



TECHNOLOGY ACCEPTANCE MODEL FOR ADOPTION OF E-LEARNING TOOLS DURING COVID-19

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<https://doi.org/10.26782/jmcms.2022.07.00003>

(Received: May 1, 2022; Accepted: July 20, 2022)

Abstract:

During COVID-19 education system is very suffered not only by students but also by teachers. All universities, colleges, and schools adopted the E-Learning system during COVID-19. During this pandemic, we used the E-learning tools by the digital tools Zoom, and Google Meet. This paper is based on how we use the different technology models for the adoption of the E-Learning tools and adoption of E-learning tools affected the students during COVID-19 and also students are agree to adopt these tools. Questionnaires are prepared based on the adoption of E-learning tools and filled by the collegiate students. Learning organizations like Schools, colleges, and universities in India are presently based on old-style learning procedures and shadow the conservative location of face-to-face communication/lectures in a classroom. Most of the theoretical models are used earlier for the adoption of the E-learning sector ongoing combined learning, still, most of them are constructed with old steps. The determination of this study was to measure students' observations of the usefulness of the technology for the acceptance of the model in the adoption of E-learning during the COVID-19 pandemic in rural areas in Punjab.

The discoveries propose that the adapted TAM is a good predictor of consumer behavior in using the Internet. We initiate that attitude in the direction of using the Internet performances as a strong conjecturer of interactive purpose to practice, and definite technique of Internet technologies. Future researchers can use the subsequent implementation to test how customers adopt and accept Internet-based presentations.

Keywords : Adoption of Technology, E-Learning, COVID-19, Models, Acceptance Model, TAM

I. Introduction

The coronavirus which is generally well-known as COVID-19 has disturbed the worldwide educational system as most countries everywhere the world has resulted in provisionally finished all educational institutions in a challenge to comprise the extent of the pandemic. According to the report by UNESCO (2020), the conclusion of educational organizations has impacted over 91% of the world's student population. The ripple effect of this pandemic has been felt through together the educators and students in primary, secondary, colleges and universities as theoretical assemblies were

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disturbed after the coronavirus was announced as a public health emergency. The consumption of fast-paced technology with E-learning also agrees with a more flexible and convenient learning process.

E-learning stages can be retrieved everywhere as extensive as there is an internet assembly, including at home, the workplace, in restaurants, or while traveling. The purpose of the E-learning segment in adapting to existing tendencies of information achievement is a suitable and essential development in educational procedures. Typically, higher-level education involving college or university students will necessitate improved and more creative methods to improve knowledge and adoptive concepts. This paper examined the technology adoption models and theories principal to the hypothetical framework for different models for the adoption of the E-learning tools during COVID-19

II. Literature Review

(Department for Education and Skills, 2005) and an amplified focus on location significance for e-learning research. Presently, the UK Combined Evidence Systems Committee is funding an e-Learning Programme

Salmon (2000, 2003). It is considered to establish learner participation in online learning and the role of the e-moderator or online facilitator

Good et al. 2001: This constructivist model of e-moderating delivers an outline with strong advanced stages that can sustain the strategy and simplification of online courses. It acknowledged several accepting records in the United Kingdom when initially published by Wong et al., 2003: Although constructivist online education communities are frequently adopted in higher education the five-stage model has not reproduced the possible access to use e-learning as a portion of a combined method that contains face-to-face distribution.

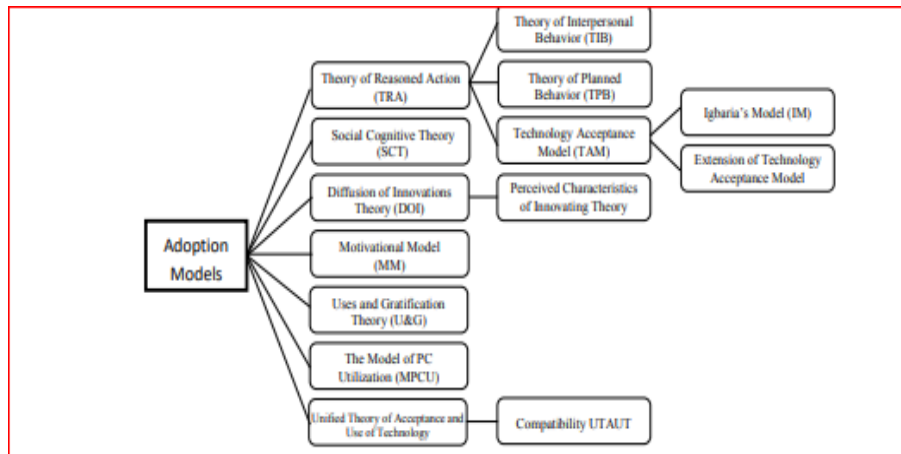
Njenga, 2011: Although the beginning of E-Learning Technologies offerings the finest cost current approach to teaching and learning, the achievement of these innovations primarily be subject to their adoption

Chau and Hu (2001) compared three models in their study; the Technology Acceptance Model (TAM), the Theory of Planned Behavior (TPB), and a decomposed TPB model that is potentially adequate in the targeted health-care professional setting in Hong Kong. The consequences specified that TAM is bigger than TPB in explaining the physicians' purpose to use telemedicine technology. The disintegrated TPB implemented to some extent recovered more than TAM.

Dishaw, Strong, and Bandy (2004) suggest adding constructs from the task-technology fit (TTF) model (Goodhue & Thompson, 1995), such as technology functionality, task requirements, individual characteristics, and fit, to the UTAUT model in order to improve the explanatory power of UTAUT.

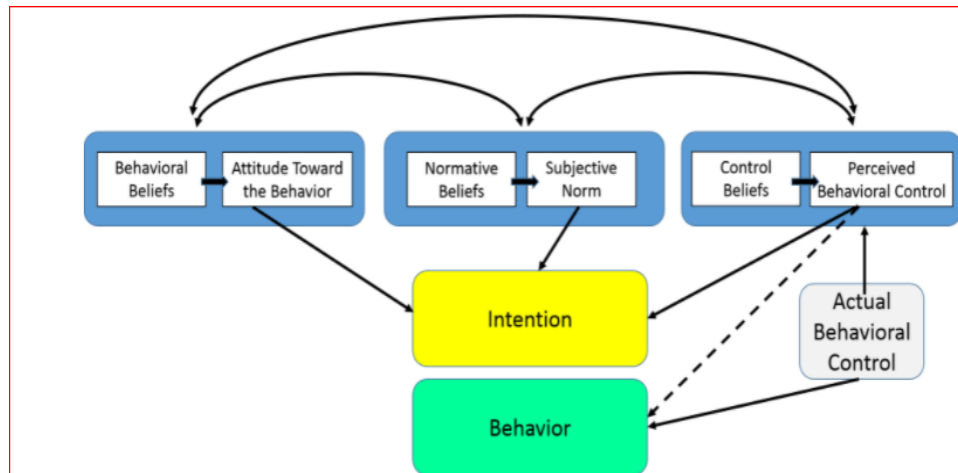
III. Adoption Models for E-learning

Developed following research into online education and training with the universities and colleges, presented as a flight of steps. for developing E-Learning tools there are different theories and models established which are good for the students and as well as the faculty members of the institution for improving the skills among the students, Adoption Models are given below

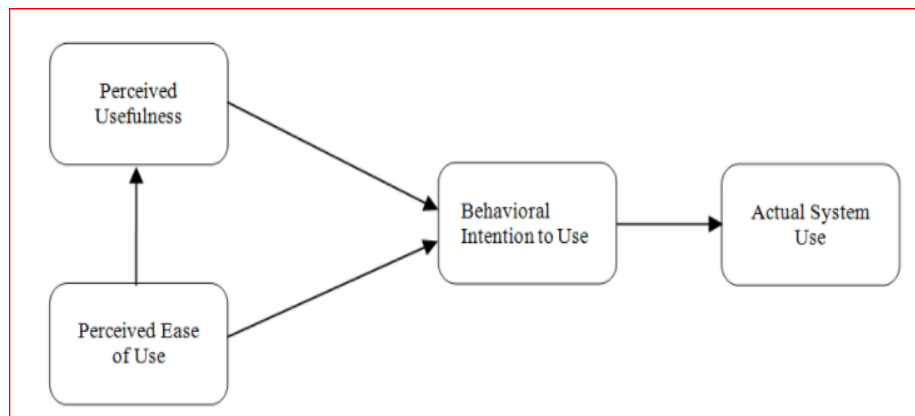


Adoption Models for E-Learning tools		
Models	Strenght	Weaknesses
<p>Theory of Reasoned Action (TRA)</p>	<p>TRA is unique of the maximum essential and significant principles of human behavior. TRA proposes that individual beliefs influence attitudes, hence creating intentions that will generate behavior, positive or negative this model is based upon the subjective norm of the human means what is the perception of the human behavior regarding the adoption of E-Learning tools</p>	<p>The main weak point of the TRA is it assumes that actions are totally under volitional control. This supposition flops to recognize that entities' performances might be absorbed. To address this weakness Theory of Planned Behavior (TPB) was added</p>

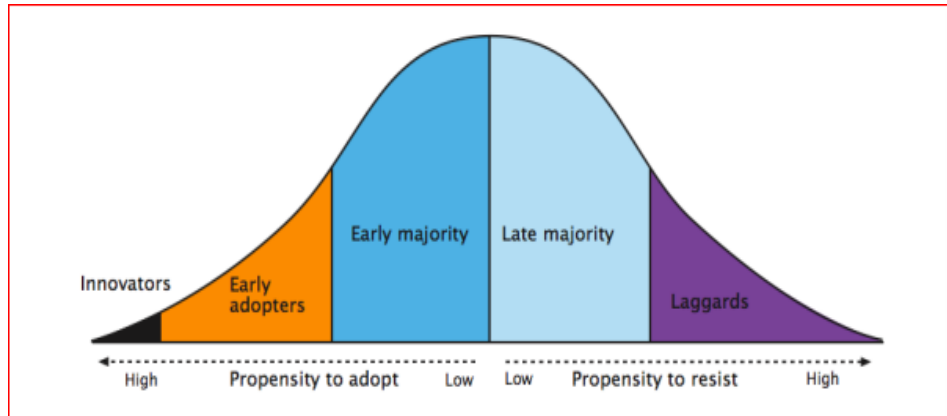
Theory of Planned Behavior	The Theory of Planned Behavior (TPB) is unique of the supreme commonly mentioned and practical behavior theories. It is one of a closely inter-related family of theories which adopt a cognitive approach to explaining behavior that centres on individuals' attitudes and belief	<ul style="list-style-type: none"> ➤ It adopts the person has attained the opportunities and resources to be prosperous in the performance of the preferred behavior, regardless of the purpose. ➤ It does not describe supplementary variables that encouragement into behavioral purpose and motivation, such as fear, threat, mood, or past experience.
According to Venkatesh et al.	the Theory of Planned Behavior (TPB) lengthy the theory of reasoned action (TRA) by totaling the hypothesis of supposed interactive control. In the TPB, perceived behavioral control is hypothesized to be an additional basis of intention and behavior	Although it does reflect normative influences, it static does not take into a description of ecological or economic factors that may influence a person's intention to perform a behavior



<p>The Technology Acceptance Model</p>	<p>The technology acceptance model (TAM) is one of the supreme well-known models of revolution receiving used to test user receiving of material technologies for example; the adoption of Microsoft offices like word processing, questionnaire, PowerPoint, (Maslin, 2007) and new technologies email, e-commerce, e-collaboration, and whiteboard. The Technology Acceptance Model (TAM) is a significant model relating teachers' purposes to using technology.</p>	<ul style="list-style-type: none"> ➤ TAM is its incapability to expose the influences of its self-determining variables (perceived usefulness and perceived ease-of-use) ➤ Another dimness of TAM is that it concentrations on statistics systems that have been organized in controlled environments, with slight consideration for mandatory-use situations
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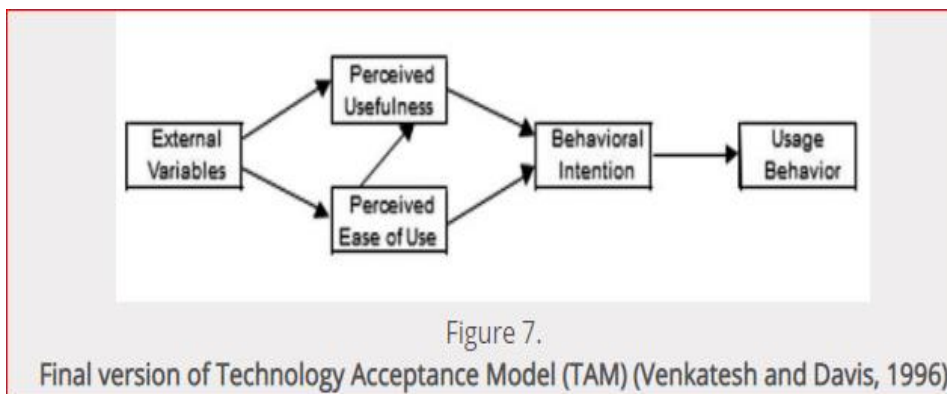


Diffusion innovation Theory	<p>Dissemination of Improvements follows to designate how innovations are taken up in a population. An improvement is an idea, behaviour, or entity that is hypothetical as new to its viewers. it based on three factors</p> <p>What abilities variety an innovation supper positively. - The position of peer-peer discussions and peer networks. - Sympathetic to the requirements of dissimilar user sections</p> <p>Diffusion researchers believe that a population can be broken down into five different segments, based on their tendency to accept a definite innovation: innovators, early adopters, early majorities, late majorities, and laggards.</p>	<p>this model does not participate in the corresponding effects of the different situations and domains in which almost all new knowledge operates. Thus, while every essential case describes one significant purpose for non-adoption it does not describe how this might or might not be related to supplementary reasons</p> <p>In the institution of Innovation research, this is beneficial as it provides a progressive system for the concern of planned adoptions, but Sociologists may find such descriptions overly simplistic without discussion of the organization as a complete</p>
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First version Technology Acceptance Model

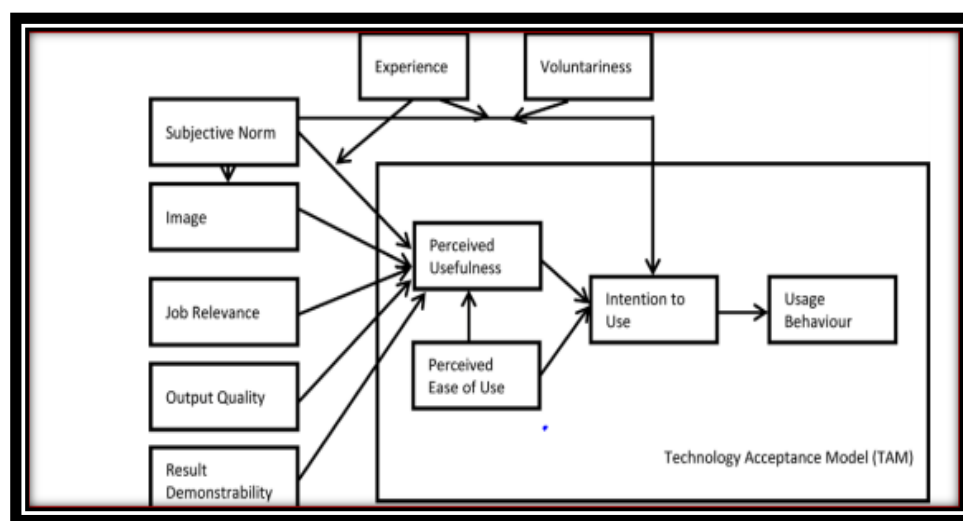
Technology Acceptance Model (TAM) was introduced by Fred Davis in 1986. TAM is personalized for displaying users' acceptance of information systems or technologies. The simple TAM model comprised and verified two definite theories: Perceived Usefulness (PU) and Perceived Ease of Use (PEU). The ultimate variety of the Technology Acceptance Model was formed by Venkatesh and Davis (1996). after the main finding of both perceived practicality and supposed ease of procedure were originated to have a straight influence on behaviour intention, thus excluding the need for the approach hypothesis.



The Limitation of the TAM model is TAM is not proposed to state the use of expertise in business, university, and organizational contexts, but, is essentially hypothesized for discrete observation and purpose. TAM model could not appropriately expect the receiving of the information communication technology (ICT) although an additional model was petitioned to predict receiving of the technology. TAM is not appropriate or essentially applicable to firms, companies, and most organizations such as libraries with rules and regulations, but for individual practice and adoption of technology.

TAM-2

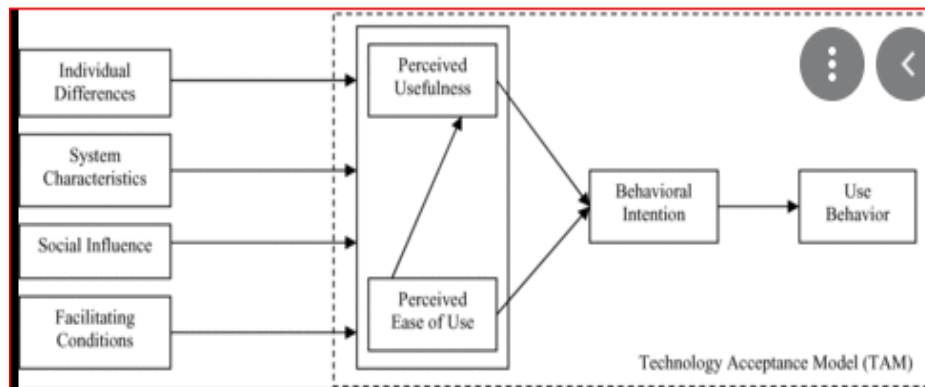
TAM2 specifies that “in a computer practice context, the straight compliance-based effect of subjective norm on purpose over and above perceived use (PU) and perceived ease of use (PEOU) will happen in mandatory, but not voluntary, arrangement procedure situations”. TAM2 theorizes that uninterrupted outcome of subjective norm on purposes for mandatory usage contexts will be sturdy preceding to application and during early usage, but will decline over time as collective direct experience with an organization provides an increasing basis for purposes toward constant use” once the adoption of a system changes beyond a discrete decision to a club decision, social influence procedures must enlarge elsewhere TAM2.



Limitation

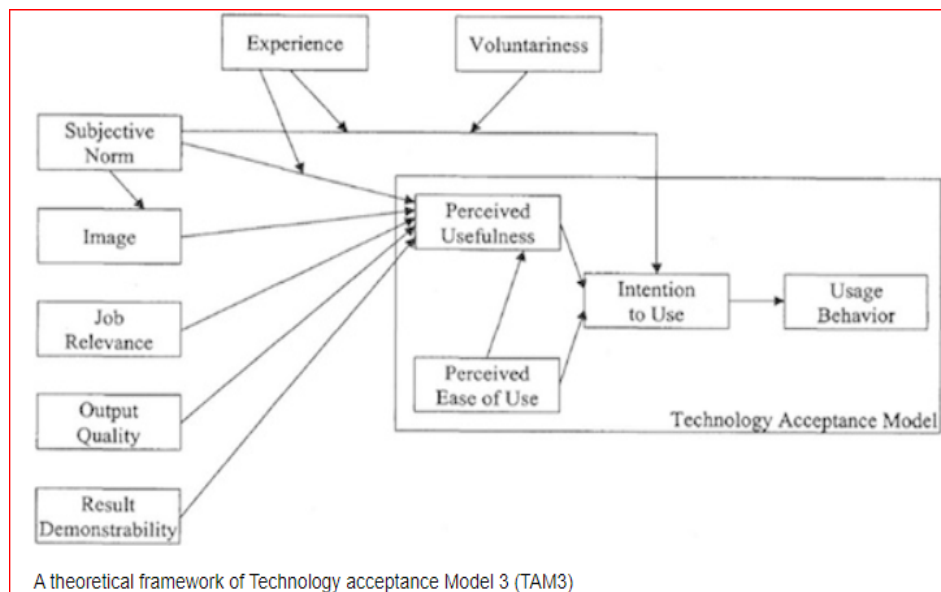
TAM concerns the variable which relates to the performance of operators, which is certainly assessed by complete subjective means such as communication purpose such as interactive influence. Nevertheless, relational inspiration as the liberated standard is described to mean when an individual is subjective by words of mouth from a colleague, or a friend. While a higher can affect an employee by directing an inferior to perform a definite task with the procedure of technology, based on their IT policy, a friend has no instruction influence over staff who is subject to the link manager.

Another limitation is that underlines of behavior cannot be consistently calculated in an empirical inquiry, owing to several different subjective factors such as the norms and principles of civilizations and individual characteristics and behavior individualities. Hence, the dispute that a relative or friend could impact the use of technology complete through public compression



TAM-3

TAM3 uses the four different categories counting the individual differences, system characteristics, social influence, and facilitating conditions which are determining factors of perceived usefulness and perceived ease of use. In the TAM3 research model, the perceived ease of use to perceived usefulness, computer concern to perceived comfort of use, and perceived comfort of use to interactive intention were qualified by practices. The TAM3 research model was established in real-world surroundings of IT applications



The conceptual model presented in the above models is suggested for it delivers intelligibility and a simple model that is easy to appreciate for studies on technology-related subjects expressly on the use and acceptance of the technology. The article proposes that the (TAUM) model is an additional problem for its appropriateness and improved disagreement as a conceptual model appropriate to technology-related study. It is suggested to investigation additional if the model admissibly statements the perceived criticism and limitations of TAM.

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IV. Comparison and Discussion of the above Models: as we discussed the above models

(Sun, 2003). Szajna (1994) initiate a substantial assembly between hypothetical practicality and self-report practice in her study of 61 progress business students, however not hypothesize in her revised TAM. In studying individuals calculating acceptance in insignificant firms, Igarria, Zinatelli, Cragg, and Cavaye (1997) found that Perceived usefulness exerted a strong direct effect on usage. Sun (2003) new member supposed practicality to seem as the ultimate important stimulus affecting the constructs related to user acceptance of a variety of technologies. Pikkarainen, Pikkarainen, Karjaluoto,&Pahnila(2004) found that supposed usefulness was one of the main factors influencing the acceptance of online banking. Carey and Day (2005) initiate a durable connection between perceived usefulness and attitude. Vander Heijden (2004) initiate that hypothetical usefulness loses its predictive power for hedonic Web locations

V. Conclusion

Upcoming research comprises substantiation of the adapted TAM For Internet Technologies by challenging the model associations with organizational examples. Although various of the studies we examined had small sample sizes, in upcoming research we strategy to test and certify the model using the implementation in this research through organizations that are emerging Internet-based Solutions for their customers. Upcoming Research also comprises testing this adapted model with the implementation created to determine how consumers can more effectively assimilate Web-based Technologies in a global situation. We feel that this research could improve an organization's ability to decide how well its consumers improper will accept their Internet creativities.

Conflicts of Interest:

There is no conflict of interest regarding the paper.

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