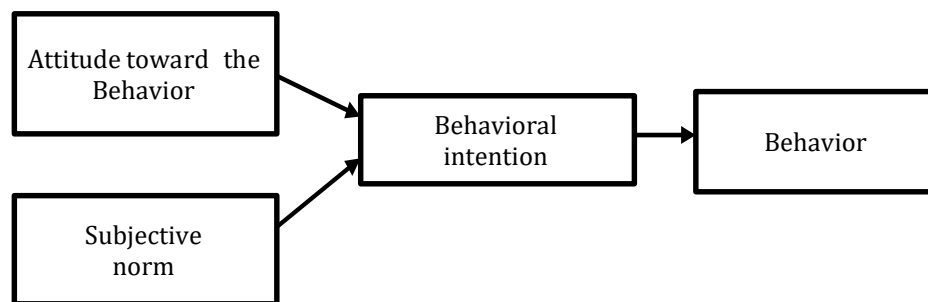


Figure-2 Theory of Reasoned Action (Fishbein & Ajzen, 1975)

Theory of Planned Behavior (TPB)

In addition to TRA, Theory of planned behavior was established which suggests that three self-determining predictors, perceived behavior control, subjective norms, and attitudes enlighten the intention of engaging in a specific behavior (Ajzen, 1991). Perceived behavior control (PBC) was introduced to this model to eradicate the constraint of TRA, which volitional control rules behavior. TPB theory claims to be receptive to a new variable that considers variance in behavior and intention (Ajzen, 1991). Former researches suggest that TPB describes only about 40% of the variance in individuals' behavior (Alaulamie, 2013).

The usefulness of TPB in accepting the usage of various technologies is studied widely and is found beneficial to forecast behavioral intention. It is relevant to comment that

PBC relies on the ideas of self-efficacy which proposes that confidence gives the aptitude to achieve a behavior.

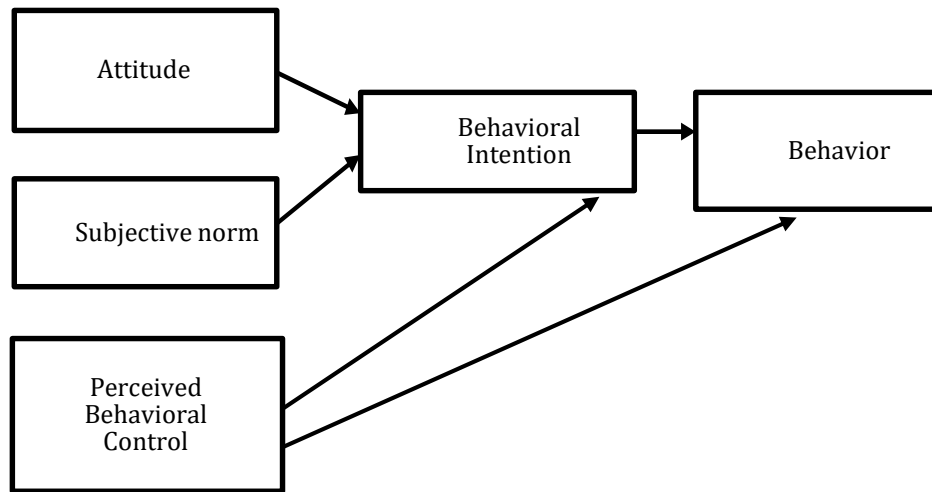


Figure-3 Theory of Planned Behavior (Ajzen, 1991)

Technology Acceptance Model (TAM)

Perceived usefulness, on the other hand, represents perception of individual, how he use a system can enhance their task performance (Davis et al., 1989). Both attitude and perceived usefulness are central constructs in the Technology Acceptance Model (TAM) and have a significant influence on user behavior for technology adoption (Davis et al., 1989).

TAM, being a prominent model in the field of Information Systems, has made a valuable contribution to understanding human behavior towards technology. It is widely used to assess the usage of new technologies and acceptance (Surendran, 2012). The foundation of TAM is rooted in the Theory of Reasoned Action (TRA), which falls under the category of Social Psychological Theory. The core concepts of TAM perceived ease of use and perceived usefulness, both of which influence technology acceptance and are influenced by exogenous antecedents (Davis, 1989).

TAM proposes that when users are introduced to innovative technology, external aspects play a role in influencing their decision to adopt the technology (Davis, 1989). Additionally, it highlights that political, cultural, and social factors can influence the perceived ease of use and perceived usefulness, which are fundamental determinants of attitude (Surendran, 2012).

Numerous studies have been conducted to validate and enhance TAM, resulting in its extension with the inclusion of additional variables such as subjective norms, image, voluntariness, and experience. This extended model has provided more comprehensive explanatory power, explaining user acceptance of technology in greater detail (Venkatesh et al., 2012). TAM has evolved over time, and in 2008, a new model called TAM3 was introduced, gaining significant attention from researchers and undergoing empirical testing in various fields. In the acceptance of technology, particularly in e-learning, TAM is the most widely adopted theory, serving as the theoretical foundation for 86% of research studies (Abdullah & Ward, 2016).

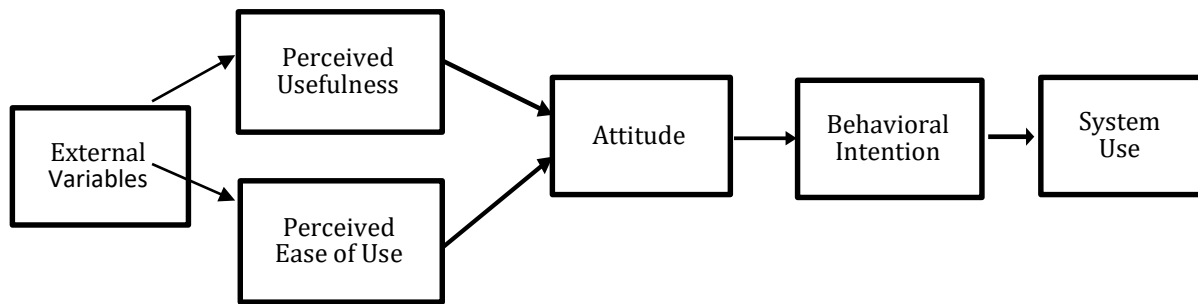


Figure 4 Technology acceptance model (Davis, Bagozzi & Warshaw, 1989)

Unified Theory of Acceptance and Use of Technology (UTAUT)

UTAUT is a detailed model that compares eight different models, including the Technology Acceptance Model, the Theory of Reasoned Action, the Theory of Planned Behavior, the Innovation Diffusion Theory, the motivational model, a combination of TAM and TPB, the model of Personal Computer utilization, and the social cognitive theory. Introduced in 2003 by Venkatesh et al., UTAUT identifies three independent constructs: social influence, effort expectancy, and performance expectancy, which collectively influence behavioral intention. Additionally, factors such as experience, gender, age, and voluntariness act as facilitating factors (Hakami, 2018).

UTAUT has demonstrated its validity and consistency across various research contexts (Fathema et al., 2015). It explains approximately 70% of the variance in behavioral intention, while other models account for around 40% of the variance (Venkatesh et al., 2003; Fathema et al., 2015). However, research outcomes have shown some inconsistencies in the relationships proposed by UTAUT (Thomas et al., 2013). Nevertheless, other studies have confirmed the positive influence of performance expectancy and social influence on behavioral intention (Hakami, 2018).

Though, UTAUT was mainly established to study the technology acceptance from employees' perceptions (Hakami, 2018). Therefore, it is not recognized in what way this model can be implemented in changed perspectives (Venkatesh, 2012).

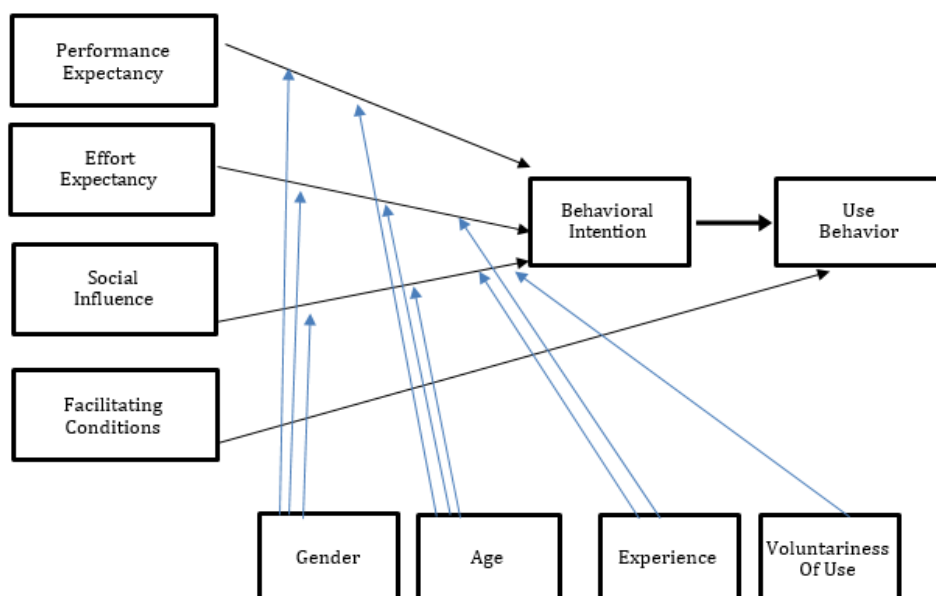


Figure-5 The Unified theory of acceptance and use of technology (Venkatesh et al., 2003)

Information System Success Model

IS model is based on six constructs individual impact, organizational impact, system quality, use, information quality and user satisfaction ((DeLone & McLean, 1992). It depends on the dimension of the information system that provides a limited vision of the complete system (Azeemi, Lewis & Tryfonas, 2013). Hedonic motivation in information system like networking and gaming which this model does not accommodate (Petter, DeLone & McLean, 2008). Researches also suggest that various management levels imply the use of different dimensional perimeters to predict utility and intention to use the system.

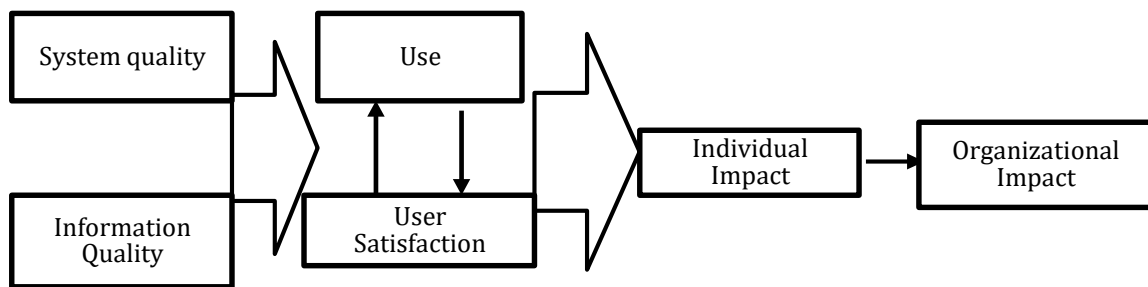


Figure 6 Original IS success model (DeLone & McLean, 1992)

Material and Methods

The systematic review commenced with the formulation of clear selection criteria, focusing on articles that explicitly addressed the theoretical frameworks under investigation. A well-defined search strategy was applied to identify relevant studies, considering keywords such as "technology acceptance," "continuance intention," and the names of specific models (e.g., ISCM, TRA, TPB, TAM, UTAUT, IS Success Model). This approach ensured the inclusion of diverse perspectives and the latest developments in the field.

The inclusion criteria encompassed studies spanning various time periods, allowing for a comprehensive understanding of the evolution of these theoretical frameworks. The systematic nature of the review involved a meticulous screening process to select articles meeting the pre-defined criteria, thereby ensuring the reliability and validity of the chosen literature.

Subsequently, the selected articles underwent a detailed content analysis, extracting relevant information on the methodologies used, key findings, and implications. The goal was to gain a nuanced understanding of the theoretical frameworks, their applications, and the contributions made by each model to the broader discourse on technology acceptance and continuance intention.

The synthesis of the literature illuminated the multifaceted aspects of ISCM, TRA, TPB, TAM, UTAUT, and the IS Success Model. The results highlighted gaps in existing knowledge, areas requiring further exploration, and potential avenues for future research. A critical evaluation of the methodologies employed in the selected articles provided insights into the robustness of each theoretical framework and its applicability across diverse contexts.

Conclusion

The transformative impact of IT on various aspects of life and emphasizes the shift in focus from initial acceptance to continuous usage. It highlights the significance of

understanding users' post-adoption behaviors, especially the concept of continuance intention, in ensuring the long-term success of IT. By emphasizing the importance of developing strategies for continuous user retention, make it as a critical challenge in the ever-evolving landscape of the IT users.

Recommendations

Based on the findings, it is recommended that future research endeavors focus on refining and expanding these theoretical frameworks. Researchers should employ rigorous methodologies to investigate the applicability of these models in emerging technological landscapes, considering factors such as cultural nuances, user diversity, and evolving socio-technical dynamics. This detailed and systematic review sets the stage for future empirical studies to advance our understanding of technology acceptance and continuance intention, contributing to the ongoing evolution of Information Systems research.

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