

# **COMPARISON OF ACCEPTANCE MODELS IN THE CONTEXT OF BRICK AND MORTAR RETAILERS AND OMNICHANNEL RETAILERS**

**Abstract.** The purchasing behavior of consumers is significantly influenced by the use of technology. Technology is nowadays omnipresent and to a very high degree also the purchasing behavior. Nowadays consumers have the possibility to buy in a wide variety of channels. The use of the technology is strongly dependent on the acceptance of technology. (Davis, 1986). In scientific research there are many approaches and models to explain the acceptance of technology. With the following article, a comparison of the most popular models in the context of the stationary trade to the Omnichannel dealer.

Beside the Technology Acceptance Model (TAM) which is a central approach in the scientific acceptance research (Davis 1989), the Technology Acceptance Model 2 (TAM 2) is an approved model and base for many researches (Davis and Venkatesh, 2000). With TAM 2 Davis and Venkatesh extended the existing TAM model with another two influencing variables: Social influence and cognitive instrumental processes. The third model is the Unified Theory of Acceptance and Use of Technology (UTAUT) which is a combination of 8 existing models (Venkatesh, Morris, Davis 2003).

Based on this literature research a model will be developed which is useful for a deeper research and understanding of the backgrounds of customers using online channel or brick and mortar retailers for purchasing sporting goods.

Key words: Acceptance models, customer behaviour, omnichannel

## **Methodology & Introduction**

This paper focusses on customer behaviour, acceptance models and even more specific use in the field of retailing. The theoretical foundation is laid out with a literature review on technology acceptance models. This theoretical part is followed by an analyse how useful the existing models are in the context of brick and mortar retailers and omnichannel retailing.

## **Theoretical Background**

### **Technology Acceptance Model (TAM)**

Davis developed 1989 the Technology Acceptance Model (TAM). Primarily it was used for user acceptance of Technology and is the base of many researches. The model assumes that two variables are decisive for accepting technology: 1) Perceived Usefulness and 2) Perceived Ease of Use. Davis defines this two variables as follows (Davis, 1989, S. 320):

Perceived Usefulness: The degree to which a person believes that using a particular system would enhance his or her job performance.

Perceived Ease of Use: The degree to which a person believes that using a particular system would be free of effort.

Both dimensions have a direct influence on the setting of an individual with regard to the use of a system and are determined by external factors of influence, such as demographic factors and personality traits. In turn, the attitude (A) toward using a new technology has a direct influence on the intended use (BI) which in turn influences the actual usage. The development of the model intends to create a generalized form by which the end-use behavior for various computer technologies can be explained.

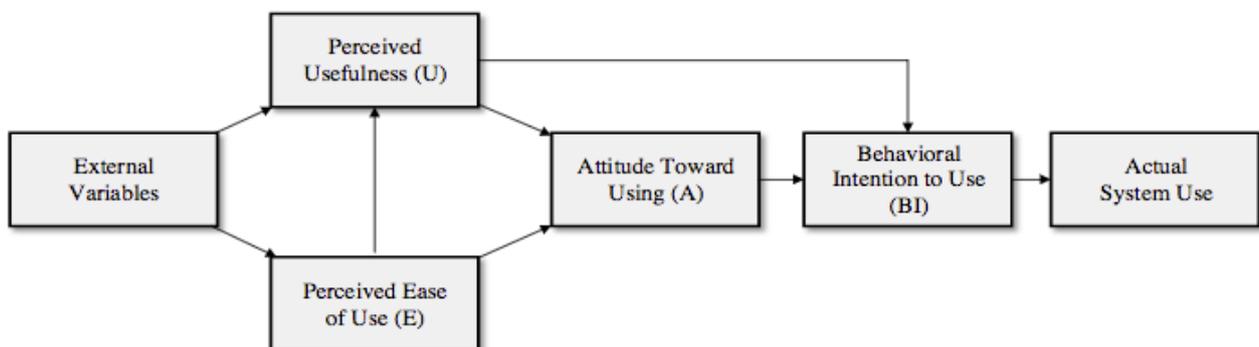


Figure 1: Technology Acceptance Model 1

Frasquet et. al (2015) based a comprehensive research on the on the TAM Model, supported by the Motivational Model. Frasquet indicates that the strength of the TAM Model, the parsimony and predictive power is also a limitation as there may be other variables, influencing the usage of Technology.

Based on the TAM-Model Shang et al. (2005) examined the influence of intrinsic versus extrinsic motivations for consumer to shop online. One of their main findings was that the major reason for consumers shop online was the intrinsic motivation.

In an early research, Teo et al. (1998) found out that perceived enjoyment affected each specific usage dimension differently. The authors see three motivators relevant to explain acceptance of Technology: 1) Perceived Usefulness, 2) Perceived enjoyment, 3) Perceived ease of use.

## **Technology Acceptance Model 2 (TAM 2)**

As a result of the limitations of the TAM Model due to the parsimony, Davis and Venkatesh (2000) extended the existing TAM model. They added two more parameters: 1) Social influence and 2) Cognitive instrumental processes.

### **1) Social influence**

Subjective norms are direct determinants of behavior. If there is no agreement with the personal norms, things are reluctant. Furthermore, the image has a positive effect on the perceived usefulness, provided that the use of technology improves the social status of the individual. The basic idea behind this is that individuals are influenced by ideas and attitudes of other people. This is the reason why people behave how they behave, influenced by other people.

### **2) Cognitive instrumental processes**

The relevance of the usage results for the results of the work (result quality) and the traceability of the result (result demonstrability) form the cognitive instrument location process variables. All of these have an effect on the perceived usefulness of the system (Perceived Ease of Use) (Venkatesh & Davis, 2000). The experience of the user acts as a moderation variable for the subjective norm, which has a direct influence on the perceived usefulness and the intended use. The study shows that social process variables have a strong influence on perceived usefulness at the outset, but decrease with increasing user experience.

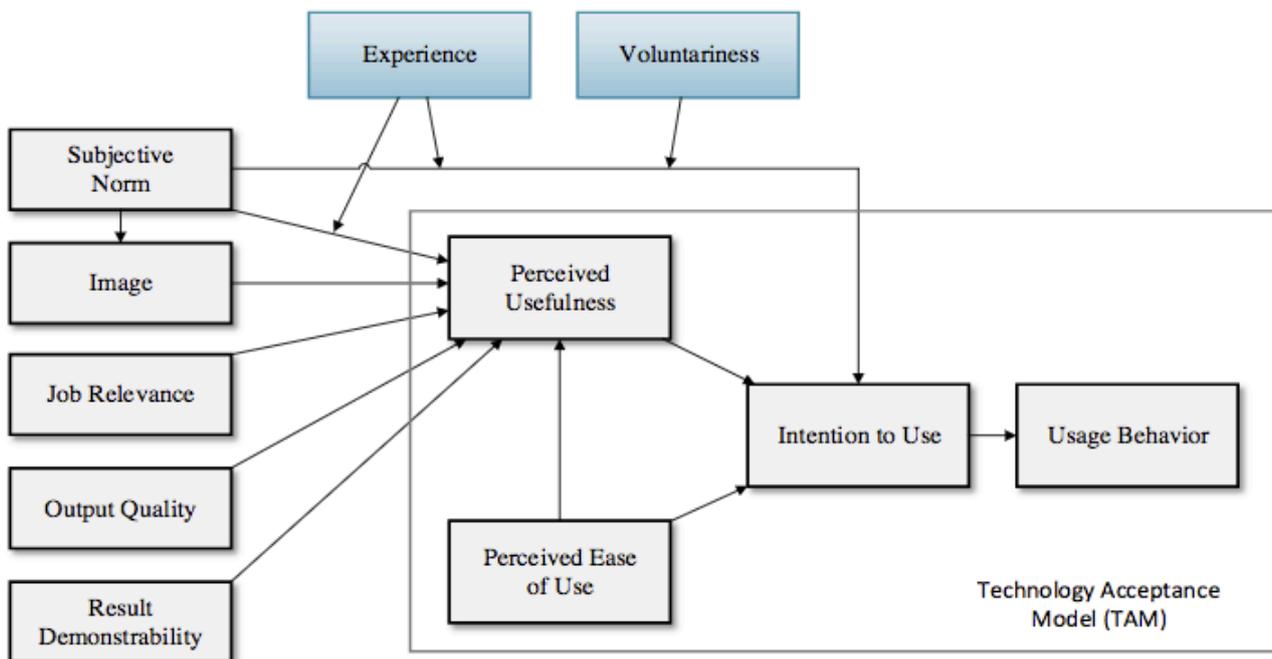


Figure 2: Technology Acceptance Model 2

### Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) is based on an extensive literature analysis of Venkatesh, Morris, Davis and Davis (2003) and acts as a combination of the eight most prominent technology acceptance models. The authors intend to develop a uniform, free from redundancy and empirically verified model, which integrates the central findings of the following eight theories.

Theory of Reasoned Action (TRA)	Davis, 1989
Theory of Planned Behavior (TPB)	Ajzen, 1985, 1991
Technology Acceptance Model (TAM)	Davis et al., 1989; Davis, 1989; Venkatesh & Davis, 2000)
Motivation Model (MM)	Davis, Bagozzi, & Warshaw, 1992
Combined TAM and TPB (C-TAM-TPB)	Taylor & Todd, 1995
Model of PC Utilization (MPCU)	Thompson, Higgins, & Howell, 1991
Innovation Diffusion Theory (IDT)	Moore & Benbasat, 1991
Social Cognitive Theory (SCT)	Compeau, Huff, & Sid, 1999; Compeau & Higgins, 1995

The model is intended to explain and predict individual behavior (Venkatesh et al., 2003). Four Determinants are worked out as significant factors for the intended use and the actual behavior: Performance Expectancy, Effort Expectation, Social Influence and Facilitating Conditions.

The influence of the said determinants is determined according to Venkatesh et al. (2003) on the basis of the social gender, age, experience, and Voluntariness of Use.

The so-called moderator variables determine the strength of the effect of a relationship between two variables. For example, the experience with a technology and the age of a person's impact strength of the supporting conditions on actual use (Venkatesh et al., 2003).

It turns out that the intended use is mainly influenced by the expectation of the service, the expenditure expectation and the social influence. According to Venkatesh et al. (2003), the supporting conditions and the intended use again have a strong influence on the actual behavior.

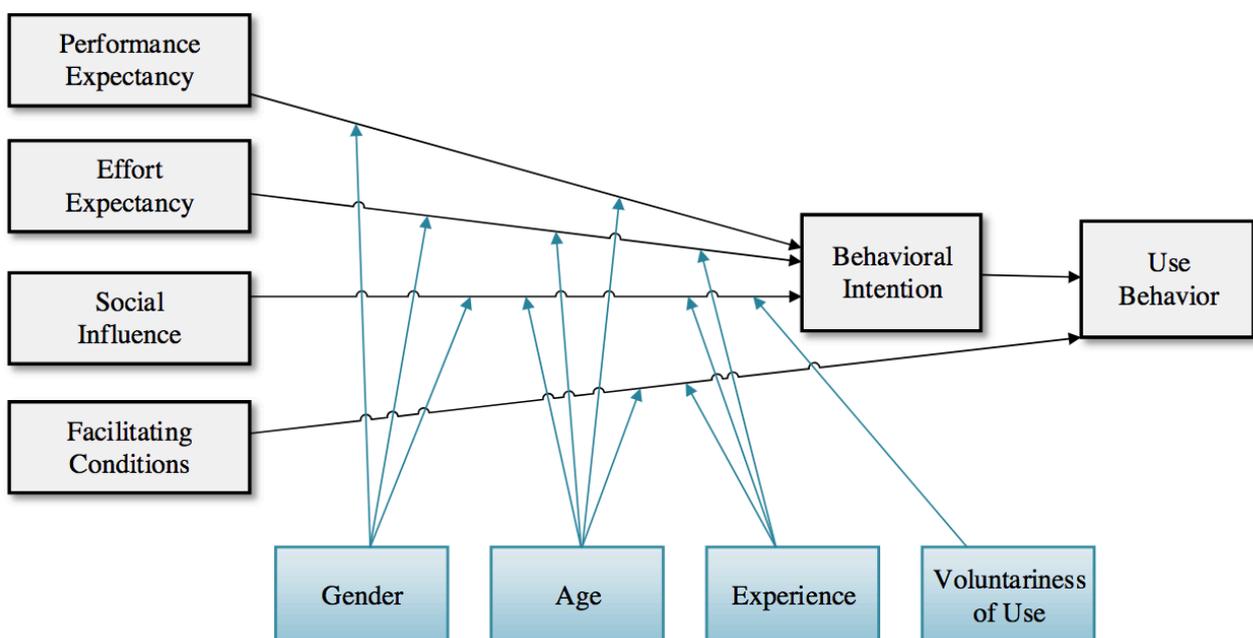


Figure 3: UTAUT

## TAM and Motivational Model

Frasquet et al. 2015 used an extension of TAM with the support of the Motivational Model to explain the channel usage for each stage of shopping.

The parsimony of TAM is its main strengths and limitation as well as their maybe other variables to be considered. The Motivational Model was an approach to overcome the limitation of TAM to explain the acceptance of Online Channel (Venkatesh et al. 2003, Deci and Ryan 1985, Vallerand 1997, Davis et al. 1992).

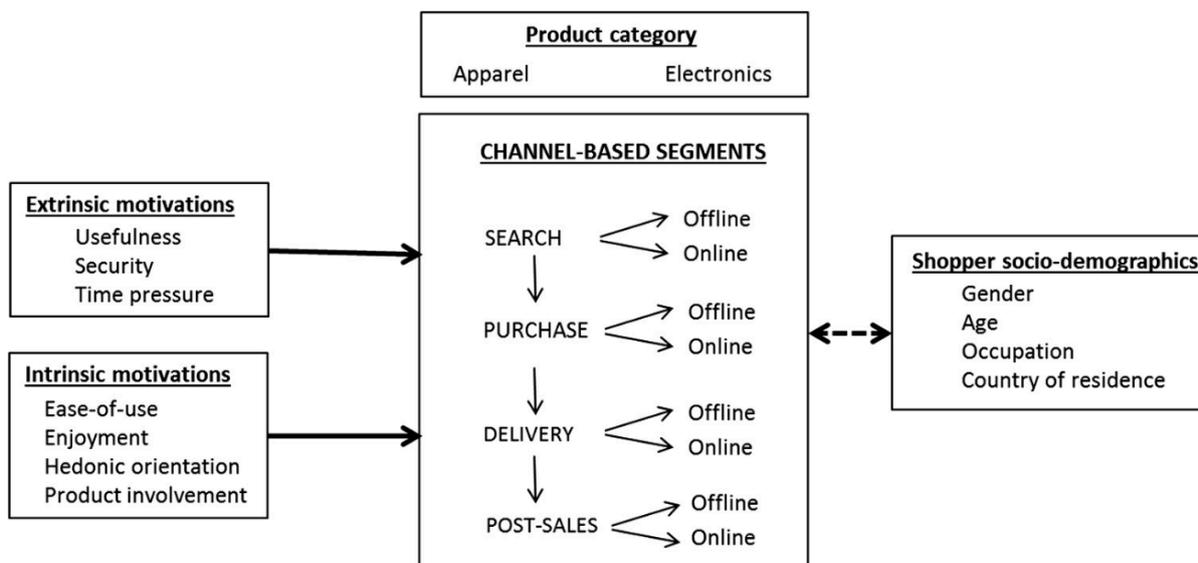


Fig. 4: TAM und MM

Frasquet et al. (2015) had a closer look at the phases of purchase and which channels are used in the different phases. Their research covered two different product categories which were Apparel and Electronics.

## **Model Development**

For a better understanding of the channel choice while the whole purchasing process in the field of sporting goods (skis and bikes) I based my model on the TAM Model and the Motivational Model.

In the following model two types of motivations for channel usage are differentiated: Intrinsic and Extrinsic Motivation.

Konus et al. (2008) showed in his research that a further investigation how consumers use channels for post-sales activities. In the following model the delivery was added as well as an important stage in the whole process. Frasquet (2015) included in the post sales stage product returns, claims, repair or maintenance services. The division of the sales process into four stages is a hitherto not yet examined area for sporting goods.

The model in Fig. 5 can be considered as an further development of the model Frasquet et al. 2015 which is based on two of the most common and approved models: The TAM Model and the Motivational Model.

Frasquet et al. 2015 indicates that the further researches are needed in the field of delivery and the increasing usage of mobile devices is an influencing factor which should be considered in future researches.

It is now very common in the trade to offer various possibilities of delivery. The "click & pick" offers are constantly increasing. In the course of the investigation, the delivery is deemed to be offline if it goes to a stationary shop. If the product is delivered at home, we will proceed from an online delivery.

Childers et al.2001 showed a positive relationship between perceived usefulness and the intentions to purchase online. Other studies showed the same positive relationship.

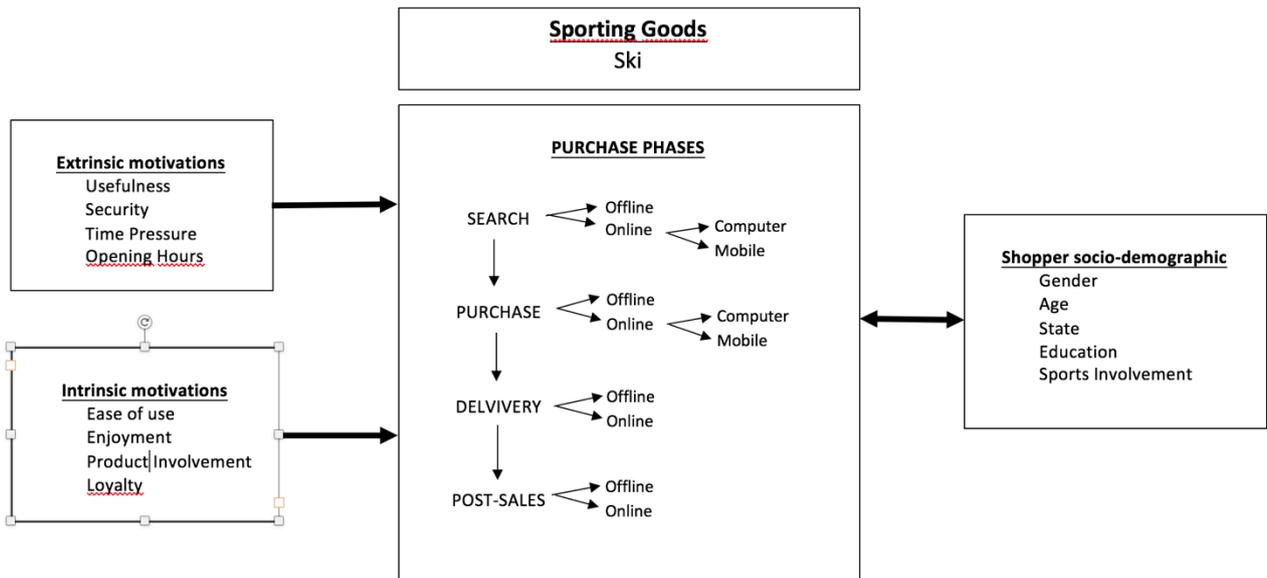


Fig. 5: Developed Model 1

## **Hypothesis**

### Perceived Usefulness

H1a: A higher level of perceived usefulness is positively associated to the use of the online channel for search.

H1b: A higher level of perceived usefulness is positively associated to the use of the online channel for purchase.

H1c: A higher level of perceived usefulness is positively associated to the use of online channel for delivery.

H1d: A higher level of perceived usefulness is positively associated to the use of online channel for post-sales.

### Security

H1a: A higher level of perceived security is positively associated to the use of the online channel for search.

H2b: A higher level of perceived security is positively associated to the use of the online channel for purchase.

H2c: A higher level of perceived security is positively associated to the use of the online channel for delivery.

H2d: A higher level of perceived security is positively associated to the use of the online channel for after-sales.

### Time pressure

H3a: A higher shopper time pressure is positively associated to the use of the online channel for search.

H3b: A higher shopper time pressure is positively associated to the use of the online channel for purchase.

H3c: A higher shopper time pressure is positively associated to the use of the online channel for delivery.

H3d: A higher shopper time pressure is positively associated to the use of the online channel for after-sales.

### Opening hours

H4a: The opening hours are positively associated to the use of the online channel for search.

H4b: The opening hours are positively associated to the use of the online channel for purchase.

H4c: The opening hours are positively associated to the use of the online channel for delivery.

H4d: The opening hours are positively associated to the use of the online channel for after-sales.

#### Intrinsic Motivation

##### Ease of Use

H5a: A higher level of perceived ease-of-use is positively associated to the use of the online channel for search.

H5b: A higher level of perceived ease-of-use is positively associated to the use of the online channel for purchase.

H5c: A higher level of perceived ease-of-use is positively associated to the use of the online channel for delivery.

H5d: A higher level of perceived ease-of-use is positively associated to the use of the online channel for after sales.

##### Enjoyment

H6a: A higher level of perceived enjoyment is positively associated to the use of the online channel for search.

H6b: A higher level of perceived enjoyment is positively associated to the use of the online channel for purchase.

H6c: A higher level of perceived enjoyment is positively associated to the use of the online channel for delivery.

H6d: A higher level of perceived enjoyment is positively associated to the use of the online channel for post-sales.

##### Product Involvement

H7a: A higher product involvement is positively associated to the use of the online channel for search.

H7b: A higher product involvement is positively associated to the use of the online channel for purchase.

H7c: A higher product involvement is positively associated to the use of the online channel for delivery.

H7d: A higher product involvement is positively associated to the use of the online channel for after sales.

#### Loyalty

H8a: A higher perceived loyalty is not significantly associated to the use of the online channel for search.

H8b: A higher perceived loyalty is not significantly associated to the use of the online channel for purchase.

H8c: A higher perceived loyalty is not significantly associated to the use of the online channel for delivery.

H8d: A higher perceived loyalty is not significantly associated to the use of the online channel for after-sales.