

# The Effect of Native Advertising on User's Behavioral Intention: Based on the Technology Acceptance Model

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**Abstract:** With the popularity of mobile applications, marketers invented a new form of internet advertisements to promote products and services: native advertisements. This study aims to figure out what are the key factors that affect user's acceptance of native advertisements through empirical research methods. Therefore, a model of user responses to native advertisements is constructed based on the technology acceptance model. With native advertisements on Zhihu (a Chinese question-and-answer website) as the object of research, we performed a survey on the Internet. After collecting the questionnaires of 232 users, the structural equation method was applied to analyse the data. The results of the study showed that: user's perceived usefulness and perceived pleasure have a positive impact on the user's behavioural intentions. User's perceived disturbing has a negative influence on user's behavioural intentions. Among these, perceived usefulness is an important factor that affects users' behavioural intentions. In addition, user's perceived ease of use positively affects user's perceived usefulness. User's behavioural intention positively affects user's behaviour.


## 1 INTRODUCTION


Under the background of rapid development in the Mobile Internet, people increasingly spend time using mobile applications to acquire knowledge and information. Marketers have to advertise on the mobile platform. The display of online advertising is gradually transformed into personalized delivery based on user's attributes and usage scenarios. Native advertising is fast becoming a key instrument in network marketing.

Native advertising follows the natural form and function of the user experience in which it is placed (Iacobucci, 2020). It can be integrated with the characteristics of the platform, and supports the interactive participation of users. As a new form of advertising, native advertising is increasingly popular with advertisers because of its accuracy and originality, and the market of native advertising also maintains a good vitality and development trend. In 2020, the market share of native advertising in China increased from 28% in 2019 to 34%, surpassing e-

commerce advertising to become the advertising form with the largest market share.

However, it has always been a difficult problem for advertisers and enterprises to improve users' willingness to accept advertisements and promote users' intention of share and purchase. In addition, most of the studies on native advertising are theoretical studies, summarizing related concepts and practical applications. And few empirical studies focus on the acceptance behavior of native advertising users. Therefore, this study chooses native advertising on Zhihu as the research object and applies empirical research methods to study the influencing factors of user's adoption behavior, which has certain theoretical and practical significance. Firstly, this paper explores the influencing factors of user adoption behavior from the perspective of user attitude. Combined with marketing practice, it can help advertisers and platforms find more effective ways and methods to push information flow advertising for users. In addition, we extended the technology acceptance model with new factors including perceived disturbance and trust and pleasantness. Therefore, the

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model of this study is innovative and the research can enrich the theoretical research of native advertising.

## 2 MATERIALS AND METHODS

This chapter summarizes the related work on native advertising and describes the differences between previous studies and this study. Based on the Technology Acceptance Model and conclusions of previous studies, the hypotheses are proposed and the experiments are designed.

### 2.1 Theories

#### 2.1.1 Native Advertising

Native advertising is a term used to describe advertising that takes the specific form and appearance of editorial content from the publisher itself (Wojdyski, 2016). From the perspective of big data technology, native advertising is an advertising strategy based on user data analysis. It can be naturally mixed into the platform's information flow and to be more difficult for users to detect. The U.S. Federal Trade Commission issued guidelines for disclosing native advertisements to prevent local advertising from confusing consumers.

With the rapid growth of native advertising in the field of practice, there has been an increasing amount of literature on the discussion on the characteristics of native advertising. Most of these studies have analyzed the characteristics of native advertising from the perspectives of its generation mechanism, external form, platform and context. Huang argued that native advertising mainly has three characteristics. First, the content of the advertisement is similar to the content of the platform on which it is embedded. Second, native advertising is presented in the form of information flow along with other non-commercial information on platforms. Third, native advertising supports consumers to interact with it (Huang, 2019).

Studies have shown that advertising significantly affects users' attitude, purchase intention and share intention.

Haeson Park's study suggests that consumers' brand attitudes, preference of the advertisement have a positive impact on user's attitude (Park 2019). Anocha conducted a study based on the technology acceptance model and proposed that perceived usefulness and perceived ease of use have a positive impact on user acceptance of native advertisements,

while perceived risk has a negative impact on user acceptance (Aribarg, 2020).

In this study, we consider these related studies as well as the features of native advertisements to design antecedents toward the behavioral intention of users to native advertisements.

#### 2.1.2 Technology Acceptance Model

The technical acceptance model (TAM) is one of the most influential models to explain and predict the behavior of the use of information system. The original purpose of the technology acceptance model is to explain the determinants of the widespread application of computer technology. There are two main factors that affect individuals' willingness to use new technologies: perceived usefulness and perceived ease of use. According to the technology acceptance model, whether users use the system is determined by behavioral intention, which is jointly determined by users' attitude and perceived usefulness. Users' attitude is determined by both perceived usefulness and perceived ease of use. Perceived usefulness is determined by both perceived ease of use and external variables. External variables include system design, user characteristics and so on.

There are two reasons for using TAM model as the theoretical basis in this study. Firstly, TAM model has been used in many studies to analyze the acceptance factors of online advertising. Besides, TAM model can be extended according to the actual situation in the research.

### 2.2 Hypothesis

One of the purposes of native advertising is to provide users with relevant product information in a novel form, so as to make a good impression on users. In this process, advertising content will influence users' perception of usefulness. In addition, individual behavior depends on the basic goal of the individual, and perceived usefulness can be a basic goal for users to learn about the advertisement. Hsiao built a research model and concluded that perceived value, perceived usefulness and perceived satisfaction affect users' willingness to use the information system (Hsiao 2013). Therefore, this paper puts forward the following hypothesis:

H1: Perceived usefulness positively affects users' behavioral intention of native advertising.

Native advertising has variable forms and can vividly display product information. It enables users to understand product information or use related services as conveniently and easily as possible. When

Davis proposed the technology acceptance model, he proposed that perceived usefulness and perceived ease of use have an impact on individual attitude at the same time, and perceived ease of use also has a positive impact on individual perceived usefulness. Based on this, this paper puts forward the following hypotheses:

H2: Perceived ease of use positively affects users' behavioral intention of native advertising.

H3: Perceived ease of use positively affects perceived usefulness.

Although native advertising reduces the disturbance to users as much as possible by improving the similarity with the information flow content. It is inevitable that users will be disturbed or even bored because of the advertisement. On the other hand, some users will think that the mechanism of information flow advertising based on their past behavior and information violates their privacy. Hence, we make hypothesis:

H4: Perceived disturbance negatively affects users' behavioral intention of native advertising.

In terms of user trust in advertising, studies have proved that user trust in the website will have an impact on advertising marketing effect. Cai Peier pointed out that if advertising is placed on the website trusted by users, users will trust the advertising due to their trust in the website, resulting in behavioral intention (Cai 2016). Hence, we make hypothesis:

H5: Trust positively affects users' behavioral intention of native advertising.

An important reason why users use mobile applications to browse information is that they want to get entertainment and spiritual satisfaction. A key factor for the success of advertising marketing is whether it can attract the attention of the users. The novel and interesting content and form of native advertising can please the users and promote users' acceptance. Dai Wei constructed the value model of Internet advertising and pointed out that perceived pleasure can increase users' value perception (Dai, 2016). Therefore, we propose the following hypothesis:

H6: Pleasantness positively affects users' behavioral intention of native advertising.

According to the theory of consumer behavior, in the process of native advertising affects users' acceptance, users will finally make purchases or share behaviors after generating behavior intention. The main purpose of online advertising is to convey product information to potential consumers, persuade users to understand the advertised products or services in detail, and generate the behavior of purchase and use. Bhattacharjee pointed out that

users' intention will also be affected by various subjective and objective factors, and whether it can be transformed into users' continuous use behavior needs further investigation (Bhattacharjee 2008). Therefore, the following assumption is put forward:

H7: Users' behavior intention has a positive impact on users' actual behavior.

On this basis of the hypothesis, this paper put forward the research model of user responses to native advertisements. Figure 1 shows the components of the model.

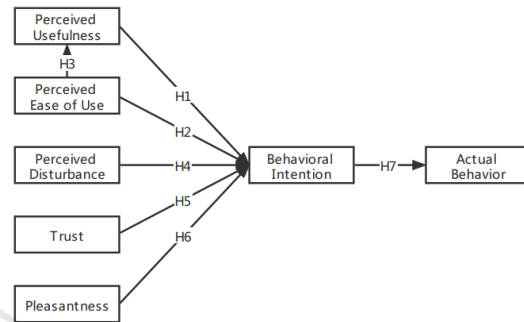


Figure 1: Research Model.

### 2.3 Sample Selection and Data Collection

This study intends to use the questionnaire survey to study the user adoption behavior of native advertising. Since most Internet websites have launched native advertising, the forms and contents of native advertising on each website are different. In order to reduce the impact of other factors, this study selects the native advertising of Zhihu website, a question-and-answer website like Quora, as the research object. And we mainly conducted questionnaires on users who have noticed native advertisements, so that we could gain useful feedback from experienced users.

The questionnaire mainly includes two parts. The first part is the background investigation, which mainly aims to gather some sample statistical data of participants. The sample statistical data includes the user's gender, age, education. Other information includes the time and frequency of using Zhihu website and the understanding of native advertising. The second part is the main part of the research. It includes the measurement of user perception, user behavior intention and actual behavior. The measurement of all variables comes from the previous literature and the context of this study.

The participants of this study were users who have used Zhihu website and had purchase and share

behavior of the products in advertising. Consequently, 219 questionnaires were collected. The effective rate of the questionnaire was 93.6%. In order to improve the reliability of the structural equation model, the number of samples should be more than 25 times the number of variables. This study involved 7 variables, and the amount of data was more than 175, which met the needs. In the effective questionnaire, men accounted for 50.2% and women 49.8%. The ages of the participants were 19-24 and 25-30 years old. Since most of the users of Zhihu website are young and middle-aged, the collected questionnaire data is reliable.

### 2.4 Measurement

Most of the measurement scales constructs are adopted from scales demonstrated in previous literature. All variables in this study were carried out by a five-point Likert-scale (1=strongly disagree, 5=strongly agree). Based on the work of D Gefen (Gefen, 2003), we choose three items to measure perceived usefulness. The three items are “The advertisement helps me understand the information about products or services; the advertisement can improve my efficiency in using products or downloading software; the advertisement helps me relax.” For perceived ease of use, three items contain “The content of the advertisement is easy to understand; learning how to participate in the advertisement is easy (viewing, clicking and other operations); advertisements can link products or APP download pages directly”. For perceived disturbance, three items contain: “The appearance of the advertisement disturbs my normal browsing behavior; the advertisement distracts me; the appearance of the advertisement bothers me” (Logan, 2013). For user’s trust, three items contain “Zhihu website is trustworthy; Zhihu website attaches great importance to the rights and interests of users; there are no false advertisements on Zhiu website”. For user’s pleasantness, three items contain: “The advertisement is funny and interesting; the advertisement is innovative; I think the advertisement makes me happy”. For behavioral intention, three items contain “After seeing the advertisement, I will have the intention to check the advertisement information in detail; I will have the intention to click the link to other pages; I will be willing to download the app or purchase relevant products”. For actual behavior, three items contain “After seeing the advertisement, I will check the advertisement information in detail; I will click the link to other

pages; I will download the app or purchase relevant products”.

## 3 RESULTS & DISCUSSION

The research model was tested by using SPSS23.0 and AMOS 24.0. This study checked internal consistency reliability, convergent validity, and discriminant validity before carrying out hypotheses testing. The composite reliability (CR) of all constructs was above 0.80. The reliability was achieved. Besides, the convergent validity and discriminant was also achieved. The resulting indices of the model indicated a good model fit (Chi-square/df = 2.960; RMSEA = 0.095; GFI = 0.829; NFI = 0.890; TLI = 0.907; CFI = 0.924; GFI = 0.829; IFI = 0.925). Table 1 shows the results of structural model evaluation.

Table 1: Results of structural model evaluation.

Hypot he sis	H1	H3	H4	H6	H7
Coeffi cient	0.814	0.569	-0.160	0.363	0.938

The final validation results show that perceived usefulness has a positive impact on users' behavioral intentions of native advertisements (hypothesis 1 is true). When users think that native advertisements can enable them to obtain useful information, users will have behavioral intentions and then actual behaviors. Perceived ease of use positively affects users' perceived usefulness (hypothesis 3 is true), which is in line with the original hypothesis of the technology acceptance model. Perceived disturbance negatively affects users' behavioral intentions for native advertisements (hypothesis 4 is true), indicating that users will have negative behavioral intentions when they feel that their APP usage behavior is disturbed by advertisements. User's pleasantness has a positive impact on the user's behavioral intention to the native advertisement (hypothesis 6 is true). Users' behavioral intention for information flow advertising positively affects users' actual behavior (hypothesis 7 is true), indicating that users' behavioral intention tends to generate actual behavior, which also conforms to the original hypothesis of technology acceptance model. In addition, the hypothesis that perceived ease of use and perceived trust have an impact on users' behavioral intentions has not been proved (hypothesis 2 and 5 are not valid). One of the reasons may be that there are biases in the samples. Most of the surveyed users are students in school, which may have biases

in age and gender. Second, the surveyed users are familiar with Zhihu platform, so their perceived ease of use and trust of the platform are clear, which will not affect their further behavior intentions

## 4 CONCLUSIONS

Native advertising has been favored by the online advertising market since it was launched, but the research on native advertising is still in an immature stage. There has been little quantitative analysis of factors that affect user's acceptance of native advertisements. Therefore, this study has important theoretical and practical significance.

Based on the technology acceptance model, a new hypothetical model is established by adding new factors including pleasantness, trust and perceived disturbance, which is innovative. The empirical results show that users' perceived usefulness and pleasantness have a positive impact on users' behavior towards native advertising. Users' perceived ease of use has a positive impact on users' perceived usefulness, and users' perceived disturbance has a negative impact on users' behaviour.

Through empirical study results, we gained some new findings and they are beneficial for advertisers. Besides, we made few reasonable suggestions for marketers and advertisers to develop native advertisements. Firstly, in order to promote users' behavior in native advertising, advertisers and platforms should improve the usefulness and ease of use of advertising, so that users can get the information they need, find the value of advertising, reduce the difficulty of users' operation. It's important to make it easier for users to get more information about the products or download software. Secondly, the interference caused by native advertising needs to be weakened as far as possible. Advertisers or marketers need to deliver personalized advertisements more accurately and set the frequency of advertisements within a reasonable range. Thirdly, we can improve the user's pleasantness caused by native advertisements by enhancing the interest of advertisement and making the advertisement novel and interesting. Making the display forms of advertising more rich and diverse can improve the attraction of advertisement to users and promote users' intention to learn more about the product displayed in the advertisement.

In addition, there are also some deficiencies in this study. Firstly, there are some sample deviations in the questionnaire survey, and there are some limitations in analyzing the influencing factors of

user adoption behavior of native advertisements with only one website as an example. Secondly, the theoretical model only considers user perception. In the future, there are some issues that need to be investigated. For example, how do the characteristics of advertising affect user attitudes and purchase intention or share intention on native advertising?

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