APROPIACIÓN DE TECNOLOGÍA EN PROCESOS DE E INNOVACIÓN

Sesión 3 - Estudios recientes sobre apropiación de tecnología e innovación en diferentes sectores: diferencias y similitudes

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Agenda

1. Socialización y discusión del taller 1
2. Estudios recientes sobre apropiación de tecnología e innovación en diferentes sectores: diferencias y similitudes.
3. Taller: aplicación de un modelo a un Proyecto de interés
4. Referencias

Agenda

Sesión 3– Modelos y teorías sobre apropiación tecnológica y de la innovación

Agenda

17:00 – 18:00 Taller Presentación de sus resultados del taller 1

18:00 – 18:10 Descanso

18:10 – 18:40 Taller Presentación de sus resultados del taller 1

18:40 – 19:40 Modelos y teorías sobre apropiación tecnológica y de la innovación

19:40 – 19:50 Descanso

19:50 – 20:00 Taller 2 sobre modelos y teorías sobre apropiación tecnológica y de la innovación

20:00 - 21:00 Socialización y discusión de los resultados del taller 2

Adopción Tecnológica

La adopción de tecnología ha sido estudiada por investigadores durante muchos años y ofrece una amplia gama de modelos de adopción que describen las influencias en el comportamiento de adopción de individuos y empresas. (Ajzen, 1985; Davis, 1989; Rogers, 2003; Tornatzky et al., 1990; V. Venkatesh et al., 2003).

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Adopción Tecnológica

En general, un proceso de adopción de tecnología está influenciado por barreras que impiden la adopción de tecnología y facilitadores que simplifican y aceleran la adopción de tecnología. El conocimiento de las barreras y los facilitadores ayuda a superarlos oa utilizarlos de manera beneficiosa en el proceso de adopción.

Adopción Tecnológica

Analizando las barreras y facilitadores con enfoque en una fase específica del proceso de adaptación, el Proceso de Innovación-Decisión de Rogers (2003) consta de cinco etapas, que de acuerdo con Yu y Tao (2009) se pueden resumir en tres fases como se muestra en la Figura 1: Pre-decisión, In-decisión (en la que la decisión de adoptar o se rechaza), y posterior a la decisión.

Adopción Tecnológica

Se denomina deliberadamente etapa previa a la decisión en lugar de etapa previa a la adopción para evitar el sesgo a favor de la innovación.

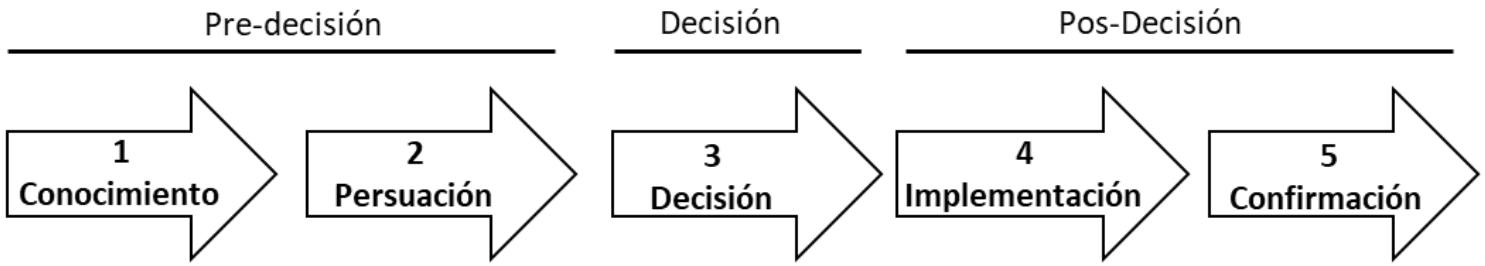


Figura 1. Etapas del Proceso de Decisión sobre Innovación Stages in Rogers (adaptado por Yu & Tao, 2009)

Principios Básicos de la Adopción Tecnológica

Según Trott (2017, p. 104), la adopción de innovaciones se refiere al “proceso por el cual los individuos pasan del conocimiento a la decisión final de adoptar o no adoptar”. Está estrechamente relacionado con la difusión, que es "el proceso por el cual las innovaciones [...] se propagan dentro y entre las economías" (Trott, 2017, p. 98). De ahí que el término adopción se utilice a nivel de individuo (persona/organización), y difusión es la adopción por las masas (Kamble et al., 2019). Los orígenes de la investigación sobre la adopción se encuentran principalmente en la psicología social (Trott, 2017, p. 104).

Principios Básicos de la Adopción Tecnológica

Según Oliveira y Martins (2011, p. 110), las teorías de adopción de tecnología más utilizadas en la investigación de sistemas de información son: “modelo de aceptación de tecnología (TAM) (Davis, 1986, 1989; Davis et al., 1989), teoría de (TPB) (Ajzen, 1985, 1991), teoría unificada de aceptación y uso de la tecnología (UTAUT) (Venkatesh et al., 2003), [Difusión de la innovación] DOI (Rogers, 2003) y el marco TOE (Tornatzky et al., 1990)". TPB y TAM se basan en la teoría de la acción razonada (TRA), como se muestra en la Figura 2.

Practical activity

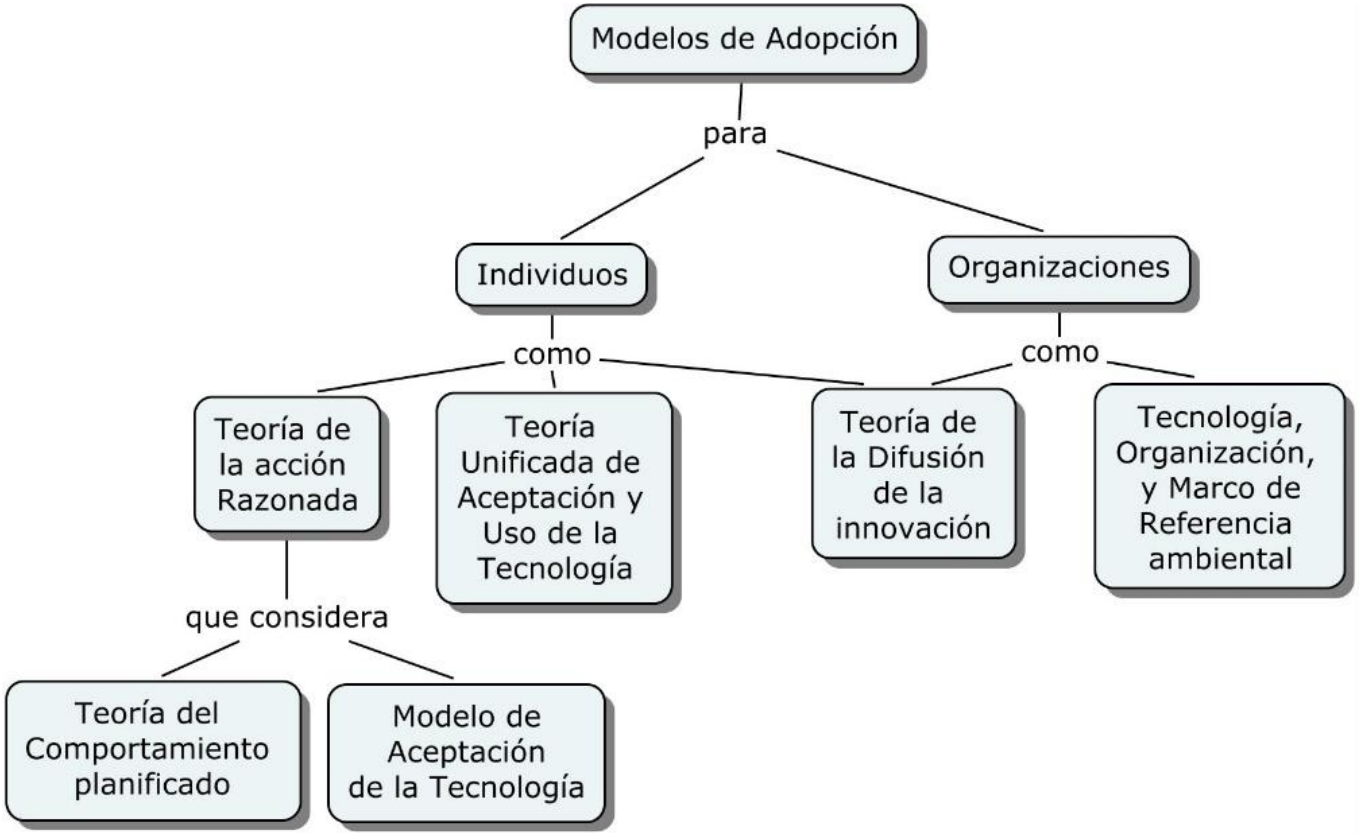


Figura 2. Descripción general de la adopción popular / Modelos de Aceptación (adaptado de Taherdoost, 2018, p. 962)

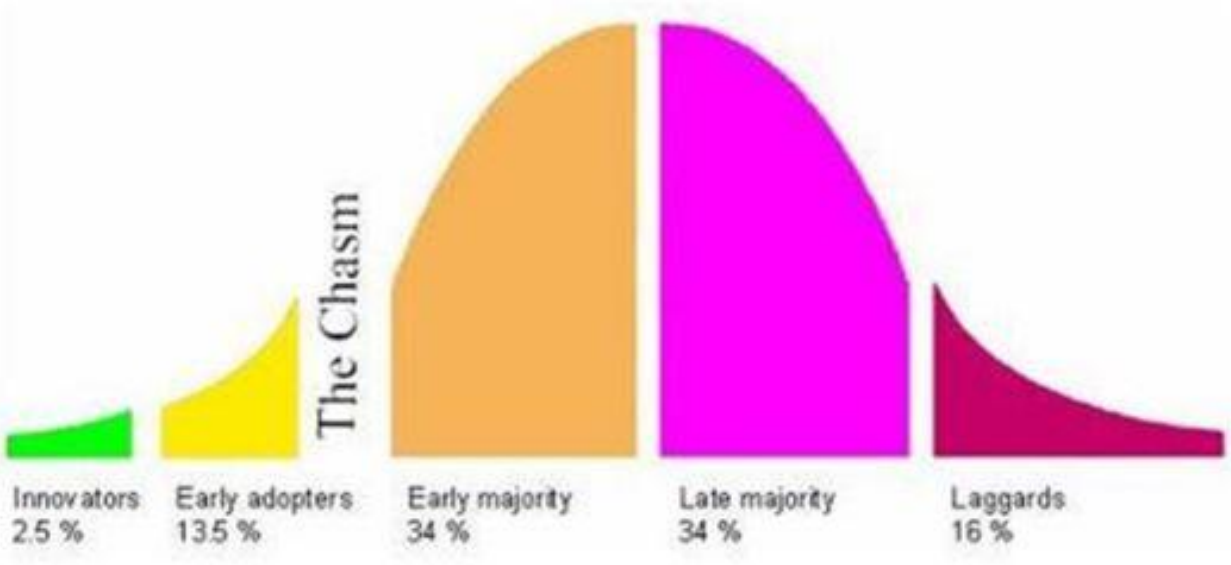
Principios Básicos de la Adopción Tecnológica

Para examinar la adopción de tecnología a nivel de empresa, DOI y TOE son los más destacados (Oliveira & Martins, 2011; Puklavec et al., 2018). El TAM, TPB, TRA y UTAUT explican la adopción de tecnología a nivel individual (Oliveira & Martins, 2011; Taherdoost, 2018) e “introducen factores que pueden afectar la aceptación del usuario” (Taherdoost, 2018, p. 961). Sin embargo, DOI se puede aplicar tanto para Taherdoost, (2018) y para Puklavec et. al. (2018).

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Rogers (1995) - theory of ‘diffusion of innovation’ was to establish the foundation for conducting research on innovation acceptance and adoption.



Literatura sobre Adopción Tecnológica

Modelos y Teorías

Rogers (1995) - Rogers synthesized research from over 508 diffusion studies and came out with the ‘diffusion of innovation’ theory for the adoption of innovations among individuals and organization. The theory explicates “the process by which an innovation is communicated through certain channels over time among the members of a social system”

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Technology readiness (TR) refers to people's propensity to embrace and use of new technologies for accomplishing goals in home life and at work (Parasuraman and Colby, 2001).

Based on individual's technology readiness score and the technology readiness, Parasuraman and Colby (2001) further classified technology consumers into five technology readiness segments of explorers, pioneers, skeptics, paranoids, and laggards.

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Goodhue et al. (1995), Task-technology Fit (TTF) emphasizes individual impact.

Individual impact refers to improved efficiency, effectiveness, and/or higher quality. Goodhue et al. (1995) assumed that the good fit between task and technology is to increase the likelihood of utilization and also to increase the performance impact since the technology meets the task needs and wants of users more closely.

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Goodhue et al. (1995), Task-technology Fit (TTF) emphasizes individual impact.

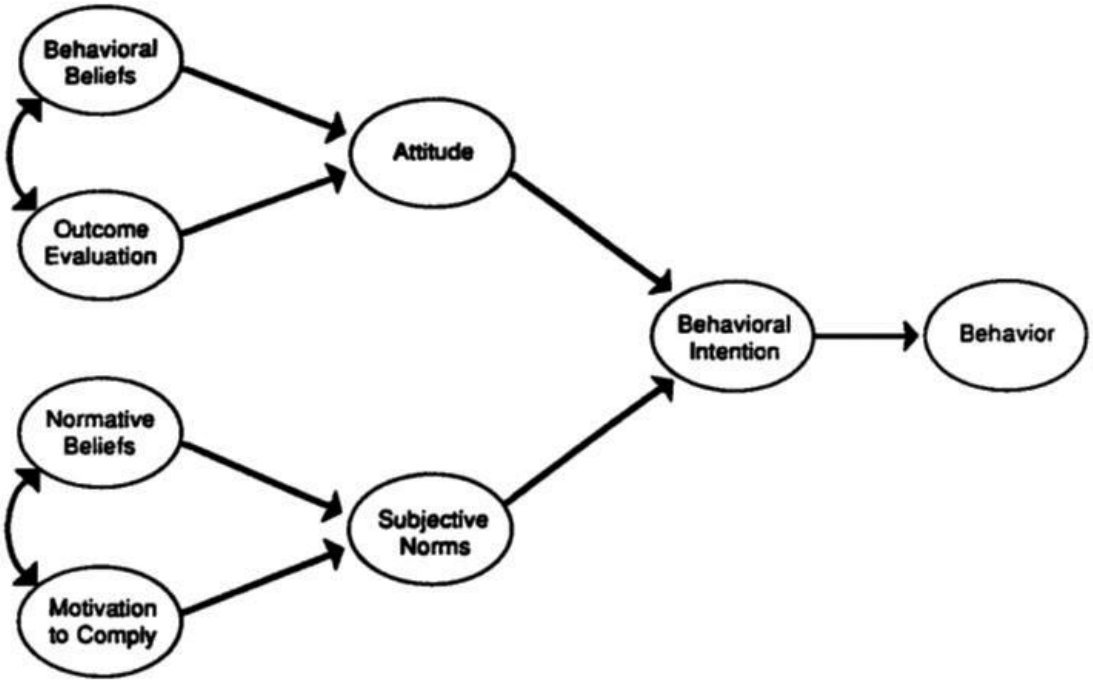
This model is suitable for investigating the actual usage of the technology especially testing of new technology to get feedback. The task-technology fit is good for measuring the technology applications already release in the marketplace like in the google play store or apple store app (iTunes) etc.

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Theory of Reasonable Action (Fishbein and Ajzen, 1975)

It is one of the most popular theories used and is about one factor that determines behavioural intention of the person's attitudes toward that



Literatura sobre Adopción Tecnológica

Modelos y Teorías

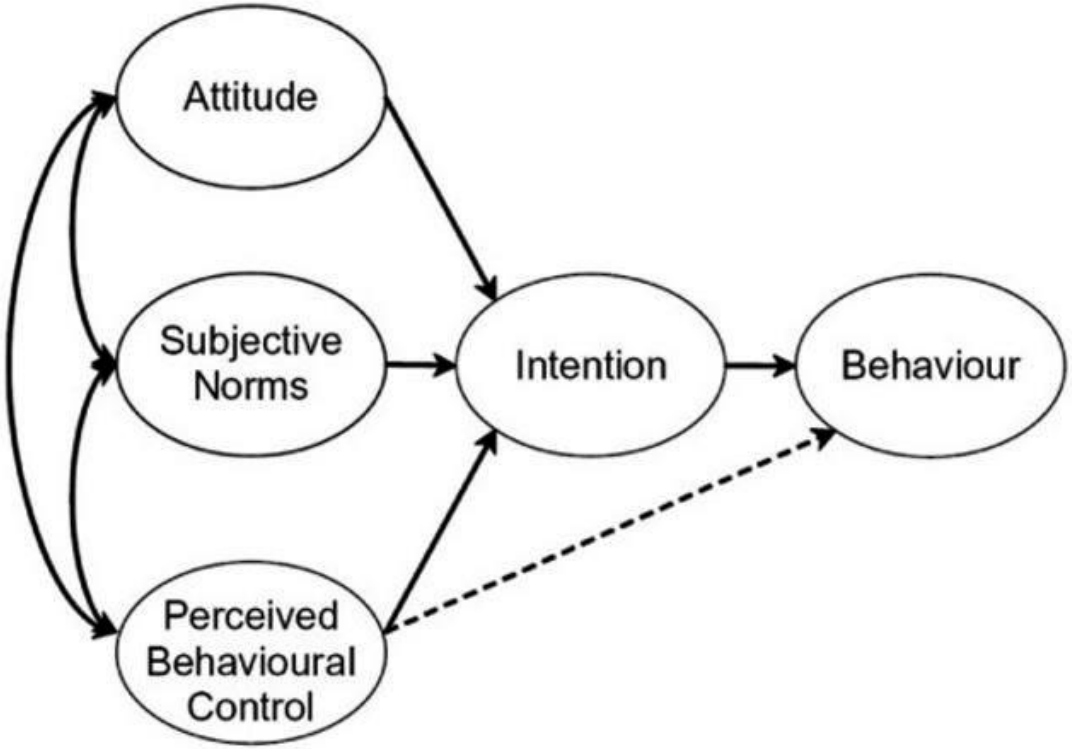
Fishbien and Ajzen (1975) defined “attitude” as the individual’s evaluation of an object and defined “belief” as a link between an object and some attribute, and defined “behaviour” as a result or intention.

Attitudes are affective and based upon a set of beliefs about the object of behaviour (e.g: Credit card is convenient). A second factor is the person’s subjective norms of what they perceive their immediate community’s attitude to certain behaviour (e.g: my peers are using credit card and it’s a status to have one).

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Ajzen (1991) developed Theory of Planned Behavior which is about one factor that determines behavioural intention of the person's attitudes toward that behaviour .



Literatura sobre Adopción Tecnológica

Modelos y Teorías

Ajzen (1991) developed Theory of Planned Behavior.

The first two factors are the same as Theory of Reasonable Action (Fishbein and Ajzen, 1975). The third factor that is known as the perceived control behaviour is the control which users perceive that may limit their behaviour (e.g: Can I apply for the credit card and what are the requirements?).

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Decomposed Theory of Planned Behaviour (Decomposed TPB) was introduced by Taylor and Todd (1995)

The Decomposed TPB consists of three main factors influencing behavior intention and actual behavior adoption which are attitude, subjective norms and perceived behavior control. Shih and Fang (2004) examined the adoption of internet banking by means of the TPB as well as Decomposed TPB.

Literatura sobre Adopción Tecnológica

Modelos y Teorías

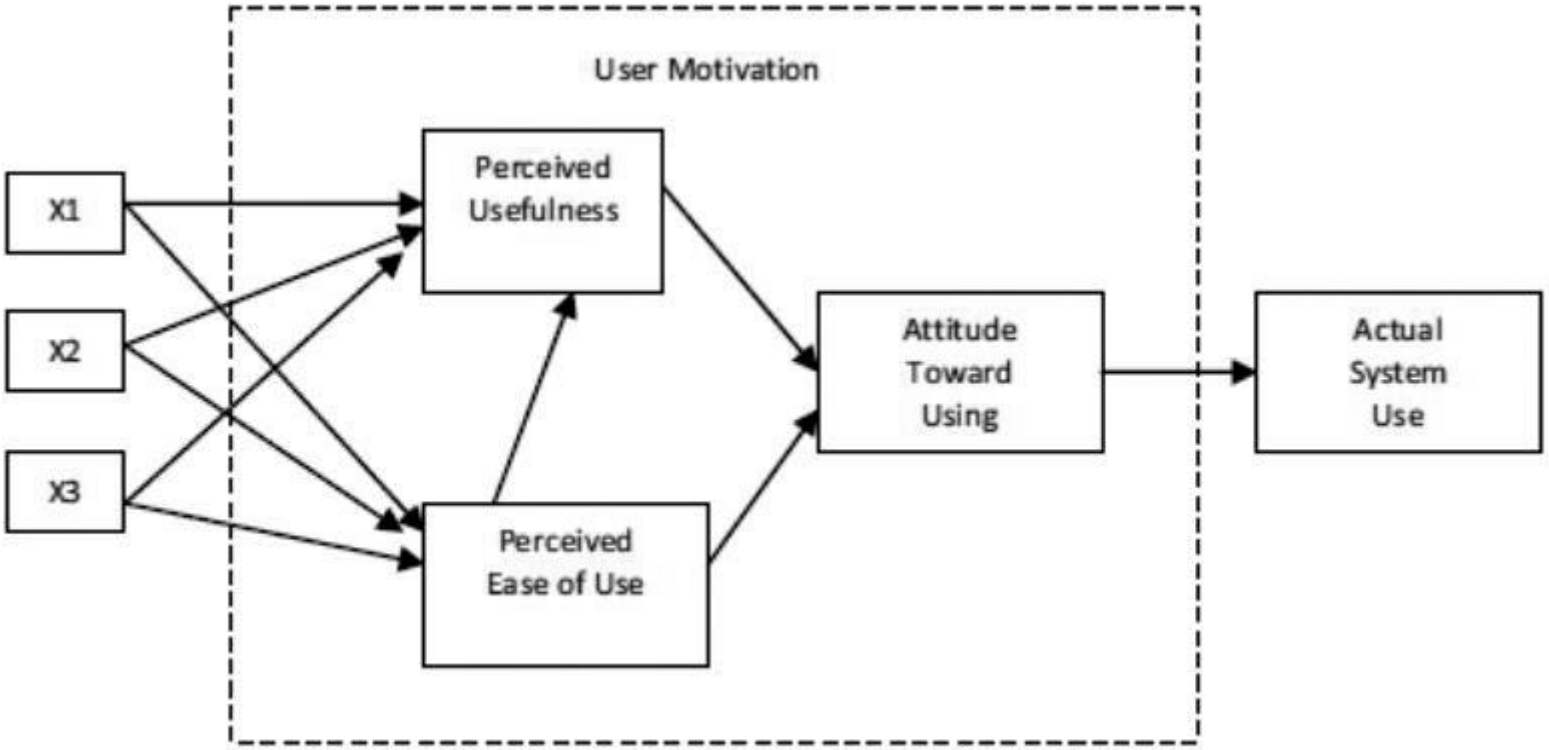
There has been a great deal of research on the Theory of Reasoned Action (Ajzen & Fishbein, 1980; Sheppard, Hartwick, and Warshaw, 1988)

Theory of Planned Behavior (Ajzen, 1991) and Decomposed Theory of Planned Behaviour, (Taylor and Todd, 1995) but mostly used for products already in the marketplace and included the view of society (Subjective norm).

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Technology Acceptance Model (TAM) was introduced by Fred Davis in 1986 for his doctorate proposal.



Literatura sobre Adopción Tecnológica

Modelos y Teorías

An adaptation of Theory of Reasonable Action, TAM is specifically tailored for modeling users' acceptance of information systems or technologies.

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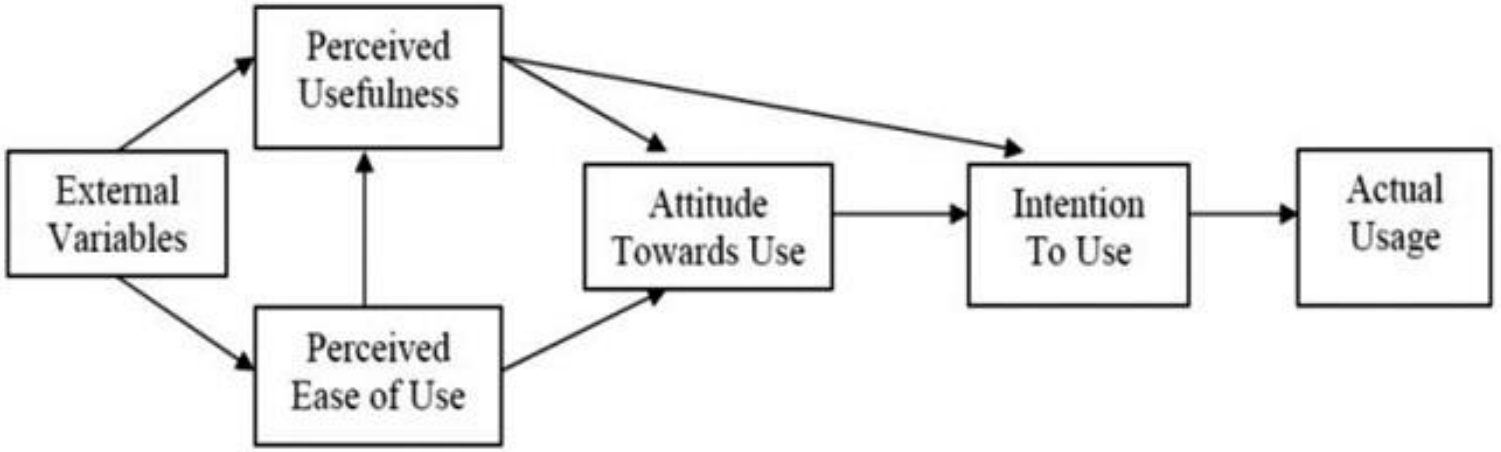
Modelos y Teorías

In 1989, Davis used TAM to explain computer usage behaviour.



First modified version of Technology Acceptance Model (TAM) (Davis, Bogozzi and Warshaw, 1989)

Literatura sobre Adopción Tecnológica

Modelos y Teorías

The goal of Davis' (1989) TAM is to explain the general determinants of computer acceptance that lead to explaining users' behaviour across a broad range of end-user computing technologies and user populations. The basic TAM model included and tested two specific beliefs: Perceived Usefulness (PU) and Perceived Ease of Use (PEU).

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Perceived Usefulness is defined as the potential user's subjective likelihood that the use of a certain system (e.g: single platform E-payment System) will improve his/her action and Perceived Ease of Use refers to the degree to which the potential user expects the target system to be effortless (Davis, 1989).

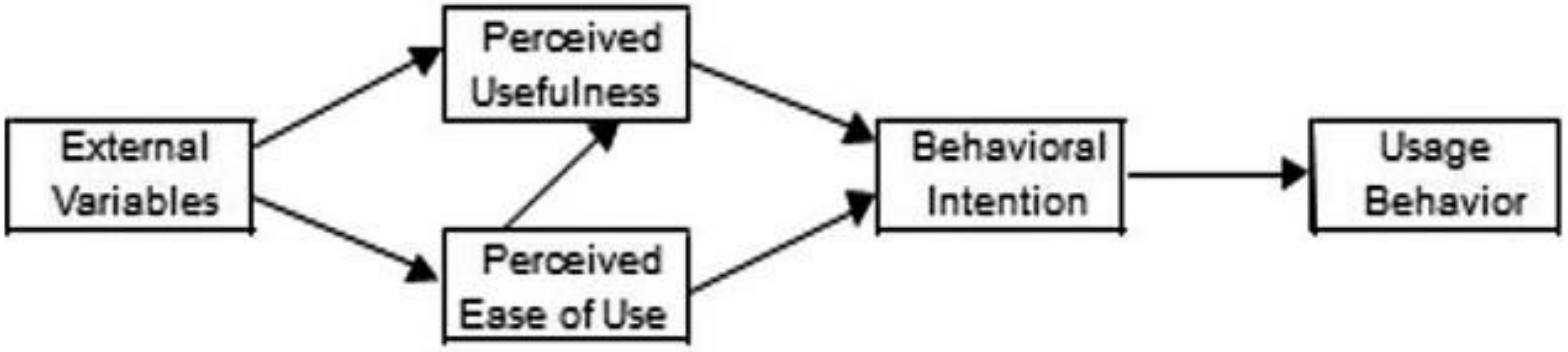
The belief of the person towards a system may be influenced by other factors referred to as external variables in TAM.

Literatura sobre Adopción Tecnológica

Modelos y Teorías

The final version of Technology Acceptance Model was formed by Venkatesh and Davis (1996).

After the main finding of both perceived usefulness and perceived ease of use were found to have a direct influence on behaviour intention, thus eliminating the need



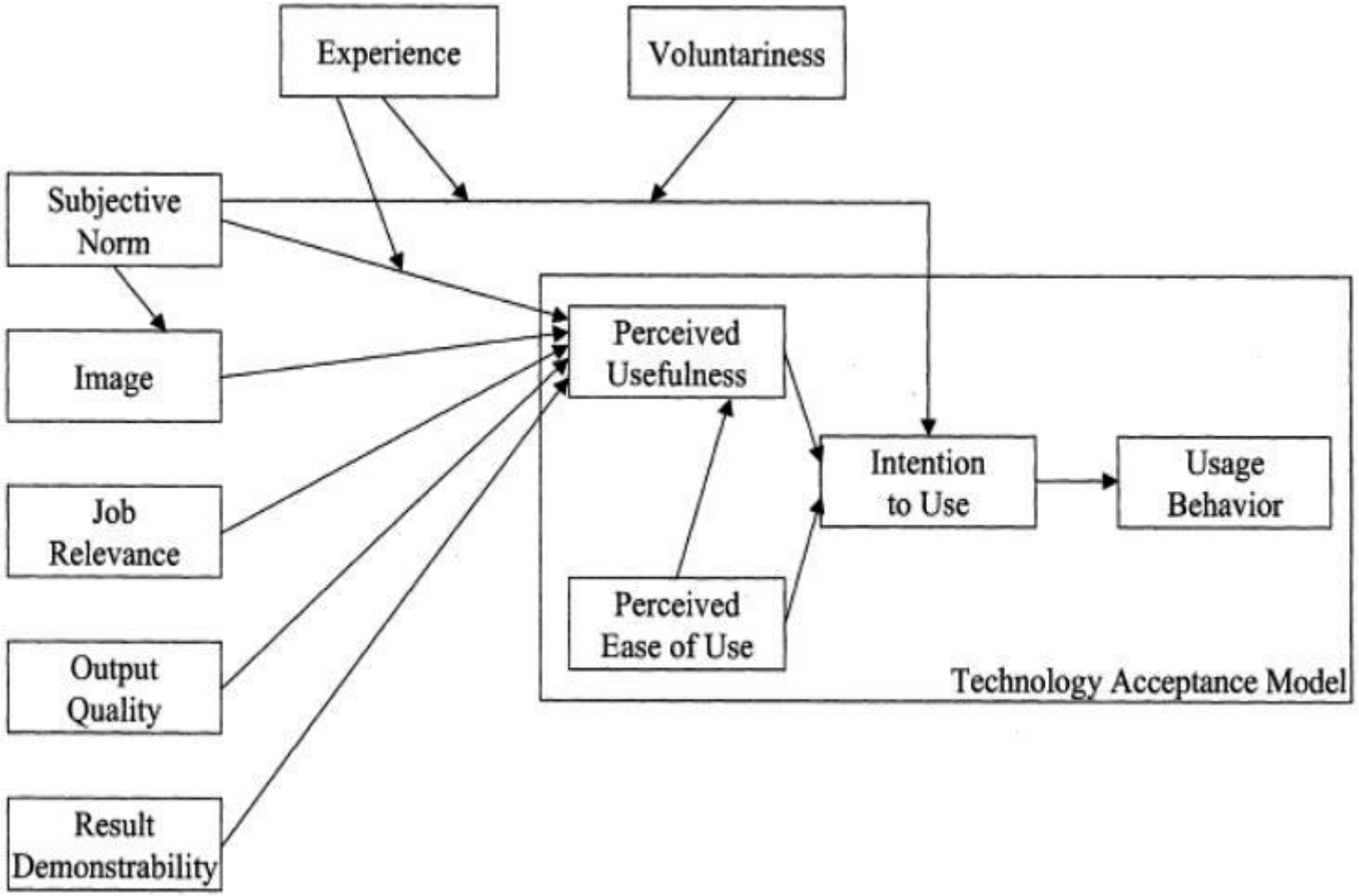
Literatura sobre Adopción Tecnológica

Modelos y Teorías

Venkatesh and Davis (2000) proposed the TAM 2. This study provided more detail explanations for the reasons users found a given system useful at three (3) points in time: pre-implementation, one month post-implementation and three month post-implementation.

TAM2 theorizes that users' mental assessment of the match between important goals at work and the consequences of performing job tasks using the system serves as a basis for forming perceptions regarding the usefulness of the system (Venkatesh and Davis, 2000).

Literatura sobre Adopción Tecnológica



Venkatesh and Davis (2000) proposed the TAM 2.

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Venkatesh and Davis (2000) proposed the TAM 2.

The results revealed that TAM 2 performed well in both voluntary and mandatory environment.

Venkatesh and Bala (2008) combined TAM2 (Venkatesh & Davis, 2000) and the model of the determinants of perceived ease of use (Venkatesh, 2000), and developed an integrated model of technology acceptance known as TAM3

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Venkatesh and Bala (2008) TAM3

The authors developed the TAM3 using the four different types including the individual differences, system characteristics, social influence, and facilitating conditions which are determinants of perceived usefulness and perceived ease of use. In TAM3 research model, the perceived ease of use to perceived usefulness, computer anxiety to perceived ease of use and perceived ease of use to behavioral intention were moderated by experiences. The TAM3 research model was tested in real-world settings of IT implementations.

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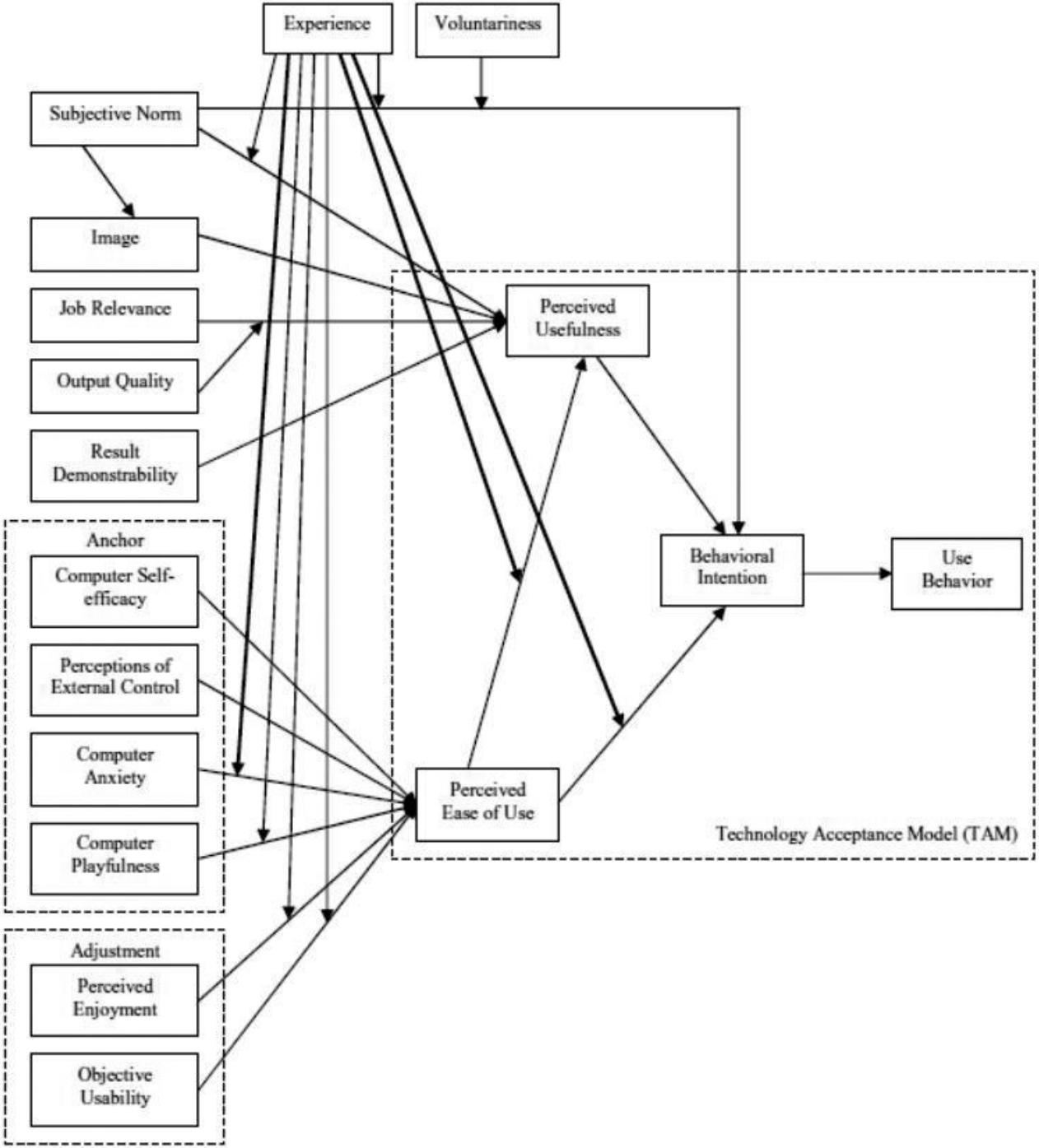
Literatura sobre Adopción Tecnológica

Modelos y Teorías

Venkatesh and Bala (2008) TAM3



Literatura sobre Adopción Tecnológica

Modelos y Teorías

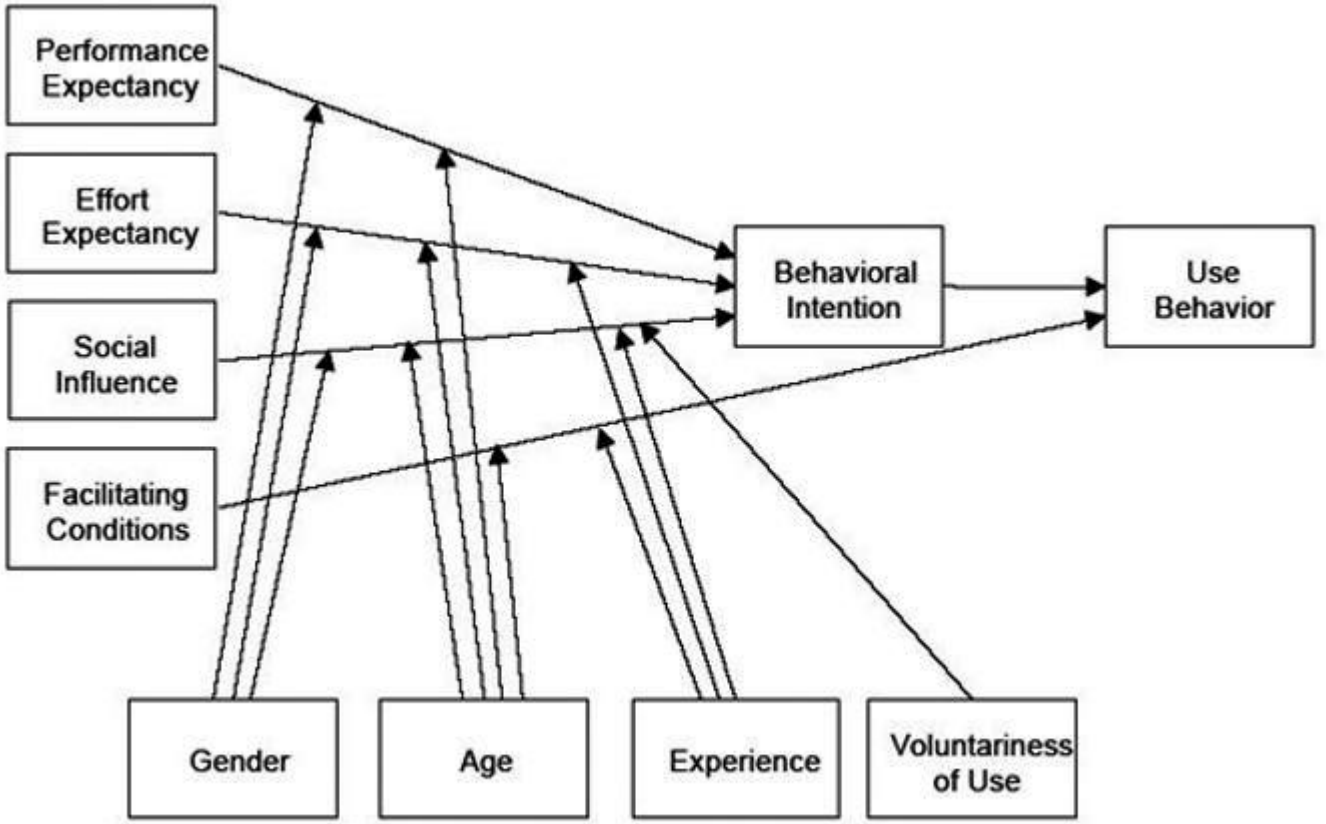
Unified Theory of Acceptance and Use of Technology (UTAUT)(Venkatesh, Morris, Davis and Davis, 2003).

The UTAUT has four predictors of users' behavioral intention and there are performance expectancy, effort expectancy, social influence and facilitating conditions.

Literatura sobre Adopción Tecnológica

Modelos y Teorías

Unified Theory of Acceptance and Use of Technology (UTAUT)(Venkatesh, Morris, Davis and Davis, 2003)



Literatura sobre Adopción Tecnológica

Modelos y Teorías

Unified Theory of Acceptance and Use of Technology (UTAUT)(Venkatesh, Morris, Davis and Davis, 2003).

The five similar constructs including perceived usefulness, extrinsic motivation, job-fit, relative advantage and outcome expectations form the performance expectancy in the UTAUT model while effort expectancy captures the notions of perceived ease of use and complexity.

As for the social context, Venkatesh et al. (2003) validation tests found that social influence was not significant in voluntary contexts.

Referencias

Lai, P. C. (2017). The literature review of technology adoption models and theories for the novelty technology. *JISTEM-Journal of Information Systems and Technology Management*, *14*, 21-38.