

ADVANCING SUSTAINABLE E-COMMERCE: AN INTEGRATED E-SERVQUAL AND TPB APPROACH TO ONLINE APPAREL PURCHASE INTENTIONS

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Abstract. This study focuses on Chinese consumers' online apparel purchase intentions, aiming to provide strategic recommendations for Chinese apparel companies to promote sustainable growth in the apparel industry. The research innovatively integrates the E-SERVQUAL model with the TPB model, constructing a comprehensive model to thoroughly examine the various factors influencing consumers' intentions to purchase clothings online. Through the E-SERVQUAL model, this study explores how e-commerce platforms' performance in three core dimensions—website design, reliability, and responsiveness—affects consumers' shopping experience and satisfaction. Additionally, using the TPB theory, the study analyzes how consumers' attitudes toward online clothing purchases and perceived behavioral control jointly influence their purchase intentions. With a sample size of 580 consumers with online shopping experience across mainland China, the statistical analysis was performed with Smart PLS. The study reveals the positive relationships between the variables used to establish specific mechanisms of influence on purchase intentions.

Keywords: Online Apparel Retail, Purchase Intention, Sustainable Growth.

Introduction

In recent years, the scale of online shopping in China has continued to expand, demonstrating diversified and steady growth. As of December

2023, the number of online shopping users in China reached 915 million, showing a significant increase from the previous year and accounting for 83.8% of all internet users (CNNIC, March 2024). This indicates that online shopping has become an essential part of daily life for the Chinese population. Among these users, the proportion of women shopping online reached 85.4% (CNNIC, June 2024). Consumers' choice of product types on e-commerce platforms is showing a trend of diversification, with daily necessities, food, beauty and skincare products, and clothing occupying a significant share. From January to June 2024, China's online retail sales reached 7.0991 trillion RMB, a year-on-year increase of 9.8% (National Bureau of Statistics of China, 2024). While maintaining steady growth, the online shopping market in China has also become a key driver of the country's economic growth.

Since 2023, China's apparel retail market has shown strong signs of recovery, with annual retail sales exceeding 1.4 trillion RMB, a year-on-year increase of 12.9% (China National Garment Association, 2024). With the continuous development of technologies such as artificial intelligence, big data, and the Internet of Things, the apparel e-commerce industry is experiencing unprecedented transformations. Through intelligent recommendation systems, e-commerce platforms can offer more precise and personalized recommendations based on consumers' shopping history and preferences, enhancing the shopping experience and conversion rates. Additionally, the application of technologies like AR fitting and virtual models allows consumers to enjoy a more realistic and convenient fitting experience when shopping online. These technological innovations not only increase the fun of shopping but also drive higher sales conversion. Currently, Chinese consumers' demand for clothing reflects various characteristics, including personalization, fashion, quality, diversity, functionality, environmental friendliness, and cost-effectiveness. These changing demands present greater challenges to the apparel industry while also providing more opportunities for development and innovation for clothing enterprises.

LITERATURE REVIEW

Purchase Intention

The concept of intention was first introduced within the realm of psychology, where it was conceptualized as the psychological inclination of individuals to manifest certain actions. In contrast to the constructs of "attitude" and "belief," the notion of "intention" exhibits a greater degree of

proximity to the manifestation of practical behaviours. Fishbein et al. (1975) used this idea in the field of marketing and introduced the notion of "purchase intention," which they defined as the likelihood that customers would make a purchase. Intention, as defined by Eagly and Chaiken (1993) and Harland et al. (1999), refers to an individual's deliberate plan, commitment, or choice to engage in an activity or accomplish a goal. It serves as the immediate precursor to an individual's actual conduct. Keller (2001) pointed out that purchase intention refers to consumers' willingness to purchase after considering and evaluating products, which can be regarded as the key point to predicting consumers' purchase behavior and their subjective intentions. Bianchi et al. (2019) describe the purchase intention, preference for repurchasing a given product and the probability of consumers choosing a specific product from two aspects. The first situation refers to the behavior after purchase, and the second situation refers to the general consumer's preference and whether the consumer perceives the product or brand as aligning with their expectations, requirements, and aspirations. It was observed that many scholars believe that customer satisfaction stands out as the primary determinant impacting customers' purchase intentions. The influence of customer satisfaction on purchase intention is substantial, exhibiting a positive association between the two variables. Consumers with high satisfaction will buy products repeatedly and more frequently (Ali, 2016; Dash et al., 2021; Lee & Lin, 2005). Dhingra et al. (2020) study on e-commerce websites, found that the overall service quality has a positive influence on customer satisfaction, ultimately resulting in the desire to make a purchase.

Kautonen et al. (2013, 2015); Shirokova et al. (2016) found that intention is a strong predictor of one's actual behavior. Therefore, purchasing intention will also become a predictor of purchasing behavior. Wang et al. (2019) think that consumers' purchasing intention is considered the main determinant of their future purchasing behavior. Purchase intention helps enterprises to predict how likely consumers are to buy goods in a specific period, and acts as an agent of actual behavior (Farris et al., 2010). Therefore, Studying purchase intention is crucial for sellers since it often allows for the prediction of consumers' eventual purchase behavior (Hsu et al., 2012). Most studies emphasize that purchasing intention is the possibility or tendency of actual purchasing behavior after consumers collect and evaluate relevant information. It can be regarded as a bridge between "present" psychological tendency and "future" final behavior. For

this study, purchase intention refers to a consumer's inclination or willingness to acquire a specific product or service. It is the pre-purchase stage for the customer.

Customer Satisfaction

A literature review is typically one of the first tasks to be performed after determining a research topic. Combining reading with critical analysis helps refine the topic and formulate research questions. Conducting a literature review before embarking on new research can establish how familiar and knowledgeable the researcher is with the current studies in a particular field (Rudestam & Newton, 2014). The literature review holds a crucial position in the academic research process, serving as an essential tool for deepening theoretical understanding, identifying research gaps, and guiding future research directions. It is the core method for synthesizing research findings, showcasing meta-level evidence, and uncovering new areas of study. It plays a key role in creating theoretical frameworks and constructing conceptual models (Tranfield et al., 2003). The literature review is not only the cornerstone of knowledge development but also a guide throughout the research process, providing researchers with valuable guidelines, evidence of effectiveness, and, where appropriate, the inspiration for new ideas and the opening of new directions (Snyder, 2019). Therefore, it forms the foundation for future research and theory. All articles used in this study are obtained from open source according to variables and hypotheses.

Yi and Nataraajan (2018) pointed out that one of the most important concepts in the thought and practice of modern marketing is customer satisfaction, which is very important to meet the various needs of customers and enterprises. In the past decades, many marketing and psychology researchers have realized the importance of customer satisfaction (Hill & Brierley, 2017; Oliver, 1980, 1999, 2010; Yi, 1990; Yi & La, 2004). For enterprises that need to develop and maintain competitiveness, improving customer satisfaction has become an important task. Improving customer satisfaction can effectively reduce the loss of customers, maintain a positive reputation, and attract new customers through customer recommendations with high satisfaction, thus achieving a positive effect of promoting enterprise development.

Customer satisfaction refers to the evaluation of the perceived disparity between prior expectations and the tangible outcomes of items (Oliver, 1999; Tse & Wilton, 1988). Customers' feelings of happiness or disappointment (Kotler, 2001) after comparing the perceived effect of products with their

expectations, and the differences between the actual performance of products and customers' expectations of products produce different psychological perceptions (Harker & Brennan, 2003), which will form customer satisfaction. Fornell (1992) believes that customer satisfaction is an attitude, which is formed according to experience after customers get products or use services and pay for them. According to Hansemark and Albinsson (2004), satisfaction may be defined as the comprehensive attitude that consumers have towards service providers, including their emotional reaction to the disparity between their expectations and the actual outcomes they experience in achieving certain requirements, objectives, or desires. According to Wah Yap et al. (2012), contentment is defined as the whole emotional disposition of consumers towards service providers. According to Minarti and Segoro (2014), satisfaction may be defined as the combination of customers' attitudes, evaluations, and emotional responses after the completion of a transaction.

Suchánek and Králová (2018) pointed out that there are various broad understandings of customer satisfaction. Certain definitions emphasize the comparison between customers' desires, expressed as objectives or wants, with the actual outcomes they get, relying only on the subjective assessment of consumers. An alternative interpretation is incorporating a psychological dimension into the notion of customer satisfaction. Customer satisfaction refers to the emotional response of consumers when comparing their anticipated performance with their perceived performance. Customers' previous consumption experience affects their perceived satisfaction, thus affecting the subsequent purchase decision. Spiteri and Dion (2004) said that the literature identified two kinds of satisfaction: transactional satisfaction and cumulative satisfaction. Transactional satisfaction is achieved via the accumulation of consumption processes, whereas customer happiness at the process level focuses only on consumers' long-term buying experience. In the context of our study, customer satisfaction refers to the emotional state of contentment or dissatisfaction experienced by customers after they evaluate the performance of a product or service about their initial expectations. Customer happiness is not a static or unchanging characteristic. It will vary depending on the time, location, or event.

E-Service Quality

The genesis of the notion of service quality originated from the field of cognitive psychology. The concept of service quality was first proposed and described by Grönroos (1982). It refers to the perceived quality of a service

as experienced by customers. This perception is formed via the cognitive process of evaluating and comparing service expectations with the actual execution of the service. Rust and Lemon (2001) condensed the meaning of electronic services into services provided through the network. After the development of e-commerce, online retailers need to constantly improve their service quality to meet customer needs. To ensure the provision of high-quality service, firms must possess knowledge of customers' perceptions and evaluations of online customer service (Blut, 2016), and the quality of electronic service comes into being.

Yarimoglu (2015) mentioned in the research that the quality of electronic services is different from traditional services. Online website services include distinct characteristics that need their attention, including server malfunctions, data backup, connectivity issues, and other related challenges. According to Zeithaml (2002), the concept of electronic service quality pertains to the degree to which a website facilitates user-friendly and efficient purchasing, procurement, and delivery processes. The analysis reveals that the customer's evaluation of electronic service quality encompasses not just the first online experience, but also the subsequent service provided after the engagement. Fassnacht and Koese (2006) thinks that the quality of electronic service is an electronic service ability that can effectively meet the needs of customers. Consumers' perception of electronic service quality is not similar to that of service quality (Mick & Fournier, 1998). Santos (2003) pointed out that the quality of electronic services is an overall evaluation of customers and an evaluation of the service efficiency provided by the Internet. The capacity of a corporation to effectively provide and enhance the standard of customer service to satisfy the anticipated service requirements of customers (Wilis & Nurwulandari, 2020). Therefore, in this study, electronic service quality refers to the perception and evaluation of clients throughout the decision-making and use of electronic services. The comprehensive assessment of electronic services serves as an intermediary connection between consumer behavior and the evaluation procedure, including the whole of service items, service situations, and service delivery inside the electronic realm.

Website Design

Lester (2012) highlighted that website design encompasses a wide range of fields involved in the creation and upkeep of websites. Web design encompasses several domains, such as web graphic design, user interface design and development, standardized code and proprietary software, user

experience design, and search engine optimization. It covers all different aspects of the design process. With the development of Internet technology today, website design technology has become more and more mature, especially in the application of shopping websites. The completeness of functions and the quality of interface and interaction design are the criteria for measuring website design (Zhou et al., 2019). The website design of a good online shopping website should emphasize the user's ability by providing design aesthetics, reflecting the brand's strong and associative image, and attracting customers to visit it (Díaz & Koutra, 2013). Website design involves expected properties related to design and projects dealing with personalization (Zeithaml et al., 2002). Loiacono et al. (2002) highlighted in their survey that various factors such as information relevance, interactivity, trustworthiness, response time, user-friendliness, intuitive navigation, visual attractiveness, innovation, emotional engagement, brand consistency, online reliability, and superiority over alternative channels have emerged as essential criteria for assessing website design. Wolfinbarger and Gilly (2003) proposed that website design includes all the elements that consumers experience on the website, encompasses aspects like navigation, information retrieval, order processing, personalized experiences, and product selection. In four aspects of positioning the website: design interface, functional integrity and quality of interaction to measure the website design; Content and information try to measure the information on the website, and the performance of the website is related to the technical support of the website (Zhou et al., 2019).

Reliability

The degree of customers' trust in online company services is called reliability (Ahmad & Zhang, 2020). Ali et al. (2021) describe reliability as the extent to which a service provider is reliable in ensuring compliance with the promised service quality and fulfilling its service obligations. According to Zeithaml et al. (1988), dependability may be defined as the capacity to consistently and precisely provide the services that have been promised. The dependability of e-commerce platforms pertains to their capacity to accurately process orders, meet delivery deadlines, and safeguard personal data. It refers to services that meet commitments reliably and reliably (Janda et al., 2002). Santos (2003) noted that reliability entails the capacity to consistently and accurately deliver promised services, which encompasses factors such as website updating frequency, prompt response

to customer queries, as well as the accuracy of online purchase and invoicing procedures. Anwar and Ghafoor (2017) believe that reliability requires service providers to do things right on the first attempt, which is a crucial aspect for clients. The concept of reliability encompasses two key dimensions: firstly, the dependability of a website in terms of its search engine, payment tool, and other functionalities. Second, the website offers solid service commitment, financial information, product information, and other pertinent information (Huang et al., 2019). Specific reliability is accurate in billing, keeping accurate records and providing services within a specified period (Wang et al., 2021). Lee and Lin (2005) evaluated reliability from the following aspects: keeping promises, sincere attitude and transaction preparation. Dhingra et al., (2020) used to keep promises, timely and accurate transactions, and maintain customer records to evaluate the reliability of online shopping websites.

Responsiveness

According to Parasuraman et al. (2005), online shopping websites demonstrate good responsiveness in addressing both issues and rewards. Responsiveness describes the frequency of voluntary service provided by an online store, the speed of customer inquiry, information retrieval and navigation, which is very important to customers (Parasuraman et al., 1988). Zeithaml et al. (2002) defined responsiveness as the capability of online stores to address customer needs in unexpected situations, their mechanisms for resolving issues, and their provision of online guarantees. Kim et al. (2011) pointed out that responsiveness is a metric that assesses the capacity of e-retailers to effectively provide problem-solving information, manage returns, and offer online assurances to consumers. According to Collier and Bienstock (2006), the assessment of responsiveness pertains to the capacity to attend to the buyer post-transaction and cultivate enduring relationships. Dhingra et al. (2020) use e-commerce websites to provide timely services, help customers' wishes, let customers know about new products and supplement services as the factors to evaluate responsiveness. Kim et al. (2006) used the satisfaction guarantee and return/exchange policy provided by the online shopping website to evaluate the responsiveness of the website. Parasuraman et al. (2005) evaluated responsiveness in four aspects:

convenient return, guarantee, timely customer service and quick handling of problems.

Attitude

According to Ajzen (1980), attitude may be described as an individual's evaluation, which can be either positive or negative, of a certain activity. It is the interaction between a given object and its summary and evaluation (Fazio, 1995). Ajzen (1991) highlighted that attitude is formed through the combination of behavioral beliefs and outcome evaluations. Behavioral beliefs involve an individual's perceptions of the outcomes of a specific behavior, while outcome evaluations entail the corresponding positive or negative assessments of the potential consequences resulting from this behavior. Lambert (2018) believes that an individual's attitude towards a given behavior is the combination of their evaluation of each belief about the behavior and the strength of each belief. Attitude probably reveals consumers' psychological evaluation of a product (Bonne et al., 2007; Eagly & Chaiken, 1995).

Perceived Behavioral Control

Perceived behavioral control refers to an individual's perception of the level of ease or difficulty associated with doing a particular behavior (Ajzen, 1980). It refers to the level of challenge that an individual experiences when engaging in a particular behavior. Zhou et al. (2013) believed that a given behavior may occur when a person has the ability and motivation to perform the behavior at the same time, rather than when he has only one or both factors. Ajzen (1991) pointed out in his research that perceptual behavior control is the result of controlling beliefs and perceived power. The conviction that specific elements have the power to either facilitate or hinder the execution of a particular conduct is a controlling belief. Perceived power refers to an individual's evaluation of how these characteristics either facilitate or impede certain behaviors. According to Lambert (2018), an individual's perceived behavioral control over a certain activity is determined by their valuation of both the likelihood or frequency of a specific control factor occurring and the potential for that control component to either hamper or facilitate the action.

Research Framework

The model of this study is adapted from E-SERVQUAL and TPB framework (Figure 1).

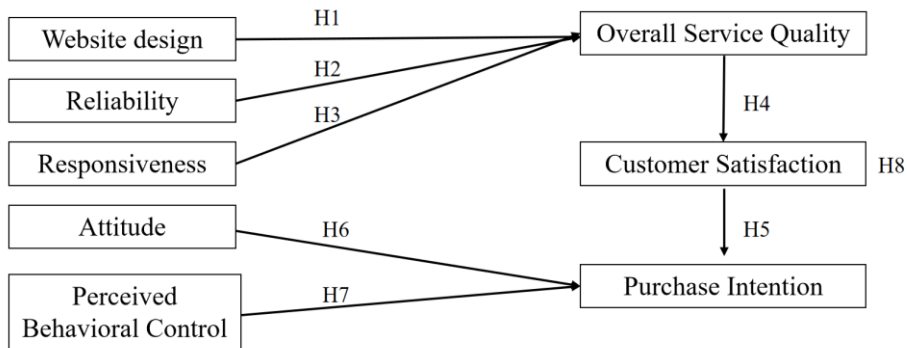


Figure 1 Research Framework

Hypotheses

Based on the above reviews and previous discussions, this study has developed the following eight hypotheses to comprehensively explore the relationships and potential impacts between the relevant variables:

H1: Web Design has a positive and significant influence on Overall Service Quality

H2: Reliability has a positive and significant influence on Overall Service Quality

H3: Responsiveness has a positive and significant influence on Overall Service Quality

H4: Overall Service Quality has a positive and significant influence on Customer Satisfaction

H5: Customer Satisfaction has a positive and significant influence on Purchase Intention

H6: Attitude has a positive and significant influence on purchase intention

H7: Perceived behavioral control has a positive and significant influence on Purchase intention

H8: Customer satisfaction mediates the relationship between overall service quality and purchase intention

Methodology

Research Design

The study design comprehensively outline the research methods employed to attain the research objectives. Research design entails a series of initial decisions aimed at crafting a comprehensive plan and specifying the methods and procedures for data collection and analysis (Burns & Bush, 2002). Cooper and Schindler (2008) proposed that a good research design would pay attention to a series of actions such as data collection, data measurement and data analysis. Therefore, appropriate research design is very important, because it proves the rationality of data type, data collection, sampling method, timetable and budget decision (Hair et al., 2003; Cooper & Schindler, 2006; Zikmund et al., 2010).

The research design of this study was quantitative with cross-sectional methods. This approach aligns with the recommendation from Creswell (2003) regarding the most appropriate methodological choice for this type of research. Through quantitative multivariate methods, researchers can control and measure variables (Anderson et al., 2006). In addition, according to the suggestion of (Leedy & Ormrod, 2005), quantitative research should be applied to answer questions about the relationship between measured variables. In addition, quantitative research is also used to predict, explain and control phenomena (Hair et al., 2014). Therefore, the design of quantitative research is the most suitable for the needs of this study, because researchers hope to provide effective and reliable results for the study (Moore (2016) The aim is to identify the E-service quality attributes and psychological factors that influence customer purchase intention.

Research Setting

China has now become one of the largest clothing retail markets in the world, the study focused on the exploration of the Chinese market. Finding reveals that China have 1.683 billion mobile phone users, representing a penetration rate of 119.2 per 100 people (Ministry of Industry and Information Technology of China, 2023). Therefore, the research background of this paper is the people in mainland China who have purchased online clothing. The data collection was managed for 4 months, from July to October 2023. Respondents were randomly selected from 31 regions in mainland China and the questionnaire was distributed via WeChat groups.

Target Population and Location

Target populations can be defined in terms of geographic location, age, gender, and additional definitions of attributes and other defined attributes and variables like occupation, religion, and ethnicity (Banerjee & Chaudhury, 2010). The target market of this study is the Chinese people with aged 20-49

years old. This group of people is the main productive force of China's current economic development, and they have super purchasing power. According to statistics from the China Internet Center, netizens in this group account for 56.6% of all netizens (Figure 2).

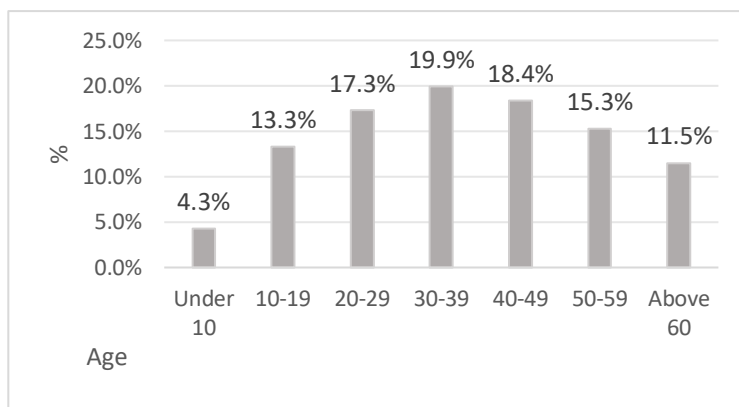


Figure 2 Age Structure of Internet Users

Source: China Internet Network Information Center, 2022

Analysis and Results Findings

Structural Model Evaluation

After carefully constructing the new model, this study employed PLS as the analytical tool to conduct a thorough structural model evaluation (Figure 3). This assessment not only rigorously tests the results of the new model's construction but also critically validates its predictive power, explanatory strength, and internal consistency, aiming to provide a solid theoretical foundation for the further application of the model.

VIF Analysis (Multicollinearity Test)

Through precise calculations using PLS, it was found that the Variance Inflation Factor (VIF) values of the variables in the new model ranged between 1.000 and 2.038 (Table 2). This result is well below the VIF threshold of 3.3 recommended by Kock and Lynn (2012), clearly indicating that there is no significant multicollinearity issue among the variables in the model. The effective avoidance of multicollinearity provides strong support for the stability and accuracy of the model.

Path Coefficients, T-values, and p-values (Strength and Significance of Relationships)

The path coefficients in the model range from 0.121 to 0.576 (Table 2), which falls within the standard range of -1 to +1 defined by Hair et al. (2021). All path coefficients are positive, indicating that there are positive relationships between the variables in the model, with varying strengths from weak to moderate. Furthermore, through statistical analysis of T-values and p-values, it was found that all variables have p-values less than 0.01, and T-values exceed the critical value of 2.33 at the 1% significance level (according to the significance criteria of Hair et al. (2016). This result strongly confirms the significance of the relationships between the variables in the new model, enhancing the reliability and persuasiveness of the model's conclusions.

R² Value (Quantitative Assessment of Model Prediction Accuracy)

The coefficient of determination (R^2) is a key indicator used to assess the accuracy of the model's predictions. In the model, R^2 values are 0.413, 0.332, and 0.503, respectively (Table 2). According to Chin (1998), these values indicate that the model's predictive power regarding key dependent variables, such as purchase intention, is moderate to high, with the predictive power for purchase intention reaching 50.3%. This is quite satisfactory in the field of social science research, suggesting that the model can effectively capture and explain the key factors influencing purchase intention.

f² Value (In-depth Analysis of Effect Size)

By calculating f^2 values, the effect size of exogenous latent variables on endogenous latent variables was further quantified. The f^2 values in the model range from 0.016 to 0.497 (Table 2). According to Cohen's (1988) classification standards for effect size, these values cover the range of small, medium, and large effects. This result not only reveals the specific impact of each independent variable on the dependent variable but also provides a more detailed perspective for explaining and applying the model.

Q² Value (Direct Verification of Predictive Relevance)

Hair et al. (2019) proposed that Q^2 values can be used to assess the predictive relevance of a model. A Q^2 value greater than 0 indicates that the model has good predictive ability. Based on the blindfolding procedure, the Q^2 values of the endogenous constructs of overall service

quality, customer satisfaction, and purchase intention are 0.402, 0.207, and 0.313, respectively (Table 1). All Q^2 values are greater than 0 in this study, indicating that the model has good predictive relevance when predicting these key constructs.

Table 1 Q^2 Value

Itmes	Q^2 predict
OSQ	0.402
CS	0.207
PI	0.313

Source: Proposed by author (2024)

Mediation Effect

In this study, customer satisfaction was set as a mediating variable. After PLS calculation, the path coefficient was 0.269 (Table 2), which falls within the range of -1 to +1 as proposed by Hair et al. (2021). Mohamed et al. (2018, October) emphasized that the path coefficient is meaningful only when it is statistically significant. A path coefficient close to 0.5 or greater is considered indicative of a large effect size, around 0.3 corresponds to a medium effect size, and values close to or below 0.1 represent a small effect size. Hair et al. (2016) identified critical values for a one-tailed test at different significance levels: 2.33 for 1% ($\alpha = 0.01$), 1.65 for 5% ($\alpha = 0.05$), and 1.28 for 10% ($\alpha = 0.1$).

In this study, the calculated T-value is 9.036, and the p-value is 0.000 ($p < 0.001$)(Table 2), which strongly supports the statistical significance of the mediation effect. The path coefficient of 0.269 corresponds to a medium effect size. Thus, the mediation effect of customer satisfaction in this study is confirmed, with statistically significant results ($T = 9.036$, $p < 0.001$) and a medium effect size, establishing customer satisfaction as a significant mediator.

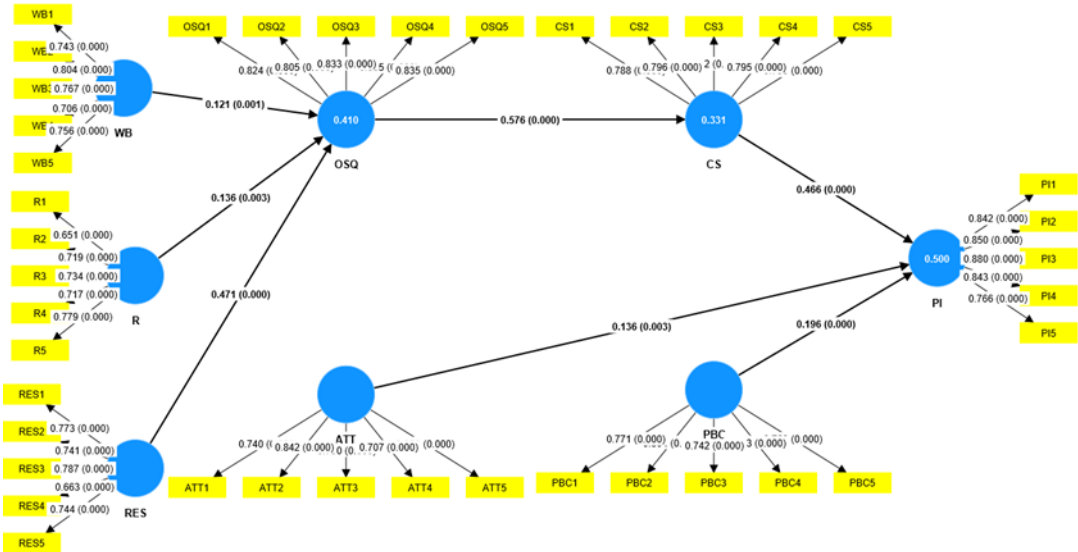


Figure 3 Structural Model PLS Output

Table 2 Structural Model Assessment

Relationship	Path Coefficient (β)	Std. Error	B CI L	B CI U	t-value	p-value	Decision	R ²	f ²	Effect Size	VIF
WB -> OSQ	0.121	0.038	0.045	0.193	3.206	0.001	Supported	0.41	0.017	Small	1.447
R -> OSQ	0.136	0.046	0.045	0.226	2.983	0.003	Supported	0.41	0.016	Small	1.972
RES -> OSQ	0.471	0.048	0.371	0.559	9.794	0.000	Supported	0.41	0.202	Mode rate	1.871
OSQ -> CS	0.576	0.031	0.511	0.633	18.801	0.000	Supported	0.332	0.497	Substantial	1.000

ATT -> PI	0.136	0.046	0.044	0.023	2.949	0.003	Supported	0.022	Small	1.712
PBC -> PI	0.196	0.047	0.104	0.0286	4.151	0.000	Supported	0.503	Small	1.975
CS -> PI	0.466	0.048	0.371	0.0562	9.648	0.000	Supported	0.215	Mode rate	2.038
OSQ->CS->PI	0.269	0.030	0.213	0.0329	9.036	0.000	Supported			

Notes: WD: Website Design; R: Reliability; RES: Responsiveness; OSQ: Overall Service Quality; ATT: Attitude; PBC: Perceived Behavioral Control; CS: Customer Satisfaction; PI: Purchase Intention.

Table 3 Fit Indices

Items	Fit Indices
SRMR	0.055
d_ULS	2.495
d_G	0.755
Chi-square	2502.084
NFI	0.804

Standardized Root Mean Square Residual (SRMR)

The Standardized Root Mean Square Residual (SRMR) measures the model fit, specifically the difference between the observed correlation matrix and the correlation matrix estimated by the model (Yamin, 2022). According to Schermelleh-Engel et al. (2003), SRMR values between 0.08 and 0.10 are considered acceptable. The smaller the SRMR value, the smaller the residuals, indicating a better fit between the model and the data. In this study, the SRMR value for the model is 0.055 (Table 3), indicating that model have a good fit.

Normed Fit Index (NFI)

The standardized fit index (NFI) was proposed by Bentler and Bonett (1980) and is one of the earliest fit indices introduced in the SEM literature. They suggested that the NFI value should be between 0 and 1, and the closer the value is to 1, the better the model fit (Ringle, 2015). In this study, the NFI value of the model is 0.804 (Table 3), indicating that the model fit is good.

Applicability of the Model

This model's applicability is broad and extends beyond its initial application domain, making it suitable for cross-industry implementation, particularly in the study of customer purchase intention. Below are several key points that illustrate how the model can be effectively adapted and applied in other industries:

Universality of Theoretical Foundation

This model is based on the Theory of Planned Behavior and E-Service Quality Theory, both of which possess cross-industry applicability. Therefore, a model constructed on these theories can also be applied in various industry contexts for example bank (Raza et al., 2020; Baber, 2019), food (Lim & An, 2021; Chen et al., 2020) and hotel (Ridzuan et al., 2022; Nimri et al., 2020) etc.

Flexibility in Variable Selection

The variables in the model (such as influencing factors, mediating variables, and outcome variables) can typically be adjusted and substituted according to the specific characteristics of different industries. For example, in the e-commerce sector, factors like website usability and payment security might be more relevant, while in retail, store environment and salesperson attitude may take precedence. By flexibly adjusting variables, the model can meet the needs of different industries.

Validation of Predictive Accuracy

The model has demonstrated strong measurement effects and predictive power in its original application domain. This predictive accuracy is a key indicator of the model's value. When applied to other industries, the model's predictive capability can be validated and fine-tuned using industry-specific data to ensure its continued effectiveness.

Incorporation of Industry-Specific Factors

When applying the model to other industries, it is possible to incorporate factors unique to that industry. For instance, in the financial sector, variables like perceived risk and trust could be included, while in the technology sector, factors such as technology acceptance and innovation might be more relevant. This approach allows the model to align more closely with industry realities, enhancing its predictive accuracy and practical relevance. In summary, the model has wide applicability in the study of customer purchase intention. By flexibly adjusting variables, validating predictive accuracy, and incorporating industry-specific factors, the model can be successfully applied to other industries, providing robust support for market decision-making and marketing strategies.

Discussion

Theoretical Implications

This study contributes significantly to the theoretical understanding of the subject. This study adds to the literature supporting the Chinese e-commerce market regarding customer purchase intentions, primarily in the online apparel sector.

This study is of great significance to supplement and support the literature on customer purchase intentions in the Chinese e-commerce market, especially in the online apparel industry. China's e-commerce market has shown explosive growth in recent years, with the online clothing industry accounting for a considerable market share. However, despite the rapid development of the market, consumers' decision-making process when purchasing clothing is still affected by multiple factors. PLS-SEM (Partial Least Squares Structural Equation Modeling) is a data analysis method that allows researchers to explore the interactions between various factors and their impact on consumers' purchase intentions in greater detail. This approach not only helps us understand existing market trends but also predict possible future changes.

The research model of this study is a new model established by combining the E-SERVQUAL model and the TPB model. It is mainly used

to explore customer purchase intentions in the online apparel field in the Chinese e-commerce market. E-SERVQUAL model, which is a widely accepted model, is mainly used to measure and predict customer satisfaction with online services. The TPB model is a model that is widely used to predict consumer purchasing behavior. By combining these two models, we can better understand the process of forming customer purchase intentions. The new model not only considers the impact of online service quality on customer satisfaction, but also considers the determinants of consumer behavior, thereby providing a more comprehensive and understandable framework to understand and predict customers' intentions. Especially in the field of online apparel in the Chinese e-commerce market, we find this new model to be of particular importance due to the characteristics of this field. Overall, this study expands our understanding of customer purchase intentions in the online apparel field in the Chinese e-commerce market by combining the E-SERVQUAL model and the TPB model, providing new perspectives and methods for future research.

As the key dependent variable, purchase intention has an R^2 value of 50.3%, indicating that the model has good effectiveness in explaining and predicting consumer purchase intention. This means that the independent variables (or predictor variables) in the model are able to effectively capture and explain the variation associated with purchase intention. In the fields of social science and business research, an R^2 value of 50% or above is generally considered a relatively good model fit, especially when faced with complex consumer behavior and market phenomena. This value justifies the rationality of the variables selected in the model and their strong correlation with purchase intention.

Due to the wide range of fields and diverse models involved in e-commerce, scholars in the past have also done a lot of research on customer purchase intentions and behaviors in e-commerce. However, there are very few studies on the apparel field of e-commerce, especially less on the Chinese market. This study empirically investigates the factors influencing customers' purchase intentions within China's electronic apparel market, which is one of the largest in the world and possesses unique characteristics and development trends, making it of significant interest for research. These findings can provide useful theoretical support for the apparel field in China's electronics market.

Finally, a review of previous literature (Chi et al., 2021; Erdil, 2015; Nam et al., 2021; Sethi et al., 2018) on e-commerce apparel retail found that most

researchers are not Chinese, which shows that Chinese scholars have done less research in this field. Therefore, as a Chinese scholar, this study hope that this study can provide some theoretical support for China's research in this area.

Practical Significance

This study empirically explores the e-service quality attributes and psychological factors that influence customers' purchase intentions in China's electronic apparel market. All variables in the research model except the Subjective Norm have a significant role in influencing customers' purchase intentions.

The results of this study will provide valuable insights to apparel online retailers and marketers. In today's highly competitive market environment, understanding consumer needs and behaviors is crucial. By delving deeper into consumers' shopping habits, preferences, and decision-making processes, companies can better position their products and services to meet the needs of their target customers. Using these findings, online retailers can develop more precise marketing strategies. They can more clearly target their target customer groups and develop unique marketing programs based on their needs and preferences. And these research results can also help companies better understand market trends and competitive landscape. By analyzing consumers' shopping behavior and preferences, companies can predict future market changes and take corresponding measures to deal with competition. This will help companies maintain a competitive advantage and achieve sustained sales growth and revenue enhancement.

The results of this study are of great significance not only to apparel online retailers and marketers, but also to policy makers. By in-depth understanding of consumer behavior and market trends, policymakers can better grasp the economic dynamics of the apparel industry and formulate more scientific and targeted policies for industry development. First, this research can help policymakers better understand consumer needs and behavior patterns, thereby providing more accurate data support for policy decisions. Based on the research results, policymakers can formulate policies and measures that are more in line with market demand, encourage innovation and development in the apparel industry, and promote the prosperity of the consumer market. Secondly, by studying the market trends and competitive landscape of the apparel industry, policymakers can discover potential growth points and open up new development space for the industry. For example,

policies can guide companies to increase investment in research and development, promote the upgrading and transformation of the clothing industry, and improve product quality and brand value. At the same time, policies can also encourage companies to expand international markets and enhance the international competitiveness of Chinese apparel brands. In addition, as an industry involving all citizens, apparel consumption plays a key role in the growth of China's economy. By encouraging and guiding the development of the apparel industry, it can drive the development of related industrial chains and create more job opportunities and economic benefits. Therefore, the results of this study not only help companies formulate more precise market strategies, but also provide important reference for policy makers. By rationally using these results, policymakers can better grasp the economic dynamics of the apparel industry, formulate more scientific and targeted policies for industry development, and promote the continued growth of China's economy.

This study also has implications for financial institutions. The particularity of online apparel retail is that the payment method is through online banking or other financial payment platforms. Therefore, financial institutions can also use the results of this research to optimize their business strategies and improve market competitiveness in market operations. First, financial institutions can conduct in-depth analysis of consumer shopping behavior data and apparel consumption factors to more accurately locate target customer groups. By analyzing data on consumers' purchasing preferences, brand choices, payment habits, etc., financial institutions can develop personalized marketing strategies and provide financial products and services that are more in line with consumer needs. For example, financial institutions can recommend suitable credit cards, loans or financial products to consumers based on their shopping behavior data. They can achieve profitable growth by increasing conversion rates and customer satisfaction through targeted marketing. Secondly, through cooperation with online clothing retailers, financial institutions can also innovate financial products and service models. For example, launch co-branded credit cards, loan products or financial plans related to clothing consumption to provide consumers with more convenient and personalized financial services. This kind of cross-border cooperation can not only increase the business revenue of financial institutions, but also improve brand awareness and customer loyalty. In addition, financial institutions can also use behavioral data and clothing consumption factors to improve consumers' debt attitudes. By

providing customized debt consulting services and financial management tools, this study helps consumers plan their personal finances rationally, reduce debt pressure, and improve debt satisfaction. This will help build trust between consumers and financial institutions, further driving business development and profit growth. Therefore, financial institutions can also use the results of this research to optimize their business strategies and improve market competitiveness.

Regarding customers' purchase intentions, this study recommends considering both merchants and customers. First, it is to evaluate the overall service quality of merchants through electronic service quality attributes. Second, it is to analyze the psychological factors that affect customers. It is recommended that merchants improve overall service quality from the three e-service quality attributes of website design, reliability and responsiveness, and then increase customer purchase intention through customer satisfaction. For customers, customer attitude and perceived behavioral control are two key points that influence purchase intention. It is recommended that merchants should have a deep understanding of customers' attitudes and perceived behavioral controls, and take corresponding measures to increase customers' purchase intentions.

The popularity of the Internet and mobile phones has provided consumers with more convenient shopping methods, making online shopping for apparel very common in the Chinese market. Merchants should improve service quality while focusing on identifying and cultivating consumers' positive attitudes. This can be achieved in a variety of ways, such as providing quality merchandise, creating a pleasant shopping environment, developing effective marketing campaigns, etc. When customers have a positive attitude toward the apparel they purchase, they are more likely to make a purchase. In addition, merchants should also pay attention to and understand customers' perceived behavioral control, which is to make customers feel that the purchase process is simple, convenient and safe. Therefore, to better meet the needs of consumers and improve their satisfaction, merchants need to conduct thorough market research. This not only helps them understand consumer needs and expectations but also allows them to better understand the customer decision-making process. With this information, merchants can adjust their products and services to better meet customers' needs, thereby increasing their purchase intentions.

Limitations

For China's e-commerce apparel market, this study mainly understands the determinants of customer purchase intentions. This study has certain limitations. The first limitation is that due to the limitations of online questionnaires, their geographical coverage is often limited, which directly affects the representativeness of the survey. Data collected within a limited geographical scope may not fully reflect consumer behavior in different regions and cultural backgrounds. Different cultures have a profound impact on consumers' values, consumption habits and behavior patterns. In some cultures, collectivistic tendencies may be stronger, while in others individualism may be more prominent. These cultural differences directly affect consumers' purchasing decisions and consumption behaviors. Due to limitations in its form and methods, online surveys are often difficult to fully consider and compare consumer behavior from different cultural backgrounds. In addition, the segmentation of consumer groups is also an important part of market research. Common segmentation criteria include occupation, gender, age, income, etc. However, relying solely on online surveys, you may miss some important segmentation factors, such as cultural background. Segmenting consumers according to factors such as occupation, gender, cultural background, etc. can help to more accurately understand the consumption needs and behavioral characteristics of different groups, thereby formulating more precise market strategies. The sampling sample of this study is limited to people between the ages of 20 and 49, and data is only collected from customers in this range. Although the purchasing power of people outside this range is not as strong as that of customers within the range, they still have a certain purchasing power. Therefore, studies may obtain different results when the age range of the sample is expanded.

In addition, convenience sampling also has certain limitations. Its biggest limitation is that the sample may lack broad representativeness, that is, the universality of the sample may be questioned, which to some extent limits the promotion and application scope of the research results. In order to overcome this disadvantage of convenience sampling, strategies need to be adopted to improve the predictive power of the research.

Another significant limitation of this study is its cross-sectional design. This kind of design is based on studies conducted on a specific group of people at a specific point in time, a design that cannot capture dynamics and user behavior that change over time. It may not accurately predict the impact of new technologies on purchase intentions or capture long-term changes in

user behavior. Therefore, this may also lead to some bias in the research results. Before answering the questionnaire, this study only asked the respondents to recall their online apparel purchasing experience in the past 6 months. If the data is that the respondent makes few purchases, or only occasionally purchases online, the purchasing experience formed may not be objective, and the collected results will not be accurate.

This study mainly reveals customers' purchasing intentions from the Chinese e-commerce apparel market. Sales volume in China's apparel market is increasing year by year and has become one of the largest apparel markets in the world. However, this study focuses on the specific market of online apparel retail, which means that the research results can only reflect the purchase intention of customers with Internet usage capabilities in the online apparel retail market, but cannot represent the situation of the entire Chinese apparel market. For the entire Chinese apparel market, in addition to online retail, there are also traditional physical store sales channels and various market segments. There are certain differences between these segments and the online apparel retail market, and therefore, the results of this study cannot be fully applied to the entire Chinese apparel market.

This study only analyzed the impact of purchase intention from the merchant's electronic service quality and the customer's psychological factors. However, there are other factors affecting purchase intention, such as product features, marketing activities, social factors, personal factors and other factors. These factors may individually or interactively affect purchase intentions. Therefore, this study is not necessarily comprehensive. The findings of this study may encompass only a portion of the factors influencing purchase intention. Further comprehensive exploration of these influencing factors is recommended for future research.

In the field of market research, quantitative analysis is one of the commonly used methods, which uses data and statistical analysis to reveal the laws and trends of phenomena. In addition, in addition to quantitative analysis, qualitative design is also an important part of market research. Qualitative design can help researchers deeply explore the inner world of consumers and understand their values, attitudes, motivations and other deep-seated factors. Through methods such as interviews, observations, and case studies, qualitative design can provide more specific and in-depth insights that help explain the trends and patterns found in quantitative analysis. In this study, only quantitative research methods were used. However, relying solely on quantitative analysis, the results may be too macroscopic and abstract,

making it difficult to delve deeply into the underlying mechanisms and details of consumer behavior. If we want to understand consumer behavior more comprehensively, further detailed investigation is still needed. This includes more specific question design, broader sample coverage, and deeper data mining.

Future Research

This study proposed the limitations of this study in the previous section. Based on this, this study provides several suggestions for future research:

To get more accurate test results, the easiest way is to expand the age range of the sample. Expand the scope of respondents to include a wider age range and include more respondents of different age groups to develop a deeper insight into the purchase intentions of customers across various age demographics. When expanding the age range of the sample, it is first necessary to determine a suitable age range to cover different age groups that may be interested in the e-commerce apparel market. This range can be determined based on market research, preliminary research, or the age distribution of the target market. Secondly, ensure sample representativeness. When selecting respondents, future study endeavors should prioritize sample representativeness to avoid over-concentration of certain age groups in the sample. The representativeness of the sample can be ensured through random sampling or stratified sampling. Third, consider the purchasing habits and needs of different age groups. Individuals belonging to various age brackets exhibit distinct habits and needs. When expanding the age range of the sample, it's essential to consider these variations and modify the questionnaire design and survey content accordingly.

To overcome the limitations of cross-sectional studies, alternative research designs may be considered. One possible design is a longitudinal study, which is observing the same group of subjects' multiple times over a period of time to capture behavior and trends over time. This design allows for a more accurate understanding of the impact of new technologies on purchase intentions and reduces recall bias and bias. For this study, it may consider using longitudinal research designs and other data collection methods to more accurately understand the impact of new technologies on purchase intentions and long-term changes in user behavior. This will help companies better understand market dynamics and user needs and develop more effective marketing strategies. Additionally, other data collection methods, such as online logging or real-time surveys, could be considered to gain a more accurate understanding of subjects' purchasing behavior and

intentions under the influence of new technologies. These methods can provide more detailed and real-time data, resulting in a more accurate understanding of market dynamics and user behavior.

Due to the increasing prosperity of China's apparel market, research on it is quite meaningful. Future research must segment the market. When segmenting the Chinese apparel market, many factors need to be considered, such as demographic factors, geographical location, cultural factors, economic factors, etc. After market segmentation, the demand characteristics, competitive landscape and development trends of different sub-markets can be further analyzed to better formulate marketing strategies and product development plans. This helps companies better understand market demand and competition to better formulate marketing strategies and product development plans.

Customer purchase intention is a complex process, which is affected by many factors. In addition to the merchant's electronic service quality and customers' psychological factors, it is also affected by product characteristics, marketing activities, social factors, personal factors, trust and security, price and promotions, shopping experience, word-of-mouth and evaluation, and situational factors. Therefore, these factors need to be comprehensively considered in the next step of research to more accurately understand the determinants of purchase intention.

In terms of research methods, for a comprehensive understanding of consumer behavior, it's advisable to integrate both quantitative and qualitative research methods. Quantitative analysis can provide macro data support and statistical analysis, while qualitative design can make up for its shortcomings and dig deeper into the intrinsic mechanisms and details of consumer behavior. Such a comprehensive approach will help to more accurately understand consumer needs and market trends, and provide enterprises with more targeted market strategies and product development suggestions.

Conclusion

This study focuses on China's online apparel retail environment, thoroughly exploring how website design, reliability, and personalization factors indirectly influence customer satisfaction by enhancing overall service quality, which in turn affects purchase intention. At the same time, the study directly considers the psychological aspects of customers, attitudes and perceived behavioral control and their direct impact on purchase intention. Excitingly, all eight proposed hypotheses were empirically supported, clearly

revealing the key roles of these factors in promoting purchasing decisions. In summary, high-quality website design, reliable service commitments, and personalized shopping experiences together create a favorable shopping environment, enhancing customer satisfaction and thus stimulating purchase intentions. Moreover, customers' positive attitudes and their perceived control over their shopping behavior directly drive purchasing actions.

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