The moderating roles of fashion innovativeness and involvement in the attitude toward online customization in Taiwan apparel market

Yun Wang
Department of Apparel, National Pingtung University of Science and Technology
1, Shuehfu Rd., Neipu, Pingtung 912, Taiwan
Tel: 886-8-7703202
yunw@hotmail.com

Hira Cho
Oklahoma State University
431 HES, Stillwater, OK 74078-6142, USA.
Tel: 405-744-5035
hirac@okstate.edu

Chen-Yin Jenny Liu - Corresponding Author
Graduate School of Management, I-Shou University
Department of Information Management, Tzu-Hui Institute of Technology
105 Feng-Rong St., Pingtung City, 900, Taiwan
Tel: 866-8-7384150
chenyinliu@hotmail.com
The moderating roles of fashion innovativeness and involvement in the attitude toward online customization in Taiwan apparel market

ABSTRACT

The focus of this research is to examine the relationship of consumers’ beliefs and attitude toward online customization for apparel in Taiwan. Based on a previous study, the research model extended the Technology Acceptance Model with additional constructs, trust and other individual traits, fashion innovativeness and fashion involvement as moderators in the model. This study will examine the validity of the model in the context of online customization for apparel and Taiwan consumers. As results, this study will provide practical implications to e-retailers, allow verification of universal theory application, and allow firms to develop the segmentation strategy to attract technologically proficient customers according to different consumer traits.

Keywords: Online Customization, Technology Acceptance Model, Trust, Fashion Involvement, Fashion Innovativeness
INTRODUCTION

The number of customers shopping online has grown rapidly over the last several years. According to U.S. Census Bureau (2004), retail e-sales reached $44 billion in 2002, an increase of 29% over e-sales of $34 billion in 2001. Furthermore, apparel became the second largest online product category with $6 billion in sales in 2003, which is doubled from the sales in 2001 (United States Department of Commerce, 2005). In the ever-competitive environment many companies have been changing their business processes and building information technology (IT) solutions that enable them to acquire potential customers, retain existing ones, and maximize their lifetime value. After several years of IT advancing and cost reducing, firms nowadays can respond to more individual requests (Pine, Peppers & Rogers, 1995) and provide the “right stuff” for their customers (Cox & Alm, 1998). Providing online customization will increase customers’ satisfaction and retain customers, therefore, apparel companies should use customization as one of their core competency strategy to compete others in this ever-competitive environment.

Through Internet, an important means for customizing, apparel has been identified as the most suitable product category for customization (Goldsmith & Freiden, 2004). The pioneer in apparel customization is Levi's Strauss' use of body-scanning technology to offer customization at reasonable price ranges at its flagship store in San Francisco. As the online apparel market grows, more e-retailers are providing options for customized apparel. According to Kelly (2000), the use of customization features among the top 100 apparel companies in the year 2000 increased 120 percent compared with the previous year. While some leading companies include apparel customization as an additional service category to their online businesses, other e-retailers exclusively sold customized apparel similar to a specialty store. Currently customization features for apparel are found in the websites of both big (e.g., Lands’ End.com, and Nike.com) and smaller companies (e.g., t-shirt.com) in the U.S.

In Taiwan, customized apparel existed around 1930’s. At that time, only prestige family
managed to pay for the fashion apparel. They read the fashion magazine and chose their favori
fashion look, bought fabric and then ask the tailor to make it. Later on with the progress of industry,
apparel companies adopted mass production systems to lower the price of the fashionable
merchandise. And, due to the economic growth more people became to be affordable for customized
apparel. Nowadays consumers like to be different from others and companies start to offer
customized apparel through their websites. In Taiwan customization apparel market, the
popular items include company’s uniform, handcraft, shoes, men’s suits, inner wears, traditional customs, professional dancers’ dresses, and Cosplay costumes (e.g., costumes from Japanese comic books or cartoons or Chinese puppet shows).

In order to operate successful online customization, it is important to understand what
factors influence consumers’ willingness to use online customization. Cho and Fiorito (2008)
developed a research model based on Technology Acceptance Model (TAM) and examined
the potential key factors for the success of online customization in the U.S. apparel market.
The previous study suggested consumer beliefs and trust toward the websites are the main
determinants of consumer acceptance of apparel customization in online shopping. This study will
continue to identify the additional factors, fashion innovativeness and fashion involvement, for the
success of the business in Taiwan apparel market.

Bosnjak, Galesic, and Tuten (2007) noted that while many previous online shopping researches
identify the potential moderation of personality traits, an understanding of personality trait as they
related to online shopping behavior is an underdeveloped area of online consumer behavior. Market
researchers have concentrated on understanding the earliest buyer of new fashion clothing, the
fashion innovator, and her/his perceived role as arbiters of fashion (Birtwistle & Shearer, 2001;
Crane, 2000). Bearden et al., (2001) suggest the fashion innovator is likely to be a person with
specialized knowledge and expertise in the area of fashion clothing. Moreover, in fashion
marketing, fashion involvement refers to the extent of interest with the fashion product category such
as apparel; it’s used primarily to predict behavioral variables related to apparel products (Browne &
Kaldenberg, 1997). Involvement is a helpful metric for explaining consumer behavior and segmenting consumer markets (Kim, 2005). Thus, understanding fashion innovativeness and involvement of consumers should contribute to the development of new technology and speed up adoption process in customization apparel online market.

The purpose of this study is to examine the influential factors on Taiwan consumers’ attitude and behavioral intention toward apparel customization in online shopping. The research model of this study will modify Cho and Fiorito (2008)’s model which extended the Technology Acceptance Model (TAM). The original TAM included two belief variables, perceived usefulness and perceived ease of use, which influences attitude and behavioral intention. Cho and Fiorito (2008) extended the TAM with additional belief variables, perceived security and trust. Our research model focused not only on the relationship of consumers’ beliefs and attitudes toward online customization for apparel in Taiwan, but also on examining the moderating effects of fashion innovativeness and fashion involvement on the relationships between consumer beliefs (perceived usefulness, perceived ease of use, and trust) and attitudes toward apparel customization in online shopping. To be specific the research objectives are:

1) To investigate the influence of consumer beliefs (perceived usefulness, perceived ease of use, and trust) toward the online customization for apparel on the attitude and behavioral intention in Taiwan.

2) To investigate the moderating role of individual traits differences (fashion innovativeness and fashion involvement) in the relationship between consumer beliefs and attitude toward online customization for apparel in Taiwan.
Online Customization

The popular use of the term “customization” is related to the personalized products/services or shopping experiences created by interactions between firms and customers based on advanced technologies, such as Internet. Regarding the use of customization in the Internet context, Srinivasan, Anderson, and Ponnavolu (2002) referred to the term as "the ability of an e-retailer to tailor products, services, and the transactional environment to individual customers." (p. 42). In this study online customization is termed as the IT provided by an e-retailer to tailor products, service, and the transactional environment to individual customers in Internet context. As Pine, Peppers, and Rogers (1995, p.103) argued that “Customers, whether consumers or businesses do not want more choices. They want exactly what they want—when, where, and how they want it—and technology now makes it possible for firms to give it to them.” These imply that by making the best of IT, the finer segmentation seems possible to be realized (Kara & Kaynak, 1997), and customized products were no longer belonging to wealthy individuals as the past due to time and effort consuming (e.g., custom apparel).

Nevertheless, the information requested for customization may include some sensitive personal information, such as body size for apparel market, which is saved for the individuals’ next visit on the website. While the practice is for the convenient use of the system, consumers’ concern for the personally identifiably information will be increased. Therefore, in order to identify the factors determine consumers’ acceptance of online customization for apparel, this research will have to consider these negative aspects such as consumers’ trust as well as benefits or advantages of the system. Chellappa and Sin (2005), conducting a research of customized shopping experience with one of five popular industries (including the apparel industry), suggested that consumers concern over the data collection process for even anonymous and personally unidentifiable information.

The Technology Acceptance Model (TAM)
The original TAM is rooted in the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). The TRA asserts that an individual’s actual behavior is linked to their beliefs, attitudes, and intentions to perform that behavior. That is to say, individuals’ attitudes toward a particular action are determined by their beliefs. These attitudes then influence their intention to perform that action, which finally affects their undertaking of that particular action (Fishbein & Ajzen, 1975). The TAM modifies the TRA in order to model the user acceptance of information systems (Davis et al., 1989). Davis (1989) suggested that two constructs in belief are the main determinants in TAM. One of the belief constructs is perceived usefulness (PU), which is “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989). The other is perceived ease of use (PEOU), which means “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989). These two factors are theorized to be the fundamental variables in the prediction of IT acceptance (Davis et al., 1989). This model has since been declared as “one of the most influential research models in studying the determinants of IT usage” (Chau, 2001).

Trust

Trust has been defined differently based on academic disciplines or the study purpose (Grabner-Kräuter & Kaluscha, 2003). In e-commerce research has been defined trust as a belief that a Web vendor will perform some activities in accordance with consumers’ confidence (Pavlou & Gefen 2004). Tan and Sutherland (2004) constructed a multi-dimensional trust model which conceptualized trust in online contexts as a dispositional trust, institutional trust, and interpersonal trust adopting the concepts from psychology and sociology.

*Dispositional Trust* was applied trust as personality traits, such as a belief, expectancy, or feeling, which have been accumulated through the individual’s experiences (Rotter, 1971). *Institutional Trust* is based on sociology which refuses to acknowledging trust at the
individual level but considers trust as being applicable to the relationships among groups of people (Lewis & Weigert, 1985). Interpersonal Trust was defined as “the assessment by the consumer in regards to the trustworthiness of the electronic vendor (Tan & Sutherland, 2004, p.49). Widespread online trust is generated through consumers’ interactions with online vendors’ websites (Jarvenpaa et al., 2000). More specifically, factors such as consumers’ perception of a site’s ability to perform expected activities, the accuracy of the information provided by a site, and a site’s conformance between saying and doing, would contribute to the perception of trust in that site (Bart et al., 2005; Koufaris and Hampton-Sosa, 2004).

In 21st century consumers are free to adopt or reject any new technology based on how their attitude toward the system provided by firms. Kulviwat et al. (2007) stated the TAM emphasis on cognition might be appropriate for an organizational context but insufficient for consumer contexts. Henderson et al., (1998) found that customers purchase online because it is convenient, no pressure, and save time. Additionally, Fukuyama (1995) and Keen (1999) suggest that trust is the foundation of e-commerce. The scope of e-retailer is much complicated than information systems in organization because of gathering sensitive personal information and carrying financial consequences. Cho and Fiorito (2008) extended the TAM model by added two additional variables, perceived security (PS) and trust, and proposed that these four variables mainly determine consumer acceptance of online customization for apparel. The results show perceived usefulness, perceived safety, and trust influenced attitude directly or indirectly in a positive way. However, perceived easy of usefulness did not affect attitude and influenced trust negatively.

**Personality traits of Fashion Innovativeness and Involvement**

Fashion forms an important part not only of everyday consumption decisions but is implicitly a central component of almost all daily events where it may influence what we eat, how we dress, how we talk and even the very nature of our thinking processes. In consumer behavior and fashion marketing, researches found personality traits would influence their
attitude/behavior intention or make their behavior different (Blackwell, et al., 2001). It is undoubtedly true that characteristics such as an innovative personality might make some people more likely to innovate than others (Ha & Stoel, 2004). Donthu and Garcia (1999) find significant differences in a variety of psychological constructs between people who shop online and those with Internet access but do not use it for shopping. They found online shoppers are more willing to innovate and take risks, more impulsive and are more often variety seekers than non-Internet-shoppers. Kwak et al. (2002) finds that people with higher scores on scales of sensation seeking and opinion leadership are more likely to buy online than people with lower scores on those scales. Copas (2003) analyses bivariate correlations of vigilance and openness to change with self-reported online buying motives and attitudes towards online shopping. She finds that vigilance, defined as the tendency to trust as opposed to being suspicious about others’ motives and intentions, does significantly negative relate to self-reported frequency of buying online \( (r = -0.16) \). The relationship of vigilance and attitudes towards online shopping is even stronger \( (r = -0.26 \text{ to } -0.29) \). Recent research suggests that people who are innovative or even more generally knowledgeable with respect to some products are not extraordinary when a different product group is considered (Bearden et al., 2001). Thus the fashion innovator is likely to be a person with specialized knowledge and expertise in the area of fashion clothing.

In addition, fashion innovators are likely to have a higher level of involvement with regard to new fashion. Involvement is the motivational state of arousal or interest evoked by a particular stimulus or situation, and displayed through properties of drive (O’Cass, 2004). Generally, involvement is conceptualized by the interaction between an individual consumer and object (product). O’Cass found fashion clothing involvement related highly to personal consumers’ age, gender and fashion knowledge, which in turn influenced consumer confidence in making purchase decisions. Such consumers are more capable and likely to critically evaluate new fashion apparel.
CONCEPTUAL MODEL

Since this research is not only examining the determinants of the consumers’ beliefs of customization apparel online, but also the moderating roles of fashion innovativeness and involvement, the research model was proposes from the customers' viewpoints by using the modified TAM that incorporates the construct of trust. This research model is similar to Cho and Fiorito’s study, but eliminating “perceived safety” due to the perceived safety was an antecedent of trust and only had indirect influence of consumer attitude toward online customization in apparel (Cho & Fiorito, 2008). The additional individual traits of fashion innovativeness and fashion involvement are influential in fashion market. It is expected that the constructs proposed in the model will be able to explain a larger proportion of variance in attitudes toward online customization in apparel market. The conceptual model is described as Figure 1 and the followings describe the potentially important constructs and the propositions.

Figure 1. Research framework for Attitude toward acceptance of online customization in apparel market

The Modified TAM and Attitude toward Online Customization

Compared with an ordinary shopping process, online customization requires additional mental and physical effort by customers. Therefore, it is the perceived likelihood that online
customization will benefit the person in performance of some task. It is concerned mainly
with perceptions of the functional outcome as a consequence of technology usage. In fact,
perceived usefulness has been found to be the most significant factor in acceptance of
technology in the workplace, even more important than perceived ease of use (Davis, 1989;
Hu et al., 1999). In the consumer context, many research found a significant positive
relationship between the perceived usefulness of new Internet services and attitudes toward
these services (Childers et al., 2001; Gentry & Calantone, 2002). The study of Bruner and
Kumar (2005) found a similarly positive impact on attitude toward using mobile Internet
products. Thus,

Proposition 1. The higher the perceived usefulness of online customization, the
consumers’ attitude toward online customization of apparel will be
more positive.

In TAM, perceived ease of use is a construct tied to an individual’s assessment of the
effort involved in learning and using IT. Venkatesh (2000) examined extensively the
perceived ease of use in understanding user acceptance of technology. Like perceived
usefulness, perceived ease of use has been empirically shown to be a critical component of the
adoption process (e.g., Lin, Shih, & Sher, 2007; Venkatesh, 1999). In the consumer context,
perceived ease of use was found to have a direct and positive effect on attitude toward use of
technological innovations (Childers et al., 2001; Dabholkar & Bagozzi, 2002; Gentry &
Calantone, 2002). Thus,

Proposition 2. The higher the perceived ease of use of online customization, the
consumers’ attitude toward online customization of apparel will be
more positive.

Generally, trust is a key antecedent of consumer involvement in online shopping
(Reichheld & Schefter, 2000). While the practice is for the convenient use of the system,
consumers’ concern for the personally identifiable information will be increased. The firms do
much effort to promote their security features like by mailing out passwords and account number instead of broadcasting this information online, and by upgrading to 128 bit encryption for more secure transactions. These ways are expected to enhance customers’ believe that their sensitive information are transmitting in secure, and then promote customers’ confidence in online customization. Previous studies that incorporated trust into TAM found a significant influence of trust on attitude and behavioral intention (Gefen et al., 2003; Pavlou & Gefen, 2004). Other studies in the online context also found trust as a determinant of consumers' attitude and behavioral intention (Doney & Cannon, 1997). Thus,

**Proposition 3. The higher trust of online customization, the consumers’ attitude toward online customization in apparel will be more positive.**

The relationship between attitude and behavioral intention is at the core of the TRA (Ajzen and Fishbein 1980). Attitude toward buying online are defined as a consumer’s positive or negative feelings about performing the purchasing behaviors on the internet (Scholosser, 2003). Online behavioral intentions are the strength of a consumer’s intentions to perform a specified behavior via internet (Salisbury et al., 2001). Previous research in e-commerce suggests that attitude plays a crucial role in an individual’s behavioral intention (McKnight & Chervany 2002). Moreover, in Njite and Parsa (2005) study of investigating factors that influence online shopping, they found consumer attitude toward online shopping significantly affects purchase intention. Thus,

**Proposition 4. The consumers’ attitude toward online customization in apparel will have a mediating effect on their behavioral intention and the determinants of online customization of apparel.**

Involvement is the heart of the person-object relationship and the relational variable is most predictive of purchase behavior (Evrard & Aurier, 1996; Martin, 1998). Zaichkowsky (1985) defined involvement as “a person’s perceived relevance of the object based on their inherent needs, values, and interests.” Finn et al. (1994) found that involved consumers are
likely to stay longer at the retail store. Wakefield and Baker (1998) found consumers who were more interested in shopping were inclined to spend more time shopping and to return to the mall more frequently than those who were less interested in shopping. Involvement has been discussed and utilized to examine fashion clothing in a number of prior studies; the highly fashion involved consumer has historically been important to fashion researchers and marketers, because they are seen as the drivers, influentials and legitimists of the fashion adoption process (Goldsmith, Moore, & Beaudoin, 1999). Shoppers who are highly involved with a Website are more willing to search for information on the site, to explore new stimuli (Balabanis & Reynolds, 2001), and more likely to purchase products online than others (Kwak et al., 2002). Also, the positive relationship between the level of fashion involvement and purchasing apparel (Seo et al., 2001) suggested consumers with high fashion involvement were more likely to be apparel buyers. Thus,

Proposition 5. The level of consumers’ apparel involvement will have a moderating effect on their attitude toward online customization and perceived usefulness, perceived ease of use, and trust.

While the importance of personality variables has been recognized and even questioned, the major thrust of past research has been to identify the key demographic and behavioral variables that are common among innovators (Blackwell et al., 2001). Market researchers have concentrated on understanding the earliest buyer of new fashion clothing, the fashion innovator, and her/his perceived role as arbiters of fashion (Birtwistle & shearer, 2001; Crane, 2000). The fashion innovator helps legitimize and facilitate the spread of new fashion clothing (Crane, 2000; Creswell, 2001), so that understanding fashion innovativeness of consumers should contribute to the development of new technology and speed up adoption process in customization apparel online market. Roger (1995) defines innovativeness based on temporal stage of adoption of technology such that the first 2.5% are labeled innovators. However, this time-of-adoption classification bears no isomorphic relationship, it is hard to operationalize
this construct while the person involved. Consumer researchers have provided person-specific definitions of innovativeness such as “the degree to which an individual is receptive to new ideas and makes innovative decisions independently of the communicated experiences of others” (Midgley & Dowling, 1993). Marketing experts readily acknowledge that innovativeness is one of the few concepts in the behavioral sciences that have immediate relevance to consumer behavior. Thus,

*Proposition 6. The level of consumers’ fashion innovativeness will have a moderating effect on their attitude toward online customization and perceived usefulness, perceived ease of use, and trust.*
CONCLUSION

In this consumer-centric economy, consumers desire to have more opportunity to design their own product. With IT advancing and cost reducing, online customization came into being an increasingly popular strategy. It is also an important issue to transform and improve our high-technology in Taiwan apparel industry. From firms’ viewpoints online customization is a powerful marketing strategy. In fact, however, customers’ attitudes toward acceptance of online customization are a critical success factor.

After reviewing literature, this study suggested that a further modification of TAM is necessary since TAM was created for a general explanation of the determinants of computer acceptance, rather than for the specific topic of attitude toward acceptance of online customization. The modified TAM that incorporates the construct of trust is expected toward a greater understanding of online customization. Conducting this study in Taiwan apparel market will allow the verification of universal theory application. In addition, the examination moderating effect of individual differences in fashion involvement and fashion innovativeness will help Taiwan firms to understand their target segmentation. This study not only can help firms adjust their e-commerce strategies, but also explain why firms go through the tremendous trouble, investment and human resources to develop and upgrade security measures to influence customers’ attitudes toward acceptance of online customization. Moreover, the importance of individual differences implies that firms should put more effort into attracting more technologically proficient and fashion oriented customers.
REFERENCE


Pine, B. J., Peppers, D., & Rogers, M. 1995. Do you want to keep your customers forever?


