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Zhenqian Wei
Jiangsu College of Engineering and Technology, China

Min-Young Lee
University of Kentucky, minyoung.lee@uky.edu

Hong Shen
Sichuan University, China

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What drives consumers in China to buy clothing online? Application of the technology acceptance model

Zhenqian Wei[1], Min-Young Lee[2], and Hong Shen[3]

Abstract

An enormous number of Internet users have made China a profitable e-commerce marketplace, and clothing is one of the most frequently purchased items. This study explores the predictors of consumers' motivation to buy clothing online in China by extending the technology acceptance model. Data were collected via an online questionnaire, resulting in 504 returned responses. The results indicate that perceived usefulness has a significant effect on consumers' intention to buy clothing online; however, no direct relationship between perceived ease of use and buying intention was found. Furthermore, perceived convenience, perceived money saving, and perceived time-saving can explain why consumers perceive buying clothing online as useful, and these perceptions have positive effects on buying intention. Additionally, the findings imply that fashion innovativeness and friend circles significantly influence consumers' intention to purchase clothing online. This article discusses the results and provides recommendations for implication and future research.

Keywords

Online shopping, TAM, clothing, China, friend circles

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Introduction

With the increasing popularity of online shopping, many people in China choose to buy products on the Internet. A report by the China Internet Network Information Center stated that the number of Chinese Internet users had grown to 731 million by the end of 2016, and 63.8% of these Internet users were online consumers.[1] With such a tremendous base of online buyers, it is not surprising that online shopping in China generated a total transaction value of US$690 billion in 2016.[2] Taking into consideration the huge online shopping market scale combined with economic globalization, China is steadily becoming a significant market for apparel retailers worldwide. An empirical study of this issue would provide a greater understanding of the Chinese e-commerce market.

The objective of this study is to test the fundamental factors that drive people in China to purchase clothing online based on the technology acceptance model (TAM).[3] To explain why consumers believe that the Internet is a useful way to buy, perceived convenience, perceived money saving, and perceived time-saving, were identified and included in the study. Given the important position of fashion and unique consumption pattern in China, this study extended original TAM model by including fashion innovativeness[4] and people's circles of friendship to examine online purchase intentions.

[1] Jiangsu College of Engineering and Technology, Jiangsu Province, China
[2] Retail and Tourism Management, College of Agriculture, Food, and Environment, University of Kentucky, Lexington, KY, USA
[3] College of Light Industry, Textile, and Food Engineering, Sichuan University, Chengdu, China

Corresponding author:
Min-Young Lee, Retail and Tourism Management, College of Agriculture, Food and Environment, University of Kentucky, 303B Erikson Hall, Lexington, KY 40506, USA.
Email: minyoung.lee@uky.edu

Theoretical background

Overview of buying clothing online in China

Data released by China E-Commerce Research Center indicated that China's clothing online shopping scale reached US$147 billion in 2016. The online clothing shopping penetration reached 36.9%, an increase of 10%.[5] Clothing is the most popular consumer goods category, thus ranking the largest category of online shopping position. Clothing is classified as "experience goods"[6] because people usually need to feel, touch, and try on the clothing before they make a purchase. The implication is that clothing is not appropriate for sale online. However, the transaction volume of clothing ranks highest in the online market in China.[2] In contrast, consumers in Europe and America are more likely to buy electronic products on the Internet.[7] Because e-commerce began and developed in Europe and America, e-commerce research is based on the context of Europe and America. Few research projects have examined online clothing purchases in China. For example, the homogenization competition of products is fierce; inventories are at a high level; and overseas online shopping is booming. Many online stores are suffering from intensified competition. Only few retailers who understand diverse consumer motivation and develop effective strategies can survive in the market.[5] Although some researchers[8,9] studied online shopping from the aspects of applicability, payment security, and website design, research on clothing online shopping market is still relatively lacking. In view of the facts, research based on previous investigations focusing on online clothing shopping by Chinese consumers is valuable.

Chinese cultural values

Prior research has shown that cultural values have a significant impact on individual's preferences and behaviors.[10] Hofstede and Bond[11] classified the cultural values of different countries into five dimensions: power distance, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance, and long-term versus short-term orientation. Chinese culture is shaped by a long history and maintained by the same language, which makes the core values of Chinese culture unique and consistent.[12] According to Hofstede's research,[13] China has different configurations of the five cultural dimensions in comparison with Western countries (e.g. United States). China has a high degree of uncertainty avoidance. In uncertainty-avoidant societies, people tend to feel threatened by uncertain situations.[14] To eliminate this uncertainty, Chinese consumers prefer to compare different stores until they find goods they are satisfied with. The convenience of searching for commodities on the Internet provides Chinese consumers with more choices. Accordingly, this study tests perceived convenience as a predictor that drives consumers to buy clothing online. China also has an extremely high degree of long-term orientation. In societies with a long-term orientation, people are usually thrifty.[15] Thus, it can be speculated that Chinese people pay more attention to saving time and are more sensitive to the price of goods. Therefore, this study introduces perceived money saving and perceived time-saving as predictors that drive people to buy clothing online. Chinese culture scores very low on the individualism dimension, which indicates that China is a collectivist society. Previous studies have confirmed that people in collectivistic societies emphasize strong relationships and interdependence, and they are sensitive to in-group and out-group boundaries.[11] In China, people's friend circles reflect their main social relationships. These relationships have a significant impact on individuals' behavior. An examination of the impact of these relationships on buying clothing online will help us to understand the Chinese consumer. Compared to Western countries, online shopping in China is still in its infancy. Most previous research on online shopping has been conducted in Western cultural settings. Given the difference between Chinese cultural values and those of Western countries, this study aims to explore the predictors of online apparel shopping motivations in the Chinese cultural context.

Technology acceptance model

Prior research has proposed many different theoretical models to predict user acceptance of and usage behavior toward information technology. Among this research, the TAM[16] is considered the most influential and widely accepted model[17,18] to explain technology usage. In this conceptual model for technology acceptance, Davis[16] presumed two salient variables, termed perceived usefulness and perceived ease of use, to predict people's likelihood of accepting or rejecting information technology in their workplace. Perceived usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance",[3] whereas perceived ease of use refers to "the degree to which a person believes that using a particular system would be free of effort".[3] Although both perceived usefulness and perceived ease of use have significant influence on users' intention to use information technology, Davis's investigation indicated that these two variables are not commensurate and parallel in predicting users' information technology usage intention. Firstly, perceived usefulness is more significantly linked to usage intention than is perceived ease of use. This means that users adopt information technology mainly because of the enhanced performance it provides for them, while being free of effort is secondary to them. Secondly, perceived ease of use has a direct effect on users' intention, and it may also be an antecedent to perceived usefulness.

A significant number of investigations have validated that TAM is a powerful and parsimonious model to explain

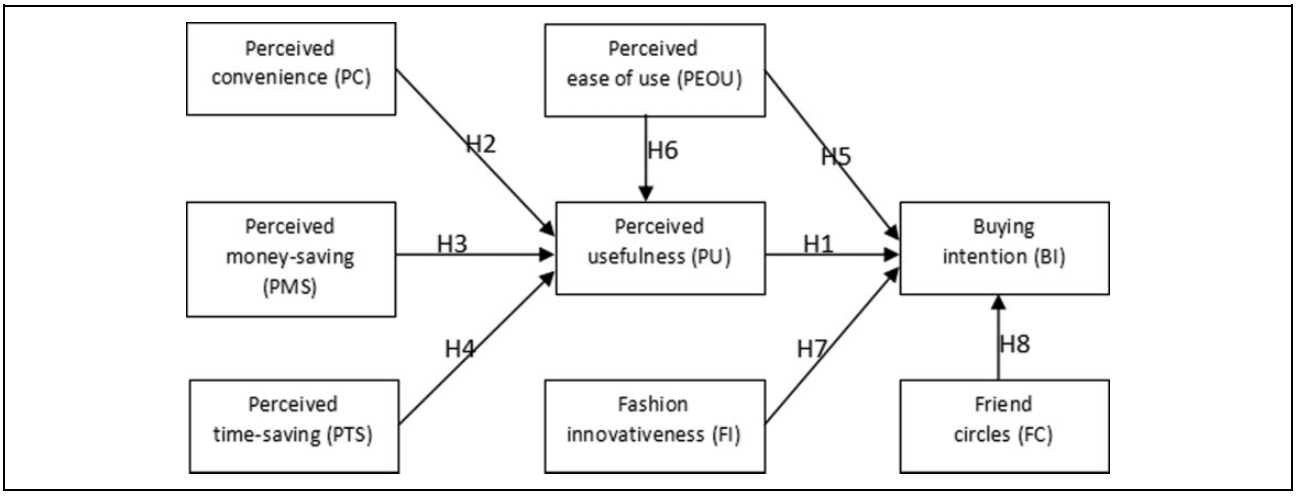

Figure 1. Research model.

individuals' adoption of information technology. However, although TAM is considered a useful and valid model, some research indicates that TAM is not sufficient to explain individuals' technology usage intention. Benbasat and Barki[19] indicated that perceived usefulness and perceived ease of use have been treated as a "black box" by many researchers, and investigations have reiterated the importance of perceived usefulness. These studies suggest that TAM should incorporate more variables and be integrated into a broader model with a focus on a specific context.

Accordingly, many researchers have extended and modified TAM by introducing other factors and variables to test consumers' online shopping intention. For example, Shih and HungPin[20] extended TAM by adopting Web environment, user satisfaction with the Internet, and perceived quality of e-shopping to predict consumer e-shopping behavior. Koufaris[21] broadened TAM by introducing value-added search mechanisms and Web skills into the model to explore consumers' online behavior. Lee[22] indicated that perceived usefulness and perceived ease of use had significant effects on the intention to trade online. Also, trust was considered to be an important antecedent to predict consumers' online shopping intention. Ahn et al.[23] suggested that playfulness and Web quality were important factors affecting consumers' attitude and intention to shop online, besides perceived usefulness and perceived ease of use. However, few studies have revealed the factors that make consumers feel that the Internet is a useful way to purchase items, especially when it comes to buying clothing online. Additionally, almost all of the previous applications and investigations of TAM have been conducted in European and American countries. However, online shopping in China boomed in the recent years, and the consumers' consumption habits of China differ from those of Western cultures. Therefore, the validity of TAM remains unclear in the context of Chinese consumers. It is necessary to examine this model in Chinese markets.

Research model and hypotheses development

Based on TAM, the research model (see Figure 1) has been developed. Building on the original TAM model, this study includes perceived usefulness and perceived ease of use as the key drivers of consumers' purchase intention toward online clothing shopping.[24] In view of the characteristics of online shopping in China, this study predicts that perceived convenience, perceived money saving, and perceived time-saving make people feel that shopping online is a useful activity. Accordingly, perceived convenience, perceived money saving, and perceived time-saving are identified as independent variables that are the antecedents of perceived usefulness to explore why people consider the Internet to be a useful way to buy clothing. Additionally, fashion is one of the most important features of clothing, and individuals' fashion innovativeness may have an impact on the consumer's willingness to buy online. Therefore, this model incorporates fashion innovativeness as an independent variable to deepen the understanding of the factors that drive people to buy clothing online. Given that people are very concerned about the relationship with others in Chinese culture context, this study adopts friend circles as a factor to extend TAM.

Perceived usefulness

The definition of perceived usefulness comes from the meaning of the word useful: "capable of being used advantageously."[3] In this research context, perceived usefulness infers that buying clothing online can help consumers obtain their favorite styles and that they can benefit from the online shopping experience. Many studies[22,25] have identified perceived usefulness as a significant factor that drives people to buy online. Before the emergence of online shopping in China, most Chinese manufacturers could only sell their clothing in their own geographic area because of under developed logistics and limited promotions. This situation restricted Chinese consumers' access

to clothing choices. Now, online vendors across China and worldwide provide Chinese consumers with a wide variety of clothing styles. This new market system offers people more clothing choices. Furthermore, consumers can buy clothing through Web-enabled cell phones or computers, making buying clothing even easier.[26] Therefore, this study presents the following hypothesis:

H1: Perceived usefulness has a positive effect on consumers' intention to buy clothing online.

Perceived convenience

The Internet has been shown to provide people with a flexible and effortless shopping method.[27] Consumers can shop anytime and can enjoy the ease of home delivery service. Additionally, before making a purchase decision, consumers can easily access information about the clothing and compare the price, quality, and style before making a purchase decision. The choices and information provided online will decrease uncertainties and increase their confidence. As mentioned previously, China is regarded as an uncertainty-avoidant society.[15] Therefore, comparative shopping is especially important to Chinese consumers. Accordingly, the convenience of buying online can enhance consumers' shopping experience. With this in mind, the following hypothesis is proposed:

H2: There is a positive relationship between perceived convenience and perceived usefulness.

Perceived money saving

Researchers[28,29] indicate that a better price is one of the key factors that motivate consumers to shop online. China is a long-term orientation culture, which means that people in China are thrifty, and they try to save the money for their future.[15] People may be hesitant when making clothing purchases because they realize that they also have to pay for other large expenditures with their limited income. Therefore, they are quite sensitive to price.[30] Online marketing reduces the operating costs of vendors, allowing them to sell clothing at a lower price. Therefore, lower pricing can encourage consumers to change their shopping venue from a physical store to an online store, giving the consumer the perception that he or she is saving money. Based on this, the following hypothesis is proposed:

H3: There is a positive relationship between perceived money saving and perceived usefulness.

Perceived time-saving

In this study, the term "time-saving" is defined as the reallocation of time from one activity to another to achieve greater efficiency.[31] In China, most of the young generation and young parents are busy with work and the activities of daily life. Chinese people spend their time looking after their children and families, and in their remaining spare time, they engage in social activities. Spending a great deal of time in shopping malls is becoming a luxury. The Internet allows individuals who are short on time to make full use of their fragmented time by making purchases online. They recognize that buying clothing online not only meets their needs but also frees their time to do other things. Therefore, saving time can be an important factor that influences customers to buy online.[32,33] Hence, the following hypothesis is proposed:

H4: There is a positive relationship between perceived time-saving and perceived usefulness.

Perceived ease of use

According to TAM, perceived ease of use is defined as the extent to which an individual believes that using a particular system will be free of effort.[3] Within the context of apparel purchasing, perceived ease of use refers to the effortlessness of buying clothing online. Ease of use can have both a direct and an indirect effect on an individual's intention to adopt new technology and can consequently affect how the individual uses that technology. With regard to the dual effect of ease of use, Davis and other investigators[3] have claimed that, all else being equal, the easier an application is to use, the more likely individuals are to intend to use it, and the more useful the application can be to the individual. Unlike some types of limited working contexts, buying clothing online is an optional shopping method. If consumers perceive that online shopping is difficult and that they cannot benefit from it, they will return to a traditional shopping pattern. Thus, the following two hypotheses are posited:

H5: Perceived ease of use has a positive effect on consumer's intention of buying clothing online.

H6: There is a positive relationship between perceived ease of use and perceived usefulness.

Fashion innovativeness

Fashion innovativeness means the extent to which an individual is receptive to fashionable clothing and fashion information.[34,35] As an instant medium for information diffusion, the Internet has the advantage of being able to provide the newest fashion information and styles at any time. Especially, Chinese consumers spend a large amount of money on fashion.[36,37] Park et al.[38] indicated that fashion innovativeness is one of the most important factors that influences Chinese customers' purchasing behaviors. In China, with the popularity of the Internet, manufacturers

and distributors of clothing brands are paying more attention to this instant access for consumers. Instant contact for fashion brands that lack a physical store allows them to be as accessible as brands that have brick and mortar locations. The Internet also allows fashion style information to be shared more quickly and to reach a broader audience than in the past. Additionally, the backward business infrastructure in China limits consumers' ability to purchase fashionable clothing. The ability to purchase fashionable clothing online would effectively solve this problem. Therefore, the following hypothesis is proposed:

H7: Fashion innovativeness has a positive effect on consumers' intention to buy clothing online.

Friend circles

Friend circles are defined as interpersonal networks consisting of family members, friends, colleagues, and cyber friends. The Theory of Reasoned Action indicated that environmental and social factors have effects on individuals' behavior.[39] Prior research has also shown that individuals have a tendency to adopt the opinions, judgments, and behaviors of other people when they buy clothing online.[40] China is a typical collectivist society. In a collectivistic culture, people are integrated into groups and emphasize group values.[11] This also suggests that interpersonal influence is more apparent in the Chinese cultural context.[41] In addition to their real-life interpersonal networks, most Chinese netizens are involved in at least one online social platform. Numerous online social platforms, such as WeChat and others, are profoundly transforming Internet users' way of thinking and behavior in China. People often prefer to purchase online when they realize that many others from their friend circles are also buying online. Some research[42,43] indicates that influences from friend circles have significant effects on consumers' online shopping intentions. Accordingly, the following hypothesis is proposed:

H8: Friend circles have a positive effect on consumers' intention to buy clothing online.

Research methodology

Measurements

The eight constructs were measured using 7-point Likert-type scales ranging from *strongly disagree* to *strongly agree*. The scale items to measure perceived usefulness and perceived ease of use were adapted from Davis[3] and Gefen et al.[25] Perceived convenience was measured by items adapted from Jiang et al.[27] Items to measure perceived time-saving were based on Alreck et al.[44] and Alreck and Settle.[45] Perceived money saving was measured by items adapted from Clemes et al.[29] and Limayem et al.[46] Items reflecting respondents' fashion innovativeness were adapted from Goldsmith and Goldsmith.[47] The intention to buy clothing online was adapted from Chiu et al.[24] Based on the in-depth interview with consumers who buy clothing online frequently, four scale items were developed to measure the influence of friend circles on purchase intention.

Sampling and data collection

Data were collected for this study via an online questionnaire. The questionnaire was edited online on a popular survey website (http://www.wenjuan.com). As a selection question, participants were asked "Did you buy clothing online in the past twelve months?" on the first page. If the answer was "no," the survey was terminated automatically. A hyperlink of the questionnaire was posted on the forum of the survey website. Additionally, the hyperlink was forwarded to a number of TenCent QQ groups and WeChat friend circles, which are the most popular online social platforms in China.

The survey was made available for 1 week, from May 28, 2016, to June 3, 2016. A total of 526 respondents completed the questionnaire. Twenty-two outliers (in which the answers for all of the questions were the same) were eliminated. As a result, 504 usable responses were retained to test the model and hypotheses. The general demographic characteristics and Internet usage of the respondents were as follows: The large majority of the respondents were female (78%); 93.7% of the respondents were aged between 18 and 35 years. Most of the respondents (87.1%) had a college degree; 62.3% had an income of less than RMB 2500 per month; more than half (54%) of the participants indicated they spent more than 10 h on the Internet per week; more than one-third (37.3%) of the sample stated that they bought clothing online frequently; and all of the respondents indicated that they were involved in some type of online social platform.

Data analysis and results

Measurement model

In this study, the measurement model was assessed by confirmatory factor analysis with SPSS 22.0 and AMOS 22.0. The measurement model was evaluated in terms of overall model fit, reliability, convergent validity, and discriminant validity. The result of χ^2 test, $\chi^2(322) = 704.98$, $p < 0.001$, indicated that there was a discrepancy between the sample and the measurement model, and the model was rejected. However, researchers[48,49] validated that the χ^2 statistic nearly always rejects the model when a large sample is used. Therefore, some research recommends relative/normed χ^2 (χ^2/df) range from as high as 3.0[50] to as low as 2.0[51] as an acceptable ratio. The relative χ^2 and goodness-of-fit statistics of the measurement model were at an

Table 1. Reliability and convergent validity of the measurement model.

Constructs	Cronbach's α	Composite reliability	AVE
Perceived usefulness	0.81	0.82	0.53
Perceived convenience	0.80	0.81	0.51
Perceived money saving	0.84	0.84	0.56
Perceived time-saving	0.86	0.86	0.61
Perceived ease of use	0.77	0.77	0.53
Fashion innovativeness	0.78	0.78	0.54
Friend circles	0.73	0.77	0.53
Buying intention	0.90	0.90	0.75

AVE: average variance extracted.

acceptable level: $\chi^2(322) = 704.98, p < 0.001$, χ^2/df ratio = 2.19, GFI = 0.91; CFI = 0.95; RMSEA = 0.049. Reliability was examined using Cronbach's α coefficient. As shown in Table 1, the values for all eight constructs in this model were above 0.7, which is commonly acceptable for explanatory research. Convergent validity was assessed by examining the indices of individual item factor loading, composite reliability (CR), and the average variance extracted (AVE). As depicted in Table 1, all factor loadings were highly significant, ranging from 0.60 to 0.88 ($p < 0.001$). The values of CR ranged from 0.77 to 0.90 and the AVE ranged from 0.51 to 0.75, indicating the measurement model exhibited appropriate convergent validity. Discriminant validity was assessed using the paired constructs χ^2 difference test recommended by Anderson and Gerbing[52] and Farrell.[53] The paired constructs test suggested a comparison of χ^2 values between constrained model (parameter estimate for two factors was constrained to 1.0) and unconstrained model (parameter was freely estimated) for every possible pairing of constructs in a study, and if the unconstrained model returned a χ^2 value that is at least 3.84 lower than the constrained model ($p < 0.05$), then discriminant validity was achieved between the two factors. In this study, all 28 pairs of constructs were tested, and the χ^2 difference ($\Delta\chi^2$) between the constrained model and the unconstrained model ranged from 18.40 to 125.41 ($p < 0.0001$), with a decrease in 1 *df*, which indicated that the measurement model had acceptable discriminant validity.

Structural model and hypotheses testing

The structural model was tested with the maximum likelihood method using AMOS 22.0. The overall model fit indices indicated that the structural model was acceptable, $\chi^2(327) = 718.57, p < 0.001$; χ^2/df ratio = 2.20; GFI = 0.91; CFI = 0.94; RMSEA = 0.049. The hypotheses and explanatory power of the structural model were estimated by calculating the structural path coefficients and the R^2 of the endogenous variables. The hypotheses testing results are illustrated in Table 2. Seven of the 8 paths demonstrated a p value of <0.05, while perceived ease of use did not have a significant effect on buying intention at the 0.05 level of significance. Perceived usefulness ($\beta = 0.40, t = 4.65, p < 0.001$) had a significant positive effect on consumers' intention to buy clothing online, supporting hypothesis 1. Perceived convenience ($\gamma = 0.26, t = 3.79, p < 0.001$), perceived money saving ($\gamma = 0.26, t = 4.90, p < 0.001$), and perceived time-saving ($\gamma = 0.25$, t = 4.73, p < 0.001) had positive relationship with perceived usefulness, supporting hypotheses 2, 3, and 4. However, hypothesis 5 was not supported due to no significant relationship between perceived ease of use ($\gamma = 0.15, t = 1.58$) and consumers' intention to buy clothing online. The positive relationship between perceived ease of use ($\gamma = 0.31, t = 4.64, p < 0.001$) and perceived usefulness supported hypothesis 6. Consumers' intention of buying clothing online was influenced by consumers' fashion innovativeness ($\gamma = 0.10, t = 2.46, p < 0.05$) and friend circles ($\gamma = 0.28, t = 5.06, p < 0.001$), supporting both hypotheses 7 and 8, respectively. In addition, the explanatory power of the structural model is shown in Figure 2. Perceived convenience, perceived time-saving, perceived money saving, and perceived ease of use explained 84% of the variance (R^2) of perceived usefulness. The overall R^2 score of consumers' intention of buying clothing online explained by the seven predictors was 54%.

Discussion and implications

A research model to predict the factors that drive people in China to buy clothing online based on TAM was examined. As shown in the previous section, most of the hypotheses in this model were significantly supported. The results validated perceived usefulness as the most important determinant that drives people to buy clothing online, which is consistent with the studies by Gefen et al.[25] and Lee et al.[22] Prior research has documented that, as time goes on, the effect of perceived usefulness becomes stronger.[3] Findings from Mao and Palvia[54] indicated that Chinese consumers switch to other channels to buy clothing only if the perception of usefulness is strong because Chinese cultural values do not favor uncertainty and change. As a new method, buying clothing online has advantages compared to the traditional shopping model in China. The variety of styles available online can help consumers find what they need easily, which was unimaginable in the past. In addition, consumers do not need to struggle in the crowded shopping environment of brick-and-mortar shopping malls. The Internet makes purchasing clothing easier than before, and consumers can benefit from the overall online shopping experience. All of these factors suggest that the online vendors could induce more potential consumers to make purchases online by providing a variety of clothing options and a beneficial shopping experience.

Contrary to the basic tenets of TAM and many previous studies, this study found that perceived ease of use did not have a direct effect on consumers' intention to purchase

Table 2. Results of the hypotheses testing.

Hypothesis	Standardized path coefficient	Critical ratio (*t* value)	Result
H1 Perceived usefulness has a positive effect on consumers' intention of buying clothing online	0.40	4.65	Supported
H2 There is a positive relationship between perceived convenience and perceived usefulness	0.26	3.79	Supported
H3 There is a positive relationship between perceived money saving and perceived usefulness	0.26	4.90	Supported
H4 There is a positive relationship between perceived time-saving and perceived usefulness	0.25	4.73	Supported
H5 Perceived ease of use has a positive effect on consumers' intention of buying clothing online	0.15	1.58	Rejected
H6 There is a positive relationship between perceived ease of use and perceived usefulness	0.31	4.64	Supported
H7 Fashion innovativeness has a positive effect on consumers' intention of buying clothing online	0.10	2.46	Supported
H8 Friend circles has a positive effect on consumers' intention of buying clothing online	0.28	5.06	Supported

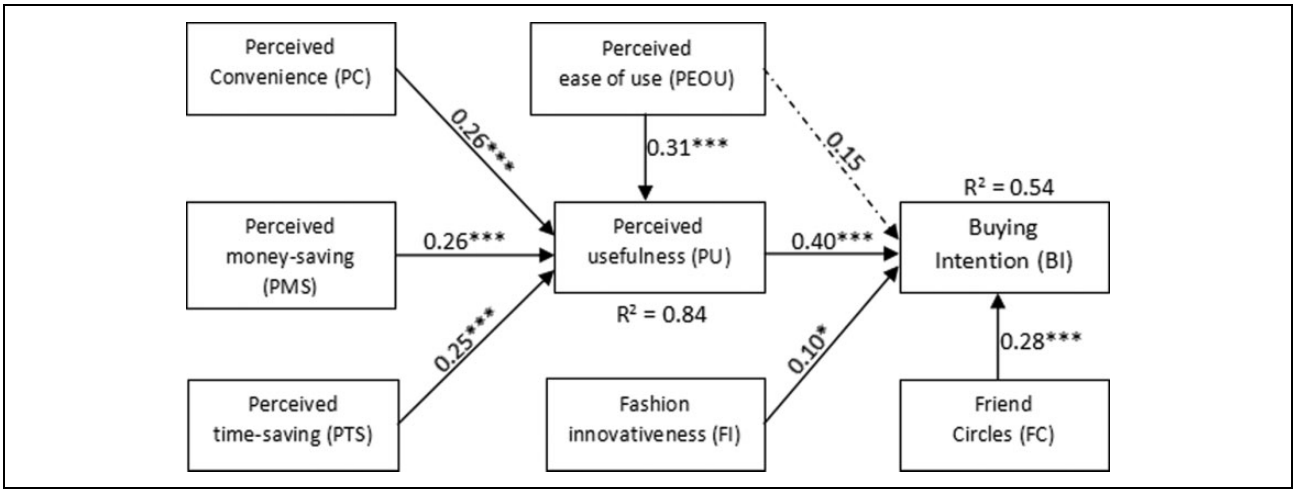

Figure 2. Results of the research model.

clothing online. However, perceived ease of use had a significant influence on consumers' intention with perceived usefulness as a mediator. Although this finding contradicts TAM and other results of IT adoption research, it is understandable after further analysis. In China, the emergence of e-commerce was not synchronized with the popularity of the Internet. E-commerce began to develop after most people had become very familiar with the Internet and general computer operations. According to the sample demographics, the sample in this study spent more than 10 h per week on the Internet. These consumers may be proficient at using an online shopping system (like any other software), explaining why perceived ease of use did not have a direct effect on consumers' intention to buy clothing online. From the perspective of the cultural values dimensions, ease of use is a short-term oriented belief that may not be salient for Chinese people who usually focus on long-term beliefs.[54] Findings from Karahanna et al.[55] confirmed that ease-of-use concerns are usually reduced when users are more familiar with an IT system. Although perceived ease of use did not have a direct relationship with consumers' buying intentions, there was a positive relationship between perceived ease of use and perceived usefulness in the model. This positive relationship is consistent with the studies of Davis[3] and Venkatesh.[18] All else being equal, the easier an IT system is to use, the more likely an individual is to intend to use it, and the more useful it can be. Therefore, perceived ease of use is an important factor that drives people to buy clothing online. Online vendors should employ easier IT systems to facilitate online shopping. At the same time, easier online trading systems may reduce uncertainties, which is important in the Chinese society.

This study introduced three external variables. The results indicate that perceived convenience, perceived

money saving, and perceived time-saving have a positive effect on perceived usefulness. These findings make the concept of perceived usefulness more relevant to the online shopping context. The positive relationship between perceived convenience and perceived usefulness implies that purchasing online overcomes many of the limitations of off-line transactions. Consumers can place orders at any time that is convenient to them. Moreover, they can find detailed information about clothing, which helps them to compare different online stores. This is particularly important for Chinese consumers who are geographically widely distributed and may not have access to shopping in a variety of brick-and-mortar stores. At the same time, online payment eliminates many of the difficulties of cash payments. Based on these findings, online vendors should ensure that their sales systems are constantly available, should present detailed information about their products, and should attempt to ensure the security of online payments. The positive relationship between perceived money saving and perceived usefulness indicates that price is also an important factor that drives consumers to buy clothing online. This finding is consistent with the studies of Clemes et al.[29] and Liu et al.[30] Most Chinese online shoppers are young people, and they are usually sensitive to price because of their low-income level. From the perspective of cultural values, Chinese culture is characterized by long-term orientation, and thrift is a virtue in this context.[11] Therefore, online retailers can maintain price competitiveness to attract more consumers. The positive relationship between perceived time-saving and perceived usefulness suggests that buying clothing online makes shopping more flexible and efficient. Thus, online sellers should streamline the shopping process to help consumers save time.

This study also introduced other two variables in addition to the original TAM model: fashion innovativeness and friend circles. Both are salient predictors that drive consumers in China to purchase clothing online. The positive relationship between fashion innovativeness and buying intention confirms the previous hypothesis, which is consistent with the study of Cho and Workman[56] but is contradictory to Phau and Lo's[57] findings. This can be explained by the following facts about China. Initially, it was difficult for many consumers to access the latest fashion because of the backward traditional business infrastructure in the past years. The Internet can facilitate consumers' purchases of any fashion styles they want. Additionally, many of the clothing brands established in the recent years have no physical stores and only sell in online shops. Therefore, if consumers want to obtain the newest styles of these brands, they must buy them online. In addition, most online shoppers in China are young people who are interested in fashion clothing[58] and may be more inclined to online shopping.

It is noteworthy that friend circles were found to have a significant effect on consumers' intention to buy clothing online. Several cultural values dimensions may be helpful to explain the influence of friend circles. Chinese consumers in collectivistic culture often conform to group norms and purchase the brand or product that other members of the group recommend.[41] Accordingly, if the clothing an individual buying online is appreciated by the people around the individual, this will encourage continued online purchases in the future. If consumers are satisfied with clothing purchased in online stores, they are more likely to share the pleasant experience in their friend circles to obtain the approval of their group, imperceptibly changing consumers' behavior when buying clothing in China. Further, Chinese believe that interrelations with things and others are continuous and are difficult to break,[41] building a high degree of brand loyalty. These findings suggest that online stores need to pay close attention to the impact of friend circles. A good reputation will help them benefit from word-of-mouth marketing.

Limitations and future research

Although this study attempted to extend TAM to explore the predictors that drive people to buy clothing online, the findings may not provide a comprehensive interpretation of why Chinese consumers buy clothing online. Consumers' buying behaviors include many variables. Given that the determinants in this study have a positive influence on consumers' intention to buy clothing online, further research is recommended to test possible negative factors (e.g. payment security, privacy security, and clothing being regarded as experience goods) that affect consumers' buying intention in these situations. Second, although online sampling facilitated the data collection in this study, it may have biased the sample to people who were already comfortable with the Internet and caused the deviation in the analysis results. It would be preferable to incorporate an online survey and a field survey to collect data in future research. Finally, because the traditional business infrastructure and e-commerce of China have developed rapidly, consumers' responses in this study may not represent the long-term trend of these hypothesized relationships. Future researchers could implement longitudinal studies based on our model in a dynamic context.

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