Influence of E-commerce Shopping Platform Image on Brand Loyalty: the Mediation Role of Brand Trust

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Abstract

In this paper, we explored the influence and mechanism of platform image on platform brand loyalty by studying e-commerce shopping platforms. We showed that: The platform corporate image and platform seller image have significant positive impact on platform brand trust and loyalty; Both dimensions of platform brand trust, platform brand reliability and intention, mediate the influence of e-commerce shopping platform image on platform brand loyalty. Based on these conclusions, we provided corresponding management suggestions for the brand build of e-commerce shopping platforms.

Keywords

E-commerce Shopping Platform; Platform Image; Brand Loyalty; Brand Trust.

1. Introduction

With the broad application of the Internet, a large number of e-commerce platform companies have emerged in recent years. Many e-commerce companies have attracted merchants to settle in through open online platforms to achieve platform transformation. For example, Dangdang, Suning.com, and JD.com were originally purely self-operated businesses. They launched their platforms successively and introduced third-party sellers, switching from self-operated e-commerce to platforms of e-commerce shopping. The e-commerce shopping platform model has grown rapidly and has become the most popular mainstream e-commerce transaction model among consumers.

As the online consumer market develops, the area of competition among e-commerce shopping platforms have gradually shifted from the initial commodity price to platform image. With various e-commerce shopping platforms to choose from, consumers' purchasing behavior is more rational, and the uncertainty of purchasing decisions also increases. Consumers can browse different e-commerce shopping platforms at any time, and can easily switch shopping platforms, increasing the difficulty for platforms to secure customer loyalty. Therefore, 1) how to promote the brand image of the e-commerce shopping platform, 2) how to establish a long-term and stable relationship with consumers, and 3) how to establish consumers' platform loyalty, are important challenges for the platforms under fierce competition. We studied the e-commerce shopping platforms, and explored how platform image influences consumer brand loyalty, to help the e-commerce shopping platform with brand building and improve consumer loyalty to the platforms.

2. Literature Review and Research Hypotheses

The e-commerce shopping platform refers to a special organization that allows sellers and buyers to transact through the virtual space and interaction mechanism provided by platform companies (Wu & Sun, 2017) [1]. The key of an e-commerce shopping platform is that platform

companies and platform sellers create value together, and provide buyers with a complete shopping experience (Wang & Zhang, 2017) [2].

2.1.   E-commerce Shopping Platform Brand Image and Trust

Different from the traditional enterprise management under a single entity, multiple entities (platform enterprises and merchants) in the e-commerce shopping platform serve consumers together, and they jointly undertake the platform service functions. Therefore, consumers' impression and evaluation of the image of the e-commerce shopping platform are not only based on the platform enterprises themselves, but also the platform sellers. The image of the e-commerce shopping platform generated on this basis has the dual structure of "platform enterprise-driven" and "platform seller-driven". Therefore, we measured the image of e-commerce shopping platform from the two dimensions of platform corporate and platform sellers.

As an important concept in psychology, trust refers to the belief and expectation of the trustee's actions to complete the entrusted matters of others (Smith, 1998) [3]. In the field of marketing, it is believed that information asymmetry and purchase risk determine the existence of brand trust. Brand trust originates from the interaction between consumers and brands, and its core reflects consumers' expectations for a certain brand (Dick & Basu, 1994; Han & Zhang, 2018) [4, 5]. Brand trust can be measured from two dimensions: Reliability and Intent (Delgado-Ballester et al., 2003) [6].

Due to the asymmetry of product information during online shopping, it is difficult for consumers to grasp all the quality information of the seller's products, which easily leads to high perceived risk and lack of trust in the product (Yao & Cui, 2017) [7]. Brand image is often regarded as a clue for consumers to infer product quality (Richardson et al., 1994) [8]. Consumers can effectively reduce purchase concerns and purchase risks through their impression of the e-commerce shopping platform. The better the image of the e-commerce shopping platform, the more consumers believe that the purchasing decisions they make are low-risk, and the stronger the consumers' trust in the e-commerce shopping platform will be. Thus, we hypothesise that:

H1: The image of e-commerce shopping platform has a significant positive impact on consumer platform brand trust.

H1a: Platform corporate image has a significant positive impact on platform brand reliability.

H1b: Platform corporate image has a significant positive impact on platform brand intent.

H1c: Platform seller image has a significant positive impact on platform brand reliability.

H1d: Platform seller image has a significant positive impact on platform brand intention.

2.2.   Image and Brand Loyalty of E-commerce Shopping Platforms

Brand loyalty is a consumer's strong positive emotional preference for a brand, which persists for a certain stage or all of the consumer's life, causing consumers to repeat the purchase behavior of the brand (Jacoby & Chestnut, 1978) [9]. Consumers' brand loyalty to e-commerce shopping platforms is reflected in consumers' preference towards platforms provided by platform companies to assist them in interacting with third-party sellers, and the repurchase behaviors on the platforms generated by such attitudes.

E-commerce shopping platforms with a good image are more likely to gain the trust and favor of consumers and increase consumer loyalty. Guan& Dong (2008), in the process of researching the brand equity of shopping websites and its formation mechanism, empirically confirmed that the brand image of shopping websites has a significant impact on the brand loyalty of their consumers [10]. Deng & Zhong (2019) verified the influence of e-commerce platform brand equity on consumer brand loyalty in an empirical study on the formation mechanism of mobile e-commerce platform brand equity [11]. Based on the above analyses, we believed that the

image of e-commerce shopping platform may improve consumer platform brand loyalty, and proposed the following hypotheses.

H2: The image of e-commerce shopping platform has a positive impact on brand loyalty.

H2a: Platform corporate image has a positive impact on platform brand loyalty.

H2b: Platform seller image has a positive impact on platform brand loyalty.

2.3.   The Mediating Role of Brand Trust

Morgan & Hunt (1994) proposed that trust is the basis of customer loyalty [12]. Sun & Leng (2019) believed that consumers' brand trust is gradually accumulated through the purchase process and user experience. Consumers' brand trust will affect their brand loyalty and their willingness to recommend to others, which will help establishing long-term relationships between consumers and the brands [13]. He & Gong (2011) empirically showed that consumers' brand trust in shopping websites will affect their brand loyalty to shopping websites [14]. Consumer brand loyalty is manifested in repeated purchases of the brand, and brand trust is an antecedent variable of brand loyalty (Veloutsou, 2015) [15]. Based on the above assumptions, we reasoned that the image of e-commerce shopping platform may have an impact on consumers' platform brand trust and platform brand loyalty. In the online shopping environment, consumers' perception of the brand image of e-commerce shopping platforms is likely to have an impact on platform brand loyalty through influencing consumer platform brand trust. A fully trusted e-commerce shopping platform image will lead to loyalty to the platform brand. As a result, the following hypotheses are proposed.

H3: Brand trust mediates the impact of platform image on platform brand loyalty.

H3a: Brand trust mediates the impact of platform corporate image on platform brand loyalty.

H3b: Brand trust mediates the impact of platform seller image on platform brand loyalty.

Based on the above-mentioned hypotheses, Figure 1 depicts the conceptual model of this study.
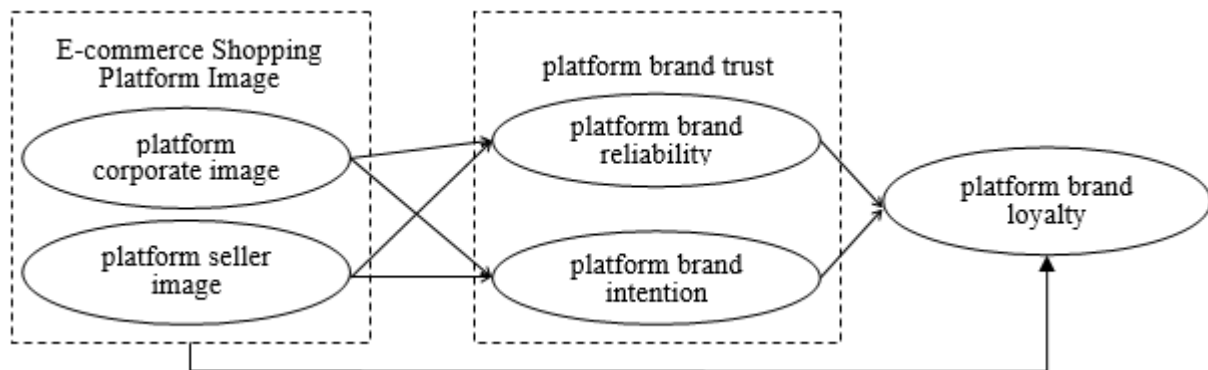

Figure 1. Conceptual model

3.   Methodology

3.1.   Variable Measurement

The measurement of platform image was based on the scale developed by Biel (1992) and Keller (1993) et al. [16, 17] The measurement of platform brand trust was based on the scale of Deigado-Ballester et al. (2003) with modifications in languages [6]. The measurement of platform brand loyalty was based on Brown's (1952) scale [18].

3.2.   Data Collection

We first selected college students in a small range as the survey objects, conducted pre-tests, and modified the scale accordingly to form a formal questionnaire. Questionnaires were

distributed and collected online. A total of 250 surveys were distributed, and after discarding questionnaires that were unusable because of unanswered items, 207 useful samples were obtained, yielding a response rate of 82.8%.

3.3. Descriptive Statistics

The descriptive statistics of the questionnaires are shown in Table 1.

Table 1. Descriptive statistics

Variable	Value Label	Frequency	Percent	Variable	Value Label	Frequency	Percent
sex	male	96	46.38	occupation	students	17	8.21
	female	111	53.62		enterprise employees	119	57.49
age	≤20 years	13	6.28		Employees of government & public institutions	44	21.26
	21-30 years	87	42.03		Individual practitioners	16	7.73
	31-40 years	82	39.61		others	11	5.31
	≥41 years	25	12.08	monthly income	≤¥3000	21	10.14
education level	High school or below	8	3.86		¥3001-5000	68	32.85
	college graduate	36	17.39		¥5001-7000	64	30.92
	undergraduate	141	68.12		¥7001-9000	35	16.91
	master degree or above	22	10.63		>¥9000	9	4.35

4. Results

4.1. Reliability and Validity Test

Table 2. Reliability and validity test

Variables		Items	Factor loading	Cumulative %	Cronbach's α	
e-commerce shopping platform image	platform corporate image	A1	0.835	72.830	0.843	0.878
		A2	0.798			
		A3	0.842			
	platform seller image	B1	0.830		0.852	
		B2	0.807			
		B3	0.816			
		B4	0.679			
platform brand trust	platform brand reliability	C1	0.834	79.224	0.903	0.927
		C2	0.786			
		C3	0.823			
		C4	0.856			
	platform brand intention	D1	0.785		0.913	
		D2	0.877			
		D3	0.830			
		D4	0.808			
platform brand loyalty	platform brand loyalty	E1	0.894	75.253	0.834	0.834
		E2	0.873			
		E3	0.835			

Using SPSS 22.0 to analyze the reliability of the data, we confirmed that the Cronbach's α coefficients of the measured variables were all greater than 0.7, as shown in Table 2, meaning that the scale was reliable. For the scale validity test, we first performed KMO value and Bartlett test of sphericity, which showed that the scale was suitable for factor analysis. We then adopted the factor analysis method to conduct exploratory factor analysis on the scale, and each factor loading was greater than 0.5 ($P<0.001$). We confirmed that the convergent validity of the scale was high, the cumulative degree of explanation of the factors was greater than 60%, and thus the construct validity of the scale was good.

4.2.   Correlation Analysis

We used Pearson's correlation analysis method to analyze the correlation of each variable, and the results are shown in Table 3.

Table 3. Correlation analysis

Variable	platform brand trust	platform brand reliability	platform brand intention	platform brand loyalty
e-commerce shopping platform image	0.674**	0.692**	0.551**	0.584**
platform corporate image	0.613**	0.687**	0.452**	0.525**
platform seller image	0.596**	0.568**	0.528**	0.523**
platform brand loyalty	0.798**	0.665**	0.790**	1

** $p<0.01$

Table 3 demonstrated that the research hypothesis has been primarily verified, and we further investigated the relationships among the research variables.

4.3.   Regression Analysis

4.3.1. Regression Analysis of E-commerce Shopping Platform Image on Brand Trust

The results of regression analysis of e-commerce shopping platform image on brand trust are shown in Table 4.

Table 4. Regression analysis of e-commerce shopping platform image on brand trust

Dependent Variable	platform brand trust	platform brand reliability	platform brand intention
	M1	M2	M3
Control Variable			
sex	0.078	0.024	0.108
age	-0.013	-0.011	-0.009
monthly income	0.037	0.046	0.024
education level	-0.026	-0.047	0.002
occupation	-0.007	-0.028	0.018
independent variable			
e-commerce shopping platform image	0.674**		
platform corporate image		0.538**	0.195**
platform seller image		0.248**	0.413**
R^2	0.459	0.513	0.317
Adjusted R^2	0.444	0.498	0.296
F	31.805**	33.761	14.878**
D-W value	1.784	1.845	1.772

** $p<0.01$

Table 4 showed that the coefficient value of the image of the e-commerce shopping platform in the model M1 was 0.674 (p<0.01), indicating that the image of the e-commerce shopping platform has a significant positive impact on consumer platform brand trust. In model M2, the coefficient values of platform corporate image and platform seller image were 0.538 (p<0.01) and 0.248 (p<0.01), indicating that platform corporate image and platform seller image have a significant positive effect on platform brand reliability. In model M3, the coefficient values of platform corporate image and platform seller image were 0.195 (p<0.01) and 0.413 (p<0.01), indicating that platform corporate image and platform seller image have a significant positive effect on platform brand intentions. Therefore, we validated hypotheses H1, H1a, H1b, H1c and H1d.

4.3.2. Regression Analysis of E-commerce Shopping Platform Image on Platform Brand Loyalty

The regression analysis of e-commerce shopping platform image on platform brand loyalty is shown in Table 5.

Table 5. Regression analysis of e-commerce shopping platform image on platform brand loyalty

Dependent Variable:	platform brand loyalty	
	M4	M5
Control Variable		
sex	0.082	0.076
age	-0.027	-0.028
monthly income	-0.001	-0.001
education level	-0.032	-0.027
occupation	0.053	0.052
independent variable		
e-commerce shopping platform image	0.585**	
platform corporate image		0.316**
platform seller image		0.336**
R^2	0.352	
Adjusted R^2	0.334	
F	20.337**	
D-W value	1.796	

** p<0.01

In model M4, the coefficient value of e-commerce shopping platform image was 0.585 (p<0.01), indicating that e-commerce shopping platform image has a significant positive impact on platform brand loyalty. In model M5, the coefficient values of platform corporate image and platform seller image were 0.316 (p<0.01) and 0.336 (p<0.01), respectively, indicating that platform corporate image and platform seller image have a significant positive impact on platform brand loyalty. Therefore, we proved hypotheses H2, H2a and H2b.

4.3.3. Analysis of the Mediating Role of Brand Trust

We further verified the mediating effect by Bootstrap analysis. Using Process, a plug-in of SPSS 22.0, we evaluated the mediating effect of brand trust. The conclusion was based on whether the distribution interval of the operation result from LLCI value to ULCI value contains 0. If 0 is included, it indicates that there is no mediating effect; otherwise, there is a mediating effect.

Table 6. Bootstrap analysis

Path	Effect	SE	P	LLCI	ULCI
e-commerce shopping platform image→platform brand trust→platform brand loyalty	direct effect	0.0614	0.1075	-0.0216	0.2203
	indirect effect	0.0951	0.000	0.4131	0.8025
platform corporate image→platform brand trust→platform brand loyalty	direct effect	0.0502	0.2712	-0.433	0.1526
	indirect effect	0.0675	0.000	0.3476	0.6167
platform seller image→platform brand trust→platform brand loyalty	direct effect	0.0514	0.1254	-0.0228	0.1834
	indirect effect	0.0855	0.000	0.3292	0.6641

The path of e-commerce shopping platform image → platform brand trust → platform brand loyalty indicated that the direct effect of e-commerce shopping platform image on platform brand loyalty was not significant, while the indirect effect was significant. This suggested that platform brand trust plays a full mediating role in how the e-commerce shopping platform image influences platform brand loyalty.

The path of platform corporate image → platform brand trust → platform brand loyalty suggested that the direct effect of platform corporate image on platform brand loyalty was not significant, while the indirect effect was significant. This indicated that platform brand trust plays a full mediating role in the impact of platform corporate image on platform brand loyalty.

The path of platform seller image → platform brand trust → platform brand loyalty showed that the direct effect of platform seller image on platform brand loyalty was not significant, while the indirect effect was significant. This suggested that platform brand trust has a full mediating role on the influence of platform seller image on platform brand loyalty.

As a result, we validated hypotheses H3, H3a and H3b via Bootstrap analysis.

5. Conclusion and Managerial Implications

5.1. Conclusion

Our empirical research results showed that platform corporate image and platform seller image have a positive impact on consumers' platform brand trust and brand loyalty. The two dimensions of platform brand trust (platform brand reliability and platform brand intention) both play a mediating role in the impact of platform image on the platform brand loyalty.

5.2. Managerial Implications

E-commerce shopping platforms should attach importance to establishing the image of the platform, promoting consumers' trust and loyalty to the platform brand, and strengthening the brand equity and competitive advantage of the e-commerce shopping platform. Specifically:

First, e-commerce shopping platform should promote their images comprehensively. E-commerce shopping platform corporate image and platform seller image are important dimensions of platform image. They deeply affect consumers' perception and evaluation of products and services of e-commerce shopping platform, and platform image greatly affects consumers' platform brand loyalty. E-commerce shopping platforms should take a multi-pronged approach to comprehensively enhance the image of the platform's corporate and platform sellers. On one hand, platform companies may increase their popularity and gain their platform reputation through advertising and participating in public welfare activities. On the

other hand, the platform should encourage platform merchants to pay attention to the image of stores, products and services. Platforms may also provide better support to platform sellers with a good image, form a closer relationship with them, and stimulate the enthusiasm of platform sellers to improve their own image and consciously maintain the platform image. These methods improve consumers' overall perception of the platform brand, impress consumers with the unique charm of the platform, and enhance the platform brand value.

Second, e-commerce shopping platform brands should actively enhance consumers' trust and loyalty. Trust is not formed in a day, but rather a continuous and stable expression of attitude and emotion. E-commerce shopping platform enterprises and platform sellers should focus on building consumers' trust in the platform brand, and improve the daily management of platform operation and maintaining platform image. Platform companies should improve the functions and services of the platform, and continuously strengthen their management. Platform sellers should perform standard practice of operation, improve the quality of goods and services, promote consumers' recognition and reliability of e-commerce shopping platforms, and accumulate consumers' perceptions of the platform. Satisfaction and emotional trust further translate into loyalty to e-commerce shopping platforms.

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