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# Understanding Significant Factors of Attitude and Purchase Intention of Online Customers Toward E-Commerce in China

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## Abstract

**Purpose:** The primary objective of this study is to examine the factors that shape the attitudes and purchase intentions of Chinese online shoppers in relation to online shopping within China. The framework encompasses perceived usefulness, perceived ease of use, attitude, trust, perceived risk, subjective norms, price, and purchase intention. **Research design, data, and methodology:** The study targets a population of 458 online consumers in China who are 31 years old or over. The validity and reliability of the research are assessed using Item-Objective Congruence (IOC) and Cronbach's Alpha. To ensure diverse representation, the sampling procedure incorporates a combination of judgmental, stratified random, and convenience sampling methods. The collected data is analyzed through Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) techniques, allowing for a comprehensive examination of the research variables. **Results:** Perceived usefulness and perceived ease of use influence purchase intention mediated by attitude towards online shopping. Trust and price significantly impact purchase intention. Nevertheless, perceived risk and subjective norms do not significantly impact purchase intention. **Conclusion:** The conclusions of this study have significant real-world implications for online platforms. Online platforms and merchants may use the results of this study to increase sales and profitability.

**Keywords :** Attitude, Purchase intention, Online shopping, E-Commerce, China

**JEL Classification Code**: E44, F31, F37, G15

## 1. Introduction

With the fast advancement of science and technology, the network's prevalence and applicability have expanded, reaching into every facet of people's lives. In addition, e-commerce has evolved and is flourishing, and online purchasing is a crucial component of e-commerce. Online retails are displacing physical retails in both developed and developing countries. Compared to traditional shopping, online shopping frees shoppers from the physical and temporal limitations of physical stores. The characteristics of online purchasing are adaptability, universality, and customized. Consumers have access to information and the ability to transact anywhere, anytime. Therefore, retailers must understand customers' attitudes toward online shopping and purchase intention (Sarkar & Khare, 2017).

There were 989 million Chinese Internet users as of December 2020, up 72.15 million from March 2020, according to the "47th Statistical Report on China's Internet Development" published by the China Internet Network Information Center (CNNIC). Of these, 79.1% were online shoppers, making up 782 million users. China's online shoppers made up 80.32 percent of the country's Internet population in the first half of 2021, a 24.70 percent increase compared to 2014's 55.6 percent.

The increasing prevalence of advanced technology among Chinese citizens has increased online shoppers in recent years, and China eventually surpassed other nations as

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the biggest digital market with the most online shoppers.

E-commerce businesses in China are facing both new opportunities and new threats due to the rapidly expanding online consumer base. Different hazards may be seen while purchasing online, including problems with finances, product performance, psychology, security, and time loss. Online shoppers may be more cautious due to these potential dangers (Wani & Malik, 2013). Internet retailers are still developing and require improvement.

To fill the research gap, the primary objective of this study is to examine the factors that shape the attitudes and purchase intentions of Chinese online shoppers in relation to online shopping within China. To achieve this, a conceptual framework was constructed using the Theory of Reasoned Action (TRA) and the Technology Acceptance Model (TAM). The framework encompasses perceived usefulness, perceived ease of use, attitude, trust, perceived risk, subjective norms, price, and purchase intention

## 2. Literature Review

### 2.1 Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA) study by Ajzen and Fishbein (1988) has had significant implications in analyzing behavior and behavior intention. The purpose of TRA is to investigate and comprehend voluntary user behaviors. To explain customers' purchasing intentions, the TRA model has been frequently employed in consumer behavior research.

According to the TRA, an individual's actions are determined by their "behavioral intention," based on their perspective on the behavior and their perception of the subjective norms. It also demonstrates that a person's attitude toward and perception of behavior leads to that person's actual behavior and behavioral intention. Consequently, attitudes and beliefs determine behavior (Marsrom, 2007).

### 2.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was first developed by Davis (1989) as the foundation for The Theory of Reasoned Action (TRA); it regards perceived usefulness and perceived ease of use as two important factors affecting the intention to use. According to TAM, user attitudes about adopting technology, as well as the user's future behavioral intentions and actual behavior, can be predicted by the user's perception of the technology's ease of use and usefulness (Marsrom, 2007). In other words, after the individual's perceived ease of use and perceived usefulness are understood, one's attitude towards engaging in technological activity can be known, and it is directly related to one's behavioral intention to use that information system. The same idea could be found in the research of Davis (1985), where he asserted that people are more inclined to adopt a technology if they believe it would improve their efficiency.

TAM has been used in multiple studies examining how well users embrace various types of technology, including word-processing machines (Davis et al., 1989), spreadsheet programs (Mathieson, 1991), e-mail (Szajna, 1996), Internet exploration (Morris & Dillon, 1997), remote medical system (Hu et al., 1999), web pages (Koufaris, 2002), and blackboard (Landry et al., 2006).

The TAM model is also frequently used in e-commerce, where it is used to anticipate customers' buying behavior through computing devices and to research consumers' online buying behavior. For instance, O'Cass and Fenech (2003) used the TAM model to explain consumers' propensity to purchase via electronic mediums. They emphasized perceived ease of use and usefulness while incorporating additional factors into the analysis.

### 2.3 Perceived Usefulness

Within the context of TAM, "perceived usefulness" refers to the extent to which the user feels that using the technology will improve work performance (Marsrom, 2007). In Internet purchasing, "perceived usefulness" refers to how consumers feel that adopting a certain system would enhance their purchasing experience. Online shopping has the advantage of efficiently serving customers by integrating data, conducting transactions, making payments, and delivering products. Information searching, product price comparison across several vendors, and order placing are all examples of perceived usefulness (Zhou et al., 2007). The perceived usefulness of the technology will impact its acceptability and usage in some manner, and the performance improvement in online purchasing may have led to more productive or efficient buying.

Information technology use has been identified as a key component in several studies. Many researchers asserted a strong correlation between perceived usefulness and the buyer's attitude, implying that perceived usefulness plays a substantial role in determining consumer attitude (Davis, 1989; Gefen et al., 2003; Venkatesh & Davis, 2000). Prior studies also indicate that perceived usefulness and people's intention to use new technologies are closely related. Additionally, a very strong connection exists between perceived usefulness and perceived benefits and convenience (Aldhmour & Sarayrah, 2016). Perceived usefulness was also shown to be the most significant determinant of behavioral intention in TAM and the strongest predictor of future intention in research by Premkumar and Bhattacherjee (2008). Customers that see Internet shopping as beneficial have an optimistic outlook on the industry

(Celik & Yilmaz, 2011). Thus, a hypothesis is indicated:
**H1:** Perceived usefulness has a significant impact on attitude.

## 2.4 Perceived Ease of Use

Another important factor that affects customers' attitudes is perceived ease of use (Bigné-Alcañiz et al., 2008). Although it has been suggested as a determinant of perceived usefulness, other variables have a greater impact on these two factors (Wang et al., 2003). The term "perceived ease of use" describes how simple the person believes it will be for them to use the new technology (Marsrom, 2007). Perceived ease of use in an online shopping setting relates to a customer's anticipation that using an online platform would be simple and easy. Similarly, it is the customer's attitude toward how simple it is to shop using the platform, including how the consumer views the device's technical features. Therefore, it may also be interpreted as perceived ease of purchase, focusing more on the buyer's commitments while buying online (Chiu et al., 2005).

Based on TAM, although it is hypothesized that perceived ease of use influences both perceived utility and attitude towards adopting the technology, perceived usefulness and perceived ease of use are thought to have different effects on people's attitudes toward certain information systems (Marsrom, 2007). Past research has shown that if a consumer considers online shopping a negative experience that requires much work, then using a certain system or technology may become a challenge (Aldhmour & Sarayrah, 2016). Chen and Lu (2011) further affirmed that ease of use has a beneficial effect on improving customer purchasing behavior. Consumers prioritize shopping platform features like quick shipping and helpful customer support when deciding. One's intention to shop on a certain platform is influenced by their opinion of its simplicity and usefulness (Bigné-Alcañiz et al., 2008). Therefore, this study proposes a hypothesis:
**H2:** Perceived ease of use has a significant impact on attitude.

## 2.5 Trust

In online shopping, trust can be interpreted as belief, implicating a perception regarding a retailer's reliability, and a purchase intention or action expressing a dependence on a relationship (Shainesh, 2012). In other words, trust is defined as a belief in a retailer's dependability and a purchasing intention or behavior that shows dependence on a connection. That is why trust in a website's reliability is essential to the success of an online transaction. Online transactions are difficult if people do not trust online shopping platforms (Winch & Joyce, 2006). In conclusion, the absence of trust is a major barrier to having the intention to shop online (Chang & Chen, 2008; Kim et al., 2008). In order to fully understand the opportunity and challenges of online shopping, it is crucial to have a firm grasp of the concept of trust (Clemons et al., 2016).

According to the research conducted by Hoffman et al. (1999) on "Building Consumer Trust Online," trust is crucial to online shopping. The strategic relationship between the supplier and the customer is based on trust (Spekman, 1988). Previous studies have shown that trust has a closer relationship between customer attitude and online shopping intention (Al-Debei et al., 2015; Ponte et al., 2015). E-loyalty could be further promoted (Bilgihan, 2016). In addition, trust and perceived risk have also been proven to significantly influence customer behavior in online purchases (Chen & Barnes, 2007; Kim et al., 2008). Accordingly, a hypothesis is developed:
**H3:** Trust has a significant impact on purchase intention.

## 2.6 Attitude

Bentler and Speckart (1979) proposed the concept of attitude as a form of predetermined ideas and inclinations that lead to perception and thinking in a certain way. Attitudes are developed during social interactions, causing individuals to behave with a more consistent propensity toward or avoidance of a behavior and then respond to it (Zhang & Duangekanong, 2023). Regarding online shopping, attitude is also known as how positive or negative a person's opinions about online shopping are (Jarvenpaa et al., 2000). According to Fortes et al. (2017), customers of online retailers express their opinions about the goods they have purchased or the services they experienced pleasantly or unpleasantly, which reflects how they feel about shopping online.

According to social psychology experts, attitude is key to predicting behavior. It mediates the relationship between personal opinions and behavior and influences the actual behavior. Nguyen et al. (2017) demonstrated that consumers' environmental attitudes and subjective norms are closely related to their intent to purchase. Regarding consumers' attitudes toward energy-efficient home appliances, the positive influence of attitude on intention to purchase is confirmed. This suggests that consumers favor buying energy-efficient products (Idrees & Irfan, 2020). Furthermore, attitude toward actual purchasing behavior has been investigated as a significant factor in earlier e-commerce research (Hernández et al., 2011; Limayem et al., 2000; Lin, 2007). Hence, a hypothesis is set:
**H4:** Attitude has a significant impact on purchase intention.

## 2.7 Perceived Risk

Regarding online purchasing, the term "perceived risk" relates to how customers feel about the quality of products offered and the security of their financial and personal information. Consumers' intention to use online shopping may be influenced by their perceptions of the risks associated with online purchasing instead of in-store shopping. These risks are shown in payment, logistics, information disclosure, product quality, etc. It is common to use perceived risk as a predictor of an online consumer's intention to make a purchase, with the hypothesis being that the greater the perceived risks, the less likely it is that the purchase behavior would be conducted. The buyer's perception of uncertainty and perceived risk would increase because of the impersonal nature of an online transaction, which eliminates face-to-face interaction with the vendor and the products being purchased (Nepomuceno et al., 2014).

Perceived risk plays an important role in determining purchase intention, and perceived risk negatively affects the intention to purchase (Park et al., 2005). Based on Hofstede's cultural dimensions theory, Jarvenpaa and Tractinsky (1999) found that uncertainty avoidance and perceived risk are closely related. Similar studies were replicated by Moon et al. (2008) and Kailani and Kumar (2011), where they revealed that customers from cultures with high uncertainty avoidance are typically reluctant to embrace new technology. Moreover, several studies have documented the reverse relationship between perceived risk and trust; higher trust in online platforms and retailers would reduce perceived risk. At the same time, a high degree of perceived risk may discourage consumers' purchase intention (Featherman & Pavlou, 2003; Kimery & McCord, 2002; Pavlou, 2003). Based on the assumptions, this study can hypothesize that:

**H5:** Perceived risk has a significant impact on purchase intention.

## 2.8 Subjective Norms

The term "subjective norms" describes conforming to broader societal trends. It is also connected to collectivism, which reflects the degree to which people are engaged in and influenced by their peer groups (Hofstede, 1980). Likewise, it means the degree to which group members conform to the demands of a societal hierarchy in which some individuals have a greater voice than others (Pavlou & Chai, 2002). In the words of Fishbein and Ajzen (1975), subjective norms are the perceived societal constraints to engage in or refrain from engaging in a behavior. Subjective norms are established and defined by people's intentions to execute a certain behavior or by their belief that others emphasize their adherence to that subjective norm. Consumers would ask for recommendations from those around them to obtain social recognition. For instance, children may engage in online shopping under the influence of their parents (San-Martin et al., 2015).

According to Singh and Srivastava (2018), attitude and subjective norms have weak relationships with purchase intention. On the contrary, attitude and subjective norms are important predictors of behavior intention based on TRA (Fishbein & Ajzen, 1975). Similar findings were supported by Amaro and Duarte (2015) and Forsythe et al. (2006), who observed that attitude and subjective norms directly link online shopping behavior. In online shopping, social influence from family and friends to provide individual recommendations based on their own experience is one of the obstacles that consumers face while purchasing online (Sardar et al., 2020). Consequently, a hypothesis is shown per below:

**H6:** Subjective norms have a significant impact on purchase intention.

## 2.9 Price

Price relates to how people perceive or evaluate the cost of products. When purchasing a product, pricing is typically a significant factor for buyers to consider (Ma et al., 2012). Price generally refers to the rate or payment the consumer requires to complete a transaction. Customers are worried about the price of any goods before and throughout the purchasing process if they are price sensitive. Affordable goods are popular among shoppers. The price and expectation gap should be as small as possible (Brassington & Pettitt, 2006). Online customers' perception of price is formed by comparing prices across multiple websites. In other words, price sensitivity in online shopping refers to how customers perceive a rise or fall in price (Pi et al., 2011; Wakefield & Inman, 2003).

Several studies have explained that price significantly impacts customers' intention to buy. Regarding China's economic growth, price-sensitive people make up most consumers, demonstrating that pricing will affect customers' purchase intentions (Ma et al., 2012). According to Ma et al. (2012), customers' buying attitudes are most negatively impacted by the price of energy-saving home appliances, implying that consumers' sensitivity to price will influence the purchase of energy-saving household equipment. One of the factors driving consumer adoption of Internet shopping is the ability to find a good deal (Khatibi et al., 2006). In addition, some customers choose to shop online since it was discovered that there were pricing variations between online and in-store shopping (Petrescu, 2011; Zettelmeyer et al., 2006). Based on previous evidences, a hypothesis is suggested:

**H7:** Price has a significant impact on purchase intention.

### 2.10 Purchase Intention

Scholars have variously described behavioral intention as either the probability that an individual would participate in an activity (Koballa, 1988) or as an assessment of the probability that an individual will engage in a behavior in the future (Sheppard et al., 1988). Regarding purchase intention, it means the possibility that a consumer will make a future purchase. The prior study also used purchase intention as a proxy for personal preference (Keiser & Krum, 1976; Varadarajan, 1986). Ling et al. (2010) define consumers' online purchasing intentions as the intensity of a consumer's desire to participate in each online activity.

Intention to purchase online contributes to successful online shopping since more orders would be placed if consumers had a greater intention to make a purchase (Schiffman & Kanuk, 2007; Suntornpithug & Khamalah, 2010). However, when difficulties develop, consumers become hesitant to make purchases (Cao & Mokhtarian, 2005). Based on the findings of TRA, a customer's purchasing intentions predict the customer's actual behavior and future behavior (Fishbein & Ajzen, 1980). However, Lim et al. (2016) thought that online buying intentions served as an alternative to shopping intentions. Furthermore, Kim and Jones (2009) discovered that a consumer's initial buy intention does not necessarily result in a subsequent purchase.

## 3. Research Methods and Materials

### 3.1 Research Framework

The empirical research is carried out around the conceptual framework. However, the design of conceptual frameworks has always been a puzzling part of a qualitative study. A conceptual framework is a theoretical framework, logical model, or concept map. According to Ravitch and Riggan (2017), conceptual frameworks are arguments for the significance of the topic to be studied and the appropriateness and rigor of the proposed research methods. A conceptual framework can be guidance or an anchor for research. The function of the conceptual framework is to integrate theories, interactions, and idea context. Based on the literature review, the conceptual framework of this research was built, as shown in Figure 1.

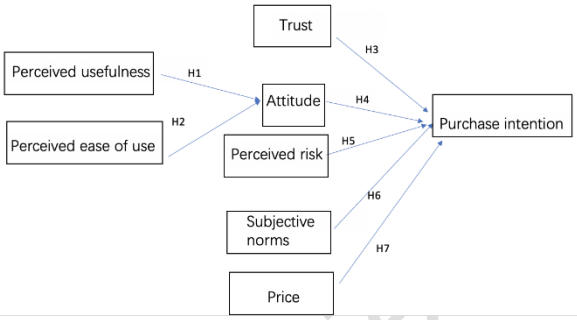


**Figure 1:** Conceptual Framework

**H1:** Perceived usefulness has a significant impact on attitude.
**H2:** Perceived ease of use has a significant impacts on attitude.
**H3:** Trust has a significant impact on purchase intention.
**H4:** Attitude has a significant impact on purchase intention.
**H5:** Perceived risk has a significant impact on purchase intention.
**H6:** Subjective norms have a significant impact on purchase intention.
**H7:** Price has a significant impact on purchase intention.

### 3.2 Research Methodology

This paper investigates the factors that affect the attitude and online purchase intention of Chinese customers who have shopping experiences on Taobao, Jingdong, or Pingduoduo. In order to test the hypotheses, quantitative research was opted for. Since the study cover a wide range of people, a questionnaire survey was mainly used.

A questionnaire survey is a method that uses standardized questions to collect data on a population's characteristics, attitudes, and behaviors for statistical analysis at a statistical level (Buckingham & Saunders, 2004). The survey is a popular method for descriptive research because of its usefulness and ease of use. An effective questionnaire is based on knowledgeable and qualified participants. It is noted that the researcher should consider factors including respondent selection methods, question relevance, and response rates in order to conduct a successful questionnaire survey (Preston, 2009). First of all, the questionnaire for this study began with two screening questions to ensure the respondent lived in China and had experience on specific online shopping platforms and one demographic question about age.

Following that, 33 scale items were proposed totaling. Perceived usefulness and perceived ease of use were measured with five items using Chin and Goh's (2017) scale. Attitude encompasses four items using Singh and Srivastava's (2018) scale. The trust consists of 3 items based on Rehman et al. (2019) scale. Singh and Srivastava (2018)

took six perceived risk items. Sample items include "I think online websites are risky for financial transactions." Subjective norms were measured using three items from Hsu and Lu (2004). Four items of price were taken from Brigula et al. (2018). Purchase intention was measured with three items using Singh and Srivastava's (2018) scale. An item example for purchase intention is "Given that I had access to online shopping, I predict that I would use it." The survey adopted a five-point Likert scale, with choices ranging from 1 (strongly disagree) to 5 (strongly agree). Eventually, the questionnaire will have an English version and a Chinese version to understand Chinese customers better.

To ensure the questionnaire's reliability, a pilot test involving 50 participants (n=50) was carried out in conjunction with an Index of Item-Objective Congruence (IOC) assessment. The IOC, evaluated by three experts, demonstrated that all scale items received a score rating of 0.6 or higher, indicating satisfactory congruence. Additionally, the pilot test employed the Cronbach alpha coefficient reliability test, which confirmed strong internal consistency of all items, with values equal to or exceeding 0.7 (Sarmento & Costa, 2016).

### 3.3 Population and Sample Size

Preston (2009) defined population as entire analyzed subjects. This study's target population encompassed customers aged over 30 with prior shopping experience. Usually, the researcher only surveys part of the population. Therefore, it is important to narrow down the potential research population based on a well-defined research purpose. Regarding the sample size, it is a portion of the population. Although samples are drawn randomly, they are thought to represent the whole population correctly. The minimum sample size of this study was calculated by the a-priori sample size calculator, which is 444. However, the researcher chose 500 customers over 30 to participate in this investigation in case there were invalid surveys.

### 3.4 Sampling Technique

The sampling procedure comprises judgmental, stratified random, and convenience sampling. Judgmental sampling was implemented to select Chinese consumers aged 31 years old or over, who had utilized the top three online purchasing platforms in China. Because of the large population size, stratified sampling was used to proportionate the sample size in subgroups, as shown in Table 1. Convenience sampling was conducted by questionnaires those were sent out through Wenjuanxing online during the coronavirus outbreak. After the screening, 458 surveys were valid.

**Table 1:** Sample Units and Sample Size

| Shopping platform | Population Size | Proportional Size |
|---|---|---|
| Taobao | 4,074,030,000 | 198 |
| Pingduoduo | 3,629,840,000 | 176 |
| Jingdong | 2,585,766,000 | 126 |
| **Total** | **10,289,636,000** | **500** |

**Source:** Constructed by author

## 4. Results and Discussion

### 4.1 Demographic Information

Demographic information provides important information regarding the characteristics of the respondents. This information will assist in segmenting the data and provide relevant information about survey respondents (Hunter, 2012). In this study, 43.4 percent is male whereas female enquires 54.8 percent. Most respondents are between 41-50 years old of 44.5 percent and 60 percent shop online between four to six days a week.

**Table 2:** Demographic Profile

| Demographic and General Data (N=458) | | Frequency | Percentage |
|---|---|---|---|
| **Gender** | Male | 199 | 43.4% |
| | Female | 259 | 56.6% |
| **Age** | 31–40-Years Old | 142 | 31.0% |
| | 41-50 Years Old | 251 | 54.8% |
| | 51 Years Old or Over | 65 | 14.2% |
| **Frequency of Online Shopping** | 1-3 Days Per Week | 78 | 17.0% |
| | 4-6 Days Per Week | 275 | 60.0% |
| | 7 Days Per Week | 105 | 23.0% |

**Source:** Constructed by author

### 4.2 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) validated the measurement model by testing the hypothesized relationships between the measured variables and the fundamental frameworks. The measurement model was examined to ensure that the parameter estimates displayed the proper sign and magnitude and were compatible with empirical data (Suntornpithug & Khamalah, 2010).

Cronbach alpha coefficient reliability test confirmed strong internal consistency of all items, with values equal to or exceeding 0.7 (Sarmento & Costa, 2016). According to Hair et al. (2014), the composite reliability values must be greater than 0.708, and the results in Table 5 produced satisfactory internal consistency, with the range of 0.779 to 0.854. Another criterion of construct validity is Average Variance Extracted (AVE). As shown in Table 3, the values of AVE for ATT and PR were greater than 0.4 but lower than 0.5, and CR for all constructs was above 0.6. Accordingly, the results reached an acceptable level (Fornell & Larcker, 1981).

**Table 3:** Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

| Variables | Source of Questionnaire (Measurement Indicator) | No. of Item | Cronbach's Alpha | Factors Loading | CR | AVE |
|---|---|---|---|---|---|---|
| Perceived usefulness (PU) | Chin and Goh (2017) | 5 | 0.841 | 0.563-0.834 | 0.852 | 0.540 |
| Perceived ease of use (PEOU) | Chin and Goh (2017) | 5 | 0.850 | 0.675-0.795 | 0.854 | 0.541 |
| Attitude (ATT) | Singh and Srivastava (2018) | 4 | 0.777 | 0.596-0.752 | 0.779 | 0.471 |
| Trust (TR) | Rehman et al. (2019) | 3 | 0.784 | 0.638-0.855 | 0.802 | 0.577 |
| Perceived risk (PR) | Singh and Srivastava (2018) | 6 | 0.837 | 0.635-0.740 | 0.838 | 0.464 |
| Subjective norms (SN) | Hsu and Lu (2004) | 3 | 0.816 | 0.661-0.887 | 0.828 | 0.619 |
| Price (PRC) | Brigula et al. (2018) | 4 | 0.830 | 0.687-0.832 | 0.834 | 0.558 |
| Purchase Intention (PI) | Singh and Srivastava (2018) | 3 | 0.821 | 0.712-0.826 | 0.826 | 0.614 |

The initial CFA model met the required threshold levels with chi-square with degrees of freedom (CMIN/df) =2.956, GFI=0.850, AGFI=0.820, NFI=0.845, CFI=0.891, TLI=0.876, and RMSEA=0.062, it indicates a good model fit (See Table 4).

**Table 4:** Goodness of Fit for Measurement Model

| Fit Index | Acceptable Criteria | Statistical Values |
|---|---|---|
| **CMIN/df** | < 5.00 (Hooper et al., 2008) | 2.956 |
| **GFI** | ≥ 0.80 (Hu & Bentler, 1999) | 0.850 |
| **AGFI** | ≥ 0.80 (Hu & Bentler, 1999) | 0.820 |
| **RMSEA** | < 0.08 (Kelley & Lai, 2011) | 0.062 |
| **CFI** | ≥ 0.80 (Bentler, 1990) | 0.891 |
| **NFI** | ≥ 0.80 (Hooper et al., 2008) | 0.845 |
| **TLI** | ≥ 0.80 (Sharma et al., 2005) | 0.876 |
| **Model Summary** | | **In harmony with empirical data** |

**Remark:** CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, RMSEA = Root mean square error of approximation, CFI = Comparative fit index, NFI = Normed fit index, and TLI = Tucker–Lewis index.

Using the criteria proposed by Fornell and Larcker (1981), discriminant validity was evaluated. Based on Fornell and Larcker, it must be shown that the AVE's square root is greater than the squared covariance to demonstrate discriminant validity. As shown in Table 5, values in the diagonal were above constructs correlation coefficients, which proved the discriminant validity.

**Table 5:** Discriminant Validity

| | PU | PEOU | ATT | TR | PR | SN | PRC | PI |
|---|---|---|---|---|---|---|---|---|
| **PU** | **0.735** | | | | | | | |
| **PEOU** | 0.691 | **0.736** | | | | | | |
| **ATT** | 0.682 | 0.651 | **0.686** | | | | | |
| **TR** | 0.447 | 0.429 | 0.431 | **0.760** | | | | |
| **PR** | -0.110 | -0.089 | -0.153 | -0.067 | **0.681** | | | |
| **SN** | -0.003 | 0.082 | -0.001 | 0.065 | 0.495 | **0.787** | | |
| **PRC** | 0.480 | 0.480 | 0.411 | 0.443 | 0.080 | 0.256 | **0.747** | |
| **PI** | 0.649 | 0.561 | 0.598 | 0.497 | -0.091 | 0.056 | 0.632 | **0.784** |

**Note:** The diagonally listed value is the AVE square roots of the variables
**Source:** Created by the author.

## 4.3 Structural Equation Model (SEM)

Structural Equation Model (SEM) aimed to clarify the relationship between the constructs. To be specific, SEM was used to estimate parameters of the underlying model that specifies conceptual links between eight variables which are perceived usefulness, perceived ease of use, attitude, trust, perceived risk, subjective norms, price, and purchase intention (Suntornpithug & Khamalah, 2010).

**Table 6:** Goodness of Fit for Structural Model

| Fit Index | Acceptable Criteria | Statistical Values |
|---|---|---|
| **CMIN/df** | < 5.00 (Hooper et al., 2008) | 3.238 |
| **GFI** | ≥ 0.80 (Hu & Bentler, 1999) | 0.847 |
| **AGFI** | ≥ 0.80 (Hu & Bentler, 1999) | 0.801 |
| **RMSEA** | < 0.08 (Kelley & Lai, 2011) | 0.067 |
| **CFI** | ≥ 0.80 (Bentler, 1990) | 0.885 |
| **NFI** | ≥ 0.80 (Hooper et al., 2008) | 0.843 |
| **TLI** | ≥ 0.80 (Sharma et al., 2005) | 0.854 |
| **Model Summary** | | **In harmony with empirical data** |

**Remark:** CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, RMSEA = Root mean square error of approximation, CFI = Comparative fit index, NFI = Normed fit index, and TLI = Tucker–Lewis index.

## 4.4 Research Hypothesis Testing Result

The results of seven hypotheses are explicated with standardized path coefficients (β) and $p<0.05$, as shown in Table 7.

**Table 7:** Hypothesis Results of the Structural Equation Modeling

| Hypothesis | (β) | t-Value | Result |
|---|---|---|---|
| H1: PU→ ATT | 0.533 | 10.503*** | Supported |
| H2: PEOU→ATT | 0.378 | 8.020*** | Supported |

| Hypothesis | (β) | t-Value | Result |
|---|---|---|---|
| H3: TR→PI | 0.101 | 4.443*** | Supported |
| H4: ATT→ PI | 0.590 | 0.872*** | Supported |
| H5: PR→PI | -0.027 | -1.240 | Not supported |
| H6: SN→ PI | -0.057 | -1.349 | Not supported |
| H7: PRC→ PI | 0.533 | 12.227*** | Supported |

**Note:** *** p<0.001
**Source:** Created by the author

Table 7 provides the results for hypothesis testing. The standardized path coefficients and their statistical significance are presented as the p-value for each hypothesis. This research has found support for five of the seven hypotheses proposed, with statistically highly significant at a 99% confidence level (p< 0.001).

Among the five supported hypotheses, perceived usefulness was the most significant predictor of attitude. It has been extensively demonstrated in prior research that perceived usefulness impacts customer's attitudes toward online shopping (Celik, 2011; Crespo et al., 2009; Johar & Awalluddin, 2011).

Price is the most important determinant of a customer's intention to purchase online. This is in line with the work of Yang and Mao (2014) and Nasution et al. (2019), where researchers have emphasized the importance of price on purchase intention.

Following my attitude towards online shopping (β=0.590), which has also been found to be a significant determinant of purchase intention. A similar finding was supported by other research, which concluded that attitude determines the intention to shop online (Taylor & Todd, 1995).

As for perceived ease of use, it directly affects online shopping intention (β=0.378, p<0.001). The same result was discovered by Chin and Goh (2017), who commented that perceived ease of use positively and directly impacts attitudes toward online shopping.

Trust was the least important contributor to online purchase intention, with a standard coefficient path of 0.101. These results are in sync with those of Bilgihan (2016).

However, the finding of this research does not support the theoretical viewpoint of Sekaran and Bougie (2016), who found a positive relationship between subjective norms and purchase intention. Also, the actual results of an empirical study on the relationship between perceived risk and online shopping, intentions are contrary to the hypothesis; this is inconsistent with the findings of Amaro and Duarte (2015).

# 5. Conclusion and Recommendation

## 5.1 Conclusion and Discussion

In conclusion, this research examined the factors affecting customers' attitudes and purchase intentions toward online shopping platforms in China. The conceptual framework and hypotheses created in this study were based on the TRA and TAM model and other prior literature about trust, perceived risk, and price. After the data were collected from 458 valid respondents, confirmatory factor analysis (CFA) was employed to evaluate the factor structure of the survey. Afterward, Amos was used for structural equation modeling (SEM) to evaluate the hypothesized model. Eventually, 5 out of 7 hypotheses tested in the research were accepted. The findings of this study highlight the importance of factors including perceived usefulness, perceived ease of use, attitude, trust, and price in determining online shopping intentions of Chinese consumers over 30.

## 5.2 Recommendation

The conclusions of this study have significant real-world implications for online platforms. Online platforms and merchants may use the results of this study to increase sales and profitability. It is recommended that online platforms pay more attention to creating useful and convenient online shopping platforms, cultivating a favorable attitude toward online shopping, increasing the intention to purchase online, and even translating into actual purchase behavior. In regards to attracting customers over 30, online platforms and vendors should build and maintain the trustworthiness of the websites by providing product warranties, cybersecurity guarantees, and independent verification of the credibility and reliability of the websites. Finally, online platforms can add the function of efficient price comparison so that customers can find great deals throughout the whole market.

## 5.3 Limitation and Further Study

First, this research is a case study of the Chinese E-commerce context; the sample was limited to Chinese online customers, and the circumstances may differ from those in other countries. The current research may be limited in its applicability because of this lack of data from further investigations. Secondly, the survey was completed through the Internet, and common problems of the questionnaire survey could not be avoided; for example, it is hard to detect one respondent entering multiple IP addresses. Finally, in future studies, specific product categories could be investigated since variables could shift according to different tiers of products.

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