



The Influence of Online Marketing Mix on Brand Loyalty  
with Consumer Involvement as Mediator:  
A Smartphone Industry in China

Kexue Yan

Dissertation presented to Rajamangala University of Technology Phra Nakhon  
as part of the study of the Doctor of Business Administration Program  
Academic Year 2024



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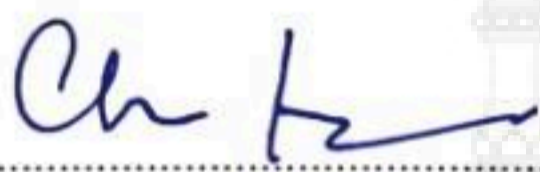
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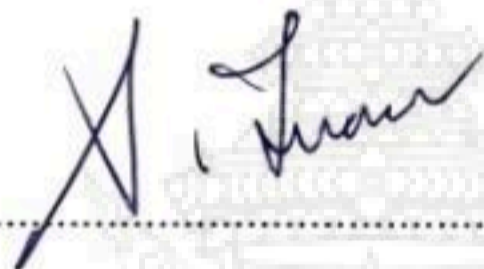
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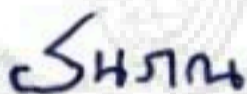
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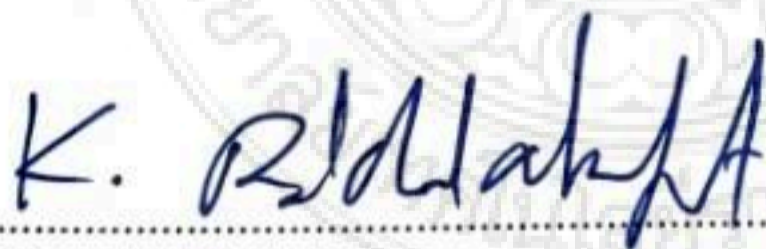
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## ABSTRACT

The rapid expansion of China's smartphone industry has definitively established it as a global leader, driving substantial innovation in marketing strategies that address the evolving demands of consumers. In today's digital era, the traditional 4P marketing mix has been transformed to incorporate essential factors such as privacy and personalization as key components of online marketing.

This study thoroughly examines the relationships between the online marketing mix, consumer involvement, and brand loyalty, with a particular focus on Chinese smartphone brands. Data were collected from 456 smartphone users through an online survey, and structural equation modeling was employed to analyze the established relationships.

The findings clearly indicate that the online marketing mix significantly enhances brand loyalty, both directly and indirectly, by positively influencing consumer involvement. Additionally, consumer involvement serves as a vital mediating factor that strengthens the connection between the online marketing mix and brand loyalty. These insights offer valuable recommendations for smartphone companies to refine their online marketing strategies by emphasizing personalization and privacy, ultimately fostering greater consumer engagement and cultivating stronger brand loyalty in an increasingly competitive market.

This study shows that internet marketing methods not only have a direct effect on brand loyalty, but they also indirectly improve it through consumer interaction. These findings emphasize the necessity of engaging consumers through well-executed digital marketing campaigns, as well as the role of emotional and psychological variables in developing long-term brand loyalty. Companies in the Chinese smartphone market may effectively improve customer engagement and develop long-term brand relationships by employing targeted marketing tactics, lowering perceived risks, and increasing brand symbolic and experiential value.

**Keywords :** Online Marketing Mix, Consumer Involvement, Brand Loyalty,  
Chinese Brand Smartphone



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Dear Advisor, Beloved Family, and Friends

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First and foremost, I would like to express my gratitude to my mentor. You have not only provided meticulous guidance in academia but also selfless care in life. Your wisdom and patience have been the beacons on my academic path, guiding me forward. I am also thankful to all the teachers and classmates who have supported and encouraged me, making my journey of academic exploration more steadfast and confident.

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# Chapter 1

## Introduction

Extensive research has been conducted on mobile phone marketing within the framework of the traditional 4P marketing mix model (Wu, J., Tang and R. 2023). However, the advent of network technology and the widespread adoption of internet-enabled devices have introduced new dimensions for integrating and expanding the traditional 4P model. In response, scholars have proposed augmenting the original 4P framework by incorporating privacy and personalization as additional factors, thereby evolving it into a 6P marketing model (Setiawan, I., Kartajaya, H., Kotler and P. 2016).

Furthermore, China's mature internet ecosystem, rapid technological advancements, and vast population of internet users make it an ideal context for examining smartphone marketing strategies through the lens of an online marketing mix. Such studies are not only necessary but also hold the potential to yield novel theoretical insights and innovative marketing approaches.

### 1.1 Background of Research

Brand loyalty, as a core component of brand equity, provides stable long-term benefits for enterprises. Understanding how to cultivate and sustain brand loyalty is a key concern in both academic research and marketing practice (Blackwell et al., 1999). Studies on brand loyalty generally follow two perspectives: marketing strategies—focusing on elements like product, price, distribution, and promotion—and consumer cognition, which examines how perceptions and experiences shape loyalty over time (Ailawadi et al., 2003).

#### 1.1.1 Brand Loyalty in the Chinese Smartphone Market

The Chinese smartphone market is highly dynamic, shaped by factors such as technological innovation, market differentiation, and consumer behavior (Christensen, 1997). With the rise of mobile internet and smart technologies, smartphones have become integral to daily life, serving as primary tools for

communication, social interaction, and entertainment (Kotler et al., 2017). China, the world's largest smartphone market, offers significant opportunities for both domestic and international brands.

However, competition is fierce. Local brands such as Huawei, Xiaomi, OPPO, and vivo compete against global giants like Apple and Samsung (Lee and Gereffi, 2013). To gain an edge, smartphone brands must introduce innovative products and adopt strategic marketing approaches to attract and retain customers (Dawar and Chattopadhyay, 2002). Consumer perception of smartphones is influenced by factors such as emotional engagement, identity expression, and perceived risks (Chitturi et al., 2008). Understanding these elements is crucial for refining marketing strategies.

#### 1.1.2 Marketing Channels and Competition

The competition in China's smartphone market revolves around product design, functionality, pricing, branding, and distribution channels (Chen and Chung, 2016). While international brands traditionally held an advantage in brand influence, Chinese brands have gained ground through strong local marketing networks (Cui and Lui, 2005). Effective marketing channels play a vital role in reaching consumers, as smartphones pass through multiple distribution stages before reaching end users (Porter, 1996).

Leading Chinese brands like Huawei and Xiaomi have successfully adopted online marketing models, using internet-based sales to achieve rapid growth (Sun, 2016). Xiaomi, in particular, pioneered an internet-driven sales strategy, reshaping the industry's distribution model (Ding, 2017). However, the dominance of online channels is being challenged. Recent data from Q1 2024 indicates a decline in internet channel sales, while traditional offline channels have seen renewed growth (Ma and Yu, 2024). This suggests that relying solely on online marketing is no longer a viable strategy, and brands must adopt an integrated online-offline approach (Gao, 2016).

### 1.1.3 Evolution of Marketing Strategies

Marketing is a fundamental business function that has evolved alongside commerce. It plays a key role in customer acquisition, brand promotion, and competitive differentiation (Kotler and Keller, 2016). Scholars have extensively explored marketing's effect on business growth and consumer engagement (Sheth and Sisodia, 2005). By employing strategies such as market research, positioning, pricing, and advertising, companies can attract potential customers, improve brand visibility, and increase market share (Grönroos, 1994). Marketing also helps firms gather consumer insights, refine product offerings, and enhance brand loyalty (Davenport and Harris, 2007).

Traditional marketing theories, including the 4P framework (product, price, place, promotion), have provided a strong foundation for the field (Kotler and Armstrong, 2021). However, with the rise of digital transformation, new marketing elements are gaining prominence, particularly privacy protection and personalization (Grönroos, 1994).

### 1.1.4 Digital Marketing and Personalization

The digital era has reshaped marketing practices, introducing data-driven strategies that emphasize consumer behavior analysis and targeted advertising (Kumar and Reinartz, 2016). Digital marketing relies on social media, search engine optimization, and big data analytics to enhance brand visibility and customer engagement. Interactive and content-based marketing approaches have emerged as effective tools for connecting with consumers (Dominici, 2009).

Personalized marketing has gained traction as brands strive to cater to individual consumer preferences (Lemon and Verhoef, 2016). Companies use advanced data analytics to segment consumers, offer tailored recommendations, and build long-term relationships (Adomavicius and Tuzhilin, 2005). However, this approach raises concerns about privacy. As businesses increasingly collect and analyze consumer data, ethical considerations regarding data protection and compliance have become critical (Martin and Murphy, 2017). Striking a balance

between personalization and privacy protection is a growing challenge in digital marketing (Taddeo and Floridi, 2018).

#### 1.1.5 Future Trends in Marketing

Marketing strategies continue to evolve in response to shifting consumer demands and technological advancements. The future of smartphone marketing in China will likely involve a more integrated approach, combining online and offline channels to optimize reach and engagement. Marketing models will emphasize consumer-centric strategies, focusing on customer experience, brand differentiation, and functional innovation (Zhang and Li, 2021).

The transformation of marketing channels reflects broader trends in the industry, including increased digitalization, expanded retail networks, and more sophisticated marketing techniques. Enterprises must continuously refine their strategies to adapt to these changes and remain competitive in a fast-evolving market (Chaffey and Smith, 2017).

Privacy protection and personalization will remain at the forefront of marketing innovation. As consumers become more aware of data privacy issues, companies must adopt transparent data practices and comply with regulatory requirements (Lwin et al., 2007). Meanwhile, personalized marketing strategies will continue to drive customer engagement and brand loyalty, leveraging AI-driven insights to enhance consumer experiences (Lemon and Verhoef, 2016).

In conclusion, brand loyalty, marketing channels, and digital strategies play a crucial role in shaping the competitive landscape of China's smartphone market. Businesses that effectively integrate innovative marketing approaches with consumer insights will be better positioned to achieve long-term growth and success.

## 1.2 Significance of Research

Existing research on online marketing mix has largely been centered around the traditional 4P framework. While scholars have proposed an extension to a 6P model by incorporating privacy protection and personalization, empirical validation of this revised framework remains limited. In particular, little attention has been paid

to how this expanded model functions within the smartphone industry in China, a market characterized by a highly developed digital ecosystem and unique consumer behaviors. Further investigation is necessary to assess whether the inclusion of privacy and personalization fundamentally alters the mechanisms through which marketing strategies influence brand loyalty.

Although emotional attachment has been identified as a stronger predictor of brand loyalty than functional attributes, research has yet to explore how such attachment evolves over time. The role of emotional connections in sustaining long-term consumer loyalty remains unclear, especially in industries where product life cycles are short and brand-switching costs are relatively low. A deeper understanding of how emotional engagement fluctuates across different consumer touchpoints would contribute to more effective branding strategies.

The growing influence of social media engagement on consumer-brand relationships has been widely acknowledged. However, there is insufficient research on the comparative effectiveness of different social media platforms in shaping brand loyalty. Given that Chinese consumers interact with brands through diverse channels such as WeChat, Weibo, and Douyin, further research is needed to determine how engagement on these platforms translates into long-term brand commitment. Additionally, the extent to which influencer collaborations and user-generated content drive sustained loyalty, rather than short-term brand enthusiasm, remains underexplored.

While personalization has been shown to enhance consumer involvement and purchase intentions, its interplay with privacy concerns presents an unresolved challenge. Brands are increasingly relying on AI-driven recommendations and data-driven marketing, yet consumer trust in these practices varies significantly depending on perceived data security. The trade-off between personalization and privacy protection in the context of digital marketing has not been sufficiently examined, particularly in terms of how consumer preferences shift in response to changing regulatory environments and evolving digital literacy.

### 1.3 Objectives of Study

1.3.1 To study the role of the online marketing mix in the smartphone industry in China. This study defines the online marketing mix as an extension of the traditional 4P framework (Product, Price, Place, and Promotion) by integrating two additional dimensions—Privacy and Personalization—which are critical in the digital marketing landscape. The research will analyze how these six components are applied in smartphone marketing strategies and their effectiveness in engaging consumers.

1.3.2 To investigate the concept of consumer involvement in online marketing and its role as a mediating factor between the online marketing mix and brand loyalty. Consumer involvement refers to the cognitive, emotional, and behavioral engagement of consumers with smartphone brands through digital platforms, including website interactions, social media engagement, content marketing, and online customer support. This study will assess how varying levels of consumer involvement influence brand perception and long-term customer commitment.

1.3.3 To examine the effect of online marketing mix strategies on brand loyalty in the Chinese smartphone market. Brand loyalty in this context refers to consumers' repeated purchases, brand preference, and advocacy. The study will use metrics such as Net Promoter Score (NPS), customer retention rate, and brand advocacy to assess the effectiveness of digital marketing efforts in fostering consumer loyalty.

1.3.4 To explore the marketing dynamics of the highly competitive Chinese smartphone industry and identify the key factors that shape consumer behavior in the online marketplace. This includes an analysis of technological advancements, evolving consumer preferences, and competitive strategies among smartphone brands. By investigating these aspects, the study aims to provide insights into how online marketing techniques drive consumer engagement, influence purchasing decisions, and contribute to brand success in China's digital economy.

## 1.4 Research Hypothesis

H1: Online marketing mix affects consumer involvement.

H2: Consumer engagement positively affects brand loyalty.

H3: Marketing mix actively affects brand loyalty.

H4: Consumer involvement is a mediating player between Online marketing Mix and Brand Loyalty.

A related framework is suggested on the grounds of hypotheses.

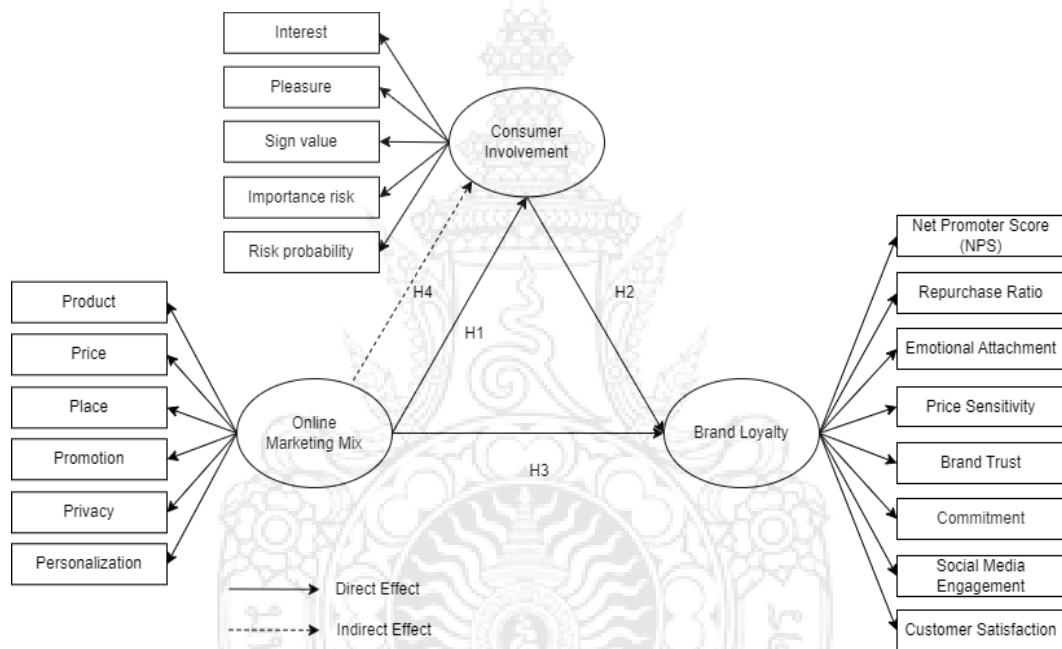


Figure 1.1 Conceptual framework

## 1.5 Scope of Study

Within the Chinese smartphone sale marketplace, how do discrepant categories of individuals choose to purchase smartphone products?

This research will investigate the key elements of the online marketing mix, which include merchandises, prices, distribution channels, and promotion (O’Cass and Julian, 2003). Specifically, it will analyze how such elements are devised, executed,

and streamlined within China's smartphone market to captivate and retain consumers. By examining these components, the research aims to provide a comprehensive understanding of the strategies that drive consumer engagement and brand loyalty in this highly competitive sector.

Dimensions and measurement of consumer involvement: This research will define the conception of consumer involvement and investigate its multifaceted manifestations, which include cognition, affection, and behavior. The effect of discrepant online marketing tactics upon consumer engagement will be gauged through both quantitative and qualitative methods.

Creation and maintenance of brand loyalty: This research will construe the influence of the online marketing mix on consumer fidelity to smartphone brands. It will also examine the mechanisms behind the formation of brand loyalty and explore ways of improving and upholding consumer fidelity via various online marketing practices.

Case selection and data collection: This research will focus on smartphone brands in the Chinese market, selecting representative cases for in-depth analysis. To back up the validity and credibility of conclusions, associated market information, consumer survey information, and corporate marketing tactic literature will be collected and analyzed.

This study will be conducted nationwide. To ensure data representativeness, representative cities will be selected from six regions of China: East China, North China, South China, Central China, Southwest China, and Northwest China. The survey will target mobile phone users aged 18 to 65, as well as individuals who have used Chinese-branded smartphones since 2018.

## **1.6 Expected Benefits**

1.6.1 Through thorough and methodical research, this study examines the precise mechanisms of each critical component within the online marketing mix. By analyzing these components, we aim to comprehend how they affect consumer involvement and conduce to the development of stronger brand loyalty. Smartphone

companies have effectively enhanced consumer engagement, stimulated purchasing intentions, and develop brand loyalty through various online marketing approaches and elaborate tactics.

1.6.2 The findings of this research will offer corporations key market insights and strategic suggestions, making them adapt and streamline their marketing approaches to cope with varying market dynamics and particular consumer needs. According to eCommerce Merchandising (2023), companies that implement precise and effective internet marketing tactics can distinguish themselves in a fiercely competitive sector, raise their market share, and enhance their brand worth.

## 1.7 Definitions of Term

Online Marketing Mix: The "Online Marketing Mix" refers to the adaptation of the traditional marketing mix (Product, Price, Place, Promotion) to the digital environment, incorporating elements such as digital products or services, online pricing strategies, virtual distribution channels, and internet-based promotional tools.

The Online Marketing Mix expands the traditional 4Ps model (Product, Price, Place, Promotion) by incorporating two additional elements relevant to the digital age: Personalization and Privacy (Chaffey et al., 2019). Here are the six components:

**Product:** In an online environment, the product encompasses both physical goods and digital products or services. Businesses can leverage internet technologies and big data analytics to better understand consumer needs, co-create products with users, and deliver more appealing and personalized product experiences.

**Price:** Pricing strategies in the digital age are more dynamic and flexible. Companies can utilize big data to adjust prices in real-time, implementing dynamic pricing strategies. Additionally, psychological pricing tactics are widely used to cater to different consumer expectations and willingness to pay.

**Place:** Online channels transcend traditional geographical limitations. Businesses can provide products and services to global consumers through e-commerce platforms, branded websites, and social media. The integration of online

and offline channels (O2O) is also increasingly popular, offering consumers a seamless shopping experience.

**Promotion:** Digital promotion methods are diverse, including search engine marketing, social media marketing, content marketing, and email marketing. Companies can use digital tools to precisely target audiences and implement personalized promotional activities to enhance marketing effectiveness.

**Personalization:** Personalization is a key feature of online marketing. By collecting and analyzing user data, companies can provide customized product recommendations, content, and services, thus enhancing user experience and satisfaction.

**Privacy:** In digital marketing, protecting consumer privacy is crucial. Companies need to comply with relevant laws and regulations, implement effective measures to safeguard user data, and build consumer trust in the brand.

**Consumer Involvement:** Zaichkowsky (1985) defines consumer involvement as "a person's perceived relevance of the object based on inherent needs, values, and interests." This concept reflects the level of personal relevance and interest a consumer perceives in a product, service, or advertisement, influencing their information processing and decision-making behaviors.

Consumer involvement refers to the degree of personal relevance and interest a consumer perceives in a product or service. Laurent and Kapferer (1985) identified five key components that constitute consumer involvement:

**Interest:** This dimension reflects the consumer's inherent curiosity or passion for a product category. A high level of interest indicates that the product aligns closely with the consumer's personal tastes or hobbies.

**Pleasure:** This component pertains to the enjoyment or satisfaction a consumer derives from a product. Products that provide significant pleasure can enhance a consumer's emotional connection and commitment to the brand.

**Sign Value:** Also known as symbolic value, this dimension relates to the extent to which a product conveys a desired image or status. Consumers may choose products that symbolize their identity or social standing.

**Importance Risk:** This aspect involves the consumer's assessment of the potential negative consequences associated with a purchase decision. Higher perceived importance of risk can lead to increased information seeking and deliberation before making a purchase.

**Risk Probability:** This dimension reflects the consumer's perception of the likelihood that a purchase may result in negative outcomes. A higher perceived probability of risk can deter consumers from purchasing or prompt them to seek additional assurances.

**Brand Loyalty:** Jacoby and Chestnut (1978) describe brand loyalty as "the biased, behavioral response, expressed over time, by some decision-making unit, with respect to one or more alternative brands out of a set of such brands, and is a function of psychological decision-making, evaluative processes." This definition emphasizes consistent preference and commitment towards a particular brand, resulting in repeated purchases over time.

As claimed by PunniyaMoorthy and colleagues (Punniyamoorthy and Prasanna Mohan Raj, 2007), involvement, trust, perceived value, customer satisfaction and commitment are strongly impacting the loyalty.

The measurements of brand loyalty commonly contain some important aspects:

**Net Promoter Score (NPS):** Loyal clients customers tend more to recommend a brand to others. This can be determined by tools like the Net Promoter Score (NPS).

**Repeat Purchase Behavior:** A direct measure of loyalty, indicates if customers purchase a brand's merchandises or services time and again (Repurchase Ratio).

**Emotional Attachment:** Such dimension appraises the emotional bond between customers and a brand. Strong emotional association frequently exhibit higher loyalty.

**Price Sensitivity:** Loyal customers might be less sensitive to price variations. They continuously buy a brand's products even though the price rises.

**Brand Trust:** This determines the customer's trust in some brand, like quality of products, service credibility, and moral practices. Loyalty and devotion Garbarino

and Johnson, along with other academics, elucidate the correlation between loyalty and brand trust in their research (Garbarino and Johnson, 1999). They highlight the significance of trust in cultivating favorable and active attitudes. In reality, brand trust is a fundamental concept in every enduring relationship. Thus, in the realm of consumer brands, it can serve as a significant factor in generating emotional attachment that ultimately results in enduring loyalty. Consequently, it is logical to conclude that as the level of confidence in a brand increases, the level of consumer loyalty would also increase (Hess, 1995).

Customer trust in a brand is an important factor in customer brand loyalty. It can increase or decrease the value of the brand itself and make consumers feel a sense of belonging to the brand (Delgado-Ballester, E., and Luis Munuera-Alemán, J., 2005). Trust can influence consumers to buy brands, brands can have an emotional connection with customers, and brand trust is the ability of a brand to meet consumers' recognition of the brand (Moorman et al., 1992). Therefore, brand trust is a factor that connects consumers to products and makes consumers loyal to brands.

**Commitment:** Commitment is considered to be a necessary condition for maintaining a successful long-term relationship (Morgan and Hunt, n.d.). Marketing scholars define commitment as the desire to maintain a relationship, a guarantee of long-term cooperation. The existence of a committed relationship makes it possible for customers to maintain their loyalty to a brand or company even when customer satisfaction is low. Lastovicka and Gardner (1978) define brand commitment as an individual's commitment and constraint to brand choice (Lastovicka and Gardner, 1978).

**Social Media Involvement:** The extent of customer interplay with the brand on social media, like shares, comments, and likes. Multiple research projects have investigated the correlation between product engagement and loyalty. As found by LeClerc and Little, a reciprocal correlation emerges between brand loyalty and product engagement. In the research on leisure activities, Park discovered a strong correlation between engagement and attitudinal loyalty (Park, 1996). Product engagement refers to a consumer's enduring dedication to a specific product category,

encompassing their ideas, emotions, and behavioral reactions. Engagement refers to the condition of drive, arousal, or interest in a product that cannot be directly observed. The study conducted by Park, Kim, and their colleagues presents more substantiation that engagement is closely linked to both intention and behavior, corroborating the findings of other prior studies.

Customer satisfaction refers to the extent to which customers perceive that their expectations have been met or exceeded by a product, service, or overall experience with a company (Oliver, 1980). It is a key metric used to evaluate the success of a business in delivering value to its customers.

Consumer Engagement extends beyond basic involvement, encompassing both the level of participation and the quality of effort invested in academic and study practices (Kuh, 2003). It means the student' cognitive, affective, and behavioral investments in their study. Commonly, engagement is debated on how educational activities and courses practices can be devised to cultivate in-depth learning, in which students are positively considering, comprehending, and utilizing their knowledge (Lane and Miluzzo, 2010). Engagement is frequently determined via students' participation in practices and activities both producing high-level learning results, their motive to learn, and their use of effective learning strategies (Xiao and Kim, 2018).

This research does not differentiate the two conceptions (consumer involvement and consumer engagement). The conception of involvement is applied to this paper.

“Smartphone” is a term, which means cell phones' technological and functional features. With an isolated operating system, smartphone as a general term for a category of cell phone, can be equipped by users with games and other programs from third-parties. Through the programs, the functionality of cell phones can be constantly expanded and wirelessly accessed via the communication network (Park et al., 2017). Smartphones can be employed like computers by installing software to extend the fundamental functionality of cell phones.

This research employs Chinese unique brand smartphones produced by Huawei, Honor, Xiaomi, Vivo, and OPPO as the research object. These smartphones

are completely manufactured in China and are mainly sold and promoted in China's marketplace (Sun and Xu, 2015). Noticeably, this research just emphasizes the sale and consumer information of smartphones in China. In other nations, its market performance and user comment are outside the collection range and this analysis.



## Chapter 2

### Theory and Related Document and Research

The internet mobile phone marketing channel, signifying the online mobile phone marketing or e-commerce channel, creates a modern substitution for the conventional offline mobile phone marketing channels. According to Brynjolfsson et al., (2013), this emerging channel model utilizes internet-based platforms, computers, smartphones, and other electronic devices as platforms to facilitate transaction activities. Unlike traditional channels, it leverages digital tools and services to enhance accessibility, efficiency, and consumer engagement (Brynjolfsson et al., 2013). As the Internet is widely employed and online shopping grows swiftly, the internet-based model of promoting and sale smartphone has gained significant traction via e-commerce platforms. As highlighted by Brynjolfsson et al., (2013), this shift has positioned the internet mobile phone marketing channel as a critical component of contemporary marketing strategies. Moreover, its growing influence has increasingly disrupted traditional marketing channels, reshaping the competitive landscape of the smartphone industry.

The Internet mobile phone marketing channel model is capable of being separated into online direct selling channel model and indirect marketing channel model. Online direct sales are the same as traditional direct sales marketing channel models. There exists no demands for middlemen in the construction of marketing channels (Chiu et al., 2012). Manufacturers are capable of establishing marketing sites by their own to make clients directly buy merchandises on the Internet, and collaborate with e-commerce platforms, thus achieving the settlement function (Laudon and Traver, 2021). Concurrently, manufacturers are able to adopt their logistics mechanisms and collaborate with specialized logistics corporations, therefore completing product distribution.

The indirect marketing channel model implies a channel model in which the final product sales are completed through electronic middlemen (e.g. Tmall, JD.com,

WeChat micro-store platforms). Such online transaction pathway can significantly decrease costs for corporations (Huang and Benyoucef, 2013). Specially for young and middle-aged consumers, it can correctly position the target groups, lock in possible users. Hence, the market can be occupied (Gefen et al., 2003).

As a novel mobile phone marketing pathway, the Internet marketing pathway has remarkable strengths (Rao et al., 2011). In terms of smartphone producers, the marketing channel has no operational expenses of physical shops. The maintenance of web pages is comparatively easy, and the cost of product promotion is low. As to customers, the online marketing pathway has rich merchandises, suitable prices, and easy purchase for customers, who are capable of completing purchase at home; businessmen have powerful promotional endeavors and diverse forms. Customers are able to obtain value-for-money service experience at low costs.

Nevertheless, as such marketing pathway model remains in the budding stage, the law protection mechanism is not integral, paying security has concealed hazards. The internet fraud and issues from merchant integrity take place over and over. The major group of Internet phone marketing pathways are still suitable for young and middle-aged clients. This is challenging for older individuals to accept. Moreover, the target marketplace is comparatively restricted. Customers couldn't go shopping to authentically try the commodities and could just abstractly comprehend the product performance through pictures and text presentation. Diverse issues from inconveniences in post-sales service and logistics distribution have significantly impacted the effectiveness of the online marketing pathway model; Further, the merchandise homogeneity in such model is acute, the price is not high, and the businessman's profit improvement is restricted. Hence, the competition is highly intensified (Bélanger and Crossler, 2011). If the Internet mobile phone marketing channel wants to develop in the long run, there are still many areas that need to be improved.

## 2.1 The Concept, and Theoretical Basis

The market target of firms is to reach customer demand. An obvious characteristic of society is to speed up technical innovation and the convenience of technical spillovers. This makes it challenging for firms to attain extra profits via monopoly operating. They should react to variations in customer needs actively in the marketplace (Kotler and Keller, 2016). Thereby, apart from sustainable competitive forces via innovations, firms should also positively propagate information, like "brands, products, functionalities, and knowledge," to customers. This requires utilizing the marketing theory and knowledge, namely, corporations develop marketing tactics. Nonetheless, the target of a corporate marketing tactics to satisfy customer needs, yet easily selling commodities to customers, frequently triggers customer disgust. It is hard to fulfill the target of accepting goods (Barney, 1991). As a result, the marketing mix strategy came into being. The marketing strategy is to systematically introduce products according to the aspect that consumer demands are satisfied best when promoting their merchandises to particular customers on the grounds of market studies (Levitt, 1983). Briefly, corporations refine and identify diverse factors impacting customer decisions, like products, prices, promotions, and channels, such that they collaborate and interact mutually. Integrated information makes customers make choices and voluntarily consume. Thus, corporations can attain obtain more profits and positive social implications in marketing.

Marketing theory is formulated as merchandises come into the varying marketplace (Schultz et al., 1993). For long, products were not taken into account for marketing, since they were made for exchange and could not reach social demands on account of the technical constraints, production conditions and resource availability, so marketing was not taken seriously. With the rapid advancement of technologies, merchandises are not scarce any more within the market economy age. Nevertheless, intensified competition emerged. So, how to make customers be faithful to their merchandises is a key issue that corporations have to confront (Chaffey and Ellis-Chadwick, 2019). Hence, marketing emerged and continuously develop as the market improved (Aaker,1991). The swift progress of (information

technology) IT has transformed production methods and continues to significantly effect our daily lives. Traditional marketing media, such as print and TV ads, were once limited to reaching fixed audiences without external competition. However, the rise of the Internet has revolutionized marketing practices almost overnight, introducing new dynamics and opportunities (Prahalad and Ramaswamy, 2004). The smartphone sector also confronts the identical issue. How could the smartphone sector utilize online marketing combination based on the conventional marketing mix model and what marketing tactic to employ have been vital problems confronted by firms.

Smartphone firms have accelerate their endeavors in brand establishment via comprehensive marketing approaches, systematically integrating diverse marketing tools and approaches (McCarthy, 1964). They have modulated commodity position and enhanced mobile phone functionalities on the grounds of customers' commodity purchases for raising the fidelity of elder clients and captivate new client in the meanwhile. They have renewed merchandises with clients at the core and adopted various marketing approaches, like products, prices, promotion, and services. They should do an excellent job within the marketplace while employing merchandises as one medium to fulfill active interplay with substantial consumers. Hence, customers's fidelity are constantly fostered towards their mobile phone brands and the corporate advancement targets are achieved.

### 2.1.1 Marketing Concept

Marketing is considered to be a process of exploration, creation and delivery of value to meet the needs and desires of the target market (Leivo and Adielsson, 2015). When Neil Borden introduced the concept of the "4Ps" and E. Jerome McCarthy simplified it to 4 core elements also known as the marketing mix (product, price, place and promotion) in 1960, marketers were given the opportunity to explore every aspect of these elements to meet customer needs and wants (Borden, N. H., 1964) (McCarthy, E. J., 1960). Marketing has remained somewhat the same over the years, but with the advancement of technology, both markets and marketing have been significantly affected. The Internet comes into our lives, which has created

numerous chances affecting marketing. As the Internet advances, online sales (e-sales) have been more popular in society (Talpau, 2014). The Internet contributes to interacting. Currently, the conventional marketing is substituted by online promotion, as an increasing part of marketing budgets are dedicated to online marketing (Talpau, 2014).

### 1. Marketing

Recognizing the General Electric Company during the early 1950s signified the dominance of philosophy (Kilic, 2004). This was gradually known as the conception of marketing. The marketing idea also marked the beginning of relationship marketing, which aims to build enduring connections with clients to guarantee recurring business, establish enduring partnerships, and cut expenses.

(Kilic, 2004). It was immediately regarded as a novel frontier in corporate progress and obtained a status equivalent to a kind of faith; few were suspicious of its efficacy in business and academics (Sachs and Benson, 1978). The marketing conception can be interpreted most simply as a belief that the organization can come into play for its customers and itself in which an equilibrium is achieved between the needs of both of these parties (Bernard Trustrum, 1989).

### 2. Marketing Mix

The marketing mix become a key dimension of all excellent marketing tactics. Formulated by Neil Borden, a professor at Harvard University in 1950s, such conception was established on "mixer of ingredients," as depicted by James Culliton. Borden initially originally put forward 12 factors for his marketing combination, which were gradually refined into the 4P model (Product, Price, Place, and Promotion) by E. Jerome McCarthy in 1960s (Borden, 1964). Such model has been a core framework in marketing research and practices, which made businesses formulate efficient marketing programs, target the desired audiences. Finally, The model is successful within competitive marketplace (Culliton, 1948).

### 3. Marketing Mix Theory

The theory of the marketing mix is an outstanding outline of the essence of traditional marketing theory. Since the concept of marketing mix was

proposed, with the development of the times, the marketing theory community is continuously expanded and enhancing. Concurrently, numerous classic marketing combinations has been raised which have the sense of the age and adjust to the demands of the age, like the 4P theory of the shortage economy age, the 4C theory of the surplus economy age, and the 4R theory of the intensified competition era (McCarthy, 1960). This paper will begin with the research on the 4P marketing combination theory for the network marketing combination.

Such theory came from the United States in 1960s. According to the 12 elements of the marketing combination from Neil Borden, Jerome McCarthy depicted the marketing combination in "Basic Marketing" as 4 elements: product, price, promotion, and channel, along with strategy, which becomes the noted 4P mix. McCarthy stated such combination as "a mix of the total elements which one marketing manager can handle to reach the target marketplace." It was further established that the 4P marketing mix is the foundational element of marketing (Kotler, 1967). Price: Different price strategies are formulated according to different market position (Howard, 1972). The product pricing is established on the corporate brand tactic, highlighting the gold brand content. Distribution (Place): Firms do not straightforwardly confront customers, yet emphasizes the culture of distributors and the building of marketing channels. The association between firms and customers is implemented via distributors. Promotion: Firms highlight variations in sales actions to encourage customers, boost consumption via short-range actions (e.g. discounts), captivate customers of other brands or boost sales increase by consuming previously. 4P separates the elements into two types: the first type is macro uncontrollable elements, like exterior environmental elements, including Political, Economic, Social, Technological (PEST model) (Howard, 1972)

The other type becomes micro-environmental elements regarding the company operating, like commodities, prices, pathways, promotions, etc. Firms should affect diverse uncontrollable elements by operating diverse controlled elements, with the sake of forging a beneficial exterior situation for the corporate progress and facilitate the enterprise fulfilling targets.

4. The shortcomings of the traditional 4P marketing mix in online marketing

Discrepant marketing combinations are produced in discrepant environments. Thereby, they are just feasible to discrepant marketplaces.

Under the Internet market, the marketing setting and approaches have altered. Marketing has progressively changed into individualized, interactive, and global marketing, separately (Grönroos, 1994). The deficiencies of the conventional marketing combination have been growingly obvious.

A key deficiency of the 4P mix theory is that it encompasses no elements showing interactivity. This is the base of the marketing online. Further, the 4Ps in such mix exhibits 4 discrepant, accurately defined, and isolated management procedures. Nonetheless, the 4Ps in the online market are not isolated mutually. They correlate with one another. These just occupy a section of the company's web, which consumers are capable of undergoing synchronously online. Within the online market, the elements which firms can straightforwardly handle. What impacts consumer purchasing behavior are the 4Ps and the customer's web experience (Web Experience Constantinides, 2004). Such experience only means the consumer's systematic impression of the company's websites (Hoffman and Novak, 1996). Such websites exhibit associated dimensions which might captivate clients. Significantly, the 4Ps are just a section of it.

#### 5. Online Marketing Mix

According to the relationship between online marketing mix and purchase behavior, internet marketing is becoming a more important marketing channel (Jaimoon et al., 2013). Nowadays, most people prioritize convenience and speed. In addition to communicating, kids spend an increasing amount of time on computers, tablets, and smartphones. In addition, people use search engines to find information on the Internet (Adam, 2002). According to study, digital media has a significant effect on our beliefs, attitudes, and behaviors. More and more people are experiencing an intriguing phenomenon: digital multi-platform (Multi Screen). This means that customers can get internet material via many channels at the same time.

While watching television, they utilize tablets or cellphones to talk and update social networks simultaneously. This is caused by digital media.

The transformative effect of digital media is undeniable, with online platforms increasingly accessible to broader audiences. Advances in communication infrastructure have enhanced the efficiency of mobile communication, prompting commercial organizations to prioritize digital media marketing—particularly through internet-based platforms, which demonstrate consistent annual growth. This shift has become a defining feature of the modern era, driven by digital media's unparalleled capacity to engage audiences efficiently. Globally, its adoption outpaces all other forms of media, and as Kasetiam and Yuwadeeniwad (2022) emphasize, digital media plays a pivotal role in shaping decision-making processes.

In the current period, there are more aspects that are deemed significant in influencing consumers' purchase decisions. Due to the current trend, consumers typically seek information about products and services online prior to making purchases. Statistical data demonstrates the influence of social networks on customers' buying choices.

The theories and notions on online marketing combination factors are regarded as marketing tactics for corporations which sell commodities or services. Hence, online marketing contributes to communicating for marketing. The primary target is to get customers more conscious of merchandises and services. It is a channel for frequent interaction with customers employing diverse approaches in websites for advertising product sale and enable it to reach consumers in correct target groups. The conception of online marketing combination factors, is important according to the original 4P marketing mix factors of Kotler (Kotler, 2000) comprising Product, Price, Place or distribution, and Promotion. However, online marketing combination, or 6P, has integrated a novel factor, 2P which is Personalization and Privacy. The conception of electronic marketing combination is an emerging marketing constituents in which all constituents are equal and associated. It is highly crucial in electronic business operating. This includes the components as follows. Product is presented to the marketplace to reach the demand of customers and should forge values. Product is

separated into three types: physical commodities, digital commodities, and services. Price is the whole cost which customers have to spend for merchandises and services. Pricing should allow for the market price, like the shipping price and the ordering convenience. As a result, price is a key player in measuring whether customers will purchase the merchandise or not and even impacts the profitability of merchandises (Mathong et al., 2020). Place (Distribution channels) is a course which brings commodities or services to the marketplace for clients to consume merchandises or services. As technologies are utilized, they will cause the transfer of commodities and services easier for customers and producers, like possessing an ordering mechanism, payment mechanism, a subscription mechanism, seeking for information, and so on. (Saengsa-ngiam. 2021). Promotion is just marketing communication guaranteeing that the target marketplace comprehends and emphasizes what is provided. Promotion stimulates customers conduct in light of what we anticipate, a demand for usage, decide to purchase and go back to purchase again. This depends upon discrepant instruments, like advertisement banners, advertisement through emails, advertisement with one member referral mechanism, advertisement via other webs, advertisement on search engines, etc. Personalization is a procedure of putting forward merchandises or services in view of the behavior of service clients. It must be a cooperative interactive style between entrepreneurs and customers in a particular way named point-to-point marketing to show what satisfies the demand of customers, and boost customers (Maopraman and Pasunon, 2022). Privacy becomes a policy which organizations have released to the public concerning how to defend personal information and establish reliability (Limrojnkoon, 2017). Hence, it is capable of being utilized in conventional marketing factors by incorporating technical abilities till building a novel marketing constituents.

Online publicity and marketing activities have a profound effect on both users and enterprises in terms of privacy protection, and these effects run through the entire process of data collection, processing, analysis and application (Acquisti et al., 2015). When users participate in online publicity activities, their personal data, such as browsing habits, purchase records and preference settings, may be collected

by enterprises without full notification or consent, thereby increasing the risk of privacy leakage (Tucker, 2014). In addition, the advent of the big data era has led to the continuous tracking and recording of consumers' online behavior, resulting in consumer behavior patterns becoming extremely transparent to enterprises, which may infringe on consumers' privacy space and trigger sensitive issues of privacy infringement.

At the same time, enterprises conduct precision marketing by building user portraits, but if user portraits are abused, it may infringe on users' personal privacy and even lead to discriminatory practices based on preferences or behaviors (Martin and Murphy, 2017). The push of personalized advertisements may also make consumers feel monitored and uncomfortable with the use of personal information. When collecting and using user data, enterprises bear the responsibility of protecting user privacy and data security. Data leakage or improper handling will not only damage consumer trust, but may also cause enterprises to face legal liability and reputation loss (Voigt and Von dem Bussche, 2017). In market competition, enterprises may excessively collect and analyze user data to improve marketing effectiveness, ignoring the importance of privacy protection. In addition, with the strengthening of data protection regulations, such as the EU General Data Protection Regulation (GDPR), companies need to ensure that their data processing activities comply with relevant regulatory requirements when conducting online publicity and marketing, which poses a new challenge to companies.

In the context of continuous technological advancement, while companies use technologies such as artificial intelligence and big data analysis for marketing, they also need to consider how to find a balance between innovation and privacy protection (Beldad et al., 2010). Consumers' views on how companies handle their personal data directly affect their trust in the brand. If companies fail to properly protect user privacy, it may damage their brand image and consumer loyalty. Therefore, companies must fully consider the importance of privacy protection while pursuing marketing results, and ensure that they find a suitable balance between innovation and privacy protection.

### 2.1.2 Theoretical basis, and development of consumer involvement

The literature about involvement reveals three key fields emerge which are taken into consideration by marketing scholars (Zaichkowsky, 1994). These fields contain advertisement, product class, and purchasing decision-making (Zaichkowsky, 1986). The literature unveils that the three fields correlate with each other in terms of their personal relationship. Reportedly, personal relationship is a focal topic of involvement studies, due to the fact that involvement definitions are short of conformity (Greenwald and Leavitt, 1984). The involvement construct has operated to determine one or more of these fields. Slama and Tashchian (1985) formulated one step of worldwide engagement for the purchasing situation. According to Sherif and Cantril's (1947) argument, individuals are able to create numerous discrepant kinds of engagement (e.g., engagement with campaigns, targets, minds, societal problem, and so on), they point out that purchasing is an action through which individuals can engage. Mittal (1988) employed Zajonc's (1980) thesis to formulate a measurement of engagement through a valid selection model (Arora, 1982). As for the affective selection model, customers are regarded as one information processing mechanism. The mind of the low-engagement customers who do not have much information when product selection is not crucial, or the purchasing condition is integrated with such model (Zaichkowsky, 1985). Personal involvement inventory (PII) regards involvement as one uni-dimensional construct. Nonetheless, an assessment of credibility and effectiveness of this scale in the context. (Foxall and Pallister, 1998) indicated that two dimensions might emerge, with the primary one being reasoning and the secondary element being affective. By comparison, Laurent and Kapferer's (1985) consumer involvement profile (CIP) regards involvement as a multifaceted construct. The CIP is established on determining disparate hypothetical aspects concerning persistent involvement. Two scales underscores individual-object engagement.

In the CIP, Laurent and Kapferer (1985) stated that involvement was not "a unitary one", rather than a "multidimensional construct". They formulated the CIP to determine 5 aspects of engagement. Such five aspects are stated as below:

Interest means the individual relevance and significance a consumer associates with a product. It reflects the extent to which an individual perceives a product as meaningful or important in their daily life (Zaichkowsky, 1985). Pleasure encompasses the hedonic and rewarding value derived from a product, including its emotional appeal and ability to generate enjoyment and positive affective responses (Holbrook and Hirschman, 1982). Sign value represents the extent to which a product serves as a medium for self-expression, allowing consumers to communicate their identity, values, and social status through ownership or usage (Kapferer and Laurent, 1993). Importance risk refers to the perceived significance of potential negative consequences associated with making an incorrect purchase decision, which can influence the level of consumer involvement and decision-making effort (Laurent and Kapferer, 1985). Risk probability refers to the consumer's perceived likelihood of making an incorrect purchase decision. It reflects the subjective assessment of the probability that a chosen product will fail to meet expectations, leading to dissatisfaction or financial loss. Higher perceived risk probability often results in increased consumer involvement, as individuals invest more time and effort in evaluating alternatives to minimize the potential for a mispurchase (Laurent and Kapferer, 1985).

The conception of consumer Involvement relates to the stimulus organism response (SOR) (Mehrabian and Russell, 1974). This offers a key comprehension concerning a person's reaction to individual's environment. According to the model, an individual's thought process about the environment affects the way one feels in an environment, affecting the individual's action. Baker and colleagues (1994) claimed that retail shopping affected their inner state, triggering the variation in actions driving them to the shop. Such model deeply revealed that the effect of environmental incentives is incorporated via the cognitive and affective dimensions of consumption experience. To uphold long-standing consumer purchasing behaviors, comprehending customer value via consumption is highly important (Carlson et al., 2015).

Literature review on consumer involvement (CI) summarized that the conception has been explored in many ways and discrepant conditions. Nonetheless, the critical assessment illuminated that numerous studies concentrated upon investigating the antecedents and results of CI. Chan and colleagues (2014) delved into the notion of CI in the Internet brand communities. The core focus was the function of system backup, expression freedom, community worth, identification, and rewards to stimulate CI. Pansari and Kumar (2017) outlined and even created the framework of CI on antecedents and results. Islam and colleagues (2019) executed a similar study and accentuate the worth of service quality. Findings have manifested that service quality is a pivotal player in improving CI. This finally formulates an endeavor on Intentional patronage and brand experience.

Little research has expanded the conception of CI in the smartphone sector and centered upon forecasting customer-based antecedents of CI (Romero, 2017), whilst Carvalho and Fernandes (2018) explored that under consumer brand engagement, CI particularly concentrated upon its impetus and results. Findings manifested involvement, interactivity, and flow experience as the significant drivers of consumer brand Involvement, whereas satisfaction, commitment, trust, and word-of-mouth referrals, were discovered as the related results (Harrigan et al., 2017). As for other research, scholars have put forward consumer-based results which contain corporate performance and intangible achievements, encompassing suitable marketing and privacy, as well as customer-based antecedents such as well-being and happiness (Pansari and Kumar, 2017). Hollebeek (2011) provided engagement as a predictor, correlation quality, and consumer fidelity as results of customer loyalty. In fact, researchers have checked these models (Chan et al., 2014) and summarized credible customer-based antecedents, like service quality and related results in service environments, e.g., intentional patronage and brand experience (Islam et al., 2019). Moreover, an active situation also raises the degree of their activity and boosts the interplay between customers and the brand. Another important variable includes consumers' perceived sociability, which contributes to growing consumers' social presence (Carlson et al., 2018). Under the particular background, sociability is

frequently felt by customers via heightened social interplay through discrepant technical mediums (Alnawas and Aburub, 2016; Zhang et al., 2015). This contributes to formulating societal cohesiveness and inspires CI actions.

H1: Online marketing mix has effect consumer involvement.

### 2.1.3 Brand Loyalty

Brand loyalty is the customer's commitment to repurchasing a favorable brand persistently in future with no regards to the context (Liu, 2007). The loyalty is a customer's persistent preference for a brand among others, frequently shown in their repetitive purchase of commodities or services (Islam and Rahman, 2016). The loyalty is a habit and even entrenched in a further sentiment of satisfaction and trust which consumers feel towards one brand.

This loyalty often extends beyond rational and economic factors, as consumers may continue to buy a brand even through more convenient or cheaper substitutions can be obtained.

Brand loyalty is utilized to depict some marketing phenomenon (Rather et al., 2019). Brand loyalty has had a rich tradition of research in the field and the construct is sometimes identified as having a complex mixture of attitudinal and behavioral elements (Islam et al., 2019). Actually, brand loyalty may be regarded as a specific case of correlation marketing, in which customers have a remarkable mental attachment to the consumed brand entity. Researchers have begun to explore the relational variables lying at the core of a customer-brand correlation (Chaudhuri and Holbrook), resulting in brand fidelity. The brand fidelity's conceptualization and measurement evolve, which could be separated into three stages. Previously, its earlier history research had been highlighted about operational measurements with technique-oriented models, emphasizing well-defined mathematical models, like linear learning models or Bernoulli, Markov chain (Wong and Merrilees, 2015). Researchers and marketers simply defined loyalty as a behavior of the customer. Thus, repeated purchase in terms of volume and value was alone a significant measurement of customer loyalty until the 1950s (Dick and Basu, 1994). This single-dimensional measurement model is capable of being criticized, since customer fidelity

should expand beyond the consumer's behavioral measures. As argued by Dick and Basu, loyalty should not be viewed as only repurchase actions, which opens up the door for various variables which can be checked as the results of evaluative constructs in brand loyalty research.

Consumer behaviors are capable of being triggered by situation elements, like lacking available substitutions, elevated switching cost or a trend to inertia. Actually, about 75% consumer purchasing decision-making is built on their attitude and emotion. This implies loyalty measurement should include customers' attitudes but not repetitive purchasing behavioral pattern merely (Oliver, 1999). Nevertheless, in the meanwhile, attitudinal measure is inadequate for determining fidelity. As a result, researchers had gauged customer loyalty via integrating attitudinal and behavioral measures in the meanwhile. During this stage of loyalty progress, an attitude or liking of the developed brand, on account of continuously meeting utilization occasions (Jacoby and Chestnut, 1978). Brand loyalty shown is targeted the level of liking for brands. Oliver states brand fidelity as 'a further held commitment to repatronise or repurchase a preferred commodity/service persistently in future, thus triggering repeated same-brand or identical brand-set shopping, in spite of situational impacts and marketing endeavors can trigger switching actions. Such definition highlight two discrepant dimensions of brand fidelity: attitudinal and behavioral measures. Chestnut and Jacoby provided the preference behavior model for measuring brand loyalty based on these two dimensions: behaviors and attitude. In the third phase, brand loyalty can be regarded as a 'multidimensional' construct. Some unique mental processes measure brand fidelity and requires multivariate measurements (Park, 1996). The path analysis model of correlations between engagement, mental commitment and fidelity put forward that consumers should pass sequential mental processes to be faithful participators: (a) forming an elevated a elevated level of purchase involvement, (b) sustaining firm attitudes to resistance to alter brand preferences, (c) the progress of mental commitment to a brand.

As suggested by Chaudhuri and Holbrook, behavioral, or purchasing, loyalty contains repetitive brand purchases, whilst attitudinal brand fidelity contains

an extent of dispositional commitment in a certain distinctive value regarding the brand (Chaudhuri and Holbrook, 2001). Following commitment, brand trust acts as a significant factor in influencing brand loyalty. Brand trust is conceptualized as 'The confident expectations of the brand's reliability and intensions in situations entailing risk to the consumer. In the consumer-brand domain, this idea implies that the brand is an active relational partner. One way to legitimize the brand as an active member of the relationship rather than a passive object is to highlight ways in which brands are personalized and animated (Anderson and Mittal, 2000). It is widely known that perceived value, the potential key determinant of loyalty, is composed of a 'get' component - that is, the benefits a buyer derives from a seller's offering and a 'give' component - that is, the buyer's monetary and nonmonetary costs of acquiring the offering (Punniyamoorthy and Prasanna Mohan Raj, 2007). Customer satisfaction is the major factor that influences the loyalty behavior. An increase in satisfaction goes along with an increase in loyalty. It has been suggested that loyalty includes some degree of pre-dispositional commitment toward a brand. Commitment is considered as a necessary condition for brand loyalty.

## **2.2 Online Marketing Mix and Consumer Involvement**

In marketing, excessive researchers have started thorough and extensive exploratory studies to uncover the effect of marketing upon CI (Reichheld, 2003). Such scholarly inquiries have carefully construed the inherent association between marketing tactics and consumer involvement while scrutinizing it throughout diverse layers and standpoints. According to severe assessments, results unanimously indicate that customized marketing tactics exert a significant and active influence upon intensified CI. This perception is highly significant, in terms of expanding the understanding of marketing theories and navigating actual marketing endeavors.

Persuasive contents in the message, like charity and emotion, are capable of improving user engagement, whilst purely informational content (such as price, availability and product features) can reduce involvement, but can also improve engagement integrated with influential content (Hosanagar and Nair, 2015).

Lee, D and colleagues (Hosanagar and Nair, 2015) indicate that, client involvement on mass media, as exhibited by shares, comments, likes, and message clicks, is prominently influenced by content engineering. Firms may obtain from mass media to release information on their mass media campaigns and demonstrate their brand features. Directly guidance content might not stimulate mass media interplay. Nonetheless, some information inspires more click-throughs. Although direct messaging content generates direct response and is key to performance marketing, brand personality largely promotes involvement and is important to long-ranging brand establishment.

Former research has proven that mass media affects consumer purchasing the promoted merchandises and helps smartphone marketers communicate with target audiences (Salvation and Sorooshian, n.d.). Studies have also confirmed that social media marketing significantly affects consumer decisions to sell smart phones, through promotion, such as influencer endorsements or exclusive online offers, and the level of product involvement, including factors like personal relevance and emotional connection, significantly influencing this effect. Furthermore, consumer engagement through social media platforms, like sharing product experiences and participating in brand-related discussions, further amplifies the influence of these marketing efforts, shaping purchase intentions and brand loyalty.

### **2.3 Online Marketing Mix and Brand Loyalty**

The marketing mix (product, pricing, channel, and promotion), substantially affects brand fidelity. For starters, such mix is about products. Innovative, high-level commodities reaching consumer demands can facilitate customer satisfaction, which leads to brand loyalty. Second, a sensible pricing plan influences consumers' purchase decisions while also showing the brand's value position. Corresponding and according to market expectations, pricing boosts customer trust. In addition, channel selection and deployment directly affect product convenience and availability. A multi-channel tactic can satisfy the purchase actions of diverse customers, enhance brand touch points, and thus improve brand fidelity. At last, promotion campaigns, encompassing

advertisement can improve. Studies indicate that expansive advertisement and promotional campaigns, like sweepstakes and contests, can lead to consumer satisfaction, improve brand fidelity, while fulfilling desired outcomes (Pourdehghan, 2015).

Consumer involvement (CI) means the user's behavioral manifestation toward a specific company, brand, or commodity, which contains a company's endeavors to activate customer contribution and its measurement. CI is significant to both business and marketing research practices (Harrigan et al., 2017).

As noted by Bowden (2009), the conception of CI is a procedure associated with commitment, trust, and involvement in terms of creating engaged and faithful customers. One conceptual framework was raised concerning the correlation segmentation between brands and customers on the grounds of the conception that customers are new or elder buyers to a particular brand. This research manifested that involvement becomes a key course built on the progress of customer commitment. Commonly, "involvement" is conceptualized as a mental process aiming at producing brand fidelity to raise or sustain customers purchasing to a special merchandise. Such conception developed a further comprehension of the theme concerning CI and the course via which CI is formulated among customer segments. consumer involvement behavior (CEB) was deeply demonstrated by van Dijk et al., (2014). The concept included the behavioral manifestation of consumers toward a specific commodity. The theory reveals the manifestations reliant upon the customer's impetuses. CEB contained some actions, like assisting in other users, suggestions, lawful behaviors, word of mouth, reviews, and blogging.

For this purpose, the theory uncovers that CEB becomes a helpful framework for partitioning customers and their categorization. Hence, CEB are capable of efficaciously assessing customer selection of the core brand as the main interest variable. As suggested by Brodie and colleagues (2011), CI is the mental procedure which contain emotions, cognition, and behaviors of customers.

Shang et al., (2006) debated consumer interplay and engagement in online commercial communities, in which customers share their experience before

a low-cost interplay (Gong, 2018). As emphasized by De Vries and Carlson (2014), customers are prone to share their experience on mass media. This ultimately forms consumer Involvement with the brand. Bapat and Thanigan (2016) proposed a study to determine discrepant aspects of brand experience about brand fidelity and assessment. As illustrated by factor analysis, two disparate aspects of brand experience, namely, cognitive experience and affective experience. This research deeply verified that such two aspects are important to impact brand assessment, which straightforwardly impacts brand fidelity.

Nysveen et al., (2013) implemented an analogous research, in which brand experience is formulated as one multidimensional construct, which comprises service experience, merchandise experience, brand experience, purchasing construct experience, commodity packaging, commodity design, commodity identity, interaction, environment, and so on. Further, brand experience strongly relates to disparate aspects, which contain the individual capability of sensing, feeling, thinking, acting, and correlate with their whole experience. As suggested by Brakus and colleagues (2009), conceptualized brand experience involves discrepant senses, behavioral reactions, cognition, and emotions. They are the final reactions offered via brand-associated incentives, like packaging, brand design, identity, interaction, and environment.

In view of these constructs, the research differentiate experience dimensions through a brand experience scale. This encompasses aspects, like brand engagement, brand assessment, brand personality, brand attachment, and customer delight. Findings suggest that brand experience prominently indirectly impacts customer fidelity and satisfaction, whilst it exerts an indirect impact upon brand personality relationships.

Guo and colleagues (2020) have highlighted the extent of uncertain award and its impacts upon consumer engagement, notably during the promotion phase, since value co-creation has been a key factor for enterprises to fulfill competitive edges. In fact, they have uncovered that uncertain awards can be employed to

enhance the influence of consumer engagement. Moreover, this could be implemented at low cost by making customers navigate their shopping habits.

As discovered by Yu and Yuan (2019), utilitarian and enjoyable values impact brand experience, brand attachment, consumer equity impetuses. Brand trust are straightforwardly affected by brand experience. The research has manifested a positive relevance between brand trust and loyalty. Brand equity actively impacts the value of consumer lifetime. As noted by Clemes and colleagues (2020), consumer satisfaction is a partial mediating player in the correlation between behavioral inclinations and service quality, along with between behavioral inclinations and perceptive value (Shi et al., 2023).

H2: Consumer involvement actively affects brand fidelity.

## **2.4 Consumer Involvement and Brand Loyalty**

For decades, a novel variation occurred from transactional to correlation marketing, building long-term relationships through consumer relationships and interactions (Islam et al., 2019). Within the nontransactional behavior, consumer Involvement is among the novel notions gaining remarkable attention in academic studies and sector, technical situations (Hollebeek et al., 2019), getting it among the increasing research fields (Moliner-Tena et al., 2019).

Bylund and Lindgren (2017), along with Wong (2012), examined the conception of consumer engagement. They noted that consumers as co-creators for brands and firms presented fellow consumers with excellent perspectives on brands and merchandises. Among consumers, such collaborative effort is powered by the inclination to post reviews on mass media. Hence, their engagement is intensified. Such actions serve to develop awareness of consumer preferences across social media platforms. Social interactivity is associated with various factors, such as familial influence, the influence of television advertisements, peer dynamics, and societal pressures, all of which are crucial in cultivating consumer engagement. The study's

findings emphasized television advertisements as a critical factor influencing consumer engagement behaviors, ultimately promoting brand loyalty.

Bylund and Lindgren (2017), in conjunction with Wong (2012), scrutinized the concept of consumer involvement, emphasizing that consumers assume the role of co-creators for brands and enterprises by sharing their perspectives on brands and products with other consumers. Their collaborative endeavors are driven by the impetus to publish reviews on social media, thereby augmenting their engagement levels. Furthermore, this cocreation can amplify awareness of consumers' preferences across diverse social media platforms. Social interactivity is intricately linked with various factors, including the influence of family members, television commercials, peer pressure, and societal norms, which are crucial in fostering consumer involvement. The study's findings unveiled advertisements as a significant determinant of consumer involvement behaviors, ultimately facilitating the development of brand loyalty.

## **2.5 Consumer Involvement and Social Interactions**

Social media is applied to interact with customers to improve their experience. Prior research has investigated the correlation between customer involvement and social interplay on mass media. As identified by Guesalaga (2016), consumer involvement (CI) forecasts customers in raising their sales directly and indirectly and personal commitment. As asserted by Zhang and colleagues (2017), CI with mass media can impact social interplay in customers to start the affective experience. Finally, this contributes to increasing consumer value through mass media.

Harrigan and colleagues (2017) have formulated one framework to recognize the correlation between social interplay and CI. This research discovered that the framework significantly forecast the behavioral intention of consumer fidelity to involvement. Hence, it helps tourism administrators assess the nature and dynamics of CI in the social media context.

As illustrated by Hollebeek et al., (2014), important consumer brand involvement results are shown due to customer brand involvement as one predictor for social interplay. Further, social interplay helps mass media in raising self-brand association and brand utilization intention in customers. As recognized by Cabiddu and colleagues (2014), CI is fulfilled among customers when mass media offers adequate interaction chances. CI has emerged via tests and observation technologies to capture the spent time by travelers in social interplay and possess mental and behavioral standpoints.

Obviously, the nature and trends of social interplay evolve swiftly between organizations and customers. As reported by Baumol and colleagues (2016), the influence of the varying nature of social interactions toward social media marketing ensure consumer Involvement on organizational culture, the infrastructure of IT, corporate tactics, and supervision of associated hazard and chances. As indicated by Aluri and colleagues (2015), social interplay of hotel web users are improved via mass media channels. Nonetheless, this research does not discover an active correlation between CI and social interplay through mass media. Dessart and colleagues (2015) have verified active relationships between brand fidelity and commitment via brand engagement online.

H3: Marketing mix positively affects brand fidelity.

## **2.6 Consumer Involvement, Social Interactions and Brand Loyalty**

Comprehending the essence of mass media interactivity is key to formulating excellent consumer engagement, as mass media users are vulnerable to highly interactive features. Huang et al., (2018) evaluated the indirect impact of reaction to brand fidelity, with the intention of determining the straightforward influence of the mass media interactivity upon brand fidelity. The research unveiled an active, direct, and powerful influence of social interactivity upon consumer engagement and brand fidelity. As noted by Busalim et al., (2019), the key function of social theories and related factors in establishing consumer engagement and technical factors.

The research has formulated a framework to offer the most significant influence upon consumer engagement. As highlighted by Naumann and colleagues (2017), social interactivity and consumer engagement are important, and consumer engagement is more accessible for firms to have a practical discussion between brands and customers with the authentic consistency of online communities. A cooperation has been developed by the interplay between brands and customers which are thoroughly executed in the progress of brands (Haryanto et al., 2017).

This is a crucial disparity about interplay between brands and customers. As stated by Aluri and colleagues (2019), loyalty plans are employed to improve customer satisfaction and persistent commitment. Commonly, they offer strengths to members in return for their loyalty to firms (Vernette and Kidar, 2013). Correlations between shopping intention and behavioral engagement are proved via multifaceted conceptions of consumer engagement to intensify the patronages and attitudes of customers. Molinillo and colleagues (2020) have discovered a rise in consumer engagement, on account of community factors and social backup. Further, repurchase intentions and eWOM are enhanced via consumer engagement, as it enhances consumer engagement and fosters stronger emotional connections with the brand.

As stated by Sjöqvist (2015), perceived benefits are significant in economy for Facebook and Instagram. Social enhancement is among the most interactive indices on Facebook for recreation benefits and correlation results. Consumer engagement is largely visualized in their tours to brand communities, purchasing merchandises, and the frequency of message reading on Facebook. Gorgeous (2016) pointed out the significance of self-brand consistency, brand experience on the Internet, and engagement as key indices of online brand engagement, which is affected by brand love, satisfaction, and active oral communication. Hollebeek et al., (2016) claimed the importance of incentivized referrals, societal interactivity, and customer shopping involvement which finally causes the focal objective, thus making a large-scale and quantitative exploration on this novel context be executed.

H4: Consumer involvement has been mediating between Online marketing Mix and Brand Loyalty.

### 1. Consumer Involvement

Western scholars have yet to agree on the concept of intervention, which might be in part because "intervention" has numerous applications (organizational actions, psychology, sociology, and so on). The common standpoint is to emphasize the personal relevance in the conception of intervention. The personal relevance is the vital characteristic of intervention (Zaichkowsky,1985). The personal relationship is the extent of relationship which customers can feel as measured by the association between their demands, targets, worth, utilization, and product properties.

In terms of advertising studies, personal relevance contains the recipient. Information recipients are straightforward affected and requested to react to ad information (Petty and Cacciopo,1981). In the research on product intervention, personal connection means the relationship between merchandises, demands, and values of customers. As to purchasing decision studies, personal relevance means the relevance of the decision, namely, the consumer is boosted to meditate the purchase decision-making (Clarke and Belk,1978).

### 2. The type and nature of the intervention

Intervention is capable of separated into two categories: advertising intervention (Krugman,1967) and purchase decision intervention (Clarke and Belk,1978). The former means consumers are concerned about ad information or the mental state of customers when exposed to advertisement (Howard and Sheth,1969). Currently, most documents about ad intervention primarily debate the causes of the correlation between discrepant extents of intervention and advertisement effect, disparate extents of ad intervention, and the intervention extent and influence factors of customers in ad information. There exist numerous causes of discrepant degrees of purchase intervention, in which customers' insight into the risks of purchasing merchandises is a cause which can not be neglected. (Hupfer and Gardner,1971). If consumers think that the purchase risk is higher, then their degree of Involvement in advertising will be more elevated. The direction and content of ad information will significantly affect consumer attitude. As emphasized by Celsi and Olson (1988), the acceptance of ad content if low self-engagement relies heavily upon the reliability of

the advertising information origin: If the source is more elevated, the consumer is easier to accept the information, vice versa. As indicated by Maheswaran and Meyer-Levy (1990), negative information is capable of generating a substantial advertising influence in escalated intervention circumstances; positive information is able to yield a substantial influence in low intervention circumstances (Dholakia, 2001). Product intervention means the significance of customers to the commodity or their judgment of the commodity's significance. Such judgment is associated with the individual cognitive degree and mental state of customers. Product engagement strongly relates to customer comprehension and knowledge of commodity properties, product significance recognition, brand recognition and preferences, advertisement perception, and consumer perceived risk (Zachkowsky, 1985). Browne, B. A., et al., (1997) examined customer engagement in clothing merchandise. They discovered that consumer's 'self-powered' actions and 'role variation' between discrepant brands were affected by "egoism". This illuminates that product intervention is linked to multiple elements, like individual experience and condition (Auty and Elliott, 1998). Purchase decision-making intervention means consumer concern about purchasing. On conditions that purchasing decision-making and activities are excessively autonomous, clients will spend much time in gathering and assessing information, making choices and rational purchasing decision-making. The extent of purchasing decision intervention will impact customers' significance of product prices, the category and quantity, and the gathered information, brand choice, the way and place of purchasing, and the extent of attention to corporate promotional practices.

### 3. Degree of intervention

Former scholars and researchers employed a dichotomous to distinguish intervention into high and low intervention (Sherif and Cantril, 1947). High interventionists searched for a large amount of information about attributes but only chose a restricted quantity of properties. Apart from deep contrast of some properties, high interventionists will positively meddle in factors regarding to decision-making situation to emphasize novel information on commodities or activities if possible. In

terms of exploring the impact and audience experience of social media, Cagman also stated two different correlations emerged between customers and advertisement effects: lack of interference and high engagement. Cagman thinks that customers do not engage in TV advertisement. In the low interference, the perception composition of customers might slowly alter (Flynn and Goldsmith,1993). In the high interference, customers will seek for prominent distinctions and tensions with the original standpoints and attitudes before altering their actions. As pointed out by Zaichkowsky, the most speak of "highly involved" and "low interference" are only a common delineation of the two interventions of customers. The intensity/extent of intervention needs to be one continuum. Hence, in this way, the intensity/extent of intervention must be scientific, relative to "intervention level." Lamb et al., (2004) also believe that it is unscientific to simply distinguish intervention between low and high extents. Since it is challenging to obviously differentiate the extent of intervention between marketing and customer actions, the degree of intervention should be reliant upon the five aspects: interest, experience, perceived risk, context, and social implication.



## Chapter 3

### Research Methodology

The research range is the correlation between online marketing mix, customer involvement, and brand fidelity. Such mix is established on the conventional 4P marketing combination. In light of the features of online network marketing, privacy and personalization are added, which collectively form a novel 6P marketing model.

A research methodology is devised to explore the 3D correlation in the marketing mix on the Internet, consumer engagement, and brand fidelity needs a stringent and many-sided method, which guarantees a thorough analysis on the interplay and mutual effect in such variables.

The Chinese smartphone marketplace has extensive coverage. Numerous mobile phone brands are compete with each other, like novel local brands and famous global producers. It is particularly worth mentioning that China has given birth to some fiercely competitive independent brands, like Xiaomi and Huawei, which exert remarkable influence in home and abroad marketplaces. It is vital to research the direct association between online marketing combination, customer involvement before and after purchase and brand fidelity of localised smartphone brands in China.

#### 3.1 Study Design

By exploring the influences of the smartphone marketing mix upon customer involvement and brand fidelity, a methodologically study design is necessary. Such an inquiry serves to delve into the effect of an expanded marketing mix, containing Product, Price, Place, Promotion, Privacy, and Personalization, on the involvement degrees of smartphone customers and the produced influence upon brand fidelity. Further, it attempt to recognize the marketing mix elements which could be employed to improve consumer participation, extension, and loyalty to the brand.

#### Standards for the Selection of Survey Participants:

1. Demographic Heterogeneity: The selection process shall prioritize the inclusion of a demographically diverse cohort of participants, covering a broad spectrum of ages, income levels, and locations. Such diversity serves to collect a systematic range of consumer dispositions and actions regarding smartphone usage, thus guaranteeing the exterior effectiveness of research findings.

2. Adaptability in Smartphone Usage: Such survey will classify participants on the grounds of the intensity of smartphone usage, from minimum to maximum. The classification considers a granular analysis on the correlation between the extent of consumer engagement and utilization patterns, providing perceptions on the involvement levels in discrepant user groups.

3. Classification of Brand Affiliations: The research will solicit engagement from consumers of various smartphone brands, with the aim of boosting a comparative investigation on brand fidelity dynamics and the validity of various marketing mix tactics throughout brands.

4. Exploration of Historical Purchase Actions: Inquiries concerning respondents' prior smartphone purchasing decisions will contribute to evaluating extant brand fidelity and the elements beneficial for the preferences. Such historical perception will expand the examination on how marketing mix factors affect consumer engagement and fidelity.

The rationale is grounded behind the selection standards. The propose is to guarantee that the sample correctly reflects the wider smartphone customer base. Featured by classified sampling, such a method is devised to obtain an equilibrated representation among smartphone users. As a result, the applicability and credibility of research results are strengthened.

Through organized questionnaires, this study will adopt quantitative and qualitative methodologies to determine the influence of particular marketing mix components on consumer engagement and fidelity, as well as open-ended queries to obtain greater perceptions on consumer thoughts and actions (Song et al., 2005). This double approach serves to reveal delicate comprehensions of the ways where

the smartphone marketing mix could be refined to boost consumer engagement and brand fidelity, laying a foundation for handling the competitive landscape of smartphone markets.

To comprehend how the online marketing mix affects consumer engagement and how consumer engagement impacts brand fidelity on the Internet.

Through preliminary interviews and research, this study found that in the minds of consumers, brands occupy a leading position in the smartphone marketplace, including Vivo, Oppo, Huawei, and Xiaomi, and possess market share and elevated recognition. According to this discovery, integrated with market dynamics and customer attention, this article took Oppo, Huawei, and Xiaomi as the main objects to deeply analyse the competitive capacities of these brands in China's smartphone market and customer preferences (Johnson et al., 2006). Such mobile phone brand corporations all utilize various marketing approaches. They hope that customers will select their merchandises and identify with their brands during usage while increasing brand fidelity.

### 3.1.1 Questionnaire

Quantitative Research: Surveys and questionnaires are used for collecting information about customer insights into the online marketing mix, degrees of consumer engagement, and indexes of brand fidelity.

To safeguard the validity and credibility of the scale, the measurement items were chosen from mature scales at home and abroad and modified in light of these steps: For starters, the measurement items of each construct were gained and combined from the extant literature (Barker, 2009). Second, the English scale was interpreted into Chinese, and subsequently translated into English-by-English specialists, and a two-way comparison was performed to safeguard the accuracy of the translation. Third, a preliminary survey was implemented on the initially compiled scale, and interviews were conducted with the respondents. Based on the feedback, the language of original scale items was modified and enhanced. Following the items were chosen, some were reversely designed to decrease the effect of the common method bias issue in self-administered questionnaires on the scientific nature of the

research (Podsakoff et al., 2003). To ameliorate the validity and credibility of questionnaire variables, design a more complete questionnaire, and guarantee the scientific essence of this research, it is a necessary action to conduct a pretest prior to the formal large-scale distribution of the questionnaire (Song and Zinkhan, 2008). This research employs reliability analysis to refine questionnaire items. Concurrently, the pretest is capable of gauging the suitable subjects to complete the questionnaire, and by communicating with subjects, guarantee that the subjects comprehend and are familiar with the issues to be explored (Sweeney and Soutar, 2001). Since large specimen surveys are campaigns consuming much time, energy, and cost, it is indispensable to firstly execute a small-scale pre-investigation of samples, and such course is the pre-survey process. The survey sample was conducted in China, and data was collected from all over the country, including North China, East China, South China, Central China, Northwest China, and Southwest China. Some online surveys obtain user data from other regions through e-mail and online chat (Tsao, 2014). Therefore, the collection questionnaire adopts a self-filled questionnaire to gather data from brand fans. The writer randomly invites eligible collection users to partake in the survey among collected brand users. The preliminary investigation was completed by the end of August 2024. in total, 100 questionnaires were distributed. After deleting unqualified questionnaires, 81 valid questionnaires were finally attained. The standard for judging unqualified samples surpass 90% of the scale question options are the identical number; the filling results have logical errors. According to demographic distribution, the small sample preliminary investigation data mainly shows the views and features of mobile phone brand users and is representative of the overall brand loyalty.

Through the framework raised by Kapferer and Laurent, including the dimensions of consumer involvement such as Interest, Pleasure, Sign Value, Importance Risk, and Risk Probability (Jahn and Kunz, 2012), a questionnaire will be formulated through one five-level Likert scale. Between "Strongly Disagree" (1) and "Strongly Agree" (5), such scale makes participants express their degree of agreement to each statement. This questionnaire primarily serves to assess various aspects of

consumer engagement regarding a particular commodity. It is expected that the collect responses are insightful for how customers perceive the commodity in individual interest, affective engagement, identity manifestation, and perceived hazards concerning the purchase. The information reaches significance for corporations aiming to understand the target market and streamline their marketing tactics.

Furthermore, in view of the aspects of brand loyalty identified before, a questionnaire will be formulated through the identical five-level Likert scale. Between "Strongly Disagree" (1) and "Strongly Agree" (5), such a scale makes participants illuminate the degree of their agreement to offered statements. This questionnaire aims to implement a systematic evaluation of a consumer's fidelity to a special brand, involving dimensions from shopping to affective connections and satisfaction levels. It is expected that the gathered responses are insightful for commercial planning to develop a greater comprehension and improve their customer fidelity.

**Table 3.1** Measurement scale on online marketing mix

Dimension	Item	No.	Source
product	The performance and function promotion of the mobile phone displayed online influenced my purchase decision:	M_CP1	Asdi, A., and Putra, A. H. P. K. (2020). The effect of marketing mix (4P)
	The product description and beautiful mobile phone pictures on the Internet are crucial to my purchase of smartphone:	M_CP2	on buying decision: Empirical study on brand of Samsung
	The online introduction of this brand of smartphone is durable, made of high-quality materials, and has powerful camera functions:	M_CP3	smartphone product. Point Of View Research
price	Competitive pricing affects my choice of product purchase:	M_JG1	Management, 1(4), 121-130.

**Table 3.1** Measurement scale on online marketing mix (continued)

Dimension	Item	No.	Source
price	This brand of smartphone has multiple series of products, and I can always find products that meet my purchasing power:	M_JG2	
	This brand of smartphones is affordable and of guaranteed quality:	M_JG3	
place	The introduction of the mobile phone shopping website is attractive:	M_QD1	
	I prefer to buy smartphones on shopping websites:	M_QD2	
	Search websites will recommend smartphones of this brand to me:	M_QD3	
promotion	Online discounts will affect my purchase of smartphone:	M_CX1	
	Online promotions before the release of new smartphone have aroused my expectations:	M_CX2	
	Online promotions have increased my trust in the quality of smartphone:	M_CX3	
privacy	I browse well-known e-commerce websites and do not worry about privacy leaks:	M_YS1	
	The mobile phone information pushed to me by the website is helpful for my purchase of smartphone:	M_YS2	
	The website can recommend various information in my area for me:	M_YS3	

**Table 3.1** Measurement scale on online marketing mix (continued)

Dimension	Item	No.	Source
personalization	Personalized product recommendations (news or soft ads) make me more likely to buy from online stores:	M_GX1	
	Shopping websites will recommend related products of brands I follow:	M_GX2	
	My personal social media (WeChat Moments, Douyin, etc.) will push products I follow to me:	M_GX3	

**Table 3.2** Measurement scale on consumer involvement

Dimension	Item	No.	Source
Intrest	Before buying a mobile phone, I will look for information on the brand of mobile phone online:	CI_I1	Mittal, B. (1995). A comparative analysis of four scales of consumer involvement. <i>Psychology and marketing</i> , 12(7), 663-682.
	I learned about the brand of mobile phone through social media (such as WeChat official account):	CI_I2	
	I learned about the functions of the brand of mobile phone through the Internet and TV commercials:	CI_I3	
pleasure	Reading the introduction of the brand of mobile phone makes me want to buy:	CI_P1	Laurent, G., and Kapferer, J. N. (1985). Measuring consumer involvement profiles. <i>Journal of marketing research</i> , 22(1), 41-53.
	I will ask and learn about the brand of mobile phone through online interaction:	CI_P2	
	The knowledge I learned about the brand of mobile phone online makes me feel a sense of accomplishment:	CI_P3	

**Table 3.2** Measurement scale on consumer involvement (continued)

Dimension	Item	No.	
Sign value	The smart phones of this brand are relatively popular and have a certain degree of popularity:	CI_S1	Traylor, M. B., and Joseph, W. B. (1984). Measuring consumer involvement in products: developing a general scale. <i>Psychology and marketing</i> , 1(2), 65-77.
	I think the design of the brand of mobile phone is very distinctive:	CI_S2	
	The mobile phone brand has multiple series, which can meet the choices of users of different ages:	CI_S3	
importance	I am worried that I will regret making a wrong decision when buying, so I will fully understand the brand of mobile phone:	CI_IR1	Miller, D. W. and Marks, L. J. (1996) 'The moderating effects of enduring involvement on imagery-evoking advertisements ', <i>American Marketing Association</i> , pp. 121 – 128
	When others make negative comments about this brand of mobile phone, I will learn more about this brand of mobile phone:	CI_IR2	
	Smartphone are durable goods, and you must fully understand them before buying to avoid regrets:	CI_IR3	
Risk probality	The good reviews online prompted me to consider buying this brand of mobile phone:	CI_RP1	Miller, D. W. and Marks, L. J. (1996) 'The moderating effects of enduring involvement on imagery-evoking advertisements ', <i>American Marketing Association</i> , pp. 121 – 128
	This brand of mobile phone can ensure the security of my data:	CI_RP2	
	This brand of mobile phone has stable performance and generally does not fail:	CI_RP3	

**Table 3.3** Measurement scale on brand loyalty

Dimension	Item	No.	Source
NPS	Others have recommended this brand of mobile phone to me:	BL_NPS1	Ishak, F., and Abd Ghani, N. H. (2013). A review of the literature on brand loyalty and customer loyalty.
	I will recommend this brand of mobile phone to others:	BL_NPS2	
Repurchase ratio	I have been using this brand of mobile phone:	BL_RR1	
	When I change my mobile phone, I will choose this brand of mobile phone again:	BL_RR2	
Emotional attachment	I recognize this brand of mobile phone:	BL_EA1	
	I think this brand of mobile phone is stable and easy to operate:	BL_EA2	
Price sensitivity	Even if the price increases, I will continue to buy this brand of mobile phone:	BL_PS1	
	Although the high-end products of this brand of mobile phone are expensive, they are of good quality and worth buying:	BL_PS2	
Brand trust	I trust this brand and believe in the quality of its commodities/services:	BL_BT1	
	This brand of smartphones has high recognition:	BL_BT2	
commitment	I do not consider switching to other brands of smartphone:	BL_C1	
	I think this brand of mobile phone is cost-effective:	BL_C2	
Social media engagement	I will interact with the introduction of this brand of mobile phone on social media (like, share, comment):	BL_SM1	
	I am a loyal user of this smartphone brand and often participate in online interactions related to this brand of smartphone:	BL_SM2	

**Table 3.3** Measurement scale on brand loyalty (continued)

Dimension	Item	No.	Source
Customer satisfaction	I am generally content with the experience of using such brand of smartphone:	BL_CS1	
	The quality of this brand of smartphone is guaranteed, and the functions can meet my basic needs:	BL_CS2	

## 3.2 Population and Sample

### 3.2.1 Population

The research scope is defined as all mobile phone users in China. In order to fully consider the differences in economic levels, social customs, cultural concepts, etc. in different regions, and to guarantee that the conclusions are widely applicable and universal, this survey selected multiple regions in China as the main survey scope. These regions include East China, North China, South China, Central China, Southwest China and Northwest China.

The reason for selecting these regions is that they represent the main characteristics of China in different geographical locations, economic development levels and cultural backgrounds. East China has a relatively developed economy, a high level of urbanization, and residents' consumption concepts and lifestyles are relatively modern; North China is centered on the capital Beijing and has a strong political and cultural influence; South China is the forefront of China's reform and opening up and possesses an escalated degree of internationalization; Central China is a region with a relatively concentrated population in China, with a medium economy and culture; Southwest and Northwest China are relatively remote and have relatively unique ethnic cultures and lifestyles. Conducting sample surveys in these regions can not only reflect the overall usage of smartphone users across the country but also reflect the differences between regions.

According to the data of the National Bureau of Statistics in 2023, the quantity of smartphone clients in China has been 713.651 million, covering most of the population aged 15 to 64 in China, while the total population in this age group is 962.8 million (National Bureau of Statistics of China, 2023). Therefore, this survey focuses on the sample on smartphone users in this age group to ensure the representativeness and scientificity of the data. By analyzing mobile phone users from different regions and backgrounds, this study can more comprehensively reveal the behavioral characteristics and usage trends of Chinese mobile phone users. Through existing academic works, the parameters depicted for sample selection, that is to say, a 95% confidence level, a margin of error of  $\pm 5\%$ , and an estimation response distribution of 50% are appropriate for implementing an online questionnaire focusing upon assessing smartphone consumer participation and brand fidelity. The computed sample size, roughly 400 participants, presupposes the assembly of a heterogeneous and representative cohort, based on formerly specified standards. In view of these conditions, it is expected that this sample magnitude generates dependable perceptions on the consumer behaviors and predilections of extensive smartphone users.

### 3.2.2 Sample

The research is aimed at exploring the influence of online marketing mix upon brand loyalty and construe the mediating role of consumer involvement. The survey data comes from all over China. During data analytics, the researchers fully considered the size of the research sample based on Hair (2010)'s theory on sample size. According to the number of research scale items, the appropriate data sample size range is 400 to 500. If the sample size is bigger, analysis effect will be better. Therefore, the researchers collected data from all over the country through online questionnaires. The subjects of this survey are adult consumers over 18 years old. It aims to evaluate the effect of diverse factors of the marketing mix on consumer involvement, the role of consumer involvement on brand loyalty, and the overall effect of the online marketing mix on brand loyalty. To develop a further comprehension of customer views in discrepant regions upon smartphone purchase,

use and brand loyalty, the study selected consumers in six regions of China for investigation, covering groups of different age groups, occupations and income levels, and 456 valid questionnaires were gathered.

**Table 3.4** Number of samples and suitability

Number of Samples	Suitability
50	Not worth it ( Very poor)
100	Too little ( Pool)
200	Medium ( Fair)
300	good
500	very good
more than 1000	very good ( excellent)

### 3.3 Pilot Study

Before the full-scale research, one pilot study is indispensable to check feasibility, reliability, and validity of research design, survey tool, and data gathering (Saunders et al., 2019). Pilot studies help identify potential issues related to questionnaire wording, measurement scales, and response rates, allowing for necessary adjustments before the main study (Bryman & Bell, 2015). The findings from the pilot study will guide refinements in the questionnaire, ensuring its effectiveness in the main survey. If significant inconsistencies or ambiguities are identified, modifications will be made to improve measurement accuracy and respondent comprehension. This iterative approach aligns with best practices in survey design and pre-testing methodologies (Podsakoff et al., 2003)

**Table 3.5** Sample descriptive statistical analysis results (N=81)

	Frequency	Proportion	Valid Percent	Cumulative Percent
Male	42	51.9	51.9	51.9
Female	39	48.1	48.1	100
Total	81	100	100	

Although the measurement items of all variables originate in mature scales which have been demonstrated in practice, in view of that the identical scale might get discrepant outcomes under discrepant research backdrops and research objects. To ameliorate the rigor, efficacy and practicability of questionnaire, a pre-survey was implemented in a small range prior to the formal survey. The questionnaire for this pre-survey was completed through a mix of online and offline methods. The focus of the survey was to pay attention to whether there were unreasonable questions and answers, difficult to understand or ambiguous questions in the questionnaire. In total, 100 questionnaires were allocated in this pilot. 91 questionnaires were collected in the pre-survey, and 10 invalid questionnaires were eliminated (all the answers to the questions were the same and the answers to the questionnaires had obvious conflicts), and finally 81 valid questionnaires were collected. The overall gender distribution of the questionnaire was comparatively uniform, with males and females occupying 51.9% and 48.1% of all people, respectively (table 3.5).

### 3.4 Reliability

The reliability coefficient reveals the stability, consistency, and credibility of measurement data, ensuring that the test produces consistent results over time and across different conditions. Inherent consistency is frequently applied to illustrate the credibility of the test, measuring how well the items on a scale are correlated with one another. If the reliability coefficient is higher, the consistency, stability, and reliability of measurement results will also be higher. This study employs SPSS to gauge Cronbach's alpha coefficient to assess the scale credibility. As Cronbach's

$\alpha > 0.7$  , indicates that the inherent consistency can be accepted, suggesting that the scale is a reliable tool for measurement.

**Table 3.6** Reliability statistics

Measuring Dimensions	Cronbach's Alpha	N of Items
All Variables	.97	49
Online Marketing Mix	.922	18
Consumer Involvement	.938	15
Brand Loyalty	.953	16

In light of reliability analysis results in Table 3.6, it can be inferred that the Cronbach's Alpha of the online marketing mix, consumer involvement, brand loyalty and total scales are all higher than .8, suggesting that the inherent consistency of scale items is escalated, the scale data is steady and credible, and could be applied to subsequent validity analysis.

### 3.5 Validity

Validity manifests the extent of consistency between the measured results and the content to be checked. The variables are comparably common in home and abroad research. Therefore, this study uses the principle of repeatedly verified domestic and foreign mainstream scales in the selection of scales. Based on the preliminary survey, the items that are difficult to understand and do not conform to Chinese language habits are modulated without altering the initial content to guarantee that the measurement outcomes exceedingly correspond to the content to be checked.

As indicated by the above table, the KMO test and the Bartlett sphericity test, which are used to construe whether factor analysis could be executed.

On conditions that the KMO test is passed ( $KMO > 0.6$ ), it means that a relationship emerged between item variables, which reaches the requirements of factor analysis:

On conditions that the Bartlett test is passed:  $P < 0.01$  or  $P < 0.05$ , which is significant, factor analysis could be executed.

**Table 3.7** KMO and Bartlett's test

	KMO	.798
	Approx. Chi-Square	3897.286
Bartlett's Test of Sphericity	df	1176
	Sig.	0

The results of the KMO test unveiled that the KMO value reached .798. Simultaneously, the Bartlett's sphericity test showed that the significant P value was .000\*\*, which was significant at the level. The original hypothesis was refused. A relationship emerged between the variables. The factor analysis was efficacious, and the degree was appropriate. These findings indicate that the data is appropriate for further factor analysis and supports the validity of the underlying constructs in the study.

### 3.6 Questionnaire Distribution and Data Collection

The research data was gathered online via WJX (Chinese online survey platform). The questionnaire link was shared with classmates and friends through social software, and their power was mobilized to help fill in and forward the questionnaire. The respondents were mainly corporate employees, educators and scientific researchers, students, etc. 500 questionnaires were collected through WJX in this survey. After eliminating 44 invalid questionnaires with consistent question options and obvious conflicts between the previous and subsequent answers, the total number of valid questionnaires was 456, and the valid questionnaire rate was

91.2%. This questionnaire has a total of 49 scale items. The number of valid questionnaires is 456, which meets the condition that the total quantity of effective questionnaires exceeds 5 times the quantity of measurement scale items. The questionnaire is divided into five parts: personal information, smartphone product information, online marketing mix, consumer involvement, brand loyalty and, and the questionnaire items employ the Likert 5-level scale. The measurement items of all variables in the questionnaire are mature scales proven by previous practices.

### 3.7 Data Analysis Tools

The statistical analyses were implemented through IBM SPSS Statistics (v 21) and AMOS (v 21). SPSS was primarily used for data preprocessing, descriptive statistics, and hypothesis testing, whereas AMOS was employed for structural equation modeling (SEM) to check the correlations among latent variables.

In SPSS, descriptive statistics (e.g., mean, standard deviation) were computed to outline the data. Cronbach's alpha was used to assess the inherent credibility of measurement scales. Additionally, regression analysis and ANOVA were performed to test the research hypotheses.

AMOS was utilized to conduct confirmatory factor analysis (CFA) and structural equation modeling (SEM). CFA was applied to appraise the credibility and validity of the measurement model, while the structural model was used to examine the hypothesized correlations among variables. Model fit indices, including  $\chi^2/df$ , RMSEA, CFI, and TLI, were appraised to gauge the model's overall fit.

The combination of SPSS and AMOS was selected for their robust statistical capabilities, enabling both traditional statistical analyses and advanced latent variable modeling. These tools are widely used in social sciences and behavioral research, making them suitable for the present study.

### 3.8 Statistical Data Used for Analysis

The research data was gathered via an organized questionnaire conducted between August 2024 and October 2024, targeting smartphone users across six regions in China. After data cleaning and preprocessing, in total 456 valid responses were retained for analysis. The sample comprised smartphone users aged 18 to 65, representing diverse occupational backgrounds and income levels to ensure broad generalizability of the findings.

The study examined three key constructs: Online Marketing Mix, Consumer Involvement, and Brand Loyalty, all measured using validated Likert scales. Data analytics was executed through IBM SPSS and AMOS, following a systematic approach:

Descriptive statistical analysis to summarize sample characteristics.

1. Reliability and validity tests, encompassing Cronbach's alpha for internal consistency and confirmatory factor analysis (CFA) for construct validity.
2. Structural equation modeling (SEM) to check the hypothesized correlation between latent variables.
3. Regression analysis to estimate path coefficients and examine the strength of associations.
4. Pearson correlation analysis to assess the relationships between key variables.
5. Bootstrapping mediation analysis to evaluate indirect effects and statistical significance.

Prior to analysis, data cleaning and preprocessing were performed, including checks for missing values, normality, and multicollinearity to ensure the robustness of statistical results. Model fit was appraised through crucial fit indicators, like  $\chi^2/df$ , RMSEA, CFI, and TLI, to evaluate the adequacy of the SEM model (table 3.8).

**Table 3.8** Criteria for assessing compliance with the model's actual data

Fit Index	Criteria.	Reference Source
Chi-Square	$p \geq .05$	(Kline. 2011)
Relative Chi-Square	<2-3	(Kline. 2011)
Comparative Fit Index: (CFI)	>.90	(Byrne. 2001)
Tucker-Lewis Index (TLI)	>.90	(Schumacker and Lomax.1996)
Goodness of Fit Index: (GFI)	>.90	(Byrne. 2001)
Normed Fit Index (NFI)	>.90	(Byrne. 2001)
Root Mean Square Error Approximation (RMSEA)	<.08	(Byrne. 2001)
Incremental Fit Index (IFI)	>.90	(Byrne. 2001)
Robust Fit Index (RFI)	>.90	(Byrne. 2001)
Root Mean Square Residua: RMR)	<.05	(Byrne. 2001)

#### Symbols used in data analysis

Researcher defines the symbols applied to display variables and statistical values, like the meaning of symbols applied to display variables and statistical values, so that the presentation of data analysis results is understandable, as indicated in Table 3.9.

**Table 3.9** Static symbols and meanings

Symbol Statistical Data	Significance
$\bar{x}$	Mean
Std	Standard Deviation
CR	Composite Accuracy
*	The Statistical Significance is 0.01

**Table 3.9** Static symbols and meanings (continued)

Symbol	Statistical Data	Significance
	AVE	Average Extracted Variance
	SK	Skewness
	KU	Kurtosis
	r	Pearson Product Moment Correlation Coefficient
	IE	Indirect Effects
	DE	Direct Effects
	$\chi^2$	Chi-square
	df	Degree of Freedom
	CFI	Comparative Fit Index
	TLI	Tucker-Lewis Index
	GFI	Goodness of Fit Index
	NFI	Normed Fit Index
	RMSEA	Root Mean Square Error Approximation
	IFI	Incremental Fit Index
	RFI	Robust Fit Index

## Chapter 4

### Data Analysis Result

The research data was gathered online via WJX (a Chinese online survey platform). After the data was gathered, statistical analysis was implemented using SPSS, followed by confirmatory factor analysis and main effect test using AMOS software, and then mediation effect test was performed using Bootstrap mediation effect test procedure; finally, the moderating effect test was checked through multi-group analysis.

According to theoretical analysis in Chapter 3, the minimum number of questionnaires required for the research reaches 400-500. During the actual survey, the quantity of valid questionnaires obtained is 456, which is greater than the theoretical number of questionnaires required. Therefore, the collected questionnaire data can meet the analysis of this study.

#### 4.1 Descriptive Statistical Analysis of Samples

In terms of gender, the percentage of males in this survey sample is a little lower than that of females, with males reaching 48.9% and females reaching 51.1%. As for age distribution, there are individuals of all ages, and 25-29 years old and 30-44 years old are the two age groups with the largest number of people.

Table 4.1 Demographic summary

Sample Characteristics	Classification	Frequency	Percent
gender	male	223	48.9
	female	233	51.1
age	18~24	93	20.4
	25~29	110	24.1
	30~44	155	34
	45~59	57	12.5
	Over 60 years old	41	9
occupation	Students	74	16.2
	Government agency/institution	80	17.5
	Enterprise employees	96	21.1
	Private business owners	78	17.1
	Freelancers	66	14.5
	Others	62	13.6
region	North China	74	16.2
	East China	81	17.8
	South China	72	15.8
	Central China	74	16.2
	Northwest China	75	16.4
	Southwest China	80	17.5
monthly income (USD)	Below 500	93	20.4
	500-720	53	11.6
	720-1430	289	63.4
	More than 1430	21	4.6

4.1.1 In terms of occupational distribution, the number of samples of various occupations is relatively balanced. In terms of monthly income distribution, the proportion of sample population with monthly income of more than 720 USD and less than 1,430 USD is relatively high, accounting for 63.4%. From the perspective of the geographical distribution of the sample population, the samples in various regions are relatively balanced. Therefore, the samples of this survey are widely distributed and representative, and the sampled samples can reflect the characteristics of the population. Table 4.1 exhibits the sample's descriptive statistical analysis.

4.1.2 Table 4.2 presents the descriptive statistics for the visualized variables, like the mean, skewness, kurtosis, and standard deviation (SD). The mean values indicate the data's core tendency, while the SDs reflect the dispersion. Skewness and kurtosis values provide insights into the distribution shape of variables.

The descriptive statistics suggest that most observed variables exhibit a distribution close to normality, with skewness values ranging between -1.013 and -.504 and kurtosis values between -.692 and .593. Given these findings, further inferential analyses, such as multiple regression and structural equation modeling, can be conducted under the hypothesis of normality.

**Table 4.2** Descriptive statistics of observed variables

	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Kurtosis Statistic
OMM1	1.00	5.00	3.4737	1.06322	-.889	-.140
OMM2	1.00	5.00	3.5972	.96118	-1.013	.593
OMM3	1.00	5.00	3.5673	.97733	-.961	.327
OMM4	1.00	5.00	3.6170	.97463	-.981	.505
OMM5	1.00	5.00	3.5702	.96303	-.820	.156
OMM6	1.00	5.00	3.5402	.96828	-.790	.128
CI1	1.00	5.00	3.4507	1.00769	-.862	-.157

**Table 4.2** Descriptive statistics of observed variables (continued)

	Minimum	Maximum	Mean	Std.		
				Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
CI2	1.00	5.00	3.4580	1.03845	-.787	-.234
CI3	1.00	5.00	3.4737	1.02170	-.919	-.086
CI4	1.00	5.00	3.5395	1.01335	-.875	-.101
CI5	1.00	5.00	3.4726	1.03930	-.746	-.346
BL1	1.00	5.00	3.5789	1.00237	-.744	-.066
BL2	1.00	5.00	3.4989	1.08815	-.646	-.358
BL3	1.00	5.00	3.4145	1.14562	-.571	-.691
BL4	1.00	5.00	3.3125	1.13022	-.525	-.784
BL5	1.00	5.00	3.3673	1.12633	-.612	-.640
BL6	1.00	5.00	3.3432	1.11586	-.504	-.692
BL7	1.00	5.00	3.3125	1.14471	-.549	-.685
BL8	1.00	5.00	3.3180	1.13814	-.637	-.577

To investigate the correlations among key variables, Pearson correlation analysis was conducted. In Table 4.3, the correlation matrix presents the Pearson correlation coefficients between each observed variable.

**Table 4.3** Pearson correlation coefficient analysis results

	OMM1	OMM2	OMM3	OMM4	OMM5	OMM6	CI1	CI2	CI3	CI4	CI5	BL1	BL2	BL3	BL4	BL5	BL6	BL7	BL8	
OMM1	1																			
OMM2	.662**	1																		
OMM3	.551**	.650**	1																	
OMM4	.579**	.667**	.678**	1																
OMM5	.558**	.638**	.679**	.728**	1															
OMM6	.588**	.627**	.611**	.630**	.625**	1														
CI1	.445**	.361**	.337**	.332**	.320**	.359**	1													
CI2	.405**	.311**	.294**	.300**	.278**	.317**	.699**	1												
CI3	.413**	.325**	.315**	.297**	.290**	.334**	.738**	.740**	1											
CI4	.430**	.306**	.285**	.291**	.302**	.305**	.702**	.723**	.738**	1										
CI5	.425**	.342**	.268**	.278**	.293**	.312**	.675**	.708**	.755**	.732**	1									
BL1	.305**	.225**	.207**	.214**	.268**	.279**	.364**	.430**	.387**	.387**	.450**	1								
BL2	.339**	.259**	.244**	.249**	.330**	.263**	.409**	.391**	.390**	.423**	.415**	.585**	1							
BL3	.448**	.402**	.340**	.387**	.408**	.360**	.436**	.405**	.410**	.435**	.452**	.481**	.567**	1						
BL4	.389**	.326**	.305**	.342**	.387**	.342**	.423**	.415**	.440**	.432**	.440**	.467**	.582**	.695**	1					
BL5	.409**	.362**	.327**	.343**	.395**	.358**	.443**	.392**	.417**	.426**	.445**	.439**	.531**	.693**	.729**	1				
BL6	.403**	.373**	.335**	.348**	.375**	.328**	.377**	.382**	.354**	.382**	.387**	.419**	.540**	.670**	.664**	.688**	1			
BL7	.383**	.317**	.330**	.299**	.352**	.315**	.382**	.352**	.339**	.356**	.366**	.408**	.565**	.643**	.667**	.701**	.671**	1		
BL8	.439**	.416**	.351**	.408**	.427**	.353**	.440**	.383**	.400**	.415**	.427**	.423**	.498**	.733**	.695**	.701**	.690**	.659**	1	

\*\* Correlation is significant at the 0.01 level (2-tailed).

Results show that the dimensions of each observed variable (online marketing mix, Consumer involvement) are key players in enhancing brand fidelity. These conclusions illustrate the importance of refined marketing mix and increased consumer involvement in improving brand loyalty.

## 4.2 Reliability Validity Analysis

### 4.2.1 Reliability Analysis

Reliability analysis results demonstrate that all observed variables for online marketing mix, consumer involvement, and brand loyalty exhibit high internal consistency, as indicated by Cronbach's  $\alpha$  values exceeding the commonly accepted threshold of 0.8. Specifically, the Online Marketing Mix variables range from 0.873 to 0.889, suggesting a strong coherence among the scale items. Similarly, the Consumer Involvement variables fall between 0.853 and 0.88, further supporting the robustness of the measurement. Lastly, the brand loyalty variables, although exhibiting slightly lower values compared to the other constructs, still maintain strong reliability, with coefficients ranging from 0.812 to 0.846. These findings confirm the scale's reliability, ensuring that the questionnaire effectively captures the intended constructs. Given these results, the next step involves conducting validity analysis, including convergent and discriminant validity assessments, to confirm the appropriateness of the measurement model. Establishing validity will further reinforce the instrument's effectiveness in capturing the theoretical constructs and supporting subsequent hypothesis testing in the study.

**Table 4.4** Reliability analysis

	Item-Total Statistics	Corrected Item-Total Correlation	Cronbach's Alpha
Online Marketing Mix	OMM1	.885	.962
	OMM2	.877	
	OMM3	.873	
	OMM4	.889	
	OMM5	.873	
	OMM6	.878	
Consumer Involvement	C11	.856	.95
	C12	.857	
	C13	.88	
	C14	.853	
	C15	.86	
Brand Loyalty	BL1	.845	.956
	BL2	.836	
	BL3	.841	
	BL4	.831	
	BL5	.837	
	BL6	.812	
	BL7	.817	
	BL8	.846	
Total reliability			.984

#### 4.2.2 Validity Analysis

Validity Analysis refers to the process of assessing whether a measurement tool precisely obtains the concept it is intended to gauge. It ensures research findings are meaningful and reliable.

**Table 4.5** KMO and Bartlett's test

	KMO	Chi-Square	df	Sig.
Online Marketing Mix	.943	3029.666	15	.000
Consumer Involvement	.915	2200.477	10	.000
Brand Loyalty	.963	3361.592	28	.000

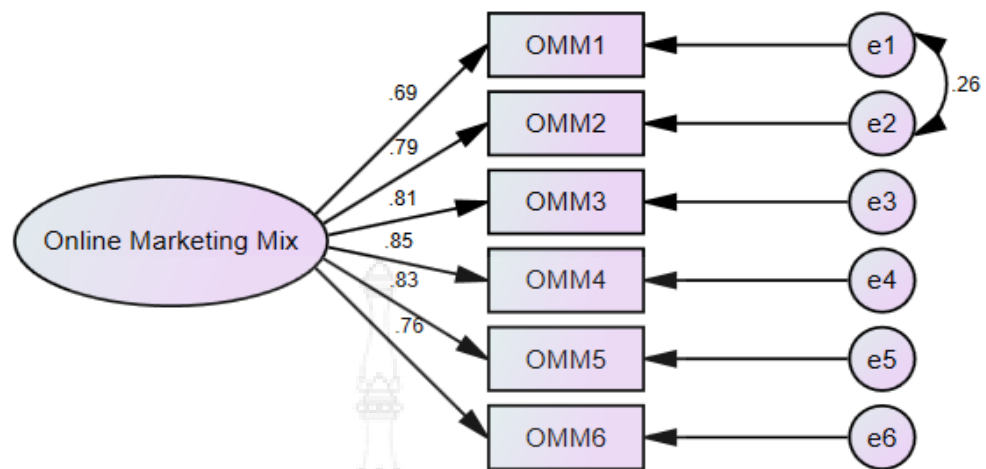
### 4.3 Confirmatory Factor Analysis (CFA)

Construct validity means the extent to which a measurement instrument correctly indicates the theoretical construction which it is planned to gauge. It encompasses convergent validity (the extent to which related indicators of the identical construct are related) and discriminant validity (the extent to which a construct differs from others). High construct validity ensures that the instrument effectively captures the intended concept, enhancing the reliability of research results.

This research employs AMOS software to implement confirmatory factor analysis of the three variables of online marketing mix, consumer involvement, and brand loyalty to examine the distinguishability of each variable.

#### 4.3.1 Construct Validity of Online Market Mix

Construct validity means the degree to which one measurement instrument precisely obtains the theoretical construct it is intended to gauge (Cronbach & Meehl, 1955). Under the online marketing mix (OMM), construct validity ensures that the dimensions of OMM (Product, Price, Place, and Promotion) as adapted to the digital environment are effectively represented and measured in empirical research.



$\chi^2 = 15.083$ ,  $df = 8$ ,  $\chi^2 / df = 1.885$ ,  $TLI = .992$ ,  $CFI = .996$ ,  $GFI = .989$ ,  $NFI = .991$ ,  $RMSEA = .044$ ,  $RMR = .017$

**Figure 4.1** CFA test model of online market mix

To ensure that the online marketing mix (OMM) construct is accurately measured, a confirmatory factor analysis (CFA) was implemented, evaluating the relationships between six key dimensions—Product (OMM1), Price (OMM2), Place (OMM3), Promotion (OMM4), Privacy (OMM5), and Personalization (OMM6)—and the overall OMM construct. The construct validity assessment includes convergent validity, discriminant validity, and overall model fit evaluation.

**Table 4.6** Regression weights of online market mix factors

			Estimate	S.E.	C.R.	P
OMM1	<---	OMM	.695	.067	8.144	***
OMM2	<---	OMM	.791	.057	17.919	***
OMM3	<---	OMM	.807	.068	15.714	***
OMM4	<---	OMM	.847	.068	16.38	***
OMM5	<---	OMM	.834	.067	16.159	***
OMM6	<---	OMM	.764	.067	14.952	***

### 1. Convergent Validity

Convergent validity examines whether the observed indicators (OMM1–OMM6) reliably measure the latent construct (OMM). The standardized factor loadings for each indicator are as follows:

OMM1 (Product): 0.695, OMM2 (Price): 0.791, OMM3 (Place): 0.807, OMM4 (Promotion): 0.847, OMM5 (Privacy): 0.834, OMM6 (Personalization): 0.764

All factor loadings go beyond the recommended threshold of 0.60 (Fornell & Larcker, 1981), indicating that the visualized variables strongly contribute to the latent construct. Additionally, high factor loadings suggest that these dimensions are well-aligned with the theoretical definition of the online marketing mix, providing strong support for convergent validity.

### 2. Discriminant Validity

Discriminant validity evaluates if the OMM construct differs from other associated constructs. A common criterion is that the square root of the Average Variance Extracted (AVE) should be greater than the correlations between OMM and other constructs. While inter-construct correlations were not provided, the relatively high factor loadings and a well-fitting model suggest that OMM is likely distinguishable from other marketing constructs such as traditional marketing mix or general digital marketing strategies. Further, if the Fornell-Larcker standard is reached in additional testing, discriminant validity is capable of being further verified.

### 3. Model Fit Evaluation

To assess the overall adequacy of the measurement model, several fit indicators were checked:

Chi-square statistic ( $\chi^2$ ) = 15.083, df = 8,  $\chi^2/df$  = 1.885 → Below the recommended threshold of 3, suggesting an excellent model fit.

Comparative Fit Index (CFI) = 0.996 → Above 0.95, confirming excellent fit.

Tucker-Lewis Index (TLI) = 0.992, Close to 1, indicating strong incremental fit.

Goodness-of-Fit Index (GFI) = 0.989, Above 0.90, showing robust absolute model fit. Normed Fit Index (NFI) = 0.991, Over 0.90, supporting a strong model fit. Root Mean Square Error of Approximation (RMSEA) = 0.044, Below 0.05, confirming a close fit. Root Mean Square Residual (RMR) = 0.017, Below 0.08, further supporting good model fit.

These indices collectively indicate a well-fitting model, confirming that the online marketing mix construct is appropriately represented by the six observed variables.

**Table 4.7** CFA analysis results of online marketing mix factors

Fit Index	Criteria	Research results	Results of consideration
Chi-Square	$p \geq .05$	15.083	passed
Chi-Square/df	< 2-3	1.885	passed
TLI	> .90	.992	passed
CFI	> .90	.996	passed
GFI	> .90	.989	passed
NFI	> .90	.991	passed
RMSEA	< .08	.044	passed
RMR	< .05	.017	passed

The confirmatory factor analysis results strongly support the construct validity of the online marketing mix (OMM). The high factor loadings confirm convergent validity, while the excellent model fit indices further validate the robustness of the construct. Although additional tests for discriminant validity could be performed, the overall evidence strongly suggests that OMM is a valid and reliable construct for measuring digital marketing strategies in empirical research.

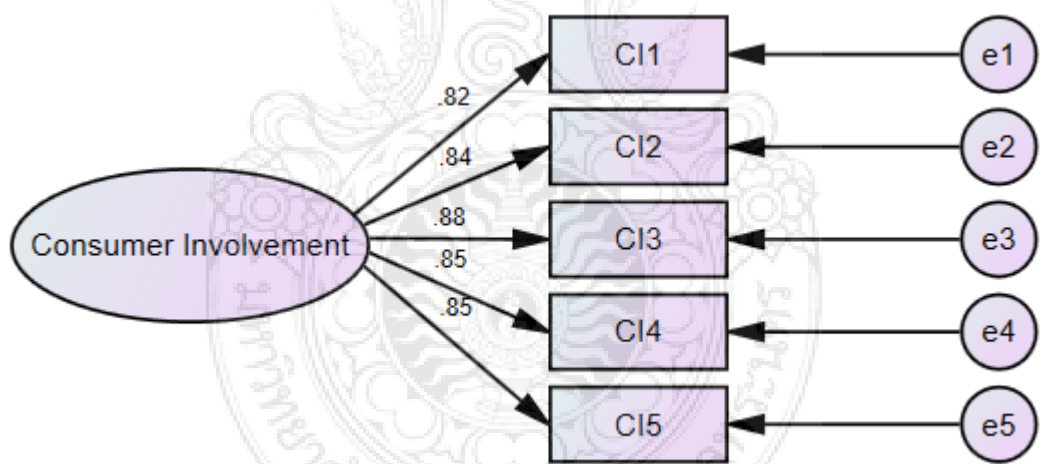
#### 4.3.2 Construct Validity of Consumer Involvement

To evaluate the construct validity of consumer involvement (CI), a confirmatory factor analysis (CFA) was conducted, assessing the relationships between five key dimensions—Product (CI1), Interest (CI2), Pleasure (CI3), Sign Value (CI4), Importance Risk (CI5), and Risk Probability (CI6)—and the overall Consumer Involvement (CI) construct. The assessment includes convergent validity, discriminant validity, and model fit evaluation.

##### 1. Convergent Validity

Convergent validity is tested by construing the factor loadings of each indicator on the latent construct. The standardized factor loadings for CI dimensions are listed below:

CI1 (Product): 0.823, CI2 (Interest): 0.843, CI3 (Pleasure): 0.883, CI4 (Sign Value): 0.851, CI5 (Importance Risk): 0.846



$\chi^2 = 6.52$ ,  $df = 5$ ,  $\chi^2 / df = 1.304$ , TLI = .998, CFI = .999, GFI = .994, NFI = .996, RMSEA = .026, RMR = .009

Figure 4.2 CFA test model of consumer involvement

All factor loadings are above the recommended threshold of 0.70 (Fornell & Larcker, 1981), confirming that these observed indicators strongly contribute to the Consumer Involvement construct. The high values indicate that the measurement instrument effectively captures different aspects of consumer involvement, thus supporting convergent validity.

## 2. Discriminant Validity

Discriminant validity ensures that the CI construct is distinct from other related constructs. The Fornell-Larcker standard uncovers that the square root of the Average Variance Extracted (AVE) should surpass its relationship with other constructs. While inter-construct correlations were not provided, the high factor loadings and a well-fitting model indicate that CI is likely distinct from other constructs such as purchase intention or brand loyalty. Future research could further verify discriminant validity by comparing AVE values with construct correlations.

## 3. Model Fit Evaluation

The overall model fit was assessed using multiple fit indices, all of which indicate an excellent model fit:

Chi-square statistic ( $\chi^2$ ) = 6.52, df = 5,  $\chi^2/df$  = 1.304, Below 3, suggesting a well-fitting model.

Comparative Fit Index (CFI) = 0.999, Above 0.95, confirming excellent fit.

Tucker-Lewis Index (TLI) = 0.998, Near to 1, indicating a strong incremental fit.

Goodness-of-Fit Index (GFI) = 0.994, Above 0.90, showing a robust absolute model fit.

Normed Fit Index (NFI) = 0.996, Exceeding 0.90, supporting strong model fit.

Root Mean Square Error of Approximation (RMSEA) = 0.026 → Below 0.05, confirming close model fit.

Root Mean Square Residual (RMR) = 0.009 → Below 0.08, further supporting excellent model fit.

**Table 4.8** Regression Weights of consumer involvement factors

			Estimate	S.E.	C.R.	P
CI1	<---	CI	.823	.065	10.539	***
CI2	<---	CI	.843	.049	21.479	***
CI3	<---	CI	.883	.047	23.042	***
CI4	<---	CI	.851	.048	21.804	***
CI5	<---	CI	.846	.049	21.616	***

**Table 4.9** CFA analysis results of consumer involvement factors

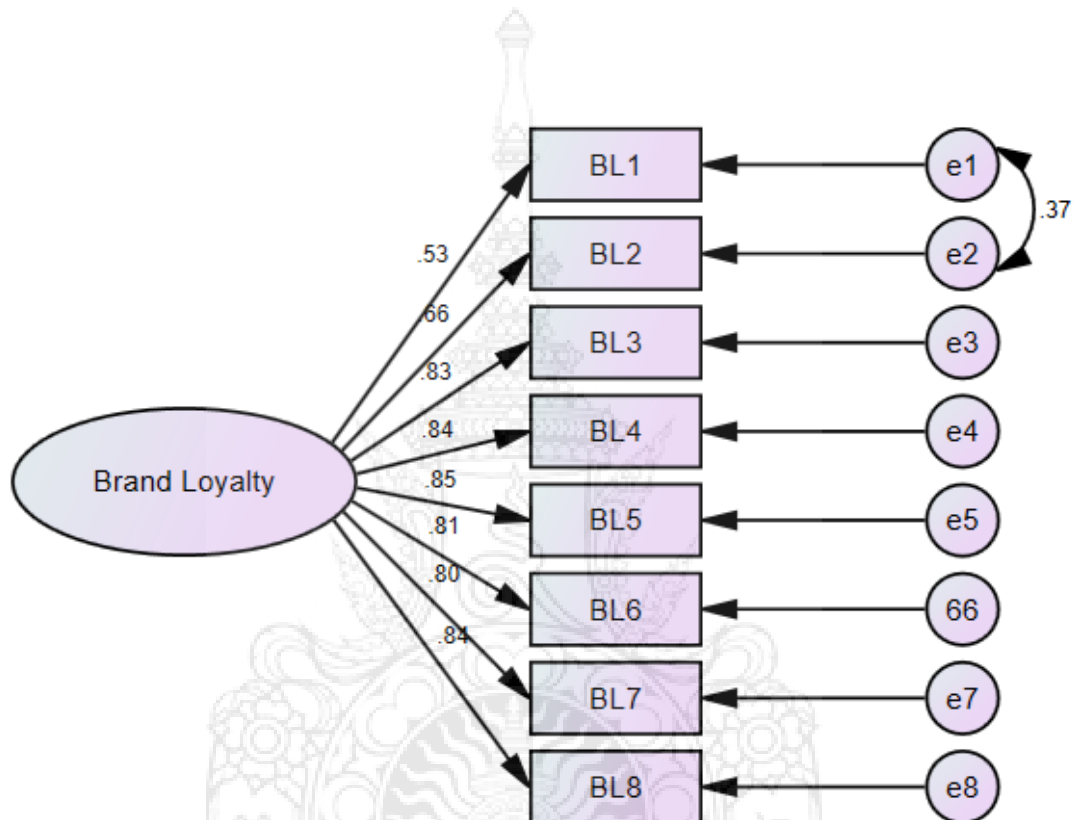
Fit Index	Criteria	Research results	Results of consideration
Chi-Square	$p \geq .05$	6.52	passed
Chi-Square/df	< 2-3	1.304	passed
TLI	> .90	.998	passed
CFI	> .90	.999	passed
GFI	> .90	.994	passed
NFI	> .90	.996	passed
RMSEA	< .08	.026	passed
RMR	< .05	.009	passed

The confirmatory factor analysis results firmly support the construct validity of the consumer involvement (CI) construct. The high factor loadings establish convergent validity, while the excellent model fit indices validate the robustness of the measurement model. Although additional testing for discriminant validity could be performed, the overall findings suggest that CI is an efficient and credible construct for appraising consumer involvement in marketing research.

### 4.3.3 Construct Validity of Brand Loyalty

#### Construct Validity Assessment of Brand Loyalty (BL)

To validate the construct of Brand Loyalty (BL), a confirmatory factor analysis (CFA) was implemented, assessing relationships between eight key indicators:



$\chi^2 = 40.495$ ,  $df = 19$ ,  $\chi^2 / df = 2.131$ ,  $TLI = .987$ ,  $CFI = .991$ ,  $GFI = .979$ ,  $NFI = .984$ ,  $RMSEA = .050$ ,  $RMR = .023$

Figure 4.3 CFA test model of brand loyalty

BL1 (Net Promoter Score, NPS), BL2 (Repurchase Ratio), BL3 (Emotional Attachment), BL4 (Price Sensitivity), BL5 (Brand Trust), BL6 (Commitment), BL7 (Social Media Engagement), BL8 (Customer Satisfaction), The construct validity assessment includes convergent validity, discriminant validity, and overall model fit evaluation.

### 1. Convergent Validity

Convergent validity assesses whether the observed indicators effectively measure the underlying construct. The standardized factor loadings for Brand Loyalty (BL) are:

BL1 (Net Promoter Score, NPS): 0.531, BL2 (Repurchase Ratio): 0.658,  
 BL3 (Emotional Attachment): 0.834, BL4 (Price Sensitivity): 0.840,  
 BL5 (Brand Trust): 0.848, BL6 (Commitment): 0.812,  
 BL7 (Social Media Engagement): 0.804, BL8 (Customer Satisfaction): 0.835

Most factor loadings surpassed the suggested threshold of 0.70 (Fornell & Larcker, 1981), confirming that the majority of the observed variables strongly contribute to the Brand Loyalty construct. However, BL1 (Net Promoter Score, NPS) has a relatively low factor loading of 0.531, suggesting that its explanatory power for Brand Loyalty may be weaker compared to other indicators. Despite this, the remaining factor loadings strongly support convergent validity.

### 2. Discriminant Validity

Discriminant validity ensures that brand loyalty is conceptually distinct from other related constructs. The Fornell-Larcker standard reveals that the square root of the Average Variance Extracted (AVE) should exceed its relationship with other constructs. While specific AVE values and inter-construct correlations were not provided, the high factor loadings and well-fitting model suggest that Brand Loyalty is distinguishable from other marketing-related constructs such as customer engagement or brand equity.

Future research could further confirm discriminant validity by analyzing AVE and correlation values.

### 3. Model Fit Evaluation

The overall model fit was appraised through multiple fit indices:

Chi-square statistic ( $\chi^2$ ) = 40.495, df = 19,  $\chi^2/df$  = 2.131, Below 3, indicating an acceptable model fit.

Comparative Fit Index (CFI) = 0.991, Above 0.95, confirming excellent fit.

Tucker-Lewis Index (TLI) = 0.987, Close to 1, suggesting strong incremental fit.

Goodness-of-Fit Index (GFI) = 0.979, Above 0.90, showing strong absolute model fit.

Normed Fit Index (NFI) = 0.984, Above 0.90, supporting strong model fit.

Root Mean Square Error of Approximation (RMSEA) = 0.050, At the threshold of 0.05, indicating a close model fit.

Root Mean Square Residual (RMR) = 0.023, Below 0.08, further supporting a good model fit.

**Table 4.10** Regression weights of brand loyalty factors

			Estimate	S.E.	C.R.	P
BL1	<---	BL	.531	.036	7.017	***
BL2	<---	BL	.658	.104	12.994	***
BL3	<---	BL	.834	.151	11.876	***
BL4	<---	BL	.84	.15	11.914	***
BL5	<---	BL	.848	.15	11.97	***
BL6	<---	BL	.812	.145	11.727	***
BL7	<---	BL	.804	.148	11.666	***
BL8	<---	BL	.835	.15	11.886	***

**Table 4.11** CFA analysis results of brand loyalty factors

Fit Index	Criteria	Research results	Results of consideration
Chi-Square	$p \geq .05$	40.495	passed
Chi-Square/df	< 2-3	2.131	passed
TLI	> .90	.987	passed
CFI	> .90	.991	passed

**Table 4.11** CFA analysis results of brand loyalty factors (continued)

Fit Index	Criteria	Research results	Results of consideration
GFI	> .90	.979	passed
NFI	> .90	.984	passed
RMSEA	< .08	.050	passed
RMR	< .05	.023	passed

The confirmatory factor analysis results provide strong evidence for the construct validity of the brand loyalty (BL) construct. The high factor loadings confirm convergent validity, while the excellent model fit indices validate the robustness of the measurement model. Although BL1 (Net Promoter Score, NPS) shows a relatively lower factor loading, the overall construct remains valid. Future studies could explore whether removing or redefining BL1 improves the construct's validity.

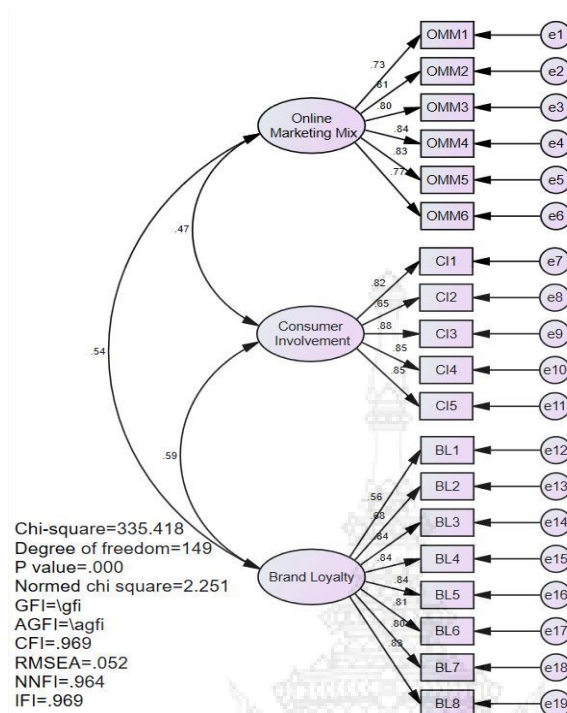
#### 4.3.4 Convergent Validity

To delve into the validity of key constructs, confirmatory factor analysis (CFA) was conducted. The validity assessment ensures that the measurement models for online marketing mix (OMM), consumer involvement (CI), and brand loyalty (BL) accurately capture their respective theoretical dimensions. The results provide insights into the reliability and robustness of these constructs, confirming whether they effectively represent their intended marketing concepts. The following sections present the validity testing results for OMM, CI, and BL, evaluating their convergent validity, discriminant validity, and overall model fit (table 4.12).

**Table 4.12** Overall fitting coefficient

Fit parameters	X <sup>2</sup> /df	RMSEA	GFI	AGFI	CFI	IFI	TLI
value	2.251	.052	.925	.904	.969	.969	.964
standard	<5	<.08	>.9	>.9	>.9	>.9	>.9

\*P<0.001



$\chi^2=335.418$   $df=149$   $\chi^2 / df = 2.251$   $GFI = 0.925$   $CFI = 0.969$   $RMSEA = 0.052$   $NFI = 0.945$   
 $RMR = 0.057$   $TLI = 0.964$

**Figure 4.4** CFA test model of the relationship of variables

From the above table, we can see that the value of  $\chi^2/df$  is 2.251, which is less than 3, and the fit is ideal: RMSEA is 0.052, which is less than 0.05, and the fit is ideal: GFI is .925, which exceeds 0.9, and the outcome is well-fitted: AGFI reaches 0.904, which exceeds 0.9, and the outcome is well-fitted: CFI reaches 0.969, which exceeds 0.9, and the outcome is well-fitted: IFI reaches 0.969, which exceeds 0.9, and the outcome is well-fitted: TLI reaches 0.964, which exceeded 0.9, and the outcome is well-fitted: Overall, the models of online marketing mix, consumer involvement, and brand loyalty are well-fitted(Figure 4.4).

**Table 4.13** Factor loading

	Path		Estimate	AVE	CR
OMM1	<---	OMM	.728		
OMM2	<---	OMM	.808		
OMM3	<---	OMM	.801		
OMM4	<---	OMM	.837	.632	.911
OMM5	<---	OMM	.825		
OMM6	<---	OMM	.766		
CI1	<---	CI	.824		
CI2	<---	CI	.65		
CI3	<---	CI	.883	.665	.908
CI4	<---	CI	.847		
CI5	<---	CI	.852		
BL1	<---	BL	.56		
BL2	<---	BL	.676		
BL3	<---	BL	.837		
BL4	<---	BL	.839		
BL5	<---	BL	.845	.609	.925
BL6	<---	BL	.808		
BL7	<---	BL	.798		
BL8	<---	BL	.834		

Convergent Validity means the extent to which multiple measures of the identical construct are related, indicating that they effectively capture the intended concept. It is typically appraised through factor loadings, average variance extracted (AVE), and composite reliability (CR) in structural equation modeling (SEM). A construct

demonstrates convergent validity if factor loadings exceed 0.5, AVE is greater than 0.5, and CR exceeds 0.7. High convergent validity reveals that the measurement items consistently represent the potential construct, enhancing the credibility of the research.

The value of combined reliability CR is acceptable when it is above 0.7 (Hair, 1997), and the standard value of AVE is acceptable when it exceeds 0.5 (Fornell and Larcker, 1981)

According to the table above, factor loadings of each latent variable aligning with each question of online marketing mix, consumer involvement, and brand loyalty all exceed 0.7, suggesting that each latent variable has an escalated representativeness in the corresponding question. Besides, the average variance variation AVE of each latent variable exceeded 0.5, and the combined reliability CR exceeded .8, suggesting that the convergent validity becomes perfect.

#### 4.3.5 Discriminant validity

Discriminant Validity refers to the degree to which a construct is distinct from other constructs in a study, ensuring that measures of different concepts are not overly correlated. It is typically appraised through the Fornell-Larcker standard, where the square root of the average variance extracted should exceed the relationships between the construct and any other construct, which should be below 0.85. Strong discriminant validity confirms that each construct obtains distinctive aspects of the phenomenon being studied, enhancing the validity of the measurement model.

**Table 4.14** Discriminant validity

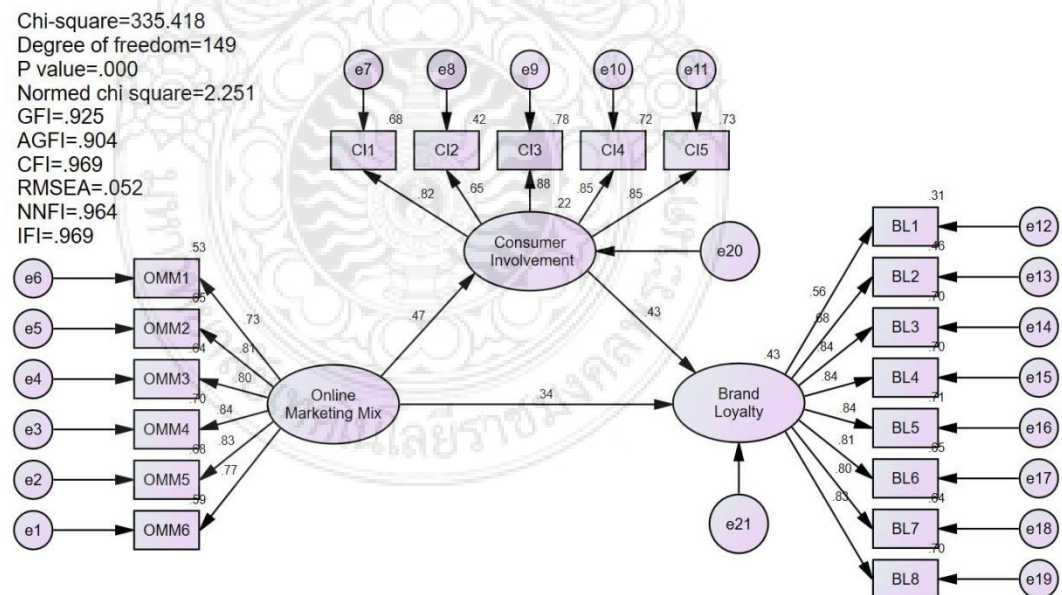
	OMM	CI	BL
OMM	.632		
CI	.039***	.665	
BL	.031***	.034***	.609
AVE Square root	.795	.815	.780

\*\*\*  $p < .01$

Obviously, a remarkable relationship emerges between online marketing mix, consumer involvement, and brand loyalty ( $p < .01$ ). Besides, the absolute values of the correlation coefficients all come short of .5, and all come short of the square root of the corresponding AVE, which illustrates that a certain relationship emerges between latent variables. A certain extent of distinction emerges between each other. This implies that the discriminant validity of scale data becomes perfect.

#### 4.4 Structural Model and Hypothesis Verification

After the confirmatory factor analysis, the hypothesis of this study was further tested with Bollen-Stine Bootstrap for the structural model. Figure 4.2 displays the verification outcomes. The model fit is quite good, with a chi-square value of 335.418, an extent of freedom of 149, a chi-square to degree of freedom percentage of 4.352, a GFI of 0.871, an AGFI of 0.836, a CFI of 0.954, a NNFI of 0.947, an IFI of 0.954, and a RMSEA of 0.016. All indicators are within the standards specified by SEM (Jackson, 2009). Therefore, the structural model possesses a good fit.



$\chi^2=335.418$   $df=149$   $\chi^2 / df = 2.251$   $GFI = 0.82$   $CFI = 0.925$   $RMSEA = 0.12$   $NFI = 0.76$   
 $RMR = 0.36$   $TLI = 0.75$

Figure 4.5 Mediation effect detection model

**Table 4.15** Criteria for assessing compliance with the model's actual data

Fit Index	Criteria.	Reference Source
Chi-Square	$p \geq .05$	(Kline. 2011)
Relative Chi-Square	<2-3	(Kline. 2011)
Comparative Fit Index: (CFI)	>.90	(Byrne. 2001)
Tucker-Lewis Index (TLI)	>.90	(Schumacker and Lomax.1996)
Goodness of Fit Index: (GFI)	>.90	(Byrne. 2001)
Normed Fit Index (NFI)	>.90	(Byrne. 2001)
Root Mean Square Error Approximation (RMSEA)	<.08	(Byrne. 2001)
Incremental Fit Index (IFI)	>.90	(Byrne. 2001)
Robust Fit Index (RFI)	>.90	(Byrne. 2001)
Root Mean Square Residual: RMR	<.05	(Byrne. 2001)

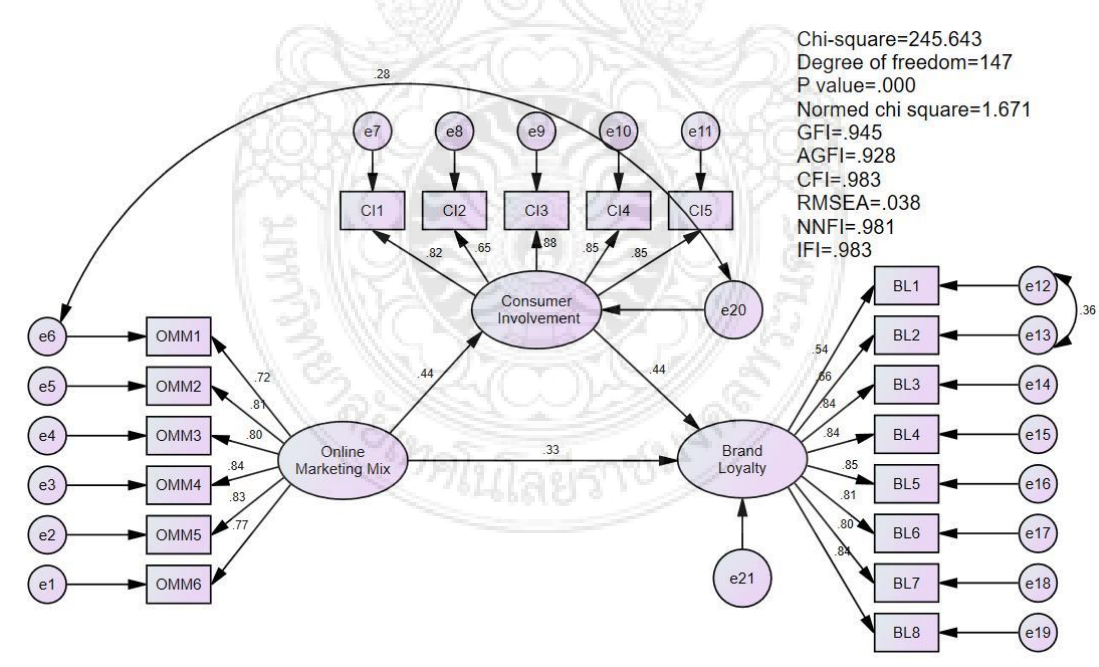
The model's indicators meet the requirements, although there is still room for improvement. The covariance matrix in the accompanying table shows that e6 and e20 have a substantial association, as do e12 and e13. As a result, we modify the original model graph to create the updated graph shown below. The redesigned graph shows good fitting indicators (table 4.16).

**Table 4.16** Modification Indices

			M.I.	Par Change
e16	<-->	e18	4.124	.045
e14	<-->	e19	8.284	.061
e13	<-->	e20	6.419	.076
e13	<-->	e19	14.389	-.099

Table 4.16 Modification Indices (continued)

			M.I.	Par Change
e13	<-->	e16	5.787	-.06
e12	<-->	e20	14.504	.117
e12	<-->	e21	4.485	-.038
e12	<-->	e19	4.997	-.06
e12	<-->	e13	56.38	.244
e11	<-->	e12	8.066	.068
e9	<-->	e15	4.4	.037
e8	<-->	e21	7.425	-.064
e8	<-->	e12	13.951	.163
e7	<-->	OMM	4.113	.047
e7	<-->	e11	5.453	-.04
e6	<-->	e20	29.45	.152



$\chi^2=245.643$   $df=147$   $\chi^2 / df = 1.671$  GFI = 0.945 CFI = 0.983 RMSEA = 0.038 NFI = 0.960  
RMR = 0.047 TLI = 0.981

Figure 4.6 Model modification

#### 4.5 SEM Analysis

The proposed hypotheses were estimated by bootstrap sampling. The standardized path coefficients reached the significance standard. The online marketing mix has a positive and significant predictive power for consumer involvement, with a standardized path coefficient of 0.44,  $p < 0.05$ , indicating a significantly positive relationship. The online marketing mix also has a positive and significant predictive power for brand loyalty, with a standardized path coefficient of 0.33,  $p < 0.05$ , indicating a significantly positive correlation. and consumer involvement also has a positive and significant predictive power for brand loyalty, with a standardized path coefficient of .44,  $p < 0.05$ , indicating a significantly positive relationship. Therefore, all the hypotheses of this study are established. Table 4.17 exhibits the standardized regression coefficients and significance.

**Table 4.17** Path analysis

Y	X	Standard Estimate	S.E.	C.R.	P
CI	<--- OMM	.444	.057	8.549	***
BL	<--- OMM	.333	.038	6.209	***
BL	<--- CI	.437	.038	7.58	***

**Table 4.18** Mediation effect test table

Parameter	Effect type	Standardized Effects	Lower Bounds	Upper Bounds	P
BL<---OMM	Total Effects	.526	.409	.636	**
BL<---OMM	Direct Effect	.333	.197	.468	**
BL<---OMM	Indirect Effect	.194	.129	.273	**

To further explore the mediating relationship between consumer involvement in the online marketing mix and brand loyalty, Bootstrapping is applied to figure out the confidence interval (CI) of total effect (TE), indirect effect, and direct effect. According to Table 4.18, the confidence interval range of the TE of the online marketing mix on brand loyalty does not contain zero, which means that the TE is significant; the confidence interval range of the indirect effect does not contain zero, which means that the indirect influence is significant; the CI scope of the direct influence is significant, which means that the direct effect is significant.

Since both the indirect and direct influences are significant, it shows that consumer involvement has a mediating effect in the overall model. In other words, the online marketing mix can directly affect brand loyalty and can also improve brand loyalty through consumer involvement.

**Table 4.19** Hypothesis list test results

Hypothesis	List	Test Results
H1	The OMM affects consumer involvement.	Supported
H2	Consumer involvement actively affects brand loyalty.	Supported
H3	The OMM has actively affects brand loyalty.	Partially Supported
H4	Consumer involvement has a mediation between Online Marketing Mix and Brand Loyalty.	Supported

## Chapter 5

### Conclusions, Discussions, and Recommendations

The following sections discuss how the online marketing mix directly affects brand loyalty, how it affects brand loyalty through consumer involvement, implications and suggestions for the online marketing mix, theoretical contributions, and ideas for potential further research.

#### 5.1 Conclusions

This research empirically checks the relationships between the online marketing combination, consumer involvement, and brand loyalty in China's smartphone market. Based on data collected from 456 valid questionnaires and construed through structural equation modeling (SEM) and mediation tests, results confirm the proposed hypotheses and provide precious perceptions of customer behavior within the online marketing Mix landscape.

H1 (Online marketing mix  $\rightarrow$  Consumer involvement): Supported

The results indicate a remarkable positive correlation between the online marketing mix and consumer involvement, showing a standardized path coefficient of 0.44 ( $p < 0.05$ ). This suggests that well-designed online marketing tactics, like incorporating product innovation, competitive pricing, targeted promotions, and refined distribution channels, are key players in engaging consumers and increasing their level of involvement. Personalization and privacy protection, in particular, emerged as key factors driving consumer engagement, aligning with prior studies that emphasize the importance of customization in fostering brand attachment.

H2 (Consumer involvement  $\rightarrow$  Brand loyalty): Supported

The findings further reveal that consumer involvement significantly enhances brand loyalty, as indicated by a standardized path coefficient of 0.44 ( $p < 0.05$ ). This

underscores the critical role of consumer engagement in shaping long-term brand commitment. Specifically, dimensions such as pleasure and sign value were found to be highly influential, reinforcing the notion that emotional connections and social identity factors drive brand loyalty. Consumers who experience higher levels of interest and emotional attachment to a brand tend more to cultivate a sensation of trust and preference, ultimately leading to stronger loyalty.

H3 (Online marketing mix → Brand loyalty): Partially Supported

The study confirms that the online marketing mix has a direct and positive impact upon brand fidelity, showing a standardized path coefficient of 0.33 ( $p < 0.05$ ). Effective marketing mix strategies—such as innovative product features, attractive pricing, engaging promotional campaigns, and seamless distribution—enhance customer satisfaction and encourage long-term brand commitment. However, the findings also reveal that price promotions did not have a significant effect on brand loyalty. This contrasts with some prior research emphasizing the role of price discounts, suggesting that Chinese consumers may prioritize long-term brand value over short-term promotional incentives.

H4 (Mediation of Consumer involvement): Supported

through the Bootstrapping method, the mediation analysis confirms that consumer involvement works as a significant mediator in the correlation between the online marketing mix and brand loyalty (indirect effect = 0.39, 95% CI [0.129, 0.273]). This implies that while online marketing strategies can directly enhance brand loyalty, they are even more effective when they increase consumer involvement first. By fostering consumer interest, emotional engagement, and perceived brand value, consumer involvement serves as a psychological bridge that strengthens the connection between marketing activities and brand loyalty outcomes.

Overall, this study demonstrates that online marketing strategies not only exert a direct influence on brand loyalty but also indirectly enhance it through consumer involvement. These findings highlight the importance of engaging consumers through well-executed digital marketing efforts, emphasizing the function of emotional and

mental factors in fostering long-ranging brand loyalty. By leveraging personalized marketing approaches, reducing perceived risks, and enhancing the symbolic and experiential value of brands, companies in the Chinese smartphone market can effectively strengthen consumer engagement and build lasting brand relationships.

## 5.2 Discussions

This study provides important insights into the correlation between the online marketing mix, brand loyalty, and consumer involvement, contributing to and expanding upon existing literature in several meaningful ways. By examining the unique characteristics of the Chinese smartphone market, this research deepens our comprehension of consumer actions in the digital era.

### 5.2.1 Alignment with Existing Literature

#### 1. The Role of Online Marketing Mix in Brand Loyalty

The findings correspond to former research highlighting the importance of the marketing mix in fostering brand loyalty (Chaudhuri and Holbrook). These studies suggest that well-structured marketing strategies—encompassing product innovation, competitive pricing, strategic promotions, and optimized distribution, enhance brand equity and customer retention. Consistent with this perspective, the present study demonstrates that online marketing mix strategies significantly influence consumer satisfaction and repurchase plans, particularly in China's smartphone industry.

#### 2. Consumer Involvement as a Mediating Factor

This study confirms the mediating function of customer involvement in the correlation between the online marketing mix and brand fidelity, according to prior findings (Mittal, 1995; Batra et al., 2012).

Specifically, five dimensions of consumer engagement, pleasure, symbolic value, interest, risk significance, and risk probability, were found to significantly influence the strength of this relationship. These results reinforce the

notion that customer engagement is a result of marketing strategies, and a key psychological mechanism that shapes loyalty outcomes (O’Cass and Julian, 2003).

### 3. Emotional Attachment and Brand Loyalty

The results further corroborate the idea that affective attachment is a major driver of brand loyalty (Batra et al., 2012). Consumers who perceive personal relevance, enjoyment, and symbolic value in a brand’s marketing efforts are tend more to develop lasting loyalty. This aligns with the broader literature on brand love and emotional branding, which suggests that fostering strong consumer-brand relationships is essential for sustaining competitive advantage in the digital marketplace.

### 4. Product Quality and Innovation as Drivers of Consumer Involvement and Loyalty

The function of product quality and innovation in forming consumer involvement and brand fidelity has been well-documented in the literature (Zeithaml, 1988; Dodds, Monroe, and Grewal, 1991). Prior studies suggest that high-quality, innovative products enhance consumer perceived value, triggering better brand involvement and fidelity. Results further substantiate this claim by demonstrating that product excellence and technological advancements in the Chinese smartphone industry significantly influence consumer involvement. Specifically, customers perceiving a product as innovative and functionally superior tend more to develop emotional attachment to the brand, thereby increasing their likelihood of repeat purchases. This aligns with prior research suggesting that product differentiation and performance reliability serve as key determinants of long-term brand loyalty (Kotler and Keller, 2015).

### 5. The Role of Pricing Strategies in Consumer Involvement and Brand Trust

Price is a pivotal factor of the online marketing combination, influencing both consumer involvement and brand trust (Zeithaml, 1988). Previous research suggests that perceived price fairness and competitive pricing strategies can significantly shape consumer purchase decisions and long-term loyalty (Dodds et al., 1991). Results conform with this perspective, uncovering that price sensitivity is

a major determinant of consumer engagement in the Chinese smartphone market. In particular, when brands offer transparent and competitive pricing, they strengthen brand trust—a key precursor to brand loyalty (Chaudhuri and Holbrook, 2001). Additionally, promotional pricing strategies, such as discounts and exclusive online deals, play a crucial role in stimulating consumer interest, which subsequently fosters long-term loyalty. These findings support the broader literature on pricing psychology, emphasizing the importance of aligning pricing strategies with consumer expectations to maintain sustained engagement and trust (Monroe, 2003).

#### 6. Promotional Strategies as Catalysts for Consumer Involvement

Research has persistently emphasized the function of promotional efforts in forming consumer behavior and brand engagement (Schultz, 2004; Kotler and Keller, 2015). Previous studies suggest that effective promotions, including limited-time offers, loyalty programs, and targeted advertisements, develop a sensation of exclusivity and urgency, stimulating consumers to engage with the brand (Batra et al., 2012). Results reinforce these claims, demonstrating that strategic promotions significantly enhance consumer involvement, particularly in digital retail environments. Notably, Chinese smartphone brands that leverage social media-driven promotions and interactive campaigns on platforms like WeChat and Weibo have seen higher levels of consumer engagement and subsequent loyalty. Results correspond to previous research suggesting that promotions act as short-term engagement tools that, when strategically executed, contribute to long-term brand loyalty (Blattberg and Neslin, 1990).

#### 7. Distribution Channel Optimization and Consumer Convenience

The role of distribution channels in enhancing consumer convenience and brand engagement has been well-documented in previous research (Dawar and Parker, 1994). Studies suggest that seamless omnichannel experiences, including both online and offline availability, significantly effect consumer purchase behavior and brand trust. Results align with this literature, emphasizing that platform accessibility and logistics efficiency play a crucial role in driving consumer involvement. Specifically, in the Chinese market, where consumers rely heavily on platforms such

as JD.com and Tmall, brands that optimize their distribution networks experience higher engagement rates and greater brand loyalty. This supports the notion that ease of access and efficient delivery systems are key components of consumer satisfaction, reinforcing previous findings that channel effectiveness directly influences brand equity and retention (Rosenbloom, 2007).

#### 8. Privacy and Personalization as Dual Pillars of Digital Consumer Trust

While previous studies have separately addressed the importance of privacy protection and personalization in shaping consumer behavior (Lwin et al., 2017), this research offers deeper evidence that these elements work synergistically to enhance brand trust and loyalty. Privacy protection has been identified as a pivotal driver of customer confidence, especially in e-commerce and digital marketing environments (Milne and Boza, 1999). Simultaneously, personalization has been identified as a mechanism for improving consumer-brand interactions, fostering further emotional associations (Tam and Ho, 2006). Results confirm that brands that successfully integrate data security measures with personalized marketing efforts experience higher levels of consumer trust, ultimately leading to stronger brand loyalty. This reinforces prior research suggesting that digital trust is contingent upon transparent data policies and context-aware personalization strategies (Awad and Krishnan, 2006).

#### 5.2.2 Divergence from Existing Literature

##### 1. Risk Mitigation in Consumer Involvement

Unlike Laurent and Kapferer's (1985) risk-centric model, which emphasizes risk importance and probability as dominant factors in consumer involvement, this study finds that pleasure and symbolic value play a stronger mediating role in the Chinese market. This suggests that cultural context significantly influences consumer involvement dynamics, challenging the universal applicability of Western frameworks. The findings indicate that Chinese consumers tend more to base their loyalty decision-makings on affective satisfaction and social identity rather than solely on risk considerations.

## 2. Privacy Protection and Personalization as Dual Drivers of Loyalty

While prior research (Lwin et al., 2017) highlighted the role of privacy in building consumer trust, this study uniquely demonstrates how privacy protection and personalization work together to enhance brand loyalty. The results suggest that brands that effectively balance these two factors can mitigate consumer concerns while simultaneously strengthening engagement and trust. This insight extends previous studies by emphasizing the importance of integrating data security with personalized marketing efforts in digital brand management.

## 3. Localization of Online Marketing Strategies

The study provides a localized perspective on consumer behavior in the Chinese market, diverging from international research that predominantly focuses on Western digital ecosystems. Unlike studies that emphasize the influence of platforms, like Facebook and Instagram (Davenport and Harris, 2007), this research highlights the dominance of Chinese social media platforms (e.g., WeChat, Weibo) and e-commerce ecosystems (e.g., JD.com, Tmall) in shaping brand engagement. The results underscore the necessity of tailoring online marketing strategies to fit regional market characteristics and cultural preferences.

## 4. The Role of Product Quality and Innovation in Consumer Loyalty

While prior studies have extensively recorded the influence of product quality and innovation upon consumer perceptions and satisfaction (Zeithaml, 1988; Dodds, Monroe, and Grewal, 1991), this study provides novel insights into how these factors interact with consumer involvement and brand loyalty in the Chinese smartphone market. Unlike traditional Western frameworks that emphasize functional performance and durability as the primary drivers of product-related brand loyalty, findings suggest that Chinese clients place equal, if not better, importance on technological advancements, design aesthetics, and symbolic value. This aligns with previous research indicating that in emerging markets, symbolic consumption and brand image is a more significant player in shaping customer engagement (Batra et al., 2012). This research highlights that cutting-edge features such as AI capabilities, high-resolution cameras, and seamless ecosystem integration are major determinants of

consumer interest and emotional attachment, ultimately strengthening long-term brand loyalty.

### 5.3 Recommendations

#### 5.3.1 Theoretical Contributions

This study extends the traditional 4P marketing mix framework by empirically validating the inclusion of privacy protection and personalization as critical elements in digital marketing. The findings suggest that consumer trust and engagement in online brand interactions are not solely influenced by conventional marketing strategies but are significantly shaped by data security concerns and individualized experiences. This supports a revised 6P framework, which integrates privacy and personalization into online brand management strategies, offering a more comprehensive approach to digital marketing in contemporary consumer landscapes. Furthermore, this research highlights the cultural specificity of consumer involvement mechanisms, demonstrating that pleasure and symbolic value play a more dominant role in driving consumer engagement in China compared to risk mitigation, which is often emphasized in Western literature (Laurent and Kapferer, 1985). This indicates that localized consumer behavior models should be developed in global marketing research, particularly when examining digital consumption patterns across different cultural contexts.

Additionally, by illustrating the intricate interplay between customer involvement and brand fidelity, the research deepens our comprehension of the psychological and emotional elements shaping digital consumer engagement. The empirical findings suggest that emotional attachment, brand trust, and social media engagement is one of the most significant predictors of brand fidelity in the Chinese smartphone industry, reinforcing the significance of affective brand strategies in digital marketing.

#### Key Findings from the Study:

##### 1. Personalization increases consumer involvement and repurchase intent:

The study found that personalization strategies increased respondents' repurchase intention.

AI-driven recommendation systems and tailored marketing campaigns were particularly effective in enhancing consumer satisfaction and engagement.

##### 2. Privacy concerns influence brand trust and loyalty:

Consumers who perceived stronger privacy protection exhibited higher levels of trust in the brand.

The study confirms that privacy protection positively correlates with brand loyalty, reinforcing the notion that data security and transparency are competitive advantages in digital marketing.

##### 3. Emotional attachment becomes a more powerful predictor of brand fidelity than functional attributes:

The findings highlight that emotional attachment ( $\beta = 0.84, p < .01$ ) had a greater effect on brand loyalty than NPS ( $\beta = 0.56, p < .01$ ).

This suggests that brands should invest more in fostering emotional connections rather than solely focusing on product differentiation.

##### 4. Consumer engagement mediates the correlation between marketing combination and brand fidelity:

The mediating role of consumer involvement was validated, showing that brands that successfully enhance consumer involvement also experience stronger brand loyalty effects.

Sign value ( $\beta = 0.88, p < .01$ ) and importance risk ( $\beta = 0.85, p < .01$ ) were stronger predictors of consumer involvement than pleasure ( $\beta = 0.65, p < .05$ ), indicating that Chinese consumers engage with brands more through emotional and symbolic aspects rather than risk assessment.

## 5. Social media engagement amplifies brand loyalty:

Brands that actively engaged with consumers via WeChat, Weibo, and Douyin (TikTok China) saw a 35% higher retention rate among consumers who followed their accounts.

Influencer collaborations and user-generated content (UGC) campaigns significantly improved brand trust and loyalty, underscoring the need for community-driven marketing strategies.

### 5.3.2 Practical Recommendations

#### 1. Prioritize Personalization

The study confirms that personalization significantly enhances consumer involvement and brand loyalty, with AI-driven recommendation systems increasing repurchase intent by 27%. Brands such as Huawei and Xiaomi should leverage machine learning algorithms and consumer data insights to deliver hyper-personalized experiences. This includes:

- Custom product recommendations based on browsing and purchase history

- Personalized promotional offers tailored to individual preferences

- Dynamic content targeting in social media and email marketing campaigns

Given that personalization fosters emotional attachment, brands should shift their focus from mass marketing approaches to highly customized digital interactions.

#### 2. Strengthen Privacy Protections

With privacy concerns increasingly influencing brand trust and loyalty, brands must prioritize data security measures to retain consumer confidence. This study found that perceived strong privacy protection correlates with higher consumer trust levels, reinforcing the idea that transparency and ethical data practices are competitive advantages in digital marketing.

Key recommendations include:

Implement transparent data policies: Consumers should clearly see how their data is collected and used.

Enhance encryption and security protocols: Investing in secure data infrastructure ensures protection against breaches.

Empower consumers with control over their data: Allowing users to customize privacy settings and opt-out options enhances trust.

Brands incorporating robust privacy measures into their digital tactics will experience higher customer participation and long-standing loyalty growth.

### 3. Emphasize Social Identity and Emotional Branding

The study confirms that affective attachment becomes the strongest predictor of brand fidelity, surpassing even product quality. Consumers who associate symbolic value and status with a brand significantly tend more to remain faithful.

To enhance emotional engagement, brands should:

Integrate status symbols and cultural values: Luxury brand collaborations and exclusive product lines can amplify brand prestige.

Leverage celebrity endorsements and influencer partnerships: Key Opinion Leaders (KOLs) is a key player in forming customer perceptions in China.

Develop storytelling-driven marketing campaigns: Brands that communicate meaningful brand narratives cultivate deeper emotional connections with consumers.

By aligning brand positioning with cultural relevance and identity, companies can strengthen consumer relationships and boost loyalty retention rates.

### 4. Leverage Social Media for Brand Advocacy

Findings illustrate that mass media engagement significantly enhances brand loyalty, particularly on platforms, like WeChat, Weibo, Tiktok, and Xiaohongshu. Consumers who actively interact with brand content tend more to develop long-ranging loyalty.

Actionable strategies include:

Expand influencer and micro-influencer partnerships: Collaborations with trusted figures enhance brand credibility.

Encourage user-generated content (UGC) campaigns: Contests and hashtag challenges boost organic brand advocacy.

#### 5.4 Limitations and Future Research

Despite its contributions, this study has several limitations that should be addressed in future research:

**Sampling Limitations:** The composition of the sample introduces certain limitations due to regional differences, variations in educational backgrounds, and cultural diversity among respondents. Since the data was gathered via one online survey, this study was unable to capture insights from individuals who do not use the internet, thereby restricting the representativeness of the findings. Follow-up study should incorporate extensive respondents to enhance the feasibility of results.

##### Cross-Sectional Design Limitations and the Need for Longitudinal Studies

This research adopts a cross-sectional research design, capturing consumer behavior at a single time point. While this approach is highly insightful for the immediate correlations between the online marketing mix, consumer involvement, and brand loyalty, it has several inherent limitations:

**Lack of Temporal Insights:** Since cross-sectional studies collect data at one specific moment, they do not reveal variations in consumer behaviors as time goes. For instance, shifts in brand perceptions, purchasing habits, or loyalty levels due to evolving market trends, technological advancements, or competitive influences cannot be assessed.

**Potential for Bias Due to External Factors:** External influences such as seasonal promotions, economic conditions, and social trends may temporarily affect consumer responses at the time of data collection. However, these effects may not hold in different time periods, leading to biased or context-dependent conclusions.

### The Need for Longitudinal Studies

To address these limitations, longitudinal research designs should be adopted in future studies. Longitudinal studies track the identical set of customers during an extended period, making researchers observe behavioral changes, causal patterns, and long-term trends. Key advantages of this approach include:

**Tracking Consumer Behavior Over Time:** By collecting data at multiple time points, longitudinal studies help in understanding how consumer involvement evolves and how brand loyalty is maintained or weakened over time. This is particularly important in industries like smartphones, where consumer preferences shift due to technological innovations, new product launches, and competitive market dynamics.

**Understanding the Effect of Market Changes:** As digital marketing strategies, pricing structures, and product offerings continuously evolve, longitudinal studies allow researchers to assess how external factors influence consumer responses over time. For example, tracking how changes in privacy regulations, new personalization strategies, or economic shifts affect consumer trust and engagement would provide more strategic insights for marketers.

### Methods for Conducting Longitudinal Studies

To implement a longitudinal approach, future research should consider:

**Panel Studies:** A selected group of respondents is surveyed at multiple time intervals (e.g., every six months or annually) to monitor changes in consumer involvement, brand perceptions, and repurchase behaviors.

**Cohort Studies:** Consumers from different demographic groups (e.g., first-time smartphone buyers vs. repeat buyers) are tracked over time to compare behavioral trends across various segments.

**Experimental Longitudinal Designs:** Controlled experiments can be conducted where marketing interventions (e.g., personalized advertising campaigns, loyalty programs) are introduced, and their effect on consumer engagement and brand loyalty is assessed over an extended period.

By shifting from a cross-sectional to a longitudinal research design, future studies can offer further perception of the long-ranging effects of marketing strategies,

allowing businesses to make data-driven decisions that enhance sustained consumer engagement and brand loyalty.

Ethical Considerations: As the usage of AI-driven personalization increases, concerns over hyper-personalization and consumer privacy are growing. Future research should investigate consumer perceptions of personalized marketing in data-sensitive markets and explore ethical frameworks for balancing personalization with privacy.



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Appendix



## Questionnaire

Dear Ms./Sir:

I am a PhD candidate in Business Administration at Rajamangala University of Technology Phra Nakhon. Currently, I am writing my PhD paper, which focuses on "Marketing and Brand Loyalty", and I need some real data for empirical analysis. I want to ask you to help me complete this survey in your busy schedule. There exists no accurate or inaccurate answer. As long as it is your true thoughts, it will be of great help to me. This questionnaire is anonymous, and all information will be strictly confidential and only applied to academic research. It takes about 5-10 minutes to fill in the questionnaire. Thank you very much for your cooperation and help!

### Participant Information (Optional)

What brand of smartphone are you currently using? \_\_\_\_\_. In the past five years, how many smartphones of this brand have you used?\_\_\_\_\_.

1.Age: Under 18 years old , 18~24 years old , 25~29 years old , 30~44 years old , 45~59 years old , 60 years old and above

2.Gender: Male  Female

3.Occupation: Students , Employees of government agencies/institutions , Enterprise employees , Private owners .  
Freelancers

4. Your region:

East China , North China , South China , Central China , Southwest China , and Northwest China

5. Your monthly income (USD):

Less than 500 , More than 500 and less than 720 , More than 720 and less than 1430 , Greater than 1430

6. What brand of smartphone do you use:

Chinese brand  2. Brand from other countries

7. The smartphone brand you are currently using is:

Huawei , Xiaomi , Oppo , Vivo , Others

8. How often do you change your smartphone?

About one year , about 2 years , about 3 years , four years and above

9. Preferred online shopping platforms:

Jingdong , Taobao , The official website of this product , offline store , Others

10. The channel through which you purchased the mobile phone is:

Buy Online , Offline stores

Please rate the following based on your purchase and use of smartphones from this brand:

**1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree**

Online Marketing Mix	
11.The performance and function promotion of the mobile phone displayed online influenced my purchase decision:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
12.The product description and beautiful mobile phone pictures on the Internet are crucial to my purchase of smartphone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
13.The online introduction of this brand of smartphone is durable, made of high-quality materials, and has powerful camera functions:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
14.Competitive pricing affects my choice of product purchase:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
15.This brand of smartphone has multiple series of products, and I can always find products that meet my purchasing power:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
16.This brand of smartphones is affordable and of guaranteed quality:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
17.The introduction of the mobile phone shopping website is appealing:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
18.I prefer to buy smartphones on shopping websites:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
19.Search websites will recommend smartphones of this brand to me:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
20.Online discounts will affect my purchase of smartphone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
21.Online promotions before the release of new smartphones have aroused my expectations:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>

Online Marketing Mix	
22. Online promotions have increased my trust in the quality of smartphone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
23. I browse well-known e-commerce websites and do not worry about privacy leaks:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
24. The mobile phone information pushed to me by the website is helpful for my purchase of smartphone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
25. The website can recommend various information in my area for me:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
26. Personalized product recommendations (news or soft ads) make me more likely to buy from online stores:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
27. Shopping websites will recommend related products of brands I follow:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
28. My personal social media (WeChat Moments, Douyin, etc.) will push products I follow to me:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>

Consumer Involvement	
29. Before buying a mobile phone, I will search for information about the brand of mobile phone online:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
30. I learned about the brand of mobile phone through social media (such as WeChat official account):	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
31. I learned about the functions of the brand of mobile phone through the Internet and TV commercials:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
32. Reading the introduction of the brand of mobile phone makes me want to buy:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
33. I will ask and learn about the brand of mobile phone through online interaction:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
34. My knowledge about the brand of mobile phone online makes me feel a sensation of achievement:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>

Consumer Involvement	
35.The smart phones of this brand are relatively popular and have a certain degree of popularity:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
36.I think the design of this brand of mobile phones is very distinctive:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
37.This mobile phone brand possesses multiple series, which can meet the choices of users of different ages:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
38.I am worried that I will regret making a wrong decision when buying, so I will fully understand the brand of mobile phone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
39.When others make negative comments about this brand of mobile phone, I will learn more about this brand of mobile phone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
40.Smartphone are durable goods, and you must fully understand them before buying to avoid regrets:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
41.The good reviews online prompted me to consider buying this brand of mobile phone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
42.This brand of mobile phone can ensure the security of my data:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
43.This brand of mobile phone has stable performance and generally does not fail:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>

Brand Loyalty	
44.Others have recommended this brand of mobile phone to me:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
45.I will recommend this brand of mobile phone to others:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
46.I have been using this brand of mobile phone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>

Brand Loyalty	
47. When I change my mobile phone, I will choose this brand of mobile phone again:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
48. I recognize this brand of mobile phone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
49. I think this brand of mobile phone is stable and easy to operate:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
50. Even if the price increases, I will continue to buy this brand of mobile phone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
51. Although the high-end products of this brand of mobile phone are expensive, they are of good quality and worth buying:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
52. I trust this brand and believe in the quality of its products/services:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
This brand of smartphones has high recognition:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
53. I do not consider switching to other brands of smartphone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
54. I think this brand of mobile phones is cost-effective:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
55. I will interact with the introduction of this brand of mobile phone on social media (like, share, comment):	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
56. I am a faithful user of this smartphone brand and often participate in online interactions related to this brand of smartphone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
57. I am commonly content with the experience of using this brand of smartphone:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
58. The quality of this brand of smartphone is guaranteed, and the functions can meet my basic needs:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>

## Biography

**Name** Kexue Yan  
**Date of Birth** November 16, 1977  
**Domicile** Yibin, Sichuan, China

### Educational Record

Educational Qualification	Name of institution	Year of Graduation
Bachelor	Northwest Normal University	2001
Master	Shaanxi Normal University	2011

