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# Consumer Acceptance and Use of Information Technology: Adding consumption theory to UTAUT2

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## Consumer Acceptance and Use of Information Technology: Adding consumption theory to UTAUT2

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### Abstract

This paper studies IT acceptance in a consumer context. It firstly takes economics factors into consideration, and proposes a theoretical model by incorporating consumption theory into UTAUT2 (which studies consumer acceptance by extending UTAUT). The consumption theory, which is prominent in Economics but not yet applied in IS, provides explanation for consumers' acceptance of technology. Consumption theory suggests income (absolute income, relative income, and permanent income) to be critical to consumers' intention. Our plan is to show that economic perspectives should be considered in analyzing consumers' acceptance and use of information technology, and empirically that the extended UTAUT2 with Consumption theory provides better explanatory value than UTAUT2 without the Consumption Theory, and generate theoretical and managerial implications for future research.

**Keywords:** UTAUT2, Technology use, Consumer context, Consumption theory.

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## INTRODUCTION

Technology acceptance research has been so mature that research should move outside its limited confines (Benbasat and Batki 2007). Venkatesh et al. (2007) proposed that researchers need to focus on important and interesting questions that are focused on today's relevant business problems. Many studies have extended UTAUT. Wang and Yang (2005) added personality theories to UTAUT, while Pahnla et al. (2011) added value to UTAUT. Such studies aim to increase the explanatory power of UTAUT (Pahnla et al. 2011), which (increasing explanatory power of the models) is a classical aim of the science (Akers & Sellers 2004). Venkatesh et al (2011) proposed UTAUT2 by extending UTAUT to a consumer context, and adding hedonic motivation, price value, and habit into it. Despite of this, we have found no studies that have integrated economics perspective into UTAUT. Following this lead by Venkatesh et al (2011) we extend UTAUT to a consumer context and add consumption theory to it.

The objective of our work is to focus on the consumer context (individual level), develop and empirically test a new model based on UTAUT2. Context has significant impact on behavior. It restricts range, affects base rate, changes causal direction, reverses signs, prompts curvilinear effects, tips precarious relationships, and threatens validity (Johns 2006). Sometimes, change of context may produce breakdowns between theoretical assumptions and empirical impressions, and thus mysteries (Alvesson and Kärreman 2007).

Consumption theory serves as a good theoretical foundation to explain consumers' behavior in this model. It explains how different types of income influence consumers' actual choice. Compared with orthodox economic model of consumer behavior, which is based on a rational maximizing model and describes how consumers *should* choose, positive theory of consumer choice focuses on describing how consumers *do* choose (Thaler 1980). Consumption theory proposed absolute income, relative income and permanent income have different influence on consumers' intention of acceptance. In the next section, we present the theoretical framework derived from consumption theory.

This work is expected to make both theoretical and managerial contributions. By developing and extending prior research, we expect to make three key contributions. First, this paper echoes to research calls of technology acceptance study (Benbasat and Batki 2007; Venkatesh et al. 2007), and focuses on relevant business problems. By applying economics perspectives, this paper fosters progress in this mature stream of work. This paper integrates absolute income, relative income, and permanent income as new mechanisms into the UTAUT model. Second, by extending UTAUT model into a different context (individual consumer context), this work generalizes prior research. Third, this work proposes an important perspective for service management by pointing out consumers' income (absolute income, relative income, and permanent income) to be quite critical, which from a practical point of view helps technology-developing organizations do better marketing in different target market.

## THEORY AND HYPOTHESIS DEVELOPMENT

### UTAUT2 and Hypothesis

The UTAUT2 model has seven key constructs, four of which are from the original UTAUT model and others are specific for consumer context. The constructs are performance

expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value and habit. Performance expectancy, effort expectancy and social influence explain intention to use, and that facilitating conditions and intention are direct determinants of usage behavior (Venkatesh et al. 2003). *Performance expectancy* indicates that a person believes that a system improves his or her performance. *Effort expectancy* means that a learner believes that using a system is free of effort. *Social influence* shows that an individual perceives important others believe he or she should use a technology. *Facilitating conditions* in IS research mainly refer to training, guidance, infrastructure, and help-desk support, and these facilitating conditions can improve or hinder IT use. Much research shows effect of the above factors on IT use intention and use behavior respectively (Taylor and Todd 1995; Venkatesh et al. 2003; Wang and Yang 2005; Kijasanayoting et al. 2009). *Hedonic motivation* is opposite to utilitarianism, referring to the fun or pleasure derived from using a technology. Many studies revealed that in the consumer context, hedonic motivation is an important determinant of technology acceptance and use (Brown and Venkatesh 2005; van der Heijden 2004; Thong et al 2006; Childers et al. 2001). *Price value* means the perceived benefit of using technology compared with its cost (Dodds et al. 1991). *Habit* is considered to be a perceptual construct that reflects the results of prior experiences (Venkatesh et al. 2011), which is a strong predictor of future technology use (Kim and Malhotra 2005; Limayem et al. 2007). Thus the following hypothesis can be proposed:  
**H1-H5:** *Performance expectancy, effort expectancy, social influence, hedonic motivation, and price value are positively related to consumers' intention to use IT.*  
**H6-H7:** *Facilitating conditions and habit positively influence consumers' IT use.*

## Consumption Theory

Consumption theory proposes that income effect is the change in a consumer's income and how the change will impact the quantity demanded of a good or service. The relationship between income and the quantity demanded is a positive one, as income increases, so does the quantity of goods and services demanded (Böhm and Haller 1987). Income provides a perspective to analyze consumers' use of technology that focuses on consumers' purchase power. Cheng et al. (1997) found that consumer's income is among the most important considerations for purchasing software. Household income affects consumption choices by virtue of the purchasing power and status it confers, and has shown to have an impact on consumption in several product categories (Simmons Market Research Bureau 1991). Thus income can't be overlooked when analyze consumer's use of IT.

**Absolute income.** Keynes (1936) states that the consumption level of a household depends on its absolute level (current level) of income. Absolute income hypothesis shows that as income rises, consumption will also rise but not necessary at the same rate. According to absolute income hypothesis, individual cares a lot about his income and measure his purchase power to consume. So we hypothesize:

**H8:** *Individual's income positively influences IT use.*

**Relative income.** Absolute income hypothesis develops a one-period consumption model, while relative income hypothesis and permanent income give us good explanation for long-term consumption. Relative income hypothesis (Duesenberry 1949) states that the satisfaction (or utility) an individual derives from a given consumption level depends on its relative magnitude in the society (e.g., relative to the average consumption) rather than its absolute level. It is based on a postulate that has long been acknowledged by psychologists and sociologists, namely that

individuals care about status (Duesenberry 1949; Kravis 1959; Alvarez-Cuadrado and Long 2009).

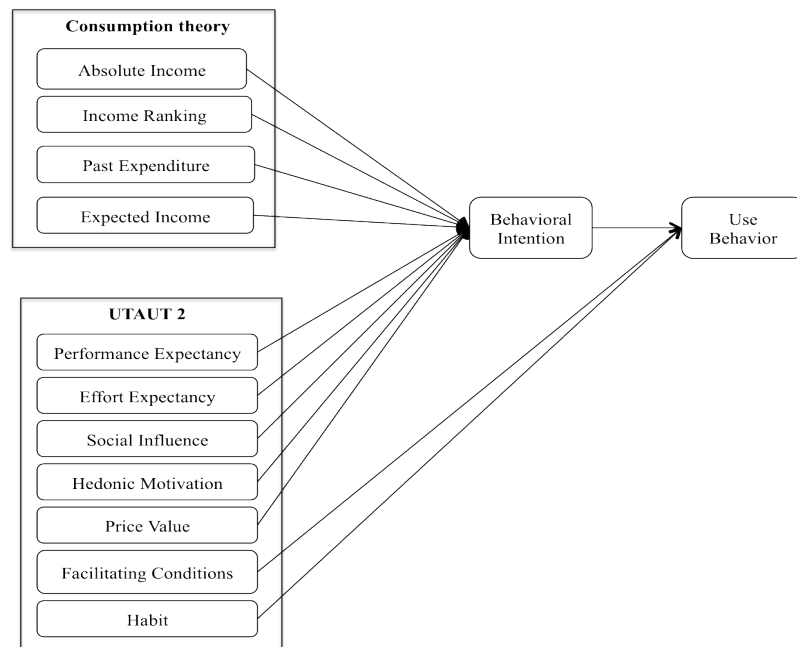
Relative income hypothesis consists of two consumption effects. *Demonstration effect* states that individual's attitude toward consumption is decided more by his income in relation to other people than by abstract standard of living. So an individual is less concerned with absolute level of consumption than by relative level. The percentage of income consumed by an individual depends on his percentile position within the income distribution. *Ratchet effect* states that the present purchase is not influenced merely by present levels of absolute and relative income, but also by levels of consumption attained in previous period. It is difficult for a family to reduce a level of consumption once attained. The aggregate ratio of consumption to income is assumed to depend on the level of present income relative to past peak income. Therefore we hypothesize:

**H9 (a):** Individual's income ranking positively influences IT use.

**H9 (b):** Past expenditure positively influences IT use.

**Permanent Income.** Permanent income is a long-run measurement of average income, in which temporary fluctuations in income do not have much effect upon consumption. Friedman (1957) states that the choices made by consumers regarding their consumption patterns are determined not by current income but by their longer-term income expectations. Friedman concluded that the individual will consume a constant proportion of his/her permanent income; and that low income earners have a higher propensity to consume; and high income earners have a higher transitory element to their income and a lower than average propensity to consume. So we hypothesize:

**H10:** Permanent income positively influences IT use.



**Figure 1.** The proposed framework for individual's IT consumption

## DISCUSSION AND CONCLUSION

IT acceptance is widely studied topic on IS. The key theory in in the area of IT acceptance is UTAUT. We propose a theoretical model by extending UTAUT2 in a consumer context, in which the effects of different types of income are tested alongside those of factors described by UTAUT2. The consumption theory, which is prominent in Economics but not yet applied in IS, provides explanation for consumers' use of online technology and services. Based on the Consumption Theory, we propose that consumers' desire, ability and willingness to get and buy anything, which is effectual demand, that influence consumers' consumption and use of IT. Our plan is to show that economic perspectives should be considered in analyzing consumers' acceptance and use of information technology, and empirically that the extended UTAUT2 with Consumption theory provides better explanatory value than UTAUT without the Consumption Theory.

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