

# The Effect of Conversion Rate on Product Sales from the Perspective of AISAS Model: An Empirical Study based on the Data of the Amazon Merchants

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**Abstract:** With the rapid development of cross-border e-commerce, Amazon platform, as the largest and most mature cross-border B2C platform, has attracted a large number of merchants. In the face of fierce competition, how to increase product sales is the most difficult problem for every Amazon merchant. Based on the AISAS model of consumption to the amazon online store goods in a company as the research object, for the various stages of conversion selected independent variables, the empirical analysis, and hypothesis testing, explore the amazon online store goods at different stages of conversion rate and the relationship between sales, according to the different conversion rate's impact on sales of amazon operating process are proposed. This study collected the conversion rates of products in different stages, and draws the following conclusions: the rate of page clicks, the rate of buy box and conversion rate of products have a significant positive effect on sales volume.

## 1 INTRODUCTION

The conversion rate of goods at various stages can reflect the level of the seller's store in the operation process. The research on the conversion rate of online goods plays an important role in the operation of e-commerce enterprises. Commodity data can be used to develop new products, and it can also predict the trend and prospect of the market in the future. Based on the first-hand data of an Amazon merchant, we study the effect of commodity conversion rate on sales volume at various stages in the operation process. By studying the relationship between the conversion rate and sales volume of amazon online products, we can help cross border e-commerce (CBEC) enterprises in different stages to optimize and improve their operation ability. According to the different conversion rates, the small and medium CBEC companies can develop appropriate strategies to promote products with low human and time costs, improve product conversion rate and increase order quantity.

## 2 LITERATURE REVIEW

### 2.1 E-consumer Purchasing Behavior

Consumer behavior is the process of consumers' experience or ideas when choosing and using products or services, which has an effect on the consumers and society (Sabine 2012). Consumer behavior includes pre-purchase activities and post-purchase consumption, evaluation and processing activities. Under the traditional conditions, consumers have the characteristics as the following: infinite demand, inducibility, variability and multi-level. Because the Internet has greatly changed the way of consumer behavior, its characteristics are also changed as the following: personalization of consumer products, convenience of consumption pattern, rationalization of consumer behavior, interactivity and initiative of consumers. These changes have effect on the purchasing behavior and decision-making of consumers.

In the background of the Internet, consumers online purchasing behavior, characteristics and habits of E-consumers have become the main research

objects of many scholars. For example, Zhi-Cheng Li builds a new model based on the theory of planned action. He studied from the perspective of the characteristics of consumer behavior, carried out the research on the influencing factors of online consumers' purchasing behavior, which had certain guiding function to the practice of B2C (Li 2002). In order to study the influencing factors of consumer behavior in the context of big data, Guan-Ting Zhu established the theoretical model of C2C, tested the hypothesis, drew conclusions and gave constructive suggestions (Zhu 2015). Na Zhou et al. used the R-type system clustering method to investigate and empirical the influencing factors of online consumers' purchasing decisions and came to the conclusion that the eight factors, such as word-of-mouth, brand and sales volume, were the key influencing factors in the process of consumers' purchasing decisions (Zhou 2017). Based on SOR model (stimulus-organic-response), Zan Mo et al. studied whether online product evaluation would have an effect on consumer behavior from the perspective of consumer learning, and the final study showed that positive evaluation had a positive effect (Mo 2015).

## 2.2 AISAS Model

AISAS model is a brand-new consumer behavior analysis model proposed by Dentsu Company in 2005, which aims at the changes of consumer life style in the era of Internet and wireless application. It emphasizes the relationship between all aspects of interrelated and mutually influence each other constraints with user experience. AISAS model consists of five parts: Attention -- Interest -- Search -- Action -- Share, that is, consumers gradually change from the original passive receivers of information to the receivers of independent information collection. AISAS model emphasizes that online consumers will spontaneously use third-party shopping platforms, community apps and search engines to search the product information that they are interested in, and consumers will take the initiative to share user experience and product quality information with others after making purchases.

Third-party platforms or websites can help users better understand products or change or influence their purchase decisions. They can also promote the interaction and communication between people. Enterprises can use consumers' online behaviors to quantify and digitize data, study, analyze and interpret the data, and the conclusions drawn from the

data can help enterprises or operators to develop suitable and feasible marketing strategies.

In the current research on commodity conversion rate, most scholars mainly focus on the conversion rate of a specific module in the operation of online stores, and seldom study the conversion rate of each stage in the operation process. For example, Bao-Wu Bian et al. studied the commodity attraction factors of the conversion rate of enterprise e-commerce websites, and found that the factors affecting the conversion rate of enterprise e-commerce websites include website brand, commodity attraction, customer service, customer behavior, user experience, flow quality and other factors (Bian, 2019). Jing Jiang and Zhi-Yong Yang found that attention and intention had a significant effect on sales conversion. They suggested upgrading communication methods according to the experience model, and in-depth communication could promote sales conversion (Jing, 2013). Tan Kai Yee discussed the conversion rate of Amazon products based on the AISAS consumer model, and made a regression estimate of products and sales volume to help improving the application value and assisting enterprises engaged in cross-border e-commerce to solve the problems of their products (Tan, 2018). Therefore, based on the first-hand data of the background of a company's Amazon website, this paper studies the effect of product conversion rate on sales volume in various stages of operation.

## 3 THEORETICAL MODELS AND HYPOTHESES

### 3.1 Theoretical Model

Conversion rate means the percentage of users who do positive behavior to the webpage versus all users. The behavior of users in web can be quantified, such as browsing, click, buy, evaluation, etc. The conversion rate outwardly is a number, but as the growth of the Internet websites and platforms, we can find conversion rate reflects the Internet websites or platforms a lot of problems. Conversion rate is particularly important in the transactions of Internet third-party platforms. To some extent, it is the cornerstone of the growth of Internet platforms. High conversion rate can bring greater returns to enterprises. AISAS model, which was reconstructed based on e-market characteristics in the Internet era, is composed of five stages. That is Attention- Interest - Search - Action-Share. Consumers search for

commodities after noticing them and becoming interested in them, and share the information after purchasing them. In this process, consumers cannot do anything without the applications of the Internet.

Based on the AISAS model and the purchasing behavior of online consumers, this paper builds a theoretical model to reflect the changing process of conversion rate at different stages in the AISAS model, as shown in Figure 1.

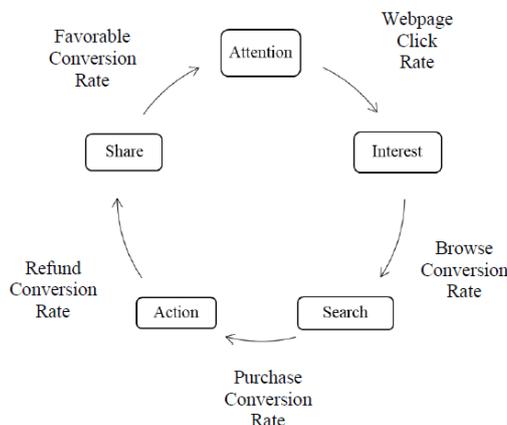


Figure 1: Conversion Rate & AISAS Model.

### 3.2 Data Sources

The main source of data collection in this paper is the background data of a company's Amazon online store. In this paper, we selected the data collections which were the conversion rates of 16 apparel products in different stages from November 1, 2019 to December 31, 2019.

### 3.3 Research Hypothesis

Based on previous studies, this paper explains the seven variables in the research model operationally, so as to facilitate the understanding of consumers' activities in the process of purchasing behavior, as shown in Table 1.

Table 1: Variable Explanation.

Variables	Explanation
Click rate	Refers to the percentage of visitors on a web page who make positive actions for the enterprise page.
Browse conversion rate	Refers to the effective conversion rate of an enterprise's products from exposure to viewing.
Purchase conversion rate	Refers to the conversion rate of consumers from effective browsing to purchase.
Buy button win rate	Buy Box in Amazon refers to the golden shopping cart, which is the habitual place for buyers to purchase on Amazon. The purchase win rate refers to the ratio of the shopping cart in hand. If the table 100% indicates that the shopping cart is absolutely in hand, Amazon buyers will give priority to purchase your products in the first time.
Favorable conversion rate	Refers to the percentage of positive reviews given to a product after it has been purchased by customers.
Refund Conversion Rate	Refers to an effective proportion of products that customers choose to return due to various reasons after purchase. Although the refund rate cannot be directly reflected to consumers, enterprises can make timely countermeasures based on the feedback of consumers.
Sales volume	The number of products actually sold in a given period of time.

This paper defines sales volume as dependent variable and other variables as independent variables, discusses the relationship between conversion rate and sales volume, studies its influence, analyzes the influence of conversion rate on sales volume in

different stages, and puts forward constructive marketing suggestions for enterprises based on the influence of conversion rate on sales volume. The research hypotheses of this paper are listed as follow:

Hypothesis 1: the webpage click conversion rate at the stage of consumers' interest has a significant effect on product sales.

Hypothesis 2: the browse conversion rate in the consumer search stage has a significant effect on product sales.

Hypothesis 3: The purchase conversion rate during the consumer action stage has a significant effect on the sales volume.

Hypothesis 4: the conversion rate of favorable comments in the consumer sharing stage has a significant effect on product sales.

Hypothesis 5: The conversion rate of refund in consumer sharing stage has a significant effect on product sales.

Hypothesis 6: The winning rate of buy button in consumer action stage has a significant effect on product sales.

## 4 RESULTS AND HYPOTHESIS TESTING

### 4.1 Correlation Analysis

Table 2: Correlation Analysis

		sales	Click on the page Conversion rate	Page views Conversion rate	The buy button Win rate	buy Conversion rate	Favorable comment Conversion rate	A refund Conversion rate
sales	Pearson correlation	1	.736**	.736**	.023	.391	.175	-.278
	Significance (bilateral)		.001	.001	.932	.134	.518	.297
	N	16	16	16	16	16	16	16
Page click conversion rate	Pearson correlation	.736**	1	1.000**	-.474	-.057	-.208	-.214
	Significance (bilateral)	.001		.000	.064	.835	.440	.425
	N	16	16	16	16	16	16	16
Page view conversion rate	Pearson correlation	.736**	1.000**	1	-.479	-.052	-.215	-.206
	Significance (bilateral)	.001	.000		.061	.848	.424	.444
	N	16	16	16	16	16	16	16
Buy button win rate	Pearson correlation	.023	-.474	-.479	1	.285	.702**	-.280
	Significance (bilateral)	.932	.064	.061		.285	.002	.293
	N	16	16	16	16	16	16	16

Table 3: Correlation Analysis.

		sales	Click on the page Conversion rate	Page views Conversion rate	The buy button Win rate	buy Conversion rate	Favorable comment Conversion rate	A refund Conversion rate
buy Conversion rate	Pearson correlation	.391	-.057	-.052	.285	1	.147	-.053
	Significance (bilateral)	.134	.835	.848	.285		.587	.847
	N	16	16	16	16	16	16	16
Favorable comment Conversion rate	Pearson correlation	.175	-.208	-.215	.702**	.147	1	-.334
	Significance (bilateral)	.518	.440	.424	.002	.587		.207
	N	16	16	16	16	16	16	16
A refund Conversion rate	Pearson correlation	-.278	-.214	-.206	-.280	-.053	-.334	1
	Significance (bilateral)	.297	.425	.444	.293	.847	.207	
	N	16	16	16	16	16	16	16

As shown in Table 2 and Table 3, five of the independent variables are positively correlated with sales volume, which are webpage click conversion rate, browse conversion rate, purchase conversion rate, favorable conversion rate and purchase button winning rate. The increase of the above conversion rate is conducive to the increase of product sales volume. However, there is a negative correlation

between the refund conversion rate and the sales volume, which indicates that the reduction of the refund conversion rate is helpful to the product sales volume.

### 4.2 Regression Analysis

Table 4: Regression Results and Linear Diagnosis of Product Conversion Rate to Sales Volume.

model	Nonstandardized coefficient		The standard coefficient	t	Sig.	Collinearity statistics	
	B	Standard error of	A trial version			tolerance	VIF
1	(constant)	341.837	1121.079		-305.	.765	
	Page click conversion rate	20623.834	5063.126	.736	4.073	.001	1.000
2	(constant)	8071.468	2717.210		-2.970	.011	
	Page click conversion rate	21311.505	4038.861	.761	5.277	.000	.997
	Purchase conversion rate	133199.961	44223.945	.434	3.012	.010	.997
3	(constant)	23301.299	6351.225		-3.669	.003	
	Page click conversion rate	26037.241	3846.001	.930	6.770	.000	.769
	Purchase conversion rate	104033.355	38683.153	.339	2.689	.020	.911
	Buy button win rate	20691.387	8057.829	.367	2.568	.025	.708

It can be seen from Table 4 that the regression effect of Model 3 is the best, and the significance level of t-test is 0.00, 0.020 and 0.025 respectively, which are all less than 0.05. This indicates that the relationship between the variable and the dependent variable - sales volume in Model 3 is significant. The value of variance inflation coefficient VIF is close to 1, so the multicollinearity in the regression model is good.

### 4.3 Results of Hypothesis Test

Analyzing the result of SPSS results, under the simultaneous action of multiple variables, we can get the following test conclusions:

- i. Hypothesis 1 is valid: the webpage click conversion rate at the stage of consumers' interest has a significant impact on product sales.
- ii. Hypothesis 2 is not valid: the browse conversion rate in the consumer search stage has no significant effect on the product sales.
- iii. Hypothesis 3 is valid: the purchase conversion rate at the consumer action stage has a significant impact on product sales.

- iv. Hypothesis 4 is not valid: the conversion rate of favorable comments in consumer sharing stage has no significant impact on product sales.
- v. Hypothesis 5 is not valid: the refund conversion rate in the consumer sharing stage has no significant effect on the product sales volume.
- vi. Hypothesis 6 is valid: the win rate of buy button has a significant impact on product sales.

## 5 MARKETING SUGGESTIONS

### 5.1 Optimize Keywords and Improve Product Exposure

The optimization of keywords includes the optimization of product rankings and advertising (Wu 2018). For the optimization of product ranking, operators are required to understand the key words first. Operators need study the search habits of consumers and potential demand for the products with the help of some search keywords tools, or filter

different keywords on foreign shopping websites to test the importance of products, or select the appropriate product keywords to improve the product visibility. The operators can carry out advertising of the main keywords, optimize the bidding of keywords according to the situation of advertising, consider removing the keywords with low transformation, and bring the maximum quantified potential customers through keyword optimization.

## 5.2 Optimize Product Pictures and A+ Pages

In order to improve the shopping experience of buyers, Amazon has some requirements for product pictures. The main picture should have a pure white background, no LOGO, watermark, etc., and the secondary picture should not contain naked information or infringement. The standard size of the picture is 1000\*1000 pixels. Under the principle of the picture system of Amazon, merchants need set the main picture that meets the requirements and make it attractive. The auxiliary pictures with multi-function introduction can be impressed and attracted by consumers. Beautiful pictures make consumers interested in the products, then increase the click rate of webpages, and improve the conversion rate of page clicks. In addition, the setup of A + page can let consumers understand product performance, contrast, size, packaging and application scene. It is easier to help the consumers understand and use products, to help consumers make buying decisions and actions in order to raise the purchase conversion rate of products.

## 5.3 Grab the Gold Shopping Cart and Improve the Conversion Rate of Commodity Purchase

According to the regulation of the amazon shopping cart and algorithms, "golden-shopping-cart" is the unique which is paid bidding for the same product by many sellers. The sellers who have the listing of new products, too many negative comments and low inventory, have no golden-shopping-cart or be grabbed them by competitors. The sellers who have no the golden-shopping-cart cannot sell the products to consumers or create the orders. At the same time, golden-shopping-cart is also a kind of affirmation to high-quality sellers. Consumers will give priority to the sellers with golden-shopping-cart. Therefore, continuously grabbing golden-shopping-cart and obtaining a competitive turnover rate can improve the

conversion rate of purchase and increase the sales volume.

## 5.4 Pay Attention to Consumers' Sharing and Improve Consumer Experience

Amazon pays close attention to buyers' comments on products. Positive comments can help other consumers make decisions in online purchasing behavior, and also improve product ranking, purchase conversion rate and sales volume. Although the refund conversion rate cannot be recognized by consumers, it is an important factor to measure the negative experience of customers. For foreign consumers, they pay attention to the experience. The sharing about the quality of products and the experience of using the product is the key to lead consumers to make decisions. When consumers have a comfortable experience of the product, consumers' sharing can influence other consumers to make purchase decisions, and also help CBEC enterprises to establish a product promotion system (Feng 2016).

## 6 CONCLUSIONS

This paper studies the influence of the conversion rate of goods at different stages on the sales volume of Amazon online stores, carries out an empirical test to understand the relationship between variables, and draws the final conclusion. However, there are still some deficiencies in this paper that need to be improved and perfected. Firstly, due to the limited product samples, the research on commodity conversion rate has certain limitations. More products can be studied in the future. Secondly, the sample data selected for the study is the data information of the company's products within two months, which can be studied and verified for a longer period of product data in the future.

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## REFERENCES

- Bao-Wu Bian, Wen-Hua Dong (2009). Research on Commodity Attraction Factors Affecting the Conversion Rate of Enterprise E-Commerce Website [J]. *E-commerce*,2009 (07) :74-77.
- Guang-Ting Zhu (2015). Research on Consumer Behavior in C2C Mode under Big Data Environment [D]. Shanghai University of Engineering Science.
- Jiang Jing, Zhi-Yong Yang (2013). An Empirical Study on the Sales Conversion Rate of Product Attention and Purchase Intention Based on Purchase Behavior Pattern [J]. *Shanghai Management Science*,2013(08):25-30.
- Kuester Sabine (2012). *Strategic Marketing & Marketing in Specific Industry Contexts*, University of Mannheim:110.
- Na Zhou, Nian-Nian Liu, Shan Li (2017). Research on Influencing Factors of Online Consumers' Buying Decision Based on R-Type System Clustering Analysis [J]. *China Market*,2017(14):40-41+53.
- Tan Kai Yee (2018). Research on Commodity Conversion Rate and Its Impact on Cross-border E-commerce Third-Party Trading Platform [D]. Zhejiang University.
- Xi-Ling Wu, Chi-Ping Yuan (2018). *Cross-border e-commerce practices* [M]. Tsinghua University Press.
- Ying-Jian Feng (2016). *Network marketing foundation and practice*[M]. Tsinghua University Press.
- Zan Mo, Yan-Fei Li, Peng Fan (2015). Online Reviews of Consumer Purchase Behaviors [J]. *Journal of Service Science and Management*,8(3):419-424.
- Zhi-Cheng Li, Mei-Lian Liu (2002). Research on consumer behavior under e-commerce environment [J]. *China Management Science*,2002(06):89-92.