

## **Empirical Study of Influential Elements of University Students' E-satisfaction**

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### **Abstract**

*With the rapid development of Internet and e-commerce technology, online shopping has become one of the shopping channels often selected in people's lives. Moreover, satisfaction for online shoppers directly affect customer loyalty and log back in to the site and continue shopping and recommend others to buy consumer decision-making behavior. In this paper, the research results of domestic and foreign customer satisfaction, using the online questionnaire to collect data, extracted the 8 major influence factors of online shopping customer satisfaction, established the evaluation system of online shopping customer satisfaction and model based on the analysis result, which has significant positive influence that the core value of products, service quality, network shopping safety, quality of logistics distribution, online shopping core advantage, return policy on customer satisfaction; customer expectations has a negative significant effect on online customer satisfaction, and the website design characteristics and consumption emotions has no significant influence on customer satisfaction. Finally, some feasible suggestions will be put forward on the online business.*

**Keywords:** Customer satisfaction, online shopping, Evaluation index system of influencing factors, Influential factors

### ***1. Introduction***

Research on customer satisfaction from the 1970s began to rise, first suggested in “experimental research on the customer's investment, expectation and satisfaction”(published in 1965 by Cardozo); for the first time to the introduction of the concept of customer satisfaction marketing field, began a study on customer satisfaction. Customer satisfaction theory in the practice of the modern marketing thinking and marketing has become one of center theories.

Research data show that in 2013 China's online shopping market in the B2C transaction scale up to 666.11 billion Yuan, in the whole network shopping market size proportion reached 36.2%, increased by 5.7% from 30.5% in 2012. From the point of growth, B2C market is growing rapidly, in 2013 China's online shopping B2C market growth of 65.2%, higher than the network shopping industry as a whole and C2C market growth, B2C market will continue to be the main driver of the network shopping industry, and platform type electric business -Tmall occupies 52.1% market share, occupies absolute advantage in the market. Cardozo (1965) argued that customers who are satisfied with the product will drive the customers to purchase behavior, to increase positive publicity for the product. Cronin and Taylor (1994) in the research on service quality, customer satisfaction and post-purchase behavior, the relationships among the three found that customer satisfaction and dissatisfaction have significant effect on post-purchase behavior. Thus, overall customer satisfaction is the prominent problem in China's online shopping, and will be the future important factors limiting the further development of the scale of China's online shopping.

In this paper, the research results of domestic and foreign customer satisfaction, based on the empirical research, puts forward a theoretical model based on Influence Factors of customer satisfaction of online shopping, want to draw some meaningful conclusions to practice.

## **2. Theoretical basis and Research Hypothesis**

### **2.1 The Research to the Influential Factors of Customer Satisfaction**

With the development and popularization of Internet, e-commerce as a new way of marketing is increasingly favored by merchants, which are studied on the comparison between online shopping and traditional shopping, online shopping features, the influence factors of consumer online shopping behavior, and the network shopping customer satisfaction and loyalty. At present there are many foreign scholars having done customer satisfaction research, LEE[1] think customer satisfaction factors including enterprise after-sales service, customer oriented service, commodity prices and website advantages and disadvantages of various kinds of services. Srinivasan, Anderson and Ponnalu[2] (2002) put forward eight influence factors of customer loyalty in online store: customization, respectively (customized or personalized), contact interactivity, training, caring, virtual community, selective, convenience and website features. Rashed Al Karim[3] research shows that consumers choose online shopping mainly because of its convenience, such as saving time, information availability, open time, easy to use, site navigation, reduce stress, the price is reasonable, and shopping fun. And online payment security, privacy, and trust, not clear warranty and return policy and lack of personalized service are the first barrier of online shopping. Online payment system, privacy and security of network shopping anxiety have a significant impact. Abu Bashir and Mohammad Wasiq[4] in the study concluded that consumers online shopping based on entertainment, stimulation and dominant three dimension of emotional state has a positive effect on online customer satisfaction; Dimension of perceived risk, economic risk, social risk, psychological risk, functional risk, and body risk) of the remote buy the network did not significantly affect customer satisfaction and only time the risk of loss of satisfaction has certain negative influence to the network, think network customer satisfaction have significantly positive impact on customer loyalty.

There are also many domestic scholars having done related research, Han Xiaoyun[5] (2004), and other scholars take Guangdong colleges and universities restaurant customer satisfaction as an example, research shows that the customer consumption emotion before-sales not only affects the evaluation of customer service, but also affects the customer consumption emotions after-sales. Zha jinxiang and Wang Lisheng[6] (2006) show consumer perception of shopping website service quality and customer's expectation on the website of the joint decision satisfaction on shopping website design characteristics, site on the network customer satisfaction and no significant positive effect, network safety, the price advantage and product quality assurance are the most important factors that affect the network customer satisfaction. Xu Donglei[7] (2007) on the basis of traditional customer satisfaction research, according to the characteristics of C2C e-commerce, analyzes the factors that affect customer satisfaction in the C2C e-commerce, including the type of C2C website, specific shop, shop, consumer personality traits; Li Dongjin[8] and other scholars from the differences, not satisfied with the products consumers return policy differences in perception and enterprise return policy statement difference analysis on return effect on consumer post purchase regret and repurchase intention, studies show that, due to preference problems caused by the return, return to the link role regret was significantly greater than that of due to the quality problem of the return. The successful return can significantly ease the consumer post purchase regret and reconstruction willing; Zhang Shengliang and Li Xiaodong [9] through literature collection of in-depth interviews and questionnaires, extracted the 6 influence factors of online shopping customer satisfaction degree from high to low in turn are the product quality, delivery speed, site quality, seller reputation, product price and quality of interaction; Chang Yaping[10] and other scholars divide the consumer online shopping behavior factors into nine indicators: convenient, reliable trading, useful, shopping feeling, personal information security, shopping interface, marketing mix, payment and delivery and online reputation. Research has shown that "reliable commodity information and transaction", "store credit", "personal information security" of the three factors most this kind of customer value.

### **2.2 Research Model Assumptions**

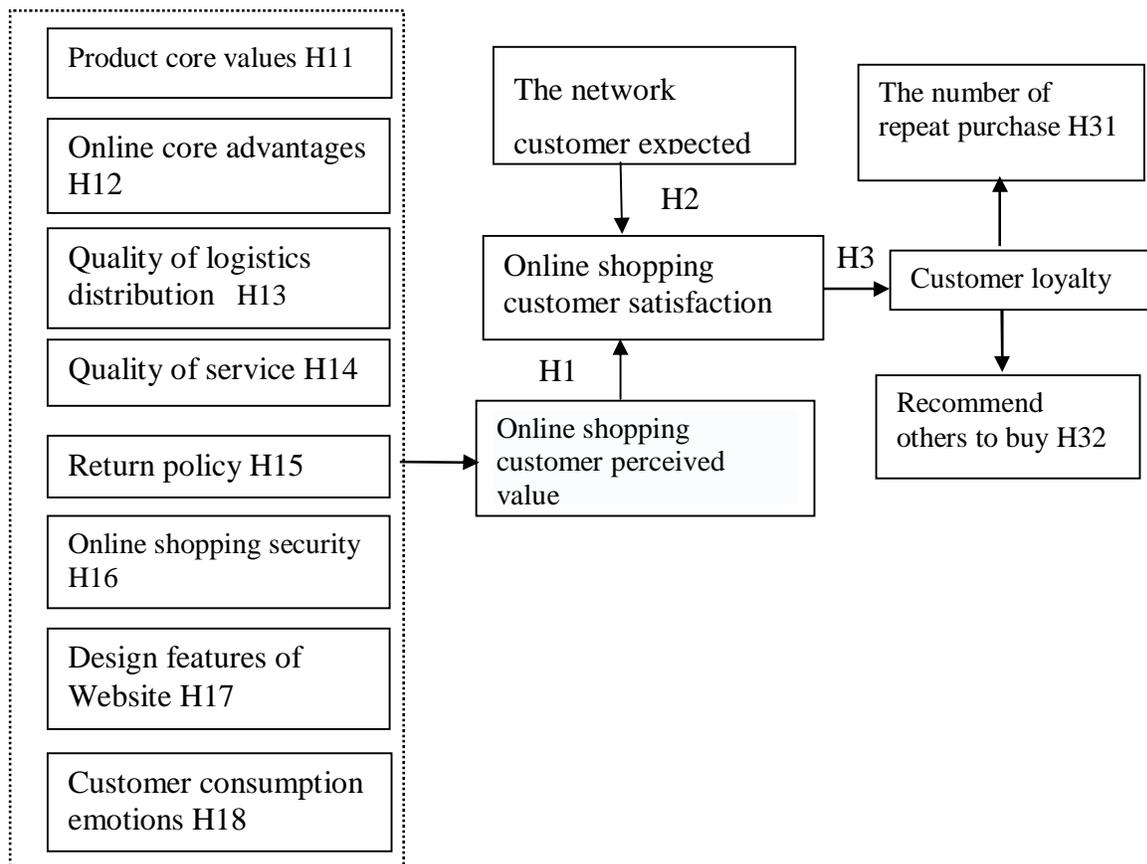
Compared with the traditional entity shop, under the background of big data era , the e-commerce store is more difficult to build customer satisfaction, customer facing the selection of selling the same goods shop a lot. Liu Xinyan[11] and other scholars increase customer trust, customer commitment between two variables, make the new model than SCSB, ACSI model and ECSI model more fully reveal the source of the customer loyalty.

Zhong Weizhu[12] show that based on ACSI model, compared with the traditional entity shop shopping behavior, there is a significant positive influence on relationship path of customer network shopping expectation, network shopping perception quality and online shopping satisfaction customer loyalty; Customer network shopping perception quality have positively influence relations on network shopping generally perceived value ; Customer network shopping perceived value have no obvious impact on online shopping satisfaction. Swedish customer satisfaction barometer (SCSB) model, the American customer satisfaction index (ACSI) model and Europe customer satisfaction index model (ECSI) and China customer satisfaction index (CCSI) model is a complete system, the application effect is the best in four kinds of models. Model is based on the above four kinds of basic variables, referring to the domestic and foreign researches' results on the customer satisfaction. Build customer satisfaction evaluation index system based on online shopping mall- Tmall, which is divided into the following three levels: the first level, customer satisfaction is the overall evaluation targets, as the primary index; The second level, according to the characteristics of Tmall, perceived quality, perceived value is decomposed into eight factor variable, as the secondary indexes; the third level, take the second level 8 secondary indexes into particular 35 measurement variables, as tertiary index. Starting from Tmall with the reality of mall, get eventually evaluation index system of customer satisfaction (see figure 1).

Level1 indicator	Level2 indicators	Level3 indicators
Based on the TMALL customer satisfaction (CSI)	Product core values ( A1)	Online quality guarantee of the product itself ( A1a)
		Online description of the product and the actual match degree( A1b)
		Online product brand of true and false, whether it is the real thing( A1c)
	Online core advantages( A2)	The convenience of online shopping( A2a)
		Web site product variety (A2b)
		Provide the customer the product or service (A2c)
		Online products cost-effective (A2d)
		Online shopping entertainment( A2e)
	Logistics distribution quality( A3)	Merchants delivery timeliness (A3a)
		The speed of logistics distribution (A3b)
		Logistics personnel service attitude (A3c)
		Choose the mode of transportation of, whether can express delivery( A3d)
	Quality of service ( A4)	The effectiveness of the merchants communicate( A4a)
		Businesses provide customers reflect the views of channels( A4b)
		Merchants timeliness in response to the customer opinion ( A4c)
		Online shopping goods packaging quality and the integrity of the received goods( A4d)
		Delivery experience mastery and flexibility( A4e)
		Goods out of stock, have without timely communication with the seller( A4f)
		The magnitude of the websites dealing with disputes and intensity( A4g)
		Fair service remedy( A4h)
		The timeliness and convenience of after-sales service( A4i)
	The service personnel of after-sales service attitude( A4k)	
	Return policy( A5)	The convenience of return and exchange goods( A5a)
		A clear return policy( A5b)
		The bearing of the return freight( A5c)
	Online shopping security ( A6)	Personal property safety when online payment( A6a)
		The personal privacy information security( A6b)
		Security of the Express company to participate in online shopping( A6c)
	Design features of Website ( A7)	The affinity of the interface design ( A7a)
		Product update speed ( A7b)
		The comprehensiveness and accuracy of the information( A7c)
		Ease of use and speed of the hyperlinks( A7d)
	Customer consumption emotions ( A8)	Website search engine and navigation mechanism of timeliness ( A7e)
		Customer consumption emotions before-sales affect the evaluation of customer satisfaction( A8a)
		Customers' before-sales emotions affect the customer after-sales consumption emotions( A8b)

Figure1. Based on TMALL Customer Satisfaction Evaluation Index System

To build the network shopping customer satisfaction model, then analyses its measurement indicators, combining the shopping experience and research achievements of predecessors, online shopping customer satisfaction model is established:



Hypothesis H1: Online shopping for consumers in the higher the perceived value, customer satisfaction is higher.

Hypothesis H11: Online stores the core value of product is higher, customer perceived value is higher.

Hypothesis H12: The bigger online shopping core advantage, the greater the network shopping customer perceived value.

Hypothesis H13: The higher the quality of e-commerce logistics distribution, the higher customer perceived value is.

Hypothesis H14: The higher quality of Website service, the higher customer perceived value is.

Hypothesis H15: The more flexible website return policy is, the higher customer perceived value.

Hypothesis H16: The higher the security of the network shopping, the higher customer perceived value is.

Hypothesis H17: The more characteristic Website design, the higher customer perceived value is.

Hypothesis H18: Customer consumption emotion has a significant effect on customer perceived value, which affects customer satisfaction.

Hypothesis H2: The higher the value of network shopping consumer expectations, the lower the customer satisfaction.

Hypothesis H3: The higher network customer satisfaction, the higher customer loyalty is.

Hypothesis H31: The higher the customer loyalty, the consumers repeat purchase more.

Hypothesis H32: The higher the customer loyalty, the greater the chance of recommend others to buy.

### 3. The Questionnaire Design and Data Analysis

#### 3.1 The Questionnaire Design

According to China Internet network information center (CNNIC) the 32 times China Internet network development state statistic report shows: students group is the largest professional group of Internet users, accounted for 26.8%. Followed by freelancers is 17.8%.

Enterprise management staff accounted for 2.8% of overall Internet users in the company, the general staff accounted for 10.6%. College students is one of the important people online shopping, so the main research object of this study is college students.

With the help of a professional online questionnaire survey platform , an online survey will be online questionnaire design, and then, through SNS network, QQ, Sina, Weibo, Net Ease mail questionnaire link notice sending, to invite customers of TMALL to fill in the questionnaire, the questionnaire covers Shanghai, Tianjin, Anhui, Henan, Jiangsu, Beijing, and other provinces and cities of online consumers.

In order to compare with the previous research conclusions, this study try to refer to preciously existing measuring scale, form the preliminary measuring questions, each variable measure all adopt Likert 5 level scale questionnaires in this study, 203 taken back, and eliminate no regular shopping questionnaire and answer obvious logical error data, unqualified 29 questionnaires, 174 questionnaires to effectively. Using SPSS 16.0 software calculates overall reliability coefficient alpha value is 0.774, which the questionnaire has high reliability.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.774	.779	19

Figure2. The Results of Reliability Analysis

3.2 The Descriptive Statistical Analysis

Statistics show that most college students have online shopping experience, monthly average shopping 1 ~ 2 times of 49.6%, 37.3% of 3 ~ 4 times, 5 ~ 6 times of 4.9%, more than six times (2.9%), no online shopping experience is only 5.3%, the sample has certain representativeness.

Indicators	Category attribute	Percentage	Indicators	Category attribute	Percentage	
Gender	Male	46.3%	on the average cost	400 and below Yuan	4.3%	
	Female	53.7%		400 to 600 Yuan	20.1%	
Age	Under age 18	2.7%		600 to 800 Yuan	32.5%	
	18 to 25	58.6%		800 to 1000 Yuan	35.8%	
	26 to 30	36.3%		1000 to 1200 Yuan	5.6%	
	30 and above	2.4%		above 1200 Yuan	1.7%	
Education	High and below	1.2%				
	College graduate	10.7%				
	Undergraduate	40.8%				
	Graduate	46.5%				
	Doctoral students and above	0.8%				

Figure3. Sample Characteristics and Composition

3.3 The Multivariate Regression Analysis

In order to further analyze the influence factors of online shopping customer satisfaction, in this paper, on the basis of general descriptive statistics for the multiple regression analysis, set up the regression equation is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \xi$$

Regression equation of dependent variable as Online shopping customer satisfaction (Y), product core values (x<sub>1</sub>), Online shopping core advantages(x<sub>2</sub>), quality of logistics distribution (x<sub>3</sub>), quality of service (x<sub>4</sub>), return policy (x<sub>5</sub>), Online shopping security (x<sub>6</sub>), design features of Website (x<sub>7</sub>), customer consumption emotions (x<sub>8</sub>). Using stepwise regression method to phase in the important variables, exclude important variables, regression results in the following figure4:

	Reta	Sig.
1	.603	.000 <sup>a</sup>
2	.508	.000 <sup>b</sup>
3	.431	.000 <sup>c</sup>
4	.369	.000 <sup>d</sup>
5	.309	.000 <sup>e</sup>
6	.294	.000 <sup>f</sup>
F Value	31.466	
R Square	.568	
Adjusted R Square	.475	

**Figure4. The Results of Regression Analysis**

Regression analysis, the theoretical hypothesis and model can be seen from figure4, the former six variable regression coefficients were 0.603, 0.508, 0.431, 0.369, 0.309, 0.294, and the value of the regression coefficient reflects the effects of variables on the overall satisfaction degree, the greater the absolute value, the greater the impact. By examining the change law of digital variables, make a specific value to identify variables affected by other variables. Significance test, inspection or be explained variable and the degree of all the linear relationship between the variables. Analysis results are shown in figure4: regression model of F statistic were greater than the value of 31.098, and P value is 0.000, namely model reached the significant level, and the whole fitting degree is higher.

Results concluded from the analysis: the first is the core value of product (beta = 0.603, p < 0.01), the network shopping core advantages (beta = 0.508, p < 0.01), the quality of logistics distribution (beta = 0.431, p < 0.01), the quality of service (beta = 0.369, p < 0.01) and return mechanisms (beta = 0.309, p < 0.01), the network shopping security (beta = 0.294, p < 0.01) has significant positive influence on customer satisfaction. Support the theoretical assumptions H11, H12, H13, H14, H15, and H16. Secondly, by analyzing the results, the website design features and customer consumption emotion is no significant impact on customer satisfaction, which does not support the theory hypothesis H17, H18.

Customer loyalty and the number of consumers to repeat purchase recommend others to buy the possibility of the regression analysis of the results are shown in figure 6 below:

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	19.033	4	4.758	6.713	.000 <sup>a</sup>
	Residual	40.403	57	.709		
	Total	59.435	61			
2	Regression	36.067	5	7.213	17.286	.000 <sup>b</sup>
	Residual	23.368	56	.417		
	Total	59.435	61			

**Figure5. ANOVA<sup>c</sup>**

Analysis results are shown in figure5: the regression models of F values were greater than 6.713, and P value is 0.000, namely model reached the significant level, and the whole fitting degree is higher. Customer loyalty and the number of consumers to repeat purchase, recommend others to buy the possibility of the regression coefficient are: 0.709, 0.417, showed the customer loyalty to the possibility of a number of consumers to repeat purchase, recommend others to buy has a significantly positive influence, which support the theoretical hypothesis H3, H31, H32.

**4. Conclusions and Suggestions**

With reference to previous literature and research results, this paper analyzed the influence of online shopping customer satisfaction through modeling 35 factors can be summarized as eight aspects: the core value of products, design features of Website, online shopping core advantages, service quality, network shopping safety, logistics distribution quality and return policies, customer consumption emotions.

Study concluded that affect customer satisfaction in terms of the eight different intensity, from figure 4 shows that the core value of product and service quality, online shopping safety, quality of logistics distribution, online core advantages and return policy has significant positive influence on customer satisfaction, customer expectations has a negative significant effect on online customer satisfaction, and design features of website and customer consumption emotion does not significantly affect customer satisfaction. This requires online store has a competitive price advantage and provide high quality goods, at the same time enhance the security of online payment, improve the speed and quality of logistics distribution, provide flexible exchange policy, which return in terms of creating a positive customer experience is crucial, and the return of the freight is one of the key elements that affect the return experience, do not pay back freight is prompted to buy again drive factors, relaxed and easy return policy experience and good returns in stimulating purchase, attract repeat customers, and create brand loyalty plays a significant role, so as to improve customer satisfaction.

Hypothesis Number	Hypothesis Contents	Support or not
H1	The higher the perceived value of network shopping consumer is, the higher the customer satisfaction is.	Support
H11	The higher online stores the core value of product is, the higher customer perceived value is .	Support
H12	The bigger online shopping core advantage is, the greater the network shopping customer perceived value is .	Support
H13	The higher the quality of e-commerce logistics distribution is, the higher customer perceived value is .	Support
H14	The higher quality of Website service is, the higher customer perceived value is.	Support
H15	The more flexible website return policy is, the higher customer perceived value is.	Support
H16	The higher the security of the network shopping is, the higher customer perceived value is.	Support
H17	The more characteristic Website design is, the higher customer perceived value is.	NOT Support
H18	Customer consumption emotion has a significant effect on customer perceived value, which affects customer satisfaction.	NOT Support
H2	The higher the value of network shopping consumer expectations is, the lower the customer satisfaction is.	Support
H3	The higher network customer satisfaction is, the higher customer loyalty is .	Support
H31	The higher the customer loyalty is, the more consumer repeat purchase.	Support
H32	The higher the customer loyalty is, the greater the chance of recommend others to buy is.	Support

**Figure6. The Research Hypothesis Test Results**

Through investigation and analysis results show that the customer satisfaction directly affect customer loyalty, thus influencing customers browse or buy again and recommend others to buy behavior decision-making, research on how to improve online shopping customer satisfaction, for network vendors have important economic value. On how to improve online shopping customer satisfaction offered the following Suggestions:

#### **4.1 Ensure Product Quality**

Because of the virtuality of the network shopping, customers can't go through experience and appearance of the product quality, only through merchant's description to get the commodity information online, so businesses want to improve customer satisfaction, it must ensure the quality of products which is the first selection of network business to retain customers. Day cat sellers should guarantee the product quality, ensure the store credit, reassure customers for products, and win the possibility of buying again.

#### **4.2 Logistics Distribution Safety in a Timely Manner**

After the transaction, each customer all hope to be able to receive goods in the shortest time, and this is the need to the seller and the third party logistics.

First of all, the deal after implementation, the seller need to arrange the warehouse personnel according to the different attributes of goods packaged goods, timely delivery in accordance with the order. Second, the third party logistics deliver the goods to the destination, customers want to be able to delivery, express company now has more than ten, and size and quality. Suggest the seller according to the specific situation in different areas of the select the appropriate Courier Company. Logistics companies are equipped with web site real-time tracking system, can according to the Courier number track delivery process or SMS notification delivery status, sellers need timely query, found the problem quickly processing, so as to win the customer's recognition and trust.

#### 4.3 Good After-Sales Service to Improve Overall Customer Satisfaction

After-sales service no matter for physical stores or online retailers are forced to value, the shop is now very perfect credit evaluation system, due to lower customer satisfaction, customer will provide the seller with a bad review or medium review, the direct impact of the dealer network word of mouth, thus influence potential consumers' buying behavior. And after-sales service customer satisfaction effect significantly, when customers put bad review or evaluation, actively communicate with buyers, find out the reason why the customers are not satisfied, and give reasonable explanation and appropriate economic compensation, deal with the problem actively, coordination, which party pay full attention to coordinate the return freight due, build up good relationship with customers, retain more customers, so that we can well improve the overall customer satisfaction.

To sum up, along with our country electronic commerce gradually began to transition to a mature stage, platform in various enterprises and individual operators not only to provide cost-effective products, but also to ensure that its use and quality. To let the consumer satisfaction, let consumer trust; genuinely committed to the value orientation of their continued to belong to the customer's value orientation, in order to improve customer satisfaction and loyalty degree, fully meet the diverse needs of customers, to win customers, gain profits for a long time, in an impregnable position in the intense Internet industry. The importance of customer satisfaction has become a consensus, and the management of the future must carefully study a very important work.

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