Influence of Customer Experience on Customer Loyalty in Apparel B2C E-commerce

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Abstract

Customer loyalty is one of the keys to establishing a sustainable business in apparel B2C e-commerce, and it is influenced tremendously by customer's online shopping experience. In this paper, we conducted a survey on customer experience, alternative attractiveness, and customer loyalty, and created a model to analyze the associations among these attributes. Customer experience was measured from five dimensions: website, product, service, brand and emotion. In the analytical model, the dimensions of customer experience were taken as independent variables, customer loyalty as a dependent variable, and alternative attractiveness as a moderating variable. Correlation and regression analyses were performed to assess the impacts of customer experience and alternative attractiveness on customer loyalty. Based on the survey data of 250 validated questionnaires, it was found that customer loyalty is significantly correlated with all the five dimensions of customer experience and with alternative attractiveness. Among the five dimensions of customer experience, service, emotion, and product experiences have slightly higher correlations than website and brand experiences. Alternative attractiveness has a small negative correlation with on customer loyalty.

Keywords: Customer experience • Customer loyalty • Alternative attractiveness • Apparel B2C E-commerce

Introduction

As one of the earliest and largest ecommerce categories, online apparel sales have exponentially increased worldwide over the past ten years. However, its rapid growth has fueled intense competition within the B2C ecommerce industry, especially the apparel category. Whereas third-party platforms witness high customer traffic, apparel vendors have to expend effort and invest money to attract and retain customers. Compared with other standardized products which emphasize more on functionalities (e.g., electronics and daily necessities), apparel products are characterized more by fashion-related attributes, such as style, size, colour, comfort. Customers also prefer highly convenient post-purchase return and exchange procedures. Differences in customer experiences force apparel retailers to implement unique strategies to attract customers and ensure customer loyalty. Identifying the dimensions of customer experience that influence customer loyalty within the apparel B2C ecommerce domain will help e-retailers devise strategies to improve customer stickiness and achieve success.

Many studies have examined the relationship between customer loyalty and customer experience online or offline, but few of them have focused on apparel B2C ecommerce. The objectives of this study were to

1. Develop a scale that assesses the dimensions of customer experience and loyalty within the context of apparel B2C ecommerce;

2. Identify the dimensions of customer experience; and

3. Design and test a model that delineates the relationships between the dimensions of customer experience and customer loyalty.

Although the dimensions describing customer experience varied in the existing literature, website, product and service were the ones that were most frequently used. However, most of these studies were about shopping experience on apparel products. It is necessary to find out more appropriate dimensions of customer experience in the apparel B2C ecommerce context.

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Literature Review

This dimensions of customer experience in apparel B2C ecommerce

First, we identified the dimensions of customer experience and loyalty that have emerged in the past studies and questionnaires and used to assess these constructs [1,2]. Next, we collated 25 topic items that were frequently included in these questionnaires. Finally, we interviewed 20 randomly selected college student volunteers to conduct an in-person interview.

Website experience includes website/mobile application (APP) design, browsing, searching and operation, product information, speed, and stability. This dimension mainly pertains to the display function of a website/APP. Product experience includes product quality, price, type of products, packaging quality, and feeling of wearing. This dimension focuses on the external performance of products. Service experience includes the convenience and quality of presale, postsale, and logistical services. This dimension pertains to customer satisfaction with the service of an e-retailer.

Brand experience refers to a customer's sense of individualization in response to certain brand experiences and brand image building [3]. Emotional experience refers to the emotions that customers experience when they browse, choose, purchase, receive, and wear clothing.

Method

Sampling design and data collection

The sample consisted of junior students and college employees. Data were collected using a questionnaire posted on wjx.cn. Two separate datasets were collected for different subsequent analysis. The first contained 306 valid samples (87.3% students, 12.7% employees), and the second contained 369 valid responses (84.6% students, 15.4% employees).

Measures

The scale items that assessed the dimensions of customer experience and customer loyalty were developed based on existing scales (Table 1). All scale items were rated on a seven-point Likert scale, which ranged from "strongly agree" (7) to "strongly disagree" (1). The scale items were modified based on the results of the in-person interviews and a pilot test (N=50 exploratory factor analysis (EFA)).

The validity of the measurement scales and the dimensions of customer experience were examined by conducting both EFA and confirmatory factor analysis (CFA). Correlation and multiple regression analyses were conducted to examine the association between the dimensions of customer experience and customer loyalty [4].

Results

Validity analysis: EFA

The EFA was performed on the first dataset. Prior to the EFA, the univariate normality was checked with SPSS (Statistical Package for the Social Sciences) version 22.

EFA was conducted using principal component analysis to examine the interrelationships among the customer experience dimensions. To evaluate the adequacy of each variable included in the model, the Kaiser-Meyer-Olkin (KMO) statistic was computed and Bartlett's test of sphericity was conducted. The results indicated that the sample was highly adequate for factor analysis. It shows the results of the principal component analysis (Table 2).

Validity analysis: CFA

SPSS AMOS (Analysis of Moment Structure) version 21 was used to conduct CFA with the second dataset in this study. Presents the model fit indices (Table 3). Almost all the values were within the recommended range.

- RMSEA=root mean square error of approximation.

- GFI=goodness-of-fit index.

- AGFI=adjusted goodness of fit index.

- NFI=normed fit index.

- CFI=comparative fit index.

- IFI=incremental fit index.

- TLI=Tucker-Lewis index.

- RMR=root mean square residual.

As shown in, the factor loading of each item was greater than 0.6, and was highly significant (as required for convergent validity) (Table 4). The AVE values were greater than the recommended criterion of 0.50, and all the CR values were higher than the accepted threshold of 0.70. Since factor loadings can be used to measure the degrees to which observed variables contribute to latent variables, scale items W3 (product information on the website), P1 (product quality), S3 (product return), B2 (apparel brand), and E1 (enjoyable shopping) loaded most strongly onto their latent variables.

- AVE=average variance extracted. CR=composite reliability

A construct has adequate discriminant validity only when the intercorrelations among all factors are below 0.85 and the square root of the AVE of a factor is greater than its correlations with other factors. The results were indicative of adequate discriminant validity [5].

Correlation analysis

SPSS version 22 was used to conduct the correlation analysis on the second dataset. As shown all the five customer experience dimensions were significantly and positively correlated with customer loyalty (Table 5).

Multiple linear regression analysis

The linearity assumption for the relationship between the independent and dependent variables was verified by examining the SPSS scatterplots of the experience-loyalty data in the second dataset. The five dimensions served

Table 1. Scale used to assess the dimensions of customer experience.

Dimension	Adapted item	Reference scale
Website experience	W1: The website/APP design is neat and visually pleasing.	Cunliffe[5], Kim[1] and new scale items (W3)
	W2: Website/APP browsing, searching, and purchasing operations are simple and easy to use.	
	W3: The website/APP provides abundant and accurate product information (e.g., description/size/fabric/comments).	
	W4: The pictures are of good quality and show the characteristics of the product.	
	W5: The website/APP is fast and stable.	
Product experience	P1: Product quality on this shopping website is reliable.	O'Cass & Grace[6], and new scale items (P3,P5)
	P2: Product prices on this shopping website are reasonable.	
	P3: Product packaging on this shopping website is good, and damage on arrival seldom happens.	
	P4: Product variety on this shopping website is rich and can meet all kinds of needs.	
	P5: Products sold on this shopping website are attractive and comfortable.	
Service experience	S1: Service staff members are friendly and answer customer demands in a responsible manner.	O'Cass & Grace[6], and new scale items (S3,S4)
	S2: It is easy to receive customer support through various means, and processing speed is fast.	
	S3: Product return/exchange processes are efficient.	
	S4: Shipping is fast and costs less.	
	S5: The service staff members always fulfill their promises.	
Brand experience	B1: The shopping platform is reputable.	Islam[2], Song[4], and new scale items (B1)
	B2: The apparel brand is reputable.	
	B3: The apparel retailer is reputable.	
	B4: Advertisements for this brand or retailer are attractive.	
Emotional experience	E1: Shopping on this website is enjoyable.	Schmitt[3], and new scale items (E4)
	E2: Shopping on this website can relieve stress.	
	E3: Shopping on this website leads to pleasant surprises.	
	E4: When wearing a product of this brand, I feel confident.	

Table 2. Principal component analysis results (N=306).

Total variance explained

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	7.269	31.602	31.602	7.269	31.602	31.602	3.333	14.493	14.493
2	2.22	9.651	41.253	2.22	9.651	41.253	3.172	13.79	28.283
3	2.018	8.775	50.028	2.018	8.775	50.028	2.997	13.032	41.315
4	1.872	8.138	58.166	1.872	8.138	58.166	2.768	12.033	53.348
5	1.651	7.178	65.344	1.6511	7.178	65.344	2.759	11.996	65.344
6	0.847	3.682	69.026						
7	0.846	3.678	72.705						
8	0.77	3.347	76.052						
9	0.733	3.188	79.239						
10	0.655	2.847	82.086						
11	0.587	2.551	84.637						
12	0.568	2.468	87.105						
13	0.46	1.999	89.104						
14	0.403	1.751	90.855						
15	0.364	1.581	92.437						
16	0.33	1.433	93.87						
17	0.293	1.276	95.146						
18	0.271	1.177	96.323						
19	0.24	1.043	97.366						
20	0.216	0.939	98.305						
21	0.193	0.84	99.145						
22	0.106	0.461	99.606						
23	0.091	0.394	100						

Table 3. Model fit indices.

Model fit index	Observed value	Recommended thresholds
p	<0.001	<0.05
2/df	2.687	<3
RMSEA	0.068	<0.08
GFI	0.876	≥ 0.90
AGFI	0.844	≥ 0.80
NFI	0.891	≥ 0.90
CFI	0.928	≥ 0.90
IFI	0.929	≥ 0.90
TLI	0.918	≥ 0.90
RMR	0.034	<0.05

as the independent variables, and customer loyalty served as the dependent variable. The regression equation can be expressed as follows:

Customer loyality=-4.613+0.237 × website experience+0.489 × product experience+0.402 × service experience+0.414+0.376 × emotional experience

All the five independent variables were statistically significant predictors of customer loyalty (F=302.253, p<0.001), and 80.4% of the variance in the dependent variable was explained by the five factors (adjusted R2).

The Durbin-Watson statistic was very close to 2. This indicated that residual autocorrelation was not detected.

It presents the estimated model coefficients (Table 6). The t-values and corresponding p-values indicated that all the five customer experience dimensions were significantly related to customer loyalty. Additionally, the variance inflation factor (VIF) was calculated to check for multicollinearity.

• VIF=variance inflation factor

Table 4. Convergent validity test results.

		Path	Factor loading	AVE	CR
W5	<---	Website experience	0.605	0.572	0.867
W4	<---	Website experience	0.681		
W3	<---	Website experience	0.894		
W2	<---	Website experience	0.695		
W1	<---	Website experience	0.864		
P5	<---	Product experience	0.677	0.579	0.871
P4	<---	Product experience	0.66		
P3	<---	Product experience	0.737		
P2	<---	Product experience	0.736		
P1	<---	Product experience	0.958		
S5	<---	Service experience	-0.663	0.566	0.864
S4	<---	Service experience	0.636		
S3	<---	Service experience	0.956		
S2	<---	Service experience	0.735		
S1	<---	Service experience	0.728		
B4	<---	Brand experience	0.672	0.614	0.862
B3	<---	Brand experience	0.735		
B2	<---	Brand experience	0.96		
B1	<---	Brand experience	0.736		
E4	<---	Emotional experience	0.631	0.585	0.846
E3	<---	Emotional experience	0.695		
E2	<---	Emotional experience	0.714		
E1	<---	Emotional experience	0.974		

Table 5. Correlations between customer experience dimensions and customer loyalty (N=369).

Dimensions of customer experience	Statistics	Customer loyalty
Website experience	Pearson's r	0.624
	p	0
Product experience	Pearson's r	0.714
	p	0
Service experience	Pearson's r	0.682
	p	0
Brand experience	Pearson's r	0.718
	p	0
Emotional experience	Pearson's r	0.661
	p	0

Table 6. Regression model.

Dimension	Unstandardized coefficients		Standardized coefficients	t	p	Collinearity statistics	
	B	SE	β			Tolerance	VIF
(Constant)	-4.613	0.25		-18.455	0		
Website experience	0.237	0.047	0.147	5.073	0	0.639	1.565
Product experience	0.489	0.049	0.294	10.064	0	0.626	1.597
Service experience	0.402	0.049	0.238	8.136	0	0.624	1.603
Brand experience	0.414	0.048	0.264	8.673	0	0.576	1.735
Emotional experience	0.376	0.047	0.232	8.078	0	0.649	1.54

Discussion

Although reliable and valid measurement scales that assess customer experience have been developed, only a few studies have attempted to validate these scales within the apparel ecommerce sector. One of the objectives of this study was to develop valid scales that assess the dimensions of customer experience and loyalty in the apparel B2C ecommerce context. The literature review helped us identify standardized scales, and the pilot test and discussions in the personal interviews helped us optimize the scale [6].

This study found that product experience had the strongest effect, brand experience had the second strongest effect, and website experience had the weakest effect on customer loyalty, respectively. This finding was consistent with Song's study 4. Therefore, apparel e-retailers and vendors should focus on promoting positive WOM and a positive brand image to foster customer loyalty.

Conclusion

In this study, we found that the five dimensions of customer experience positively influenced customer loyalty based on the multiple linear regression analysis on the section dataset. The standardized coefficients indicated that the strongest effect was exerted by product experience, followed by brand, service, emotional, and website experience. The factor loadings of the perception items indicated that (a) abundant and accurate product information had the strongest effect on website experience, (b) product quality had the strongest effect on product experience, (c) the efficiency of product return and exchange processes had the strongest effect on service experience, (d) apparel brand had the strongest effect on brand experience, and (e) an enjoyable shopping experience had the strongest effect on emotional experience. These results were consistent with the key points mentioned by the in-person interview participants.

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