



**STUDY ON THE IMPACT OF BRAND IMAGE ON CONSUMERS'  
PURCHASE INTENTION: CASE STUDY OF PINDUODUO**

**PANG KAITONG  
6417195416**

**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE MASTER'S DEGREE OF BUSINESS  
ADMINISTRATION GRADUATE SCHOOL OF BUSINESS  
SIAM UNIVERSITY**

**2023**



**STUDY ON THE IMPACT OF BRAND IMAGE ON CONSUMERS'  
PURCHASE INTENTION: CASE STUDY OF PINDUODUO**

**PANG KAITONG**

This Independent Study has been Approved as a Partial Fulfillment of the Requirement of International Master of Business Administration in International Business Management

Advisor:.....

(Dr. Zhang Li)

Date: .....3...../.....10...../.....2023.....

.....  
(Associate Professor Dr. Jomphong Mongkhonvanit)  
Graduate School of Business Administration

Date.....17...../.....10...../.....2023.....

Siam University, Bangkok, Thailand

**Title:** Study on the impact of brand image on consumers' purchase intention:  
case study of pinduoduo

**By:** PANG KAITONG

**Degree:** Master of Business Administration

**Major:** International Business Management

**Advisor:** .....

(Dr. Zhang Li)

..... 2023 / 10 / 3 .....

### ABSTRACT

With the uninterrupted development of the Internet in a few short decades, online shopping has become an indispensable part of people's daily life nowadays. With the e-commerce field of entry barriers to reduce many companies have joined in, the increase in e-commerce brands at the same time the market competition has become increasingly fierce. E-commerce enterprises began to appear brand homogenization, brand image fuzzy and other issues, there are online shopping needs of consumers in the face of numerous e-commerce brands, how to judge and choose began to become more and more difficult. In this paper, the impact of brand image on consumers' purchase intention is studied, and the e-commerce brand Pinduoduo Company is taken as the research case of this paper, based on Theory of Planned Behavior, and quantitative research methods are used to help e-commerce enterprises solve the problems that arise.

The purpose of this research paper is the following four points:1)To study the influence of brand image, corporate image, product image, user image and perceived risk in brand image,2)To study the effect between perceived risk and purchase intention,3)To study the influence between brand image and purchase intention,4)To study the mediating relationship between perceived risk, brand image and purchase intention. The object of this study is China's e-commerce consumer group, through quantitative research method based on Theory of Planned Behavior and Biel Model combination, the brand image is divided into three aspects: "corporate image, product/service image and user image", and added perceived risk as a mediator variable of the study for the questionnaire questionnaire design, through the Internet distribution A total of 408 valid samples were collected for data analysis.

The research in this paper found that:1)Brand image, corporate image, product image and user image have a significant negative effect on perceived risk,2)Perceived risk has a negative and significant effect on purchase intention,3) Brand image and corporate image, product/service image, and user image have a positive and significant effect on purchase intention,4)Perceived risk can mediate between brand image and purchase intention. In summary, the e-commerce brand Pinduoduo can reduce the perceived risk of consumers by creating a positive brand image, which greatly improves the consumers' willingness to buy the brand and enhances the market competitiveness of the enterprise when consumers generate shopping demand.

**Keywords:** e-commerce, brand image, perceived risk, purchase intention

**题目：** 品牌形象对消费者购买意愿影响研究——以拼多多公司为例

**作者姓名：** 逢凯童

**学位名称：** 工商管理硕士

**专业名称：** 国际商务管理

**指导教师：** .....

(Dr. Zhang Li)

...../...../.....

### 摘要

随着互联网的不断发展,短短几十年的时间电子商务就改变了人们传统的购物消费模式,当下网络购物已经成为人们日常生活中不可或缺的一部分。随着电子商务领域的进入障碍减小许多企业纷纷加入进来,电商品牌增多的同时市场竞争变得越来越激烈。电商企业开始出现品牌同质化、品牌形象模糊等问题,有网络购物需求的消费者在面对众多电商品牌时,如何判断和选择开始变得越来越困难。本文以品牌形象对消费者购买意愿影响进行研究,将电商品牌拼多多公司作为本文研究案例,采用定量研究方法,基于计划行为理论帮助电子商务企业解决出现的问题。

本文研究目的为以下四点: 1) 研究品牌形象及品牌形象中企业形象、产品/服务形象、使用者形象与感知风险之间的影响, 2) 研究感知风险与购买意愿之间的影响, 3) 研究品牌形象与购买意愿之间的影响, 4) 研究感知风险在品牌形象与购买意向之间的中介作用。本研究对象为中国电子商务消费群体,通过定量研究方法基于计划行为理论与贝尔模型相结合,将品牌形象分为三个方面:“企业形象、产品/服务形象和用户形象”,并增加了感知风险作为研究的中介变量进行问卷的题项设计,通过互联网发放调查问卷的形式,共回收有效样本 408 份进行数据分析。

本文研究发现: 1) 品牌形象及品牌形象中企业形象、产品/服务形象、使用者形象均对感知风险呈负向显著影响, 2) 感知风险对购买意愿呈负向显著影响, 3) 品牌形象及品牌形象中企业形象、产品/服务形象、使用者形象对购买意愿呈正向显著影响, 4) 感知风险在品牌形象与购买意向之间能够产生中介作用。综上所述电商品牌拼多多可以通过打造积极正向的品牌形象,降低消费者的感知风险,在消费者产生购物需求时大大提高了消费者对于该品牌的购买意愿,增强企业的市场竞争力。

**关键词：** 电子商务 品牌形象 感知风险 购买意愿

## ACKNOWLEDGEMENT

I would like to express my deepest gratitude to my advisor, for his invaluable guidance, support, and encouragement throughout my independent study. His insightful comments and constructive criticism have significantly improved the quality of my work.

Additionally, I am grateful to Associate Professor Dr. Jomphong Mongkhonvanit, Dean, Graduate School of Business, for his support and encouragement throughout my studies. His dedication to the graduate program and commitment to excellence have inspired me to strive for academic excellence.

Finally, I would like to extend my appreciation to all the faculty members and staff of the Siam University who have contributed to my growth and development as a student. Their unwavering support and encouragement have been a source of inspiration and motivation to me.



## Declaration

*I, PANG KAITONG, hereby certify that the work embodied in this independent study entitled “Study on the impact of brand image on consumers’ purchase intention: case study of pinduoduo” is result of original research and has not been submitted for a higher degree to any other university or institution.*

*Pang Kai tong*  
August 28, 2023



# CONTENTS

ABSTRACT.....	I
ACKNOWLEDGEMENT .....	III
Declaration.....	IV
TABLE CONTENTS .....	VIII
FIGURE CONTENTS .....	X
Chapter 1 Introduction .....	1
1.1 Background of the Study .....	1
1.2 Problems of the Study .....	2
1.3 Objectives of the Study .....	3
1.4 Significant of the Study .....	3
1.5 Limitation of the Study .....	4
Chapter 2 Literatures Review .....	6
2.1 Literature Reviews .....	6
2.1.1 E-Commerce .....	6
2.1.2 Brand Image.....	6
2.1.3 Perceived risk.....	9
2.1.4 Purchase intention.....	10
2.2 Theory of Reviews .....	10
2.2.1 Theory of the relationship between brand image and purchase intention .....	10
2.2.2 Theory of the relationship between perceived risk and purchase intention .....	11
2.2.3 A theory of the relationship between brand image and perceived risk .	12
2.3 Research Relevant.....	13
2.4 Conceptual Framework.....	14
2.5 Terms and Definition Used in This Study.....	14

2.5.1 Corporate image.....	14
2.5.2 Product/Service Image .....	14
2.5.3 User image .....	15
Chapter 3 Research Methodology.....	16
3.1 Research Design.....	16
3.1.1 Question Composition and Measurement of Brand Image.....	16
3.1.2 Perceived Risk Problem Composition and Measurement.....	17
3.1.3 Components and Measurement of the Willingness to Buy Problem ....	18
3.2 Hypothesis.....	18
3.3 Population and Sampling .....	20
3.4 Sample Size.....	20
3.5 Data Collection .....	20
3.6 Reliability and validity analysis of the scale.....	21
3.6.1 reliability analysis .....	21
3.6.2 validity analysis .....	22
Chapter 4 Result of the Study .....	26
4.1 Descriptive stats .....	26
4.1.1 Basic information of the samples.....	26
4.2 Description of statistical variables .....	30
4.2.1 relevance analysis .....	30
4.2.2 regression analysis .....	31
4.2.2.1 Regression Analysis of Brand Image on Consumer Purchase Intention .....	32
4.2.2.2 Regression analysis of brand image on perceived risk .....	33
4.2.2.3 Regression Analysis of Perceived Risk on Consumer Purchase Intention .....	34
4.2.3 Analysis of intermediation effects.....	35



4.2.4 Hypothesis validation results .....	37
Chapter 5 Conclusion and Recommendation.....	40
5.1 Conclusion .....	40
5.2 Recommendation .....	43
Reference .....	44
APPENDIX A .....	50



## TABLE CONTENTS

Table 3. 1 Problematic components of brand image.....	16
Table 3. 2 Components of the problem of perceived risk.....	17
Table 3. 3 Components of the willingness-to-buy problem.....	18
Table 3. 4 reliability testing .....	21
Table 3. 5 Brand Image KMO Test and Bartlett's Spherical Test .....	22
Table 3. 6 Results of Exploratory Factor Analysis of the Brand Image Scale.....	23
Table 3. 7 Perceived Risk KMO Test and Bartlett's Sphericity Test.....	24
Table 3. 8 Perceived Risk Scale Exploratory Factor Analysis Results .....	24
Table 3. 9 Willingness-to-buy KMO test and Bartlett's test of sphericity .....	25
Table 3. 10 Results of Exploratory Factor Analysis of the Willingness to Buy Scale .....	25
Table 4. 1 Gender distribution .....	27
Table 4. 2 Age distribution.....	27
Table 4. 3 Education level distribution .....	27
Table 4. 4 Occupational distribution.....	28
Table 4. 5 Monthly income distribution.....	28
Table 4. 6 Distribution of time spent on online shopping.....	28
Table 4. 7 Frequency distribution of online shopping .....	29
Table 4. 8 Monthly online shopping consumption distribution .....	29
Table 4. 9 Distribution of e-commerce browsing time per week.....	30
Table 4. 10 relevance analysis .....	31
Table 4. 11 Results of Linear Regression Analysis of Brand Image on Consumer Purchase Intention.....	32
Table 4. 12 Results of linear regression analysis of brand image on perceived risk .....	33
Table 4. 13 Results of Linear Regression Analysis of Perceived Risk on Consumer	

Purchase Intention.....	34
Table 4. 14 Results of the analysis of the mediating effect of brand image and perceived risk.....	36
Table 4. 15 Results of the analysis of the mediation effect of the independent variable brand image dependent variable purchase intention and the mediator variable perceived risk.....	36
Table 4. 16 Results of the mediation effects analysis.....	37
Table 4. 17 Hypothesis validation results.....	37



## FIGURE CONTENTS

Figure 2. 1 Biel brand image model.....	7
Figure 2. 2 Aaker Brand Equity Model.....	8
Figure 2. 3 Keller Brand Image Model.....	8
Figure 2. 4 Theory of Planned Behavior (TPB) .....	13
Figure 2. 5 conceptual framework .....	14
Figure 4. 1 Intermediary Variable .....	36



# Chapter 1 Introduction

## 1.1 Background of the Study

With the application and development of the Internet, the fundamental changes brought about by networking have been incorporated into the operation of traditional industry markets, on which e-commerce has begun to flourish. The Internet came to China in 1994, and from 1996 to 2000, in the beginning stage of China's e-commerce, a handful of innovators thought that traditional business models could be combined with the Internet to bring huge business opportunities and profits, and China's first e-commerce enterprise was born (Hongfei, 2017). With China's urbanization, rising incomes and liberalization from 1990 to 2000, building on these foundations and the rapid spread of cell phones and the Internet in China, China became the pioneer of the first wave of e-commerce proliferation (Reardon et al., 2021). E-commerce opens up new horizons for business development, which is why e-commerce systems are necessary for the formation, growth and development of national economies. Worldwide, e-commerce turnover is growing at a relatively high rate every year, as the electronic environment offers great opportunities to promote products. Currently, the industry's leadership position is held by China (Rathnayake, 2021).

According to the 50th Statistical Report on Internet Development in China released by CNNIC, China Internet Network Information Center, in Beijing, the report pointed out that as of June 2022, China's netizens were 1.051 billion, with 19.19 million new netizens than that of December 2021, and the Internet penetration rate reached 74.4%, which was 1.4 percentage points higher than that of December 2021. The report on the scale of online shopping users shows that as of June 2022, the proportion of online consumption in consumption has continued to rise, with the scale of Chinese online shopping users reaching 841 million, accounting for 80% of the overall number of Internet users. In the first half of 2021, China's online consumption in terms of categories and channels showed new development characteristics, firstly, the online consumption of necessities, such as video, was outstanding, and secondly, the diversified characteristics of the online consumption channels were obvious. Online consumption has become an important support for driving consumption in China's post epidemic era (Cnnic, 2022). By analyzing the above data, it can be seen that China's online shopping has not only developed early, the online shopping audience base is large, and the development of e-commerce platforms is at the forefront of the world, online shopping has become a part of the Chinese people's daily life.

China's e-commerce sector has long been led by a few e-commerce giants such as Taobao, Tmall and Jingdong. High customer cost has become the biggest bottleneck in the development of traditional e-commerce, and various e-commerce platforms are

looking for a breakthrough. With the continuous development of social media and e-commerce, a new phenomenon "social e-commerce" has emerged, which is the development of the combination of social media and e-commerce, with the increasing number of social media users in recent years(Kaplan & Haenlein, 2010) More and more companies are starting to develop social e-commerce strategies (Zhao et al., 2019).

In this context Pinduoduo company was created in 2015, in the fierce competition with e-commerce giants, Pinduoduo was founded only three years ago, the rapid rise and listing, which is a miracle in the history of e-commerce development. Pinduoduo has noticed the downgrading of consumption in Chinese e-commerce. By categorizing consumer groups, Pinduoduo's ultimate target customers were targeted at the low-wage group and those who care about value for money (Kuang, 2022).中 China's third, fourth and fifth-tier cities, towns and rural areas of mobile Internet users accounted for 52.9% of the total number of mobile Internet users, which is a huge user group, previously ignored by the mainstream Internet market, Pinduoduo's operational strategy is to expand the horizons or focus on the third, fourth and following line of the townships and townships, to quickly occupy the height of the market of the sinking users, and to become the third largest e-commerce platform after Jingdong Alibaba(Zhao et al., 2019).

## **1.2 Problems of the Study**

With the continuous development of e-commerce, for many companies to carry out online shopping business began to become less difficult, now China in addition to the early creation of the e-commerce brand Taobao, Tmall, Jingdong, Dangdang, etc., in recent years, one after another, such as Pinduoduo, Meituan, Douyin, Kuaishou and other emerging e-commerce platforms. With the proliferation of major e-commerce platforms, the e-commerce market is becoming more and more competitive. However, due to the serious homogenization of online shopping platforms, it is difficult for users with special purchasing needs to identify suitable e-commerce platforms(Wang, 2021).Dowling and Staelin (1994)defines risk as the consumer's perception of uncertainty and adverse consequences of engaging in an activity. Consumers perceive increased risk in unscreened situations and subjective perceptions of the likelihood and severity of wrong purchases(Sinha & Batra, 1999) It may lead to a decrease in willingness to buy. Consumers' willingness to buy in this case is more likely to choose to buy products from well-known brands with a positive image, as a brand with a positive image has the effect of reducing the perceived risk to consumers(Akaah, 1988). Although the major e-commerce brands have been taking different forms of adjustment, but with the local e-commerce brand expansion gradually slowed down, the market development is gradually becoming saturated, for how to attract consumers and the subsequent retention of users, has always become a major e-commerce enterprises

troubled by the problem.

### **1.3 Objectives of the Study**

This paper takes Pinduoduo as a case study to expand the academic theory of brand image on consumers' purchase intention by studying the influence and relationship between brand image, perceived risk and consumers' purchase intention. Previously, the academic knowledge related to brand image and purchase intention was mainly focused on the exploration in the traditional business model, and there were fewer academic papers on related research in the field of e-commerce. brand Pinduoduo as a case study is also to make up for the gaps and deficiencies of brand image on consumer purchase intention in the field of e-commerce, through data analysis and research this paper puts forward the following objectives of the study, trying to solve and provide answers to the above research questions.

1. To determine the influence of brand image, corporate image, product image, user image and perceived risk in brand image.
2. To determine the effect between perceived risk and purchase intention.
3. To determine the influence between brand image and purchase intention.
4. To determine the mediating relationship between perceived risk, brand image and purchase intention.

### **1.4 Significant of the Study**

This paper takes Pinduoduo Company as an example to explore the impact of brand image on consumers' purchase intention.

From the perspective of the theoretical significance of the study, at present, there are relatively few studies on the relationship between brand image and consumers' willingness to buy, and most of the existing literature from the direction of brand equity, brand loyalty, brand equity and purchase intention, etc., and consumers' willingness to buy, and fewer studies between brand image and consumers' willingness to buy E-commerce platforms as an example are almost none. Based on the e-commerce platform Pinduoduo, this paper makes a theoretical contribution to the research on the influence of brand image on consumers' purchase intention.

Putri and Tiarawati (2021) A Through the study, it was found that brand image has a positive and significant impact on online purchase intention. Based on the previous literature, this paper fills in the limitations of theoretical research on brand image on consumer purchase intention in terms of e-commerce platforms from the theoretical level.

It fills the gap of research related to brand image on consumers' purchase intention

with the case of e-commerce shopping platform Pinduoduo, and at the same time provides a new empirical basis for the research related to brand image on consumers' purchase intention, and provides ideas and directions for the development of research and theoretical innovation in this field.

At the level of the practical significance of the study, Due to the popularity and rapid expansion of the Internet and technology, the pace of technological transformation is starting to become exponential. Modern e-commerce is producing important changes in the economic environment, affecting all areas of the industrial sector, and from a service perspective, e-commerce is a way to reduce the cost of services while increasing the efficiency and speed of delivery of products, meeting the desires of the industry, its customers, and its management (Jain et al., 2021).

This paper takes Pinduoduo, a well-known Chinese e-commerce platform, as an example, from the perspective of the influence of brand image on consumers' purchase intention, to explore how Pinduoduo, behind its successful operation in a short period of time, enhances consumers' trust in the brand through brand image shaping and management, thus promoting consumers' purchase intention. At the level of practical significance, the research in this paper provides reference and suggestions for the enterprise Pinduoduo, and at the same time, as one of the representative Chinese e-commerce platforms, the results of this paper will also provide enlightenment and reference significance for other e-commerce platforms of the same kind, and promote a better and benign development of this field in the future.

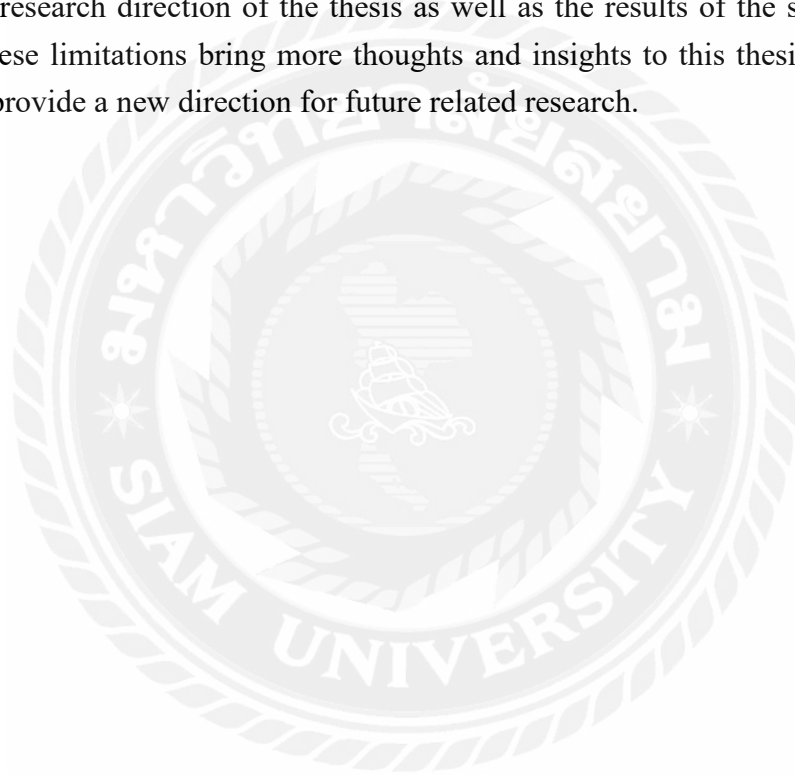
## **1.5 Limitation of the Study**

At present, China's major e-commerce platforms emerge in an endless stream of fierce competition, but with the gradual fading of the demographic dividend, many problems began to emerge. This paper takes Pinduoduo Company as an example to explore the influence of brand image on consumers' purchase intention, which brings reference for Pinduoduo Company in improving brand image to promote consumers' purchase intention. At the same time, this study also has certain limitations, for example, this paper is conducted in a quantitative research method, in terms of data collection using simple random sampling method, through the Internet as a medium form of self-administered electronic questionnaires issued and recovered, although this ensures that the rigor of the survey, but the respondents may also be subject to the influence of subjective factors, which leads to a certain degree of error in the results. Secondly, in terms of research cases, the sample capacity chosen in this paper is small, involving only one company, Pinduoduo, and equally representative e-commerce companies such as Tmall, Taobao, Jingdong, etc., are not covered, so the research conclusions may not have the universality to reflect the entire Chinese e-commerce market.



In addition, at present, there are not many studies on consumer purchase intention with brand image, and there are fewer literatures, books and other related materials exploring the relationship between the two, and there are even more limited related studies with Poundland Company, so there may be some limitations in literature search and theoretical support. In the design of independent variables in this paper, only brand image and perceived risk are selected as independent variables to be studied, but there may be other variables affecting consumers' purchase intention, such as brand attitudes, brand attachment, and environmental factors (Shah et al., 2012), is not covered in the scope of this paper, which is one of the limitations of the research that exists in this paper.

In summary, although there are some limitations in this study, they do not affect the overall research direction of the thesis as well as the results of the study; on the contrary, these limitations bring more thoughts and insights to this thesis, and at the same time provide a new direction for future related research.



## **Chapter 2 Literatures Review**

### **2.1 Literature Reviews**

#### **2. 1. 1 E-Commerce**

E-commerce refers to the transaction of goods and services through electronic media. The practice of sharing documents through corporate electronic networks was established globally in 1979. The use of e-commerce continued to grow during the 1980s and did not begin to flourish until the 1990s with the rise of online marketplaces eBay and Amazon(Taher, 2021).BB2B, B2C, C2C and similar opportunities help consumer preferences and consumer markets to develop e-infrastructures to meet the challenges of the future. E-commerce has revolutionized business and changed the shape of competition with the Internet, and computer communication networks have created an e-commerce marketplace for consumers and businesses(Gupta, 2014).

Today, e-commerce is considered extraordinary because of its powerful concepts and processes that have profoundly changed life nowadays. For many people, business e-commerce has become the first thing to consider(Aymen et al., 2019; Nanehkaran, 2013).

#### **2. 1. 2 Brand Image**

Brand strategy master Keller based on the customer's brand equity proposed from the perspective of consumer psychology to analyze the brand equity can win competitive advantage for enterprises to obtain more profits a key factor is that the brand has a value for the customer. Customers through their own understanding of the brand cognition produces a unique and strong different from other material associations, consumer brand cognition has an important impact on brand associations, and this association will greatly affect the brand equity. Brand association is a combination of information nodes and brand nodes, through which a new memory can be formed and presented in the minds of consumers, brand association is reflected in the brand's inner feelings given to consumers, whether it can evoke the memories of the experiences consumers have had and the display of brand personality.(Keller, 1993).

Biel (1992) interpreted brand equity from an accounting point of view, brand equity is a kind of additional cash flow realized through brand association of potential products or potential services. Brands can stimulate human emotions and associations, some associations can make people happy, some associations can make people full of confidence, some associations can give consumers a sense of security, and correspondingly when consumers are bored, confused or tired of brand associations, the degree of consumer love for the brand will be reduced. Yoo and Donthu (2001) argued that brand image affects a company's profitability because a high brand image of a

product or service motivates customers to buy the product or service even at a higher price. Brand image may contribute to a company's success when customers are willing to pay a higher price for a product or service(Kazmi & Mehmood, 2016).

### Brand Image Related Research Model

#### Biel brand image model

According to Biel, brand image is expressed through three types of images: the image of the company, the image of the user and the image of the product/service itself. Brand image mainly originates from consumers' associations with brand-related characteristics, which can be categorized into "hard" and "soft" attributes. The hard attributes are the cognition of the brand's tangible or functional attributes, while the soft attributes reflect the brand's emotional benefits. For all three types of images, there are hard and soft attributes(Biel, 1992). Consumers organize all kinds of information about the company and the experience of using the company's products into the company's image, which is an important part of the brand image. The product/service image is a brand characteristic corresponding to the function of the product/service itself or the characteristics of the benefits it brings, and in addition, the characteristics of the product's place of origin, its packaging, as well as the needs it can satisfy, all constitute the image of the product/service. User image refers to the demographic characteristics of the brand's users, which are "hard" characteristics. It also includes soft characteristics such as personality, values and life style of the user.

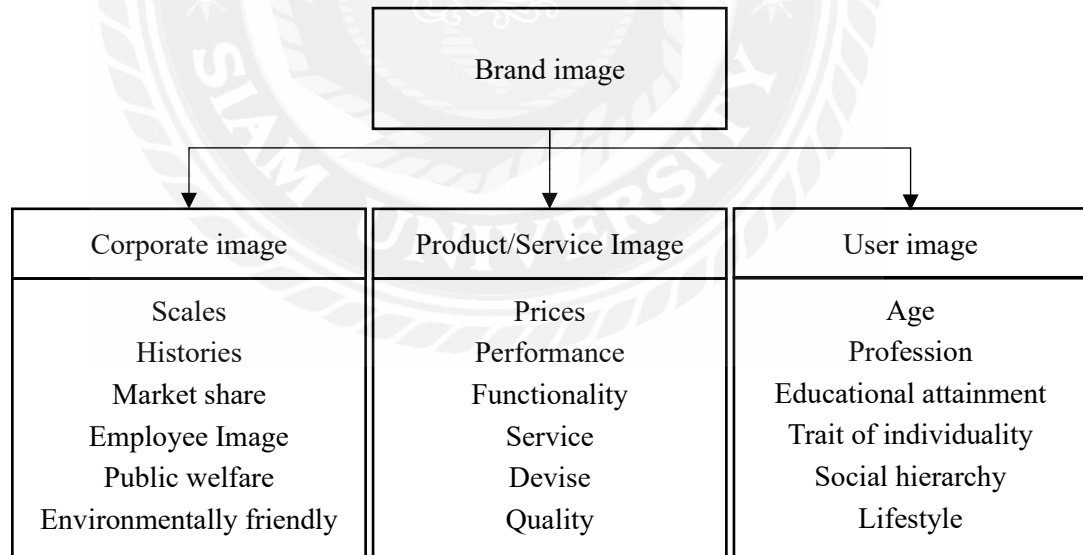


Figure 2. 1 Biel brand image model

#### Aaker Brand Equity Model

In 1991, Aaker proposed a "five-star" conceptual model of brand equity on the basis of a synthesis of previous researchers, i.e., brand equity is considered to be composed of five parts: Brand Loyalty, Brand Awareness, Perceived Quality, Brand Associations and Other proprietary assets(Aaker, 2012).

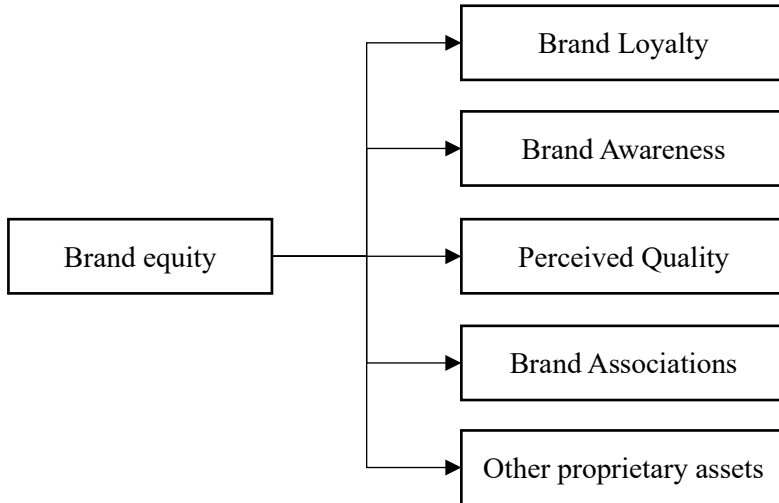


Figure 2. 2 Aaker Brand Equity Model

Keller Brand Image Model

From the perspective of brand equity, Keller proposes that brand knowledge covers both brand awareness and brand association, and suggests that brand association is composed of three dimensions: attributes, benefits and attitudes(Keller, 1993). Among them, attributes can be distinguished into non-product-related attribute associations and product-related attribute associations. Product-related associations include product elements that consumers seek and are necessary to achieve the function of the service/product; attributes not related to the product include packaging, price, and so on. Benefit associations refer to the values and connotations that consumers place on products/services, i.e., functional, symbolic, experiential, and three types of benefits. Attitudinal associations refer to the overall evaluation of the brand by consumers.

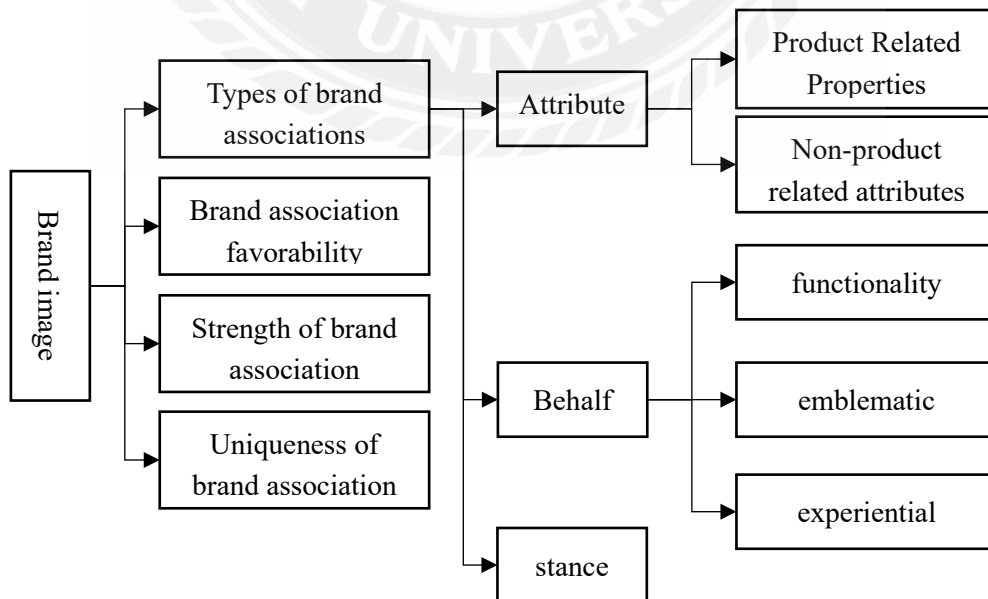


Figure 2. 3 Keller Brand Image Model

In summary, this paper takes the well-known brand Pinduoduo as an example to study the influence of brand image on purchase intention, according to the summarization of different scholars' research on brand image, adopts the brand image model proposed by Biel as the construction basis of brand image in this paper's research model, and adopts the three dimensions proposed in Biel brand image model: Corporate image, product/service image, and consumer image to more accurately explore the relationship and influence between brand image and consumer purchase intention.

### **2.1.3 Perceived risk**

The concept of risk began to gain popularity in economics in the 1920s (Knight, 1921). Since then, it has been successfully applied to decision theory in economics, finance and decision science. Bauer (1960) introduced the concept of "perceived risk" in the marketing literature. Subsequent Kogan and Wallach (1958) wrote about their primary research: risk tolerance. Early work in marketing included a book on risk-taking and information processing in consumer behavior (Cox, 1967b). Perceived risk has been used as an explanatory variable in empirical studies of consumer behavior in recent years (Rao & Farley, 1987; Srinivasan & Ratchford, 1991).

Consumer researchers most often use the concept of perceived risk to define risk, the consumer's perception of uncertainty and adverse consequences of purchasing a product (or service). In this way, consumer researchers implicitly assume that the probability and outcome of each purchase event is uncertain (Dowling, 1986; Gemünden, 1985).

The first describes some of the factors that can influence consumers' perceived risk. The second divides this risk into two components, one capturing the perceived risk of people buying "general products" in a product category, and the other reflecting the perceived risk of the particular alternative product being considered. Part III specifies how these two components of perceived risk may differentially influence consumers' information-seeking behavior.

Mitchell (1999) suggest that marketing practitioners and researchers will continue to be interested? Firstly, perceived risk theory has intuitive appeal and plays a role in facilitating marketers to see the world through the eyes of their customers. Second, it can be applied almost universally, and its generality has been demonstrated in a wide range of applications Perceived risk is believed to be more persuasive in explaining consumer behavior because consumers are more inclined to avoid mistakes than to maximize utility when making a purchase. The inability to physically inspect products while shopping online increases the perceived risk associated with online shopping because consumers cannot touch, feel, or try on products before making a purchase.

To sum up, by summarizing the theories and researches proposed by different

scholars in the field of perceived risk, it can be seen that perceived risk is from the perspective of consumers, and uncertain products and brands will greatly increase the perceived risk of consumption and reduce consumers' purchase intention. High or low perceived risk affects consumers' willingness to buy products and purchase decisions. In this paper, we take the famous brand Pinduoduo as an example to study the influence of brand image on purchase intention, and add perceived risk as a mediating variable between brand image and purchase intention to explore whether it will have an effect.

#### **2.1.4 Purchase intention**

According to Fishbein and Ajzen (1975) willingness is a specific way of determining behavior; whereas willingness to buy is the subjective likelihood that a consumer will make a purchase of a particular good, and this subjective likelihood is an important indicator used to assess consumer behavior. Willingness to buy is a consumer behavior that shows as an object response to someone's desire to purchase (Yunus & Rashid, 2016). Mullet and Karson (1985) argued that consumer purchase intention consists of consumer attitudes towards a product or brand as well as certain extrinsic factors.

Bernarto and Purwanto (2022) consider purchase intention as a self-instruction to buy a particular brand or take a purchase action. In product analysis, people use their own knowledge, experience and information from external sources for evaluation. Customers always consider buying low-priced, simply packaged and little-known products as high-risk because of the unreliable quality of these products (Gogoi, 2013). The willingness to buy parameter is the main indicator for evaluating consumer behavior and predicting the behavior of consumer purchasing decisions, because the stronger the willingness to buy, the greater the likelihood of purchase (Jasin, 2022).

In summary, by summarizing and organizing the theories put forward by scholars in the field of purchase intention, purchase intention is an important indicator for consumers in generating consumer behavior, and a good brand may promote consumers' purchase intention and increase the possibility of purchase.

## **2.2 Theory of Reviews**

### **2.2.1 Theory of the relationship between brand image and purchase intention**

Levy and Gardner (1955) first proposed the concept of "brand image" in their study, and they believed that brand image largely influences consumers' purchasing decisions. Since its introduction, the concept of brand image has attracted extensive attention from both academia and industry. Brand image plays an important role in marketing activities. Brand image refers to the general perception and feelings of consumers towards a brand and influences consumer behavior. Regardless of the company's marketing strategy, the

main purpose of its marketing activities is to influence consumers' perceptions and attitudes towards the brand, to establish a brand image in the minds of consumers, and to stimulate consumers' actual purchasing behavior towards the brand, thus increasing sales and maximizing market share(Zhang, 2015).

Bullmore (1984) argues that the formation of brand image is based on the consumer's cognitive or psychological activities of processing engineering, the brand is the consumer's perception and feelings. Aaker and Equity (1991) suggest that brand image is the perception of a brand that exists in the mind of the consumer that can be revealed through brand associations. Reza Jalilvand and Samiei (2012) through their study found that brand image significantly influences purchase intention.

To summarize, in terms of the impact of brand image on consumers' purchase intention, scholars in various fields generally agree that brand image can have an impact on purchase intention, and a good and positive brand image can enhance consumers' purchase intention and prompt them to make purchase actions. Most of the scholars are only elaborating the influence of brand image on purchase intention, and do not explain in detail those aspects of brand image will affect the consumer's purchase intention, this paper takes the e-commerce platform Pinduoduo as a case study, and adopts the Biel Model in terms of brand image to explore the influence of the consumer's purchase intention through the various aspects of brand image.

### **2.2.2 Theory of the relationship between perceived risk and purchase intention**

Perceived risk was originally defined from a psychological point of view, when consumers make a purchase decision, due to the inability to accurately predict the results that will occur, not be able to clearly determine whether they will be able to obtain satisfaction and happiness when they buy the product or service, and not be sure that the purchase will not lead to the unpleasant mood of the consumer(Bauer, 1960).

Lee (2009) found through his research. One of the most important variables in user decision making is risk. When a consumer needs a product or service and there are multiple sellers online, choosing which seller to buy from online is quite a complex process because it involves many behavioral dimensions that must be considered. Consumers' trust expectations have been based on two important factors: product engagement and perceived risk. Product engagement refers to the extent to which consumers consider a particular product important. Thus, higher product involvement may lead to higher trust expectations of the seller. On the other hand, other related studies have found that when consumers perceive higher levels of risk, they also set higher trust expectations. The higher the risk of a consumer's long-term involvement with a given product, the higher the risk he or she may perceive in purchasing the product online. Second, perceived risk is positively related to trust expectations.

Consumers who perceive a high level of risk in online purchases are likely to purchase from highly trustworthy online merchants, thereby reducing potential risk(Hong et al., 2013).

Cox (1967a) argued that perceived risk is the concern and anxiety that consumers perceive when making a purchase decision, and that if the outcome of the purchase does not meet the consumer's internal expectations, then the consumer will feel uncomfortable emotions.

In summary, scholars generally believe that perceived risk affects consumers' willingness to buy, when consumers of a product or brand, can not predict the outcome of the purchase, the perceived risk of increasing consumer willingness to buy becomes less strong, may give up buying or choose to buy their own trusted brands, products to reduce the risk of this paper to pinduoduo as an example of the impact of perceived risk in the field of e-commerce on the willingness of consumers to buy production.

### **2.2.3 A theory of the relationship between brand image and perceived risk**

Mitchell (1999) argues that the analysis of perceived risk also contributes to brand image development, pricing, positioning and segmentation; for example, by emphasizing risk aspects in comparative advertising; repositioning commodity products to give them added value and segmenting consumers according to their use of risk reduction strategies. Product brand image influences consumer perceptions of product attributes(Chattopadhyay & Basu, 1990; Kwon & Lennon, 2009).Beckwith et al. (1978) argued that consumers' evaluation of product attributes is influenced by the impression of brand image therefore, a strong and good brand image can positively influence consumers' impression of product attributes. Consumers frequently use product brand names(Dawar & Parker, 1994; Greatorex & Mitchell, 1994) ) and store name(Teas & Agarwal, 2000) as a substitute for product quality to reduce risk and simplify purchasing decisions, especially when shopping online where many product attributes cannot be directly examined.

The image of the online store may have a similar effect and may also bias consumers' perception of product attributes. Thus, when consumers are unable to view the product directly, their image of the product sold in the online store may influence their evaluation of the product. Given that both product brand image and online store image have the potential to influence consumers' perceptions of a product, improving product brand image and online store image may be critical to enhancing online consumers' purchase intentions.

In summary, from the above literature, we can see that there are many scholars who study brand image, perceived risk, willingness to buy for, the theory is also very rich, based on brand image, perceived risk, willingness to buy these points in the field



of e-commerce research is still less. According to the above literature, this paper takes the e-commerce platform Pinduoduo as a case study, and adds the perceived risk as a mediating variable to explore the impact of brand image on purchase intention.

## 2.3 Research Relevant

In this paper, the Theory of Planned Behavior (TPB) is chosen as the research theory. The Theory of Planned Behavior is developed on the basis of Theory of Rational Behavior (TRA), Fishbein and Ajzen (1977) proposed Theory of Rational Behavior (TRA Theory) in 1975, However, Ajzen believed that it is almost impossible for people to be completely rational in normal times, and that at certain times individuals not only do not act rationally, but also act completely irrationally, and so based on the theory of rational behavior, he proposed the theory of planned behavior in 1988 (Ajzen, 1991).

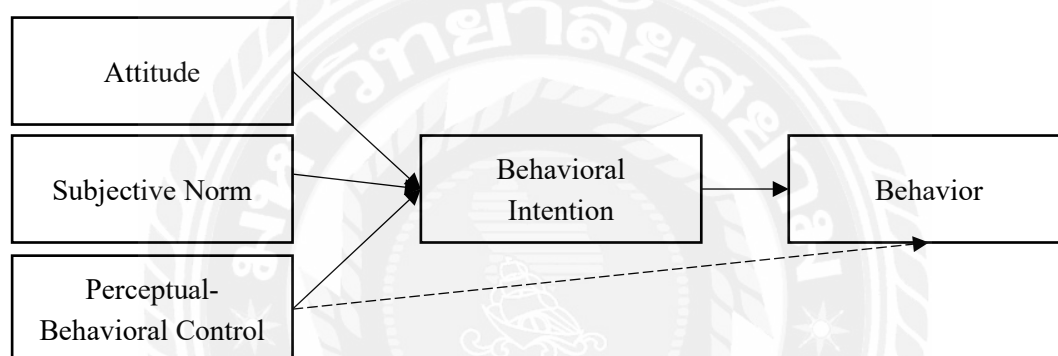


Figure 2. 4 Theory of Planned Behavior (TPB)

According to Table 2.1, in the TPB theoretical model, Ajzen added the factor of perceived behavioral control, and he believed that people must consider behavioral risk when they make consumption, therefore, he used whether the individual's perceived risk is controllable or not as a factor affecting behavioral intention and actual behavior. The TPB divides an individual's intention for a behavior into two sides, one being behavior that is not under the control of the intention at all, and the other being behavior that is under the full control of the intention. In order to predict behavior that is not completely under ideational control, the variable "perceived behavioral control" needs to be added. TPB's theoretical model explains that behavioral intentions are influenced by three factors: behavioral attitudes, subjective norms, and perceived behavioral control; and these three factors are influenced by beliefs (behaviors, norms, and control), respectively, which is an important theory for predicting human social behavior, with a relatively high degree of accuracy in the prediction of human behaviors and intentions, and has been widely used in foreign countries, and is also often applied to the prediction of consumer purchasing behaviors in marketing research.

## 2.4 Conceptual Framework

This paper adopts the theory of planned behavior (TPB) as a research theory to study the influence between brand image on consumer purchase intention, according to the brand image model proposed by Biel(Biel, 1992) to divide brand image into corporate image, product/service image, user image and according to Ajzen in the theory of planned behavior (TPB)(Ajzen, 1991) to add the perceived Behavioral control factor perceived risk as a mediating variable, combined with brand image and purchase intention to draw the theoretical framework of the cost text, figure2.2.

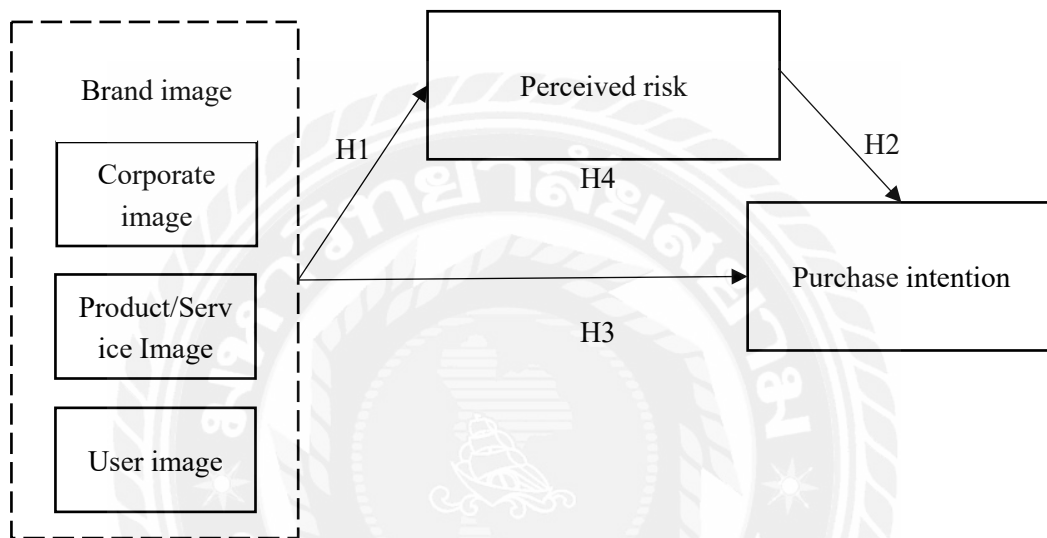


Figure 2. 5 conceptual framework

## 2.5 Terms and Definition Used in This Study

### 2.5.1 Corporate image

The presence of a corporate image can help consumers to recognize differences in the quality of similar companies when making choices that meet their needs(Suhartini & Pertiwi, 2021). Corporate image shapes a positive corporate personality through communication and marketing channels and through constant feedback from the target audience. Corporate identity can help consumers to better understand the products offered by the company and further reduce uncertainty about purchasing the product(Aryawan et al., 2017).

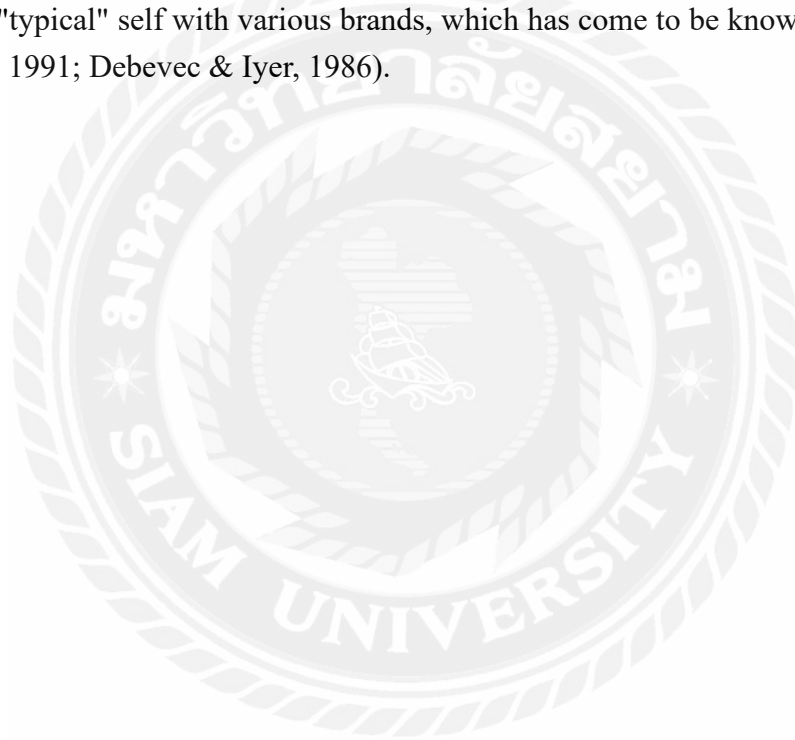
### 2.5.2 Product/Service Image

Pierre (1958) describes store image as a combination of functional qualities and psychological attributes. In general, brand image serves to define the product for the consumer and to differentiate the company's product from competing products. Thus,

for services, we can consider that service brand image includes the attributes, functional consequences and symbolic meanings that consumers associate with a particular service, and that service image is the mental image of the brand that consumers produce in response to the stimuli associated(Padgett & Allen, 1997).

### **2.5.3 User image**

Brand image is formed by consumers through direct experience of the brand, through exposure to advertising and promotions, through packaging, and even through observing the kind of people who use the brand and the occasions and situations in which it is used(Gordon, 1991). As such, it has many inherent characteristics or dimensions, which include brand personality and user image, among others(Restall & Gordon, 1993). In addition to projecting personality onto brands, consumers also associate a "typical" self with various brands, which has come to be known as the user image(Biel, 1991; Debevec & Iyer, 1986).



## Chapter 3 Research Methodology

### 3.1 Research Design

#### 3.1.1 Question Composition and Measurement of Brand Image

Table 3. 1 Problematic components of brand image

variable name		NO.	Title content	Reference sources
Brand image	Corporate image	Q1	The e-commerce platform is large	Aaker (2012) Biel (1992)
		Q2	This e-commerce platform is well known	
		Q3	The e-commerce platform (enterprise) is keen to engage in social welfare undertakings	
		Q4	This e-commerce platform is a leader in its industry	
	Product/Service Image	Q5	This e-commerce platform sells products at affordable prices	Biel (1992)
		Q6	The e-commerce platform sells a wide range of products in a variety of styles	
		Q7	This e-commerce platform sells good quality products	
		Q8	The e-commerce platform shopping program page layout is comfortable and reasonable, easy to understand and fully functional	
	User image	Q9	The majority of consumers on this e-commerce platform are middle- to high-income earners	Biel (1992)
		Q10	The majority of consumers on this e-commerce platform are highly educated	
		Q11	The majority of consumers on this e-commerce platform are young	
		Q12	Consumers on this e-commerce platform are more focused on pursuing quality of life	

Keller (1993) the founder of brand strategy, suggests that brand associations are

related to brand image, Aaker (2012) categorized brand equity into five components: brand awareness, brand recognition, brand association, brand loyalty, and other brand proprietary assets. Biel (1992) suggests that brand image includes the image of the provider of the product or service or the company, the image of the user, and the image of the product or service, and considers these three attributes of brand association as hard and soft attributes. In this paper, according to the brand image model proposed by Biel, the brand image is divided into corporate image, product/service image, and user image, and by combining Biel's brand image maturity scale with Pinduoduo's enterprise, we improve it to get the question items Q1-Q12 in order to be more in line with the actual situation of China's e-commerce market and facilitate the respondents to better understand the content expressed in the questionnaire.

### 3.1.2 Perceived Risk Problem Composition and Measurement

Table 3. 2 Components of the problem of perceived risk

variable name	NO.	Title content	Reference sources
Perceived risk	Q13	Choosing to buy the e-commerce platform's products may not be compatible with one's identity status	Stone and Grønhaug (1993)
	Q14	I spend a lot of time and effort in recognizing the authenticity of products	
	Q15	I am concerned about purchasing counterfeit products from this e-commerce platform, which will affect my health	
	Q16	I am concerned that products purchased on this shopping platform are not as reliable as advertised	
	Q17	I am concerned that products purchased on this platform may be more expensive than others.	

Weiner et al. (1988) , in analyzing the relationship between socio-economic risk and personal influence, classified perceived risk in terms of financial, social, psychological, and physical autonomy. Jacoby and Kaplan (1972) added performance dimensions to their predecessors in their study of overall risk components, It is therefore proposed that perceived risk consists of five dimensions: perceived financial risk, perceived Performance risk, perceived psychological risk, perceived physical risk and perceived social risk. Murray and Schlacter (1990) built on this research and added the time dimension to perceived risk. 而 Stone and Grønhaug (1993) on the other hand,

categorize perceived risk as perceived social risk, perceived time cost risk, perceived bodily risk, perceived functional risk, and perceived financial risk. This paper adopts the well-established theory proposed by Stone on perceived risk and combines it with the actual situation of the Pinduoduo enterprise without changing the original intention to map out the Q13-Q15 perceived risk dimension question items.

### 3.1.3 Components and Measurement of the Willingness to Buy Problem

Table 3. 3 Components of the willingness-to-buy problem

variable name	NO.	Title content	Reference sources
Purchase intention	Q18	This e-commerce platform is the first one I would choose when I have a need to purchase	Dodds et al. (1991)
	Q19	I would recommend this e-commerce platform to others	
	Q20	I will continue to buy products from this platform in the future	
	Q21	Even if the same product is slightly more expensive on this e-commerce platform, I would still choose to buy it from this e-commerce platform	

Purchase intention is the basis of purchase behavior. Therefore, the study of consumers' willingness to buy can provide a good basis for improving the occurrence of consumers' actual buying behavior. This paper will be based on the maturation scale proposed by Dodds et al. (1991) In conjunction with the study by Pananond and Zeithaml (1998), On this basis, the questions Q18-Q21 were improved and prepared to better suit the distribution and investigation of this questionnaire.

## 3.2 Hypothesis

Aghekyan-Simonian et al. (2012) by conducting a study on online retailers selling apparel, concluded that a strong brand image product is the most valuable asset for online retailers selling apparel by searching for a strategy to reduce the perceived risk in the online environment. Brand image does influence consumers' willingness to purchase fashion products online, both directly and indirectly, by reducing various risk perceptions. This paper puts forward the following hypotheses in accordance with the three dimensions of enterprise, product/service and user image proposed in Bell's brand image model, on the basis of the theory of planned behavior and according to the research results of the above scholars:

H1: Brand image has a negative effect on perceived risk

H1a: Corporate image in brand image is hypothesized to have a negative effect on perceived risk

H1b: The image of products/services in brand image is hypothesized to have a negative effect on perceived risk

H1c: The user image in brand image is hypothesized to have a negative effect on perceived risk

Nok et al. (2017) hypothesized that consumers are motivated to make purchase decisions in order to achieve certain purchase goals, and that the presence of risk factors makes it impossible for consumers to predict whether or not a product they intend to purchase will achieve the desired purchase goal. Hunf et al. (2016) conceptualized the notion of perceived risk as the perceived risk that occurs when consumers achieve consumption behaviors that do not satisfy their consumption goals.

Tajeddini and Nikdavoodi (2014) pointed out the impact of perceived risk on consumer buying behavior and decision making. The greater the perceived risk to the consumer, the lower the likelihood of purchase; consumers can reduce risk by gathering information prior to purchase (Chen et al., 2016). This paper is based on the Theory of Planned Behavior and the following hypotheses based on the above scholars' studies:

H2: Perceived risk has a negative effect on purchase intention

As branding has become an important asset for sustainable business growth, a brand can retain customers and entice them to spend multiple times. Hung (2018) when consumers show favorable impressions and attitudes towards certain products or brands, they may form a willingness to buy. Consumers consider brands at the beginning of shopping and there is a close relationship between consumers and brands. A brand with a high image value attracts consumers. The higher the brand image, the higher the consumer's evaluation of the product, which in turn induces the consumer's willingness to buy and motivation to repurchase. Liu et al. (2016) argued that good brand image plays a very important role in consumers' online shopping process, and brand image can have a significant impact on both the buying process and consumers' purchasing behavior. Based on the above scholars' research, this paper proposes the following hypotheses on the basis of the theory of planned behavior and the three dimensions proposed in Biel's brand image model:

H3: brand image has a positive effect on purchase intention

H3a: Corporate image in brand image has a positive effect on purchase intention

H3b: Product/service image in brand image has a positive effect on purchase intention

H3c: User image in brand image has a positive effect on purchase intention

Line et al. (2016) argued that consumers will reduce the risk of purchasing through

brand image because higher brand image can help consumers to choose goods and avoid risks that may arise after purchase. Ajzen, the founder of Theory of Planned Behavior, argued that people must consider behavioral risks when making purchases, adding an element of perceived behavioral control to the theory, In this paper, based on the Theory of Planned Behavior according to the above scholars' research using perceived risk as a mediating variable, the following hypotheses are proposed:

H4: Perceived risk can be used as a mediating variable to mediate the effect between brand image and purchase intention

### **3.3 Population and Sampling**

To summarize, China's online shopping group is huge and Pinduoduo as one of the representative e-commerce platforms in China, this paper chooses Pinduoduo platform as a case study to explore the impact of brand image on consumers' willingness to buy, and in the overall selection of the questionnaire research is only for the Chinese residents' group does not involve other regions other than China.

Kelley et al. (2003) argue that when quantitative methods are used to collect information (e.g. questionnaires), random sampling methods should be used, and that the results of random sampling can be generalized to larger populations and statistical analyses, with the most rigorous method being simple sampling, if appropriate. In terms of sampling method this paper uses quantitative research, so it chooses to use the same simple random sampling method as used in previous studies for the distribution and collection of questionnaires.

### **3.4 Sample Size**

This paper takes Chinese e-commerce brand Pinduoduo as a case study to explore the impact of brand image on consumers' purchase intention. 450 questionnaires are expected to be distributed and collected in China to be used as data samples for subsequent analysis, and a total of 408 valid samples are recovered through the platform of Questionnaire Star as of June 6, 2023 to be used for subsequent analysis.

### **3.5 Data Collection**

This paper takes Pinduoduo enterprise as a case study to explore the influence of brand image on consumers' purchase intention, Chinese netizen group is huge at the same time Pinduoduo is also one of the more representative Chinese e-commerce brands, so this research adopts the online form through the Internet platform questionnaire star for the questionnaire issuance and collection, the whole of China



adopts the way of simple random sampling to select respondents to fill in the online questionnaire, the respondent Respondents can rely on cell phones, computers and other ways to fill out the questionnaire is convenient and fast and is not limited by time, location and other objective factors. The questionnaire was distributed on May 1, 2023, and by June 6, 2023, a total of 436 questionnaires were collected, of which 408 were valid.

### 3.6 Reliability and validity analysis of the scale

#### 3.6.1 reliability analysis

Reliability Analysis Indicator Meaning: In this study, Cronbach' S Alpha reliability coefficients were chosen to examine the reliability status of brand image, perceived risk, and consumer purchase intention scales. Reliability analyses are generally conducted using Cronbach' S Alpha, which was developed by Lee Cronbach in 1951 to provide a measure of the internal consistency of a test or scale; it is expressed as a number between 0 and 1. Internal consistency describes the degree to which all items in a test measure the same concept or construct, and as such it relates to the interrelatedness of the items in the test. Before a test is used for research or inspection purposes, internal consistency should be determined to ensure validity. In addition, reliability estimates show the amount of measurement error in a test. In short, this interpretation of reliability is the correlation between the test and itself. Squaring this correlation and subtracting it from 1.00 yields the measurement error index(Cronbach, 1951)。

Bland and Altman (1997) based on the study that Cronbach' S Alpha coefficient above 0.9 is considered the best reliability of the scale, between 0.8-09 is considered good reliability, between 0.8-07 is considered to be the standard reliability, if the reliability is lower than 0.7 or below it is considered that the scale's items need to be re-calibrated, in this paper we will use the same criteria. same numerical criteria for analysis.

Table 3. 4 reliability testing

meters	dimension	Cronbach' S Alpha	item count
Brand image	Corporate image	0.828	4
	Product/Service Image	0.823	4
	User image	0.835	4
Brand image		0.807	12
Perceived risk		0.9	5
Purchase intention		0.829	4

Table 3.4 was obtained based on Cronbach' S alpha analysis, The data from the reliability test in Table 3.4 shows that the Cronbach' S Alpha values for all the variables

are in the range of 0.8-0.9, which has a good reliability can be further used for data analysis.

### 3.6.2 validity analysis

Significance of validity analysis indicators: In this paper, we used exploratory factor analysis to examine the "brand image, perceived risk, and purchase intention" scales, and firstly, we conducted the KMO test and Bartlett's spherical test on the data of each scale to examine whether the data within the scales were suitable for exploratory factor analysis.

Shrestha (2021) through his study argued that due to the exploratory nature of factor analysis, it does not distinguish between independent and dependent variables, factor analysis clusters similar variables into the same factor identifying potential variables and it uses only the correlation matrix of the data. Whereas KMO test with Bartlett's sphericity test is a method used to measure the suitability of data for factor analysis, it tests the adequacy of the sample size, the test measures the sampling adequacy for each variable in the model and for the model as a whole, a KOM value between 0.8 and 1.0 indicates that the sampling is adequate, a KMO value of between 0.7 and 0.8 is moderate, a value of between 0.6 and 0.7 is average, the KMO value less than 0.6 indicates that sampling is not adequate and remedial measures should be taken and if the value is less than 0.5, it proves that factor analysis is not suitable for data analysis.

The Bartlett's sphericity test, which tests the original hypothesis, assumes that the variables are orthogonal, representing that the original correlation matrix is a unit matrix, indicating that the variables are not correlated, and therefore not suitable for structural testing, and the alternative hypothesis suggests that the variables are not orthogonal, and that they correlate sufficiently to be correlation matrices that are significantly deviated from the unit matrices, and that a significant value of  $(p) < 0.05$  indicates that exploratory factor analysis can be performed.

#### 1. Brand Image Validity Test

Structural validity is a way to examine the classification of scale dimensions, and this study chooses to use exploratory factor analysis to examine the "brand image, perceived risk, and purchase intention" scale to analyze the classification of scale dimensions.

First of all, KMO test and Bartlett's Spherical test were conducted on the data of "brand image" scale to examine whether the data in the scale were suitable for exploratory factor analysis, and Table 3.5 was obtained.

Table 3. 5 Brand Image KMO Test and Bartlett's Spherical Test

KMO Measure of Sampling Adequacy.	0.828
-----------------------------------	-------

Bartlett's test of Sphericity	Approx_ Chi-Square	1837.927
df		66
P		<.001

According to Table 3.5, KMO = 0.828 > 0.6 and Bartlett's test of sphericity  $p < 0.05$ , implying that brand image scale data can be selected for exploratory factor analysis to examine validity.

Table 3. 6 Results of Exploratory Factor Analysis of the Brand Image Scale

	Component		
	1	2	3
Q11	0.822		
Q9	0.815		
Q10	0.812		
Q12	0.787		
Q4		0.821	
Q2		0.812	
Q3		0.789	
Q1		0.788	
Q5			0.821
Q7			0.81
Q8			0.79
Q6			0.774
Eigenvalues	3.857	2.104	2.012
% of Variance	22.358%	22.146%	21.94%
Cumulative %	66.445%		

According to the results of exploratory factor analysis of the brand image scale in Table 3.6, a total of 3 main factors can be extracted from the 12 questions with reliability, and these 3 main factors can reflect 66.445% > 60% of the information of the total scale, and according to the above data this extraction of the 3 main factors is more desirable in terms of fully extracting and interpreting the information of the original scale. According to the similarity of the content will be divided into 3 dimensions, each of the main factors contains the question items as follows: the loadings of Q9-Q12 on Factor I are higher than 0.5, and the loadings of these question items on the rest of the dimensions are less than 0.5, so it means that it can be categorized as Factor I. Combined with the content of the research of these question items, the Factor I can be named as the user image dimension. the loadings of Q1-Q4 on Factor II are higher than 0.5, and the loadings of these question items on the rest of the dimensions are less than 0.5, so it means that it can be categorized as Factor II, and combined with the research

content of these question items, Factor II can be named as Corporate Image Dimension. Q5-Q8 loaded higher than 0.5 on Factor III, and the loadings of these question items on the rest of the dimensions are less than 0.5, so it means that it can be categorized as Factor III, and combined with the research content of these question items, Factor III can be named as User Image Dimension. Combined with the research content of these question items, factor one can be named as product/service image dimension. Based on the above analysis, it can be clearly concluded that the brand image scale passed the validity test.

## 2. Perceived Risk Validity Test

A KMO test and Bartlett's Spherical test were performed on the Perceived Risk scale data to examine the suitability of the data within the scale for Exploratory Factor Analysis, and Table 3.7 was obtained.

Table 3. 7 Perceived Risk KMO Test and Bartlett's Sphericity Test

KMO Measure of Sampling Adequacy.		0.893
Bartlett's test of Sphericity	Approx_ Chi-Square	1163.959
	df	10
	P	<.001

According to Table 3.7,  $KMO = 0.893 > 0.6$ , Bartlett's test of sphericity  $p < 0.05$ , perceived risk scale data can be selected for exploratory factor analysis to examine validity.

Table 3. 8 Perceived Risk Scale Exploratory Factor Analysis Results

	Component
	1
Q13	0.85
Q14	0.84
Q15	0.852
Q16	0.829
Q17	0.858
Eigenvalues	3.577
% of Variance	71.542%
Cumulative %	71.542%

According to the results of exploratory factor analysis of the perceived risk scale in Table 3.8, a total of one main factor can be extracted from the five questions with reliability, and this one main factor can reflect  $71.542\% > 60\%$  of the information of the total scale, and according to the above data this extracted one main factor is more ideal in fully extracting and interpreting the information of the original scale. There is only one main factor extracted from the five questions of Q13-Q17. Therefore, it can

be understood that these five questions can respond well to the dimension of perceived risk scale. Based on the above analysis, it can be clearly concluded that the Perceived Risk Scale passed the validity test.

### 3. Purchase intention validity test

The KMO test and Bartlett's Spherical test were performed on the data of the "Willingness to Buy" scale to examine the suitability of the data within the scale for exploratory factor analysis, and Table 3.9 was obtained.

Table 3. 9 Willingness-to-buy KMO test and Bartlett's test of sphericity

KMO Measure of Sampling Adequacy.		0.814
Bartlett's test of Sphericity	Approx_ Chi-Square	574.442
df		6
P		<.001

According to Table 3.9,  $KMO = 0.814 > 0.6$ , Bartlett's test of sphericity  $p < 0.05$ , the data from the willingness to buy scale can be selected for exploratory factor analysis to examine validity.

Table 3. 10 Results of Exploratory Factor Analysis of the Willingness to Buy Scale

	Component
	1
Q18	0.826
Q19	0.818
Q20	0.808
Q21	0.802
Eigenvalues	2.647
% of Variance	66.169
Cumulative %	66.169

According to the results of exploratory factor analysis of the willingness to buy scale in Table 3.10, a total of one main factor can be extracted from the four questions with reliability, and this one main factor can reflect  $66.169\% > 60\%$  of the information of the total scale, and according to the above data this extracted one main factor is more ideal in fully extracting and interpreting the information of the original scale. Only one main factor is extracted from the four questions of Q18-Q21. Therefore, it can be understood that these four questions can respond well to this dimension of the purchase intention scale. Based on the above analysis, it can be clearly concluded that the Willingness to Buy Scale passed the validity test.

Based on the data and content analyzed in this chapter, it was concluded that brand image, perceived risk, and purchase intention all passed the KMO test with Bartlett's Spherical Test and Exploratory Factor Analysis, allowing for subsequent data analysis.

## **Chapter 4 Result of the Study**

This paper adopts a quantitative approach to research, through the software SPSS29.0 and the plug-in PROCESS on the questionnaire recovered valid data processing, through the data analysis to verify the relevant assumptions put forward in this paper as well as the theoretical model.

In this paper, firstly, the reliability analysis is carried out through SPSS software, and after verifying the reliability of the data, the validity analysis is carried out to examine whether the data are valid through the KMO test and Bartlett's spherical test to explore whether the factor analysis can be carried out, and then the correlation analysis is carried out to explore whether there is a correlation between the brand image, the perceived risk and the willingness to buy after the reliability and validity of the data are in compliance with the standard, and on this basis, the correlation analysis is further carried out. Through regression analysis to verify the research hypothesis of this paper, through the plug-in PROCESS to carry out mediation effect analysis to test whether the perceived risk can play a mediation effect between brand image and purchase intention to further verify the research hypothesis.

### **4.1 Descriptive stats**

Collection of questionnaire data: The questionnaire is divided into two parts, the first part of the basic information totaling 9 questions, the second part of the brand image, perceived risk, consumer purchasing intentions based on the literature to design questions for measurement, the formal questionnaire part of a total of 21 questions to be measured using a five-level Likert scale, the respondents can be from the "strongly disagree, disagree, unsure, agree, agree with very much" five degrees to express the degree of recognition of the question items. Respondents could express their level of agreement with the questions from "strongly disagree, disagree, unsure, agree, and strongly agree". In this study, the questionnaires were mainly distributed and recovered online, 450 questionnaires were expected to be distributed, and 436 questionnaires were actually recovered, and the invalid questionnaires were screened for questionnaire answering time less than 90 seconds, and the questionnaire item "Have you ever had e-commerce platform shopping experience" was selected as "No" (end of the questionnaire answering), and finally 28 invalid questionnaires were excluded. Invalid questionnaires 28, recovered 408 valid questionnaires, the effective recovery rate of the questionnaire is 90.67%.

#### **4.1.1 Basic information of the samples**

In this study, the basic information of 408 respondents such as gender, age,

education, occupation, monthly income and so on were counted and plotted in the following graph through the software SPSS.

Table 4. 1 Gender distribution

	Category	Frequency	Percentage(%)
Gender	Male	210	51.5
	Female	198	48.5
	Total	408	100

Analyzed according to Figure 4.1, from the gender point of view, the number of men 210 people accounted for 51.5%, the number of women 198 people accounted for 48.5%, and the distribution of men and women of the recovered questionnaires is similarly distributed relatively Pin average.

Table 4. 2 Age distribution

	Category	Frequency	Percentage(%)
Age	18 and under	28	6.9
	19-25	89	21.8
	26-30	95	23.3
	31-35	70	17.2
	36-40	62	15.2
	41-45	37	9.1
	46-50	18	4.4
	50+	9	2.2
	Total	408	100

According to Table 4.2 from the age point of view 19-25 years old accounted for 23.3% of the highest, followed by 26-30 years old accounted for 21.8, 31-35 accounted for 17.2%, 36-40 accounted for 15.2%, 18 years old and below and 41-50 years old and above accounted for a relatively small proportion of the interval, accounted for only 6.9% and, 15.7%, participate in the questionnaire of this survey of the 408 survey respondents age mainly Concentrated in the age of 19-40 years old.

Table 4. 3 Education level distribution

	Category	Frequency	Percentage(%)
Education level	Junior high school and below	74	18.1
	High school/secondary school	94	23
	Specialized training school	125	30.6
	University	98	24
	Graduate students and above	17	4.2
	Total	408	100

According to Table 4.3, in terms of education, the proportion of college degree is the highest at 30.6%, followed by undergraduate degree at 24%, and high school/junior

college at 23%, and the education level of those who participated in this research mainly focuses on the range from high school/junior college to undergraduate degree, with junior high school and below and postgraduates and above accounting for fewer.

Table 4. 4 Occupational distribution

	Category	Frequency	Percentage(%)
Occupation	government office	33	8.1
	Joint Venture/Foreign Enterprise	84	20.6
	Private/private enterprises	122	29.9
	self-employed person	109	26.7
	student	28	6.9
	profession	26	6.4
	await job assignment	3	0.7
	retirement (from work)	3	0.7
	Total	408	100

According to Table 4.4, in terms of occupation, it is mainly concentrated in private/private enterprises, self-employed, and joint ventures/foreign enterprises, which account for 29.9%, 26.7%, and 20.6% respectively between the three occupations, and the rest of the occupations account for a relatively small percentage.

Table 4. 5 Monthly income distribution

	Category	Frequency	Percentage(%)
Monthly Salary	2000 and under(RMB)	37	9.1
	2001-5000(RMB)	87	21.3
	5001-8000(RMB)	110	27
	8000-10000(RMB)	136	33.3
	10000+(RMB)	38	9.3
	Total	408	100

According to Table 4.5 in terms of monthly income, the proportion of respondents earning \$8,000-10,000 per month is the highest reaching one-third of the total number of respondents, accounting for 33.3%, followed by \$5,001-8,000 accounting for 27%, \$1,001-5,000 accounting for 21.3%, and \$2,000 and below and \$10,000 and above accounting for a relatively small proportion.

Table 4. 6 Distribution of time spent on online shopping

	Category	Frequency	Percentage(%)
	Within half a year	129	31.6
	Half a year - 1 year	163	40



Contact time for online shopping	1-2years	66	16.2
	2-3years	33	8.1
	3years+	17	4.2
	Total	408	100

According to Table 4.6, from the point of view of the time of contact with online shopping, the main focus is on half a year - 1 year accounted for 40%, followed by half a year or less accounted for 31.6%, 1-2 years accounted for 16.%, more than 2 years accounted for only 12.3% of the relatively small. From the point of view of the frequency of online shopping, once a month accounted for 51.2% of the highest proportion of more than half of the overall, followed by once a quarter and once a week accounted for 23.3% and 16.9%, respectively, once a half a year and once a year the frequency of online shopping respondents accounted for a relatively small proportion!

Table 4. 7 Frequency distribution of online shopping

	Category	Frequency	Percentage(%)
Online shopping frequency	1/week	69	16.9
	1/month	209	51.2
	1/quarterly	95	23.3
	1/half-yearly	26	6.4
	1/year	9	2.2
	Total	408	100

According to Table 4.7 from the point of view of the frequency of online shopping, once a month accounted for 51.2% accounted for the highest proportion of the overall more than half, followed by once a quarter and once a week accounted for 23.3% and 16.9%, respectively, once every six months and once a year the frequency of online shopping accounted for a relatively small proportion of respondents.

Table 4. 8 Monthly online shopping consumption distribution

	Category	Frequency	Percentage(%)
Monthly Online Purchase Consumption	200 and under(RMB)	34	8.3
	201-500(RMB)	113	27.7
	501-1000(RMB)	134	32.8
	1001-3000(RMB)	91	22.3
	3001-5000(RMB)	24	5.9
	5000+(RMB)	12	2.9
	Total	408	100

According to Table 4.8 from the monthly online shopping consumption, 501-1000 yuan accounted for 32.8% accounted for the highest, followed by 201-500 yuan and 1001-3000 yuan, which accounted for 27.7% and 22.3%, respectively, and the

proportion of monthly online shopping consumption of 200 yuan and below and 3001 yuan and above is relatively small.

Table 4. 9 Distribution of e-commerce browsing time per week

	Category	Frequency	Percentage(%)
Weekly browsing time	2 hours and less	74	18.1
	3-5hours	139	34.1
	5-10hours	165	40.4
	11-15hours	20	4.9
	15+ hours	10	2.5
	Total	408	100

According to Table 4.9 from the weekly browsing time, weekly browsing 5-10 hours accounted for 40.4 accounted for the highest, followed by 3-5 hours and 2 hours and below accounted for 34.1% and 18.1% of the rest of the time accounted for a relatively small proportion.

According to the above analysis, the 408 people who participated in this research have an average gender ratio, mainly concentrated in young adults most of them are highly educated, have a good foundation for e-commerce shopping and disposable income is relatively sufficient to accurately give the answers to the questionnaire, in line with the object of this survey.

## 4.2 Description of statistical variables

### 4.2.1 relevance analysis

Significance of correlation analysis indicators

Correlation analysis refers to the degree of correlation between variables, the study of correlation between two variables is called univariate and the study of correlation between more than two variables can be partial or multiple. There are many ways to study correlation this paper uses Pearson correlation analysis, there are many methods and formulas in mathematics but Karl Pearson's method is widely used(Magnello, 2009). Pearson correlation analysis is a value between -1 and 1. When the linear relationship between two variables is enhanced, the correlation coefficient tends to 1 or -1; when one variable increases and the other increases, it indicates that they are positively correlated and the correlation coefficient is greater than 0; if one variable increases and the other decreases, it indicates that they are negatively correlated and the correlation coefficient is less than 0; and if the correlation coefficient is equal to 0, it indicates that there is no linear relationship between them.

In this paper, Pearson correlation analysis was chosen to examine the association between brand image, perceived risk, and purchase intention, and the results are shown

in Table 4.10

Table 4. 10 relevance analysis

	1	2	3	4	5	6
1 Corporate Image	1					
2 Product/service image	.241**	1				
3 User Image	.219**	.220**	1			
4 Perception of risk	-.249**	-.306**	-.326**	1		
5 Purchase Intention	.404**	.441**	.412**	-.493**	1	
6 Brand image	.707**	.684**	.697**	-.421**	.601**	1
** Correlation is significant at the 0.01 level(2-tailed).						

From the arithmetic results in Table 4.10, we can know that (1) all three dimensions of brand image and perceived risk present a significant negative correlation, the significance of correlation coefficients P is less than 0.05, and the correlation coefficients are less than 0.

(2) All three dimensions of brand image show a significant positive correlation with purchase intention, the significance of the correlation coefficients are all less than 0.05, and the correlation coefficients are all greater than 0.

(3) Perceived risk dimension and purchase intention show a significant negative correlation, the significance of the correlation coefficient P is less than 0.05, and the correlation coefficient is less than 0.

In summary, it can be seen that the three dimensions of brand image, corporate image, product/service image, user image, the higher the perceived risk is lower, and on the contrary the higher the perceived risk is corporate image, product/service image, user image is lower. The higher the corporate image, product/service image, and user image, the stronger the willingness to buy, and conversely the lower the willingness to buy, the lower the corporate image, product/service image, and user image. The higher the perceived risk, the lower the willingness to buy, and conversely the lower the perceived risk, the stronger the willingness to buy.

#### 4.2.2 regression analysis

Significance of regression analysis indicators:Kafle (2019) regression analysis is the study of the relationship between two or more variables with the help of an equation which is known as the regression line, this line is also known as the line of best fit as it is obtained by the method of least squares. The method of least squares is used to estimate the parameters of the regression equation by minimizing the sum of squared errors of the correlation coefficients. There are two types of variables in regression analysis, the variable used to predict the variable of interest is called the independent or explanatory or predictor variable and the variable whose value is predicted becomes

the dependent or explanatory or regression variable (Montgomery et al., 2021), First of all through the model summary to determine the linear relationship between the two, the model summary is an important indicator of regression analysis, but also reflects the degree of regression fit. By analyzing the R-squared results and residual independence test (Durbin Watson test), in general, according to the formula  $R^2 = \text{regression variance sum of squares} / \text{total sum of squares}$  for the test  $R^2$  look at the "adjusted  $R^2$ ", the value is relatively unaffected by the number of independent variables, the results are more reliable, Durbin Watson test if the results are between 0-4. Basically, it can be considered that the data independence is consistent. Then ANOVA, ANOVA focuses on analyzing whether the model is successful,  $R^2$  focuses on exploring how successful the model (equivalent to the effect size), the main observation of the ANOVA in the value of F, the larger the F and  $P < 0.05$ , it means that at least one of the coefficients of the independent variables in the multiple linear regression model is not zero modeling success. After determining that the ANOVA is valid the regression coefficients are calculated and hypothesis tests are performed on the regression coefficients to explore the influencing factors.

#### 4.2.2.1 Regression Analysis of Brand Image on Consumer Purchase Intention

Based on the correlation analysis in the previous section, it is concluded that there is a significant correlation between brand image, perceived risk, and willingness to buy, and this section will explore the influence between brand image, perceived risk, and willingness to buy even further. The statistical method used to study the choice of influencing factors is linear regression. The dependent variable in this study is a continuous numerical variable (Likert scale score), so linear regression analysis was chosen for this study.

Table 4. 11 Results of Linear Regression Analysis of Brand Image on Consumer Purchase Intention

	Unstandardized Coefficients	Standardized Coefficients	t	P	VIF
(Constant)	0.899		4.265	<.001	
Corporate Image	0.246	0.266	6.39	<.001	1.096
Product/service image	0.311	0.314	7.559	<.001	1.096
User Image	0.264	0.285	6.892	<.001	1.084
Adjusted R Square			0.759		
F			76.817		
P			<.001		

Dependent Variable: Purchase Intention
--

According to the arithmetic results in Table 4.11, it can be concluded that (1) the model fit is good, the adjusted R-squared is 0.759, which means that the independent variables involved in this regression analysis affect the dependent variable to a degree of 75.9% (75.9% of the change in the dependent variable is caused by the three independent variables), and the current regression model can be better explored to the influencing factors of the willingness to buy.

(2)The linear regression model of this study is significant,  $F=76.817, P<0.001$ , which means that at least one of the three independent variables can significantly influence the dependent variable purchase intention.

Further analysis, corporate image can significantly and positively affect purchase intention, the influence coefficient is 0.246 ( $T = 6.39, P < 0.01$ ), that is, the higher the corporate image, then the higher the consumer purchase intention. The quantitative relationship between the two is as follows: every 1-point increase in corporate image means a 0.246-point increase in purchase intention.

Product/service image can significantly and positively affect purchase intention, the coefficient of influence is 0.311 ( $T = 7.559, P < 0.01$ ), that is, the higher the image of products/services, the higher the purchase intention of consumers. The quantitative relationship between the two is as follows: every 1-point increase in product/service image means a 0.311-point increase in purchase intention.

User image can significantly and positively affect purchase intention, the coefficient of influence is 0.264 ( $T = 6.892, P < 0.01$ ), that is, the higher the image of the user, the higher the purchase intention of consumers. The quantitative relationship between the two is as follows: every 1-point increase in user image means a 0.264-point increase in purchase intention.

The final linear regression equation is as follows: willingness to buy =  $0.899+0.246*\text{corporate image} + 0.311*\text{product/service image} + 0.264*\text{user image}$ .

#### 4.2.2.2 Regression analysis of brand image on perceived risk

Table 4. 12 Results of linear regression analysis of brand image on perceived risk

	Unstandardized Coefficients	Standardized Coefficients	t	p	VIF
(Constant)	5.116		17.415	<.001	
Corporate Image	-0.163	-0.143	-3.032	0.003	1.096
Product/service image	-0.264	-0.217	-4.604	<.001	1.096
User Image	-0.281	-0.246	-5.261	<.001	1.084

Adjusted R Square	0.776
F	29.983
P	<.001
Dependent Variable: Perception of risk	

According to the arithmetic results in Table 4.12, it can be concluded that (1) the model fit is good, the adjusted R-square is 0.776, which means that the independent variables involved in this regression analysis have a degree of influence on the dependent variable that reaches 77.6% (77.6% of the change in the dependent variable is caused by the three independent variables), and the current regression model is able to explore the influencing factors of the perceived risk relatively well.

(2) The linear regression model of this study is significant,  $F=29.983, P<0.001$ , which means that at least one of the three independent variables can significantly influence the dependent variable perceived risk.

Further analysis shows that corporate image can significantly and negatively affect perceived risk, with an impact coefficient of -0.163 ( $T=-3.032, P=0.003<0.01$ ), which means that the higher the corporate image, then the lower the consumer perceived risk. The quantitative relationship between the two is: every 1-point increase in corporate image means a subsequent 0.163-point decrease in purchase intention.

Product/service image can significantly negatively affect the perceived risk, the coefficient of influence is -0.264 ( $T=-4.604, P=<0.01$ ), that is, the higher the image of the product/service, the lower the perceived risk of consumers. The quantitative relationship between the two is: every 1-point increase in product/service image means a 0.264-point decrease in purchase intention.

User image can significantly and negatively affect the perceived risk, the coefficient of influence is -0.281 ( $T=-5.261, P=<0.01$ ), that is to say, the higher the image of the user, the lower the perceived risk of consumers. The quantitative relationship between the two is as follows: every 1-point increase in user image means a 0.281-point decrease in purchase intention.

The final linear regression equation is as follows:  $\text{Perceived risk} = 5.116 - 0.163 * \text{Corporate image} - 0.264 * \text{Product/service image} - 0.281 * \text{User image}$

#### 4.2.2.3 Regression Analysis of Perceived Risk on Consumer Purchase Intention

Table 4. 13 Results of Linear Regression Analysis of Perceived Risk on Consumer Purchase Intention

	Unstandardized Coefficients	Standardized Coefficients	t	P	VIF
(Constant)	5.019		55.367	<.001	
Perception	-0.401	-0.493	-11.431	<.001	1

of risk					
Adjusted R Square			0.742		
F			130.667		
P			<.001		
Dependent Variable: Purchase Intention					

According to the arithmetic results in Table 4.13, it can be concluded that (1) the model fit is good, the adjusted R-square is 0.742, which means that the independent variables involved in this regression analysis affect the dependent variable to a degree of 74.2% (74.2% of the change in the dependent variable is caused by an independent variable), and the current regression model is able to explore the influencing factors of the willingness to buy relatively well.

(2) The linear regression model of this study is significant,  $F=130.667, P<0.001$ , which means that at least 1 independent variable can significantly influence the dependent variable purchase intention.

Further analysis shows that perceived risk can significantly and negatively affect purchase intention, with an impact coefficient of -0.401 ( $T=-11.431, P<0.01$ ), that is, the higher the perceived risk, then the lower the consumer's purchase intention. The quantitative relationship between the two is as follows: every 1-point increase in perceived risk means a 0.401-point decrease in willingness to buy.

The final linear regression equation is as follows: willingness to buy = 5.019-0.401\*perceived risk

#### 4.2.3 Analysis of intermediation effects

This paper chooses the PROCESS plug-in in SPSS software to test the mediation effect, according to the arithmetic requirements of the PROCESS plug-in this paper in the mediation effect test, using the letter X on behalf of the brand image, using the letter M on behalf of the perceptual analysis, and using the letter Y on behalf of the willingness to buy to analyze, The mediating effect was analyzed according to the formula  $M=aX+e_2, Y=c X+bM+e_3$  summarized in (Wen et al., 2005).

Significance of intermediation effect indicators

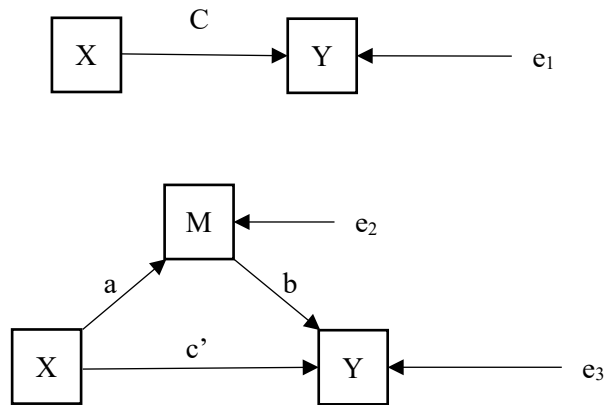


Figure 4. 1 Intermediary Variable

Consider the effect of the independent variable X on the dependent variable Y. If X affects Y by affecting the independent variable M, then M is said to be the mediating variable. Methods of mediating effects analysis, mediating effects are indirect effects and can be analyzed by structural equation modeling, regardless of whether the variable involves a latent variable or not, Three regression analyses,  $Y=cX+e_1$ ,  $M=aX+e_2$ ,  $Y=c'X+bM+e_3$ , can be done sequentially according to Table 3.4, and both the structural equations and the regression analyses can be used to obtain the estimates of  $c^{\wedge}$ . a, b, and c' the estimates of  $a^{\wedge}$ ,  $b^{\wedge}$ , and  $c^{\wedge}$ , as well as the corresponding labeled brick error(Hau et al., 2004).

1. mediation effect test

Table 4. 14 Results of the analysis of the mediating effect of brand image and perceived risk

Outcome Variable						
M						
R	R-sq	MSE	F	df1	df2	p
0.4211	0.1773	0.8056	87.5022	1.0000	406.0000	0.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	5.0898	0.2925	17.4031	0.0000	4.5149	5.6648
X	-0.7041	0.0753	-9.3543	0.0000	-0.8521	-0.5562

Table 4. 15 Results of the analysis of the mediation effect of the independent variable brand image dependent variable purchase intention and the mediator variable perceived risk

Outcome Variable						
Y						
R	R-sq	MSE	F	df1	df2	p
0.6570	0.4316	0.3691	153.7636	2.0000	405.0000	0.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	2.1305	0.2616	8.1450	0.0000	1.6163	2.6447
X	0.6503	0.0562	11.5777	0.0000	0.5399	0.7608
M	-0.2375	0.0336	-7.0716	0.0000	-0.3036	-0.1715



Table 4. 16 Results of the mediation effects analysis

	Effect	se	t	p	LLCI	ULCI
Total effect of X on Y						
	0.8176	0.0539	15.1586	0.0000	0.7116	0.9236
Total effect of X on Y						
	0.6503	0.0562	11.5777	0.0000	0.5399	0.7608
Indirect effect(s) of X on Y:						
	Effect	BootSE	BootLLCI	BootULCI		
M	0.1673	0.0344	0.1043	0.2392		

According to the results of the analysis of the mediating effect of brand image and perceived risk in Table 4.14, the first regression equation:  $m = 5.0898 - 0.7041 * X$ ,  $a = -0.7041$  ( $p < 0.05$ ).

According to the results of the analysis of the mediation effect of the independent variable brand image dependent variable purchase intention and the mediator variable perceived risk in Table 4.15, the second regression equation:  $Y = 2.1305 - 0.2375 * M + 0.6503 * X$ ,  $b = -0.2375$  ( $p < 0.05$ ),  $c = 0.6503$  ( $p < 0.05$ ).

According to the results of mediation effect analysis in Table 4.16:

Mediating effect of perceived risk  $M = -0.7041 * (-0.2375) = 0.1673$  ( $p < 0.05$ ).

Direct effect = 0.6503 ( $p < 0.05$ ).

Total effect = 0.1673 + 0.6503 = 0.8176 ( $p < 0.05$ ).

According to the results of the above analysis, perceived risk plays a significant positive and active role in brand image and consumer purchase intention, with a mediation effect size of 0.1673 ( $p < 0.05$ ) confidence interval of 0.1043-0.2392; Further analyzing the brand image there is also a significant positive direct effect on purchase intention with a direct effect size of 0.6503 ( $p < 0.05$ ) and a confidence interval in the range of 0.5399-0.7608, Finally the total benefit of brand image on consumer purchase intention is significant with a size of 0.8176 ( $p < 0.05$ ) and a confidence interval of 0.7116-0.9236. The share of the mediating effect in the total effect is:  $0.1673 / 0.8176 = 20.46\%$ .

#### 4.2.4 Hypothesis validation results

Table 4. 17 Hypothesis validation results

No.	Assumptions		Test Result
H1	Brand image has a negative effect on perceived risk		Established
H1a	Corporate image in brand image is hypothesized to have a negative effect on perceived risk		Established
H1b	The image of products/services in brand image is hypothesized to have a negative effect on perceived risk		Established
H1c	The user image in brand image is hypothesized to have a negative effect on perceived risk		Established

H2	Perceived risk has a negative effect on purchase intention		Established
H3	brand image has a positive effect on purchase intention		Established
H3a	Corporate image in brand image has a positive effect on purchase intention		Established
H3b	Product/service image in brand image has a positive effect on purchase intention		Established
H3c	User image in brand image has a positive effect on purchase intention		Established
H4	Perceived risk can be used as a mediating variable to mediate the effect between brand image and purchase intention		Established

According to the above statistical variables analyzed in this paper: 1) The three dimensions of brand image, the higher the corporate image, product/service image, and user image the lower the perceived risk, and on the contrary, the higher the perceived risk the lower the corporate image, product/service image, and user image become. 2) The higher the perceived risk, the lower the willingness to buy, on the contrary, the lower the perceived risk, the stronger the willingness to buy. 3) The higher the corporate image, product/service image, and user image, the stronger the willingness to buy, on the contrary, the lower the willingness to buy, the lower the corporate image, product/service image, and user image.

In the same regression analysis: 4. Brand image on perceived risk data analysis verified that the perceived risk =  $5.116 - 0.163 * \text{Corporate image} - 0.264 * \text{Product/service image} - 0.281 * \text{User image}$ , the brand image and brand image in the corporate image, product/service image, and user image can significantly negatively affect the perceived risk. 5. Perceived risk on consumer willingness to buy data analysis verified that willingness to buy =  $5.019 - 0.401 * \text{perceived risk}$ , perceived risk can significantly negatively affect the willingness to buy. 6. The data analysis of brand image on consumers' willingness to buy verifies that willingness to buy =  $0.899 + 0.246 * \text{corporate image} + 0.311 * \text{product/service image} + 0.264 * \text{user image}$ , which proves that the brand image and the corporate image, product/service image, and user image in the brand image can significantly and positively affect the willingness to buy.

Hypothetical H1: Statistical variable analysis and regression analysis of both research results are the same. It is proved that brand image and the corporate image, product/service image, and user image in it have a negative effect on perceived risk, which is consistent with the research hypotheses above, and hypotheses H1, H1a, H1b, and H1c are valid.

Hypothetical H2: Perceived risk has a negative effect on purchase intention, consistent with the research hypotheses above, and hypothesis H2 is valid.

Hypothetical H3: Brand image and the corporate image, product/service image, and user image within it have a positive effect on purchase intention in line with the research hypotheses above, and hypotheses H3, H3a, H3b, and H3c hold true.

Hypothetical H4: According to the results of the mediation effect analysis, it was proved that perceived risk plays a significant positive and active role in brand image and consumers' purchase intention, with a mediation effect size of 0.1673 ( $p < 0.05$ ) confidence interval in the range of 0.1043-0.2392. Demonstrating that perceived risk can be influenced as a mediating variable between brand image and purchase intention is consistent with the research hypotheses above, and hypothesis H4 holds.



## Chapter 5 Conclusion and Recommendation

Based on the Theory of Planned Behavior, this paper collects data through questionnaires for quantitative research and analyzes them through SPSS29.0 software as well as the plug-in PROCESS, taking the well-known e-commerce brand Pinduoduo as an example, to study the influence of brand image on consumers' purchasing intention. It has been analyzed and proved that brand image and the three dimensions it contains have a negative impact on perceived risk and a positive impact on purchase intention. Perceived risk has a negative effect on purchase intention, but can be used as a mediating variable between brand image and purchase intention.

### 5.1 Conclusion

This paper adopts quantitative analysis, based on the combination of Theory of Planned Behavior and Biel Model, to explore the influence of brand image on purchase intention with the well-known e-commerce brand Pinduoduo as a case study, and add the perceived risk as a mediating variable for the study, and verifies the research hypotheses through the results of correlation analysis, regression analysis, and mediating effect analysis by Chapter 4 Result of the Study, and at the same time, it clarifies the four research purposes proposed in this paper.

1) According to the regression analysis of this paper, it can be seen that corporate image can significantly and negatively affect the perceived risk, with an impact coefficient of  $-0.163$  ( $T=-3.032$ ,  $P=0.003<0.01$ ), product/service image can significantly and negatively affect the perceived risk, with an impact coefficient of  $-0.264$  ( $T=-4.604$ ,  $P=<0.01$ ), and user image can significantly and negatively affect the perceived risk with an impact coefficient of  $-0.281$  ( $T=-5.261$ ,  $P=<0.01$ ). The final linear regression equation:  $\text{perceived risk} = 5.116 - 0.163 * \text{corporate image} - 0.264 * \text{product/service image} - 0.281 * \text{user image}$ , which indicates that brand image and corporate image, product/service image, user image and perceived risk have a negative effect on perceived risk, consistent with the hypotheses H1, H1a, H1b, H1c of this paper. To determine the influence of brand image, corporate image, product image, user image and perceived risk in brand image.

2) According to the regression analysis of this paper, it can be seen that perceived risk can significantly negatively affect the willingness to buy, with an impact coefficient of  $-0.401$  ( $T=-11.431$ ,  $P=<0.01$ ). The final linear regression equation:  $\text{purchase intention} = 5.019 - 0.401 * \text{perceived risk}$ , which represents that perceived risk has a significant negative effect on consumers' purchase intention, consistent with this paper's hypothesis H2. To determine the effect between perceived risk and purchase intention.

3) According to the regression analysis of this paper, corporate image can significantly and positively affect purchase intention with an impact coefficient of  $0.246$  ( $T=6.39$ ,  $P<0.01$ ), product/service image can significantly and positively affect purchase intention with an impact coefficient of  $0.311$  ( $T=7.559$ ,  $P<0.01$ ), and user image can significantly and positively affect purchase intention with an impact coefficient of  $0.264$  ( $T=6.892$ ,  $P<0.01$ ). The final linear regression equation:  $\text{purchase}$

intention = 0.899+0.246\*corporate image+0.311\*product/service image+0.264\*user image, which proves that corporate image, product/service image, and user image in brand image positively and positively influence purchase intention, which is consistent with the hypotheses of this paper, H3, H3a, H3b, and H3c, To determine the influence between brand image and purchase intention.

4) According to the mediating effect analysis of this paper, the mediating effect of perceived risk  $M = -0.7041*(-0.2375) = 0.1673$  ( $P < 0.05$ ), which represents that perceived risk plays a significant mediating role in brand image and consumer purchase intention, and the size of the mediating effect is 0.1673 ( $P < 0.05$ ) with a confidence interval of 0.1043-0.2392. Hypothesis H4 is consistent with To determine the mediating relationship between perceived risk, brand image and purchase intention.

According to the results of the above study, e-commerce enterprises with a good brand image can better attract consumers to come, and the effect of perceived risk on the relationship between brand image and willingness to buy also better reveals that an e-commerce enterprise focusing on brand image can better reduce consumers' doubts and screening time, reduce consumers' uncertainty about the e-commerce enterprise to reduce the negative impact of perceived risk on the consumers, and thus increase consumers' willingness to buy. This will increase consumers' willingness to buy.

In this paper, based on the Theory of Planned Behavior, combined with the Biel brand image model to explore the consumer's willingness to buy, brand image in the first discussion is the corporate image, corporate image is the top priority of the brand image a good corporate image is very important for the future development of the company, a good corporate image can be in a large Good corporate image can to a large extent attract consumers to pay attention to the enterprise and understand the enterprise, especially for the Internet-based e-commerce platform, e-commerce shopping and the traditional brick-and-mortar store shopping is different from the consumer in the purchase of products consumers often have no way to intuitively experience the product and detailed understanding of the product, which makes the shopping has generated a lot of uncertainty.

The size of the e-commerce platform, visibility, position in the industry, whether keen on public welfare, etc. will affect the corporate image, Pinduoduo company can quickly rise in a short period of time is also due to the creation of a good corporate image, but with the increasingly fierce competition, the future of Pinduoduo company should also be strengthened in the advertising and publicity in the Internet new media platforms, television, outdoor advertising and other aspects of the input At the same time, it also enhances the publicity in the enterprise culture, so that consumers can more deeply understand the connotation of the enterprise. In the enterprise reputation management should also be strengthened, in the enterprise can do at the same time enthusiastic public welfare actively fulfill social responsibility, good corporate reputation can better win the trust of consumers to create a better corporate image.

At the same time, the product/service image is also very important to attract consumers to buy one is the good image of the enterprise another is the enterprise's product/service image, e-commerce enterprise's products and services is the most

intuitive way for consumers to understand the enterprise. Product price, quality, variety of styles are diverse and complete as well as the layout of the e-commerce platform shopping program is reasonable, easy to operate and so on all affect the consumers for the e-commerce enterprise brand image judgment.

Pinduoduo in creating a good product/service image, you can create a good service environment, in the consumer to buy products and problems subsequent to the return and exchange link, can be more simple, fast and efficient to help consumers to deal with, through good service forms to reduce the negative emotions of consumers to improve the consumer's shopping experience to enhance the enterprise's product/service image. At the same time, enterprises can ensure the quality of the premise of the establishment of corporate characteristics can be through some price promotions, preferential activities to attract consumers to come, through the product / service image to create differentiation to enhance the consumer's willingness to buy.

From the aspect of consumer image in brand image, the consumer image generated by the enterprise in its interaction with consumers also influences the consumers' willingness to buy. As the relationship between consumers and e-commerce companies continues to deepen, the e-commerce brand image represented by the consumer base begins to attract consumer groups with the same purchasing needs.

At the beginning of the establishment of Pinduoduo, it is to seize the needs of the consumer groups in China's second-, third- and fourth-tier cities, through targeted marketing to quickly attract consumers with the same needs, Pinduoduo in the rapid development and growth at the same time, with the gradual solidification of the image of the consumer, but also led to the image of the consumer with Pinduoduo company consumers different from the other groups of consumers in the choice of Pinduoduo to buy a lower willingness to buy. In order to better attract different consumer groups to improve the willingness to buy, Pinduoduo should focus on the improvement of the level of consumer perception, and make appropriate adjustments to better meet the needs of different consumers to improve the willingness of consumers to buy. At the same time to enhance the richness of the product, enhance publicity to improve brand awareness, through the diversity of products to attract different consumer groups to come, to create a good and diverse consumer image of the enterprise, and constantly expand the market share.

The research in this paper proves that perceived risk has a negative and significant impact on consumers' willingness to buy, consumers perceive that risk will reduce the likelihood of purchasing, and consumers with higher perceived risk to the enterprise will show lower willingness to buy, and consumers will assess the risk according to the information collected before purchasing, so as to minimize the occurrence of accidents. For e-commerce shopping platforms, consumers can assess the brand image of e-commerce companies through the Internet to more easily identify product quality and confirm the differences between products. Therefore, the more positive the brand image, the more it can form a good brand perception, thus reducing the consumer's perceived risk to increase the consumer's willingness to buy.

Summarize, E-commerce brands can increase brand image to reduce the perceived

risk of consumers to enhance the willingness to buy, and at the same time can be optimized in the corporate image, product/service image and user image, to create differentiation to avoid homogeneity between e-commerce brands, to better attract consumers to enhance market competitiveness.

## **5.2 Recommendation**

This paper employs quantitative research by means of data analysis to verify the impact of brand image and the three dimensions of brand image, i.e., corporate image, product/service image, and user image, on perceived risk and purchase intention. The conclusion proves that a good brand image can reduce consumers' perceived risk and enhance consumers' purchase intention, and through the case e-commerce platform Pinduoduo makes a theoretical contribution to the relevant research on the impact of brand image and consumers' purchase intention.

At the same time, there are some limitations in this paper, in the design of independent variables, only selected brand image and perceived risk as independent variables for the study, but there may be other variables that affect consumers' purchase intention, such as brand attitude, brand attachment, environmental factors(Shah et al., 2012) and is not covered in the scope of this paper, the subsequent researchers can be carried out on the basis of this, to increase the feasibility of other for the study.

In terms of research samples, this paper uses simple random sampling method through the Internet in the form of questionnaires, due to the funds and questionnaire research time constraints in this paper recovered questionnaires are limited, subsequent researchers in the questionnaire, can not only be limited to the Internet, choose to issue offline and other forms of questionnaire research, at the same time, you can increase the amount of sample data to better test the e-commerce field of the impact of the brand image on the willingness to buy.

In terms of research cases, this paper only involves Pinduoduo one enterprise, other equally representative e-commerce enterprises can not be covered, so the conclusions of the study may not have a reaction to the entire Chinese e-commerce market universality, the subsequent researchers can expand the scope of the study by selecting a number of representative e-commerce enterprises to conduct the study, so that a better reaction to the field of e-commerce in China to expand the universality of the study, and better promote the study of the relevant areas and development.

## Reference

- Aaker, D. A. (2012). *Building strong brands*. Simon and Schuster.
- Aaker, D. A., & Equity, M. B. (1991). The free press. *New York, 206*.
- Aghekyan-Simonian, M., Forsythe, S., Kwon, W. S., & Chattaraman, V. (2012). The role of product brand image and online store image on perceived risks and online purchase intentions for apparel. *Journal of Retailing and Consumer Services, 19*(3), 325-331.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes, 50*(2), 179-211.
- Akaah, I. P. (1988). A conjoint investigation of the relative importance of risk relievers in direct marketing. *J Advertising Res.*, 38-44.
- Aryawan, M., Rahyuda, I. K., & Ekawati, N. W. (2017). *Pengaruh faktor corporate social responsibility (aspek sosial, ekonomi, dan lingkungan) terhadap citra perusahaan* Udayana University].
- Aymen, R. A., Alhamzah, A., & Bilal, E. (2019). A multi-level study of influence knowledge management small and medium enterprises. *Polish Journal of Management Studies, 19*(1), 21-31.
- Bauer, R. A. (1960). Consumer behavior as risk taking. Proceedings of the 43rd National Conference of the American Marketing Association, June 15, 16, 17, Chicago, Illinois, 1960,
- Beckwith, N. E., Kassarian, H. H., & Lehmann, D. R. (1978). Halo effects in marketing research: Review and prognosis. *ACR North American Advances*.
- Bernarto, I., & Purwanto, A. (2022). The effect of perceived risk, brand image and perceived price fairness on customer satisfaction. *Brand Image and Perceived Price Fairness on Customer Satisfaction (March 1, 2022)*.
- Biel, A. L. (1991). The brandscape: converting brand image into equity. *Journal: Admap (UK)(26/10), 26*(10).
- Biel, A. L. (1992). How brand image drives brand equity. *Journal of advertising research, 32*(6), 6-12.
- Bland, J. M., & Altman, D. G. (1997). Statistics notes: Cronbach's alpha. *Bmj, 314*(7080), 572.
- Bullmore, J. (1984). The brand and its image re-visited. *International Journal of Advertising, 3*(3), 235-238.
- Chattopadhyay, A., & Basu, K. (1990). Humor in advertising: The moderating role of prior brand evaluation. *Journal of Marketing Research, 27*(4), 466-476.
- Chen, C.-C., Huang, W.-J., & Petrick, J. F. (2016). Holiday recovery experiences, tourism satisfaction and life satisfaction—Is there a relationship? *Tourism Management, 53*, 140-147.



- Cnnic. (2022). The 50th statistical report on China's internet development. *China Internet Network Information Center*.
- Cox, D. F. (1967a). Risk taking and information handling in consumer behavior.
- Cox, D. F. (1967b). Risk taking and information handling in consumer behavior. (*No Title*).
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, 16(3), 297-334.
- Dawar, N., & Parker, P. (1994). Marketing universals: Consumers' use of brand name, price, physical appearance, and retailer reputation as signals of product quality. *Journal of marketing*, 58(2), 81-95.
- Debevec, K., & Iyer, E. (1986). The influence of spokespersons in altering a product's gender image: Implications for advertising effectiveness. *Journal of advertising*, 15(4), 12-20.
- Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of marketing research*, 28(3), 307-319.
- Dowling, G. R. (1986). Perceived risk: the concept and its measurement. *Psychology & Marketing*, 3(3), 193-210.
- Dowling, G. R., & Staelin, R. (1994). A model of perceived risk and intended risk-handling activity. *Journal of consumer research*, 21(1), 119-134.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: An introduction to theory and research*. Addison-Wesley.
- Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research.
- Gemünden, H. G. (1985). Perceived risk and information search. A systematic meta-analysis of the empirical evidence. *International Journal of Research in Marketing*, 2(2), 79-100.
- Gogoi, B. (2013). Study of antecedents of purchase intention and its effect on brand loyalty of private label brand of apparel. *International Journal of Sales & Marketing*, 3(2), 73-86.
- Gordon, W. (1991). Accessing the brand through research. *Understanding Brands (By People Who Do)*, 33-56.
- Greatorex, M., & Mitchell, V. W. (1994). Modelling consumer risk reduction preferences from perceived loss data. *Journal of Economic Psychology*, 15(4), 669-685.
- Gupta, A. (2014). E-Commerce: Role of E-Commerce in today's business. *International Journal of Computing and Corporate Research*, 4(1), 1-8.
- Hau, K.-T., Wen, Z., & Cheng, Z. (2004). Structural equation model and its applications.

Beijing, China: Educational Science.

- Hong, I. B., Kim, T., & Cha, H. S. (2013). The mediating role of perceived risk in the relationships between enduring product involvement and trust expectation. *Asia Pacific Journal of Information Systems*, 23(4), 103-128.
- Hongfei, Y. (2017). National report on e-commerce development in China. *Inclusive and Sustainable Industrial Development Working Paper Series WP17*, 6.
- Hunf, K., Cheng, C.-K., & Petrick PhD, J. F. (2016). PARK VISITORS'PERCEIVED RISK AND INFORMATION SEARCH BEHAVIOR.
- Hung, C.-J. (2018). A study on the correlation among brand image, perceived risk, and purchase intention in food and beverage industry. *Revista de Cercetare și Intervenție Socială*(61), 122-133.
- Jacoby, J., & Kaplan, L. B. (1972). The components of perceived risk. *ACR special volumes*.
- Jain, V., Malviya, B., & Arya, S. (2021). An overview of electronic commerce (e-Commerce). *Journal of Contemporary Issues in Business and Government* | Vol, 27(3), 666.
- Jasin, M. (2022). The Role of Social Media Marketing and Electronic Word of Mouth on Brand Image and Purchase Intention of SMEs Product. *Journal of Information Systems and Management (JISMA)*, 1(4), 54-62.
- Kafle, S. C. (2019). Correlation and regression analysis using SPSS. *Management, Technology & Social Sciences*, 126.
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business horizons*, 53(1), 59-68.
- Kazmi, A., & Mehmood, Q. (2016). The effect of electronic word of mouth communication and brand image on purchase intention: A case of consumer electronics in Haripur, Pakistan. *Management Science Letters*, 6(7), 499-508.
- Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of marketing*, 57(1), 1-22.
- Kelley, K., Clark, B., Brown, V., & Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. *International Journal for Quality in health care*, 15(3), 261-266.
- Knight, F. H. (1921). *Risk, uncertainty and profit* (Vol. 31). Houghton Mifflin.
- Kogan, N., & Wallach, M. A. (1958). Risk taking: a study in cognition and personality. (No Title).
- Kuang, J. (2022). Research on the Marketing Strategy of Pinduoduo—Based on the STP and 4Ps Methods. 2022 7th International Conference on Social Sciences and Economic Development (ICSSSED 2022),
- Kwon, W.-S., & Lennon, S. J. (2009). What induces online loyalty? Online versus

- offline brand images. *Journal of Business Research*, 62(5), 557-564.
- Lee, M.-C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic commerce research and applications*, 8(3), 130-141.
- Levy, S., & Gardner, B. (1955). The product and the brand. *Harvard Business Review*, 33(2), 33-39.
- Line, N. D., Runyan, R. C., Swinney, J. L., & Sneed, C. (2016). Community stakeholders and the perception of tourism downtowns: an assessment of brand identity. *Tourism Analysis*, 21(2-3), 159-172.
- Liu, X., Zhang, S., & Qin, Z. (2016). Study of the Influence of Brand Image on Consumers' Online Shopping Intention——in the Case of Cosmetics.
- Magnello, M. E. (2009). Karl Pearson and the establishment of mathematical statistics. *International Statistical Review*, 77(1), 3-29.
- Mitchell, V. W. (1999). Consumer perceived risk: conceptualisations and models. *European Journal of marketing*, 33(1/2), 163-195.
- Montgomery, D. C., Peck, E. A., & Vining, G. G. (2021). *Introduction to linear regression analysis*. John Wiley & Sons.
- Mullet, G. M., & Karson, M. J. (1985). Analysis of purchase intent scales weighted by probability of actual purchase. *Journal of marketing research*, 22(1), 93-96.
- Murray, K. B., & Schlacter, J. L. (1990). The impact of services versus goods on consumers' assessment of perceived risk and variability. *Journal of the Academy of Marketing science*, 18, 51-65.
- Nanehkaran, Y. A. (2013). An introduction to electronic commerce. *International journal of scientific & technology research*, 2(4), 190-193.
- Nok, L. C., Suntikul, W., Agyeiwaah, E., & Tolkach, D. (2017). Backpackers in Hong Kong—motivations, preferences and contribution to sustainable tourism. *Journal of Travel & Tourism Marketing*, 34(8), 1058-1070.
- Padgett, D., & Allen, D. (1997). Communicating experiences: A narrative approach to creating service brand image. *Journal of advertising*, 26(4), 49-62.
- Pananond, P., & Zeithaml, C. P. (1998). The international expansion process of MNEs from developing countries: a case study of Thailand's CP Group. *Asia Pacific Journal of Management*, 15, 163-184.
- Pierre, M. (1958). The personality of the retail store. *Harvard Business Review*, 36(1), 47-55.
- Putri, F. E. V. S., & Tiarawati, M. (2021). The Effect of Social Media Influencer and Brand Image On Online Purchase Intention During The Covid-19 Pandemic. *Ilomata International Journal of Management*, 2(3), 163-171.
- Rao, S., & Farley, J. U. (1987). Effects of environmental perceptions and cognitive

- complexity on search and information processing. *Psychology and Marketing*, 4(4), 287.
- Rathnayake, D. (2021). E-commerce developments and strategies for value creation: the case of Russia and China. *Journal of Contemporary Issues in Business and Government*, 27(3).
- Reardon, T., Belton, B., Liverpool-Tasie, L. S. O., Lu, L., Nuthalapati, C. S., Tasie, O., & Zilberman, D. (2021). E-commerce's fast-tracking diffusion and adaptation in developing countries. *Applied Economic Perspectives and Policy*, 43(4), 1243-1259.
- Restall, C., & Gordon, W. (1993). Brands-The missing link; Understanding the emotional relationship. *Marketing and Research Today*, 21(2), 59-59.
- Reza Jalilvand, M., & Samiei, N. (2012). The effect of electronic word of mouth on brand image and purchase intention: An empirical study in the automobile industry in Iran. *marketing intelligence & planning*, 30(4), 460-476.
- Shah, S. S. H., Aziz, J., Jaffari, A. R., Waris, S., Ejaz, W., Fatima, M., & Sherazi, S. K. (2012). The impact of brands on consumer purchase intentions. *Asian Journal of Business Management*, 4(2), 105-110.
- Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics*, 9(1), 4-11.
- Sinha, I., & Batra, R. (1999). The effect of consumer price consciousness on private label purchase. *International journal of research in marketing*, 16(3), 237-251.
- Srinivasan, N., & Ratchford, B. T. (1991). An empirical test of a model of external search for automobiles. *Journal of Consumer research*, 18(2), 233-242.
- Stone, R. N., & Grønhaug, K. (1993). Perceived risk: Further considerations for the marketing discipline. *European Journal of marketing*, 27(3), 39-50.
- Suhartini, C. A. A., & Pertiwi, I. F. P. (2021). The effect of corporate social responsibility on consumer purchase decisions with corporate image and brand image as intervening. *Journal of Business and Management Review*, 2(5), 336-348.
- Taher, G. (2021). E-commerce: advantages and limitations. *International Journal of Academic Research in Accounting Finance and Management Sciences*, 11(1), 153-165.
- Tajeddini, K., & Nikdavoodi, J. N. (2014). Cosmetic buying behavior: examining the effective factors. *Journal of Global Scholars of Marketing Science*, 24(4), 395-410.
- Teas, R. K., & Agarwal, S. (2000). The effects of extrinsic product cues on consumers' perceptions of quality, sacrifice, and value. *Journal of the Academy of*

*marketing Science*, 28(2), 278-290.

- Wang, Y. (2021). Research on E-commerce Platform of Online Shopping Consumers. 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021),
- Weiner, B., Perry, R. P., & Magnusson, J. (1988). An attributional analysis of reactions to stigmas. *Journal of personality and social psychology*, 55(5), 738.
- Wen, Z., Hou, J., & Zhang, L. (2005). Comparison and application of moderating effect and mediating effect. *Acta Psychologica Sinica*, 37(2), 268-274.
- Yoo, B., & Donthu, N. (2001). Developing and validating a multidimensional consumer-based brand equity scale. *Journal of business research*, 52(1), 1-14.
- Yunus, N. S. N. M., & Rashid, W. E. W. (2016). The influence of country-of-origin on consumer purchase intention: The mobile phones brand from China. *Procedia Economics and Finance*, 37, 343-349.
- Zhang, Y. (2015). The impact of brand image on consumer behavior: A literature review. *Open journal of business and management*, 3(01), 58.
- Zhao, W., Wang, A., & Chen, Y. (2019). How to maintain the sustainable development of a business platform: A case study of pinduoduo social commerce platform in China. *Sustainability*, 11(22), 6337.

## APPENDIX A

### Questionnaire on the Influence of Pinduoduo's Brand Image on Consumers' Purchase Intention

Dear Ms./Mr.:

Greetings! Thank you for participating in this questionnaire survey, which is a questionnaire data collection for graduate research. The purpose of this study is to explore the factors affecting consumers' purchase intention on Pinduoduo, please fill in the questionnaire according to your actual purchasing experience and real feelings, and the truthfulness or otherwise of your answers will affect the accuracy of the final results. The results of the survey are only for the use of this academic research, and your personal information and answers will be kept strictly confidential.

Thank you for your support and participation in this survey!

Have you ever shopped on an e-commerce platform:

- yes No (questionnaires closed)

#### I、 Basic Information

1. Gender:

- Male Female

2. Age:

- 18 and under 19-25 26-30 31-35  
36-40 41-45 46-50 50+

3. Education Attainment:

- Junior high school and below  
High school/secondary school  
Specialized training school  
University  
Graduate students and above

4. Your current occupation:

- government office Joint Venture/Foreign Enterprise

- Private/private enterprises
- self-employed person
- student
- profession
- await job assignment
- retirement (from work)

5. Your monthly income:

- 2000 and under RMB
- 2001-5000 RMB
- 5001-8000 RMB
- 8000-10000 RMB
- 10000+ RMB

6. How long have you been exposed to e-commerce shopping platforms:

- Within half a year
- Half a year - 1 year
- 1- 2 year
- 2- 3 year
- years or more

7. How often do you buy products on e-commerce platforms:

- 1 time per week
- 1 time per month
- 1 per quarter
- Once every six months
- 1 time per year

8. Your average monthly spending on e-commerce platform shopping:

- 200 and below RMB
- 201-500 RMB
- 501-1000 RMB
- 1001-3000 RMB
- 3001-5000 RMB
- 5000+RMB

9. Your average weekly time spent browsing e-commerce shopping platforms:

- 2 hours and less
- 3-5 hours
- 5-10 hours
- 11-15 hours
- 15+ hours

## II. Questionnaires

Please read it carefully and then make an appropriate choice for each question based on your actual situation and true feelings. The scale of 1-5 indicates your level of agreement, with 1 representing strongly disagree and 5 representing strongly agree.

### Part I: Brand Identity (Pinduoduo Corporate Identity)

1. The e-commerce platform is large

- Strongly disagree     1         2         3         4         5        Completely Agree

2. The e-commerce platform is well known

Strongly disagree    1        2        3        4        5        Completely Agree

3. The e-commerce platform (enterprise) is keen to engage in social welfare undertakings

Strongly disagree    1        2        3        4        5        Completely Agree

4. This e-commerce platform is a leader in its industry

Strongly disagree    1        2        3        4        5        Completely Agree

Part I: Brand image (image of Pinduoduo 's products/services)

5. This e-commerce platform sells products at affordable prices

Strongly disagree    1        2        3        4        5        Completely Agree

6. The e-commerce platform sells a wide range of products in a variety of styles

Strongly disagree    1        2        3        4        5        Completely Agree

7. This e-commerce platform sells good quality products

Strongly disagree    1        2        3        4        5        Completely Agree

8. The e-commerce platform shopping program page layout is comfortable and reasonable, easy to understand and fully functional

Strongly disagree    1        2        3        4        5        Completely Agree

Part I: Brand image (image of Pinduoduo users)

9. The majority of consumers on this e-commerce platform are middle- to high-income earners

Strongly disagree    1        2        3        4        5        Completely Agree

10. The majority of consumers on this e-commerce platform are highly educated

Strongly disagree    1        2        3        4        5        Completely Agree



disagree

Agree

11. The majority of consumers on this e-commerce platform are young

Strongly  
disagree

1

2

3

4

5

Completely  
Agree

12. Consumers on this e-commerce platform are more focused on pursuing quality of life

Strongly  
disagree

1

2

3

4

5

Completely  
Agree

Part 2: Perceived Risk (Pinduoduo)

13. Choosing to buy the e-commerce platform's products may not be compatible with one's identity status

Strongly  
disagree

1

2

3

4

5

Completely  
Agree

14. I spend a lot of time and effort in recognizing the authenticity of products

Strongly  
disagree

1

2

3

4

5

Completely  
Agree

15. I am concerned about purchasing counterfeit products from this e-commerce platform, which will affect my health

Strongly  
disagree

1

2

3

4

5

Completely  
Agree

16. I am concerned that products purchased on this shopping platform are not as reliable as advertised

Strongly  
disagree

1

2

3

4

5

Completely  
Agree

17. I am concerned that products purchased on this platform may be more expensive than others.

Strongly  
disagree

1

2

3

4

5

Completely  
Agree

Part 3: Consumer willingness to buy (Pinduoduo)

18. This e-commerce platform is the first one I would choose when I have a need to purchase

Strongly disagree    1        2        3        4        5        Completely Agree

19. I would recommend this e-commerce platform to others

Strongly disagree    1        2        3        4        5        Completely Agree

20. I will continue to buy products from this platform in the future

Strongly disagree    1        2        3        4        5        Completely Agree

21. Even if the same product is slightly more expensive on that e-commerce platform, I would still choose to buy from that e-commerce platform

Strongly disagree    1        2        3        4        5        Completely Agree

