

## **The Effects of Popularity: An Online Store Perspective**

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### **Abstract**

Recently, internet is widely used in our daily life, caused online customer growing rapidly, then the amount of online store rising quickly. Therefore, it is an important issue for online stores to stand out from the crowd, even boost sales and profit. Many enterprises had invested resource on online store, but great amount of stores were closedown. The major reason is operator spend many efforts on valueless marketing campaign, caused popularity and repeat purchase intention raising ineffectively, finally folded up online store. Consequently, this research summarizing the critical factors for online store operating, and using structural equation model (SEM) to establish "Online Store Popularity Effect Model". Through the model, this research can understand (1) relationship between online store popularity and marketing campaign, service quality, product power, website design; (2) effect between purchase intention and customer value, brand image; (3) moderating impact of consumption ability. This result not only indicates the critical point that enterprise should call more attention, but draws a whole new perspective for academic researcher.

**Keywords:** online store, popularity, operation model, SEM

### **Introduction**

It is an internet explosion generation. Great amount of internet services and users are rising dramatically; accelerating a sustainable development at an annual high growing rate of 17% in the production value of E-commerce in Taiwan. It achieved 22 billion dollars in 2012 with expectation of 10 billion dollars in 2015 as industry goal. In addition, many enterprises have invested resources to the online store in order to get more revenue.

To this, many scholars had submitted diverse academic research results. But, they failed to response to the issues that enterprise encountered in practical online store operating: (1) what are the primary factor and meaning that influence online store popularity? (2) Enhancing online story popularity would effectively promote the customers' intention of purchase? (3) To effectively enhance customers' intention of purchase, what

issues shall be captured other than promoting online store popularity? (4) How enterprises can promote online store popularity by effective resource investment?

Therefore, this study, through series of analysis processes, would obtain a specific and objective study result to assist on, online store operators (1) master the factors that influence online store popularity. And, further strengthen each related marketing activity (2) increase online store performance by configuring resource appropriately (3) effectively manipulate and promote customers' intention of purchase by paying attention to critical dimension and issue excluding the online store popularity.

## **Literature review**

### **A. Online Store Popularity**

Gunawan, Ellis-Chadwick, and King (2008) conducted a survey for 252 British online stores and found 6 website performance indices (variables) can promote popularity: (1) number of visits; (2) number of page views; (3) unique visitors; (4) usability; (5) information quality; (6) quality of interactive service.

Serrano-Cinca, Fuertes-Callén, and Gutiérrez-Nieto (2010) evaluated the websites of 138 American online retailers and discovered that 8 website performance indices (variables) may promote sales volume: (1) popularity of shopping portals; (2) popularity of online news; (3) popularity of blog and forum (4) web traffic; (5) web page visibility; (6) search engine rankings; (7) reputation of online stores; (8) financial index.

### **B. Online Store Popularity Effect**

- Customer's value

Kim, Gupta, and Koh (2011) proposed a measurement scale for customer value, including 6 dimensions: (1) price; (2) functional quality of the merchandise; (3) community self expression; (4) social support; (5) aesthetics; (6) playfulness, and 3 variables: (1) curiosity; (2) good impression; (3) reliable.

Chang and Tseng (2013) considered customer value could be measured by 2 dimensions: (1) utilitarian value; (2) hedonic value, and 3 variables: (1) attraction; (2) enjoyment; (3) escaping from reality.

- Online store brand image

Safari (2012) applied focus group interview as investigation of 36 participants and found 4 variables which related to online store brand image; (1) great layout of website; (2) easy navigation; (3) simple color configuration; (4) professionalism.

Chang and Tseng (2013) surveyed 2 most popular online stores in Taiwan, and found that online stores with excellent brand image all have characteristics of 6 variables: (1) usefulness; (2) entertainment; (3) ease of use; (4) trustworthiness; (5) style; (6) stability.

- Purchase intention

Close and Kukar-Kinney (2010) considered that purchase intention of online

shopping can be measured by 3 variables: (1) purchase during that session; (2) place items in the online shopping cart; (3) chance of purchase while visiting online store.

Lin, Wang, and Hwang (2010) investigated online travel product, and defined purchase intention as: “consumers will use travel related information system, consider buying travel product in the near future, recommend it to the relatives and friends for use, and consider contacting such online store in the future.

Chang and Tseng (2013) identified purchase intention is that customer will: (1) visit the web store again; (2) consider buying product again in a short term; (3) consider buying product in a long term; (4) consider buying product again from the web store when similar products become needed.

### **C. Influential Factors of Online Store Popularity**

- Online store marketing campaign

Close and Kukar-Kinney (2010) indicated it would increase customers' intention and activity of purchase if they were offered an overall low cost during marketing activity. For example, promotion, price markdown and free shipping would make customers experience the discount on price.

After having proceeded an survey on college student as to the online shopping behavior, Rababah (2013) found 6 variables may measure and improve the profitability of internet marketing: (1) enough information; (2) attraction; (3) rapid response to customers' complaints and inquiries; (4) easy contact with cooperate; (5) easy use of the web page; (6) adequate feedback on internet transactions.

- Online store service quality

Swaid and Wigand (2009) referred to the Service Quality (SERVQUAL) and defined “online store service quality” by the following 6 variables: (1) website usability; (2) information quality; (3) reliability; (4) immediate feedback; (5) assurance; (6) customized service.

After reviewing the Website Quality (WEBQUAL), Gounaris, Dimitriadis, and Stathakopoulos (2010) defined the “service quality questionnaire of online shopping” by 4 variables: (1) user friendliness; (2) information; (3) adaptation; (4) aesthetics.

Yao and Liao (2011) viewed online store may produce favorable impression to customers through providing high quality online service. Such service included 6 dimensions: (1) link; (2) attentiveness; (3) security; (4) credibility; (5) reliability; (6) ease of use, and 2 variables: (1) punctuate delivery of merchandise; (2) definite return policies.

- Online store product power

Hofmann (2011) viewed that successful online stores should pay attention to 3 variables of the commodity: (1) feature; (2) appearance; (3) cultural background.

Taking internet shoppers in developing country as sample of respondents, Mohammed and Alkubise (2012) explored the situation of online shopping market in the county and

believed that product characteristics should contain (1) price; (2) quality; (3) brand.

Park, Kim, Funches, and Foxx (2012) also took online apparel store as an example and defined product characteristics as (1) diversity; (2) price; (3) perceived property.

- Online store website design

From stimulus, organism and response (SOR) three points of view, Koo and Ju (2010) found that (1) animation (2) pictures in the image configuration of online store would significantly affected customers' perception as to the quality of web design.

When Kim, Jin, Kim, and Shin (2012) investigated the "User Generated Content (UGC)", he found the quality of web design should contain 3 dimensions: (1) content quality; (2) design quality; (3) technology quality, and 8 variables: (1) text; (2) graphic; (3) sound; (4) video; (5) audio; (6) section configuration; (7) continuous updates; (8) providing popular information.

#### **D. Consumption Ability**

Ghadami, Aghaie, and Mohammadkhan (2010) viewed that customers' family income is impacted by the external final environment which further affected customers' spending capability and reflected to 4 variables (1) disposable amount; (2) saving rate; (3) consumption amount; (4) consumer confidence.

Taking textile industry as an example and basing on Recency Frequency Monetary model (RFM), Golmah and Mirhashemi (2012) identified customers' consumption ability are extended and measured by 3 variables: (1) purchase quantity of the most recent consumption ; (2) frequency of purchase; (3) the amount of purchase.

### **Method**

This research attempts to manipulate the formative factors, triggered effects and interference effects regarding online store popularity. To this end, this research based on scholars' empirical analysis and discussion established the following hypotheses.

Rahimizadeh, Sajadi, Goodarzi, and Ghamati (2012) considered an appropriate marketing activity of online store would attract more people visit the web stores and further promote its popularity. Therefore, this study believed a sound marketing activity of online store not only make customers linger on web store but also induce customer accepting discounts, experiencing the "money back" and visiting frequently so as to promote popularity. Thus, this study proposed the following hypotheses:

#### **H1: Online store marketing activity positively and significantly affects online store popularity.**

Rahimizadeh et al. (2012) deemed that online store operator may attract customers visit the web and boost its popularity and profitability through providing sound service. Thus, this study believes that if online store would offer sound service, it would generate

favorable impression in customers' heart with willingness of continuous visit and further stimulate its popularity and favored degree. Thence, this study proposes the following hypotheses:

**H2: Online store service quality positively and significantly affects online store popularity.**

Abdulhadi (2013) reputed that product attributes can influence customer satisfaction and increase customers' intention of maintaining a long term relationship with online store; further rising popularity. So, this research presents the following hypotheses:

**H3: Online store product power positively and significantly affects online store popularity.**

Kim et al. (2012) found that design, content, technology of the web page can indirectly stimulate customers' willingness of use and visit of the website. Therefore, this study believes that a sound design of the web page of online store would facilitate customers' pleasant emotion with willingness of continuous visit of its store and raise its popularity. Thence, this research presents the following hypotheses:

**H4: Online store webpage design positively and significantly affects online store popularity.**

Park and Lee (2008) discovered that if online store would improve its perception popularity, it would promote the level of customers' trust in the store and its commercial utility. Such level of trust is exactly one of the important bases of customers' perception value. Besides, Safari (2012) also believed customers' trust in online store would accumulate and advance its popularity. Whether to stimulate such popularity is highly associated with the promotion of brand image of the enterprise. Furthermore, Yayli and Bayram (2012) also discovered the number of visit on merchandise would accelerate the popularity of online store. And, the 3 variables (1) popularity; (2) reliability; (3) degree of internationalization are the important factors when customers purchase merchandise. So, this research proposed the following hypotheses:

**H5: Online store popularity positively and significantly affects customer value.**

**H6: Online store popularity positively and significantly affects online store brand image.**

**H7: Online store popularity positively and significantly affects purchase intention.**

Chiu, Hsu, Lai, and Chang (2012) found customer value includes both functional value and hedonic value. Hence, the level of such customer value would affect whether the customer satisfaction and customer trust would be raised and indirectly decide customers' intention of repeat purchase. Thereby, this study believes that customers will consider the

value that brings by the merchandise when they browse merchandise. When they think the value conforms to their demand, they would have greater satisfaction and trust with the online store with willingness of purchase. Therefore, this research proposes the following hypotheses:

**H8: Customer value positively and significantly affects purchase intention.**

Chang and Tseng (2013) felt a sound brand image of online store would indirectly influence customers' purchase intention. Therefore, this study believes that a sound brand image of online store would affect customers' cognitive on merchandise and service accelerating purchase intention. So, this research proposed the following hypotheses:

**H9: Online store brand image positively and significantly affects purchase intention.**

Ghadami et al. (2010) felt that global economy was greatly affected since financial crisis in 2008; resulting in an impact on financial status of general families. This not only impacts customers' consumption ability but also affects customers' purchase behavior. Thereby, this study believes that although the popularity has significant effect on purchase intention, customers would then decides their purchase policy depending on the increase/decrease or level of consumption capability. Thus, this research proposed the following hypotheses:

**H10: Consumption capability would moderate the online store popularity and affect the result of purchase intention**

**Data Analysis**

The questionnaire of this study took "Likert7-point scale" method as the scale of questionnaire. Investigation period was from October 1, 2013 to December 31, 2013; a total of 3 months. The procedure mainly was telephone interview and supplemented with e-mails and face-to-face paper questionnaire for distribution and collection of survey result.

Among them, there were 92 industry executives, 34 scholars, 179 internet shoppers; a total of 305 (=92+34+179) questionnaire reply. In 305 questionnaires, (1) the reply data received from 126 experts and scholars are valid questionnaire; (2) 43 out of 179 questionnaires received from internet shoppers were invalid. Thus, there were 136(=179-43) valid questionnaires; (3) finally, 262 (=126+136) valid questionnaires were obtained.

In the 262 questionnaires, basic information in sample data such as gender, age and education indicated:

(1) Male occupied a higher proportion (male: 76.0%; female: 24.0%); (2) All respondents have more than 1 year experience in online shopping, 80.2% respondents have more than 3 years experience in online shopping.

### A. Measurement Model

In the part of “reliability” analysis, (1) The factor loadings of all questionnaires are higher than general standard 0.70; (2) Cronbach’s  $\alpha$  ranged from 0.768 to 0.878; (3) composite reliability (CR) ranged from 0.770 to 0.878. All reached the standard proposed by scholars.

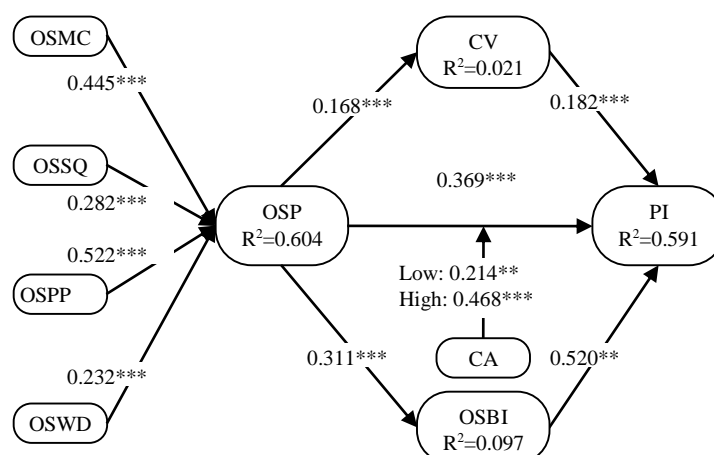
In the part of “validity” analysis: (1) All AVE value (Average Variance Extracted) in each dimension ranged from 0.507 to 0.659; (2) The value of square root of AVE of each dimension was greater than the correlation coefficients of the pairwise dimension. All reached the standard proposed by scholars.

In the part of “model fit” analysis: (1)  $\chi^2/df = 1.181$ ; (2) SRMR = 0.045; (4) RMSEA = 0.026; (4) NNFI = 0.970; (5) CFI = 0.973. Above results show an adequate reliability, validity, and model fit with this model.

### B. Structural Model

The structural model was used to test hypotheses. To determine the rationality of hypotheses, this research conduct model fit analysis: (1)  $\chi^2/df = 1.259$ ; (2) SRMR = 0.079; (3) RMSEA = 0.032; (4) NNFI = 0.961; (5) CFI = 0.964. These fit indexes present a good fit between hypothesized model and empirical data.

To understand the correlation coefficients between each path and the level of explanation on dimension variation, this research adopted (1) Path coefficients ( $\beta$ ) represented the causality strength of each hypotheses linkage, and  $p$ -value must be smaller than 0.05; (2) Coefficient of determinant ( $R^2$ ) can reflect the explained variance caused by variable dimensions. Figure 1 displays the path coefficient and coefficient determinant for “Online Store Popularity Effect Model”.



- a. OSMC= online store marketing campaign; OSSQ= online store service quality; OSPP= online store product power; OSWD= online store website design; OSP= online store popularity; CV= customer value; OSBI= online store brand image; CA= consumption ability; PI= purchase intention

**Figure 1. Analysis results of “Online Store Popularity Effect Model”.**

### C. Moderating Effect Analysis

To test the moderating effect, this research applied K-means cluster analysis to classify respondents based on their consumption ability into two groups: (1) Low consumption ability (117 cases); (2) High consumption ability (145 cases).

To examine if there is a significant difference on the path of “online store popularity → purchase intention” between high and low consumption capability, this research established constrained model and baseline model. In constrained model, the parameters of interest path (online store popularity → purchase intention) were constrained to equality across 2 groups, but freely estimated in baseline model.

To confirm the rationality of 2 models, this research conduct model fit analysis. In baseline model: (1)  $\chi^2 = 1217.510$ ; (2)  $df = 972$ ; (3)  $\chi^2/df = 1.253$ ; (4) SRMR = 0.090; (5) RMSEA = 0.031; (6) NNFI = 0.928; (7) CFI=0.934. In constrained model: (1)  $\chi^2 = 1223.897$ ; (2)  $df = 973$ ; (3)  $\chi^2/df = 1.258$ ; (4) SRMR = 0.093; (5) RMSEA = 0.031; (6) NNFI = 0.927; (7) CFI = 0.932. It shows an adequate model fit for 2 models.

Then, this research tests chi-square differences between baseline model and constrained model, to ensure the equality of path coefficient. As expected, the difference across 2 models is significant: (1)  $\Delta\chi^2 = 6.387$  ( $1223.897-1217.510$ ); (2)  $\Delta df = 1$  ( $973-972$ ); (3)  $p$ -value < 0.05. These results indicate a remarkable moderating effect in the role of consumption ability.

### Result & Conclusion

Although online store operators want to boost popularity to stand out from competitors, but they fail to learn the certainty of: (1) the effect of popularity and value; (2) the formative factors of popularity; (3) the related measures (4) the impact of external environment; resulting in no progress. Thus, this research proposed “Online Store Popularity Effect Model” to overcome the above 4 obstacles. According to the aforementioned study results, it is discovered:

(1) Online store popularity can stimulate the effect of customer value, online store brand image, purchase intention:

Online store with popular sentiment, will enable customers' perception of products/service with sound effect, and believe the merchandise purchased will enhance their temperaments and images and further develop the willingness of placing goods to the shopping cart for checkout.

Therefore, online store operators can proceed operation policy and deed through the various effects generated by boosting online store popularity.

(2) Online store marketing activity, service quality, product power, and website design may stimulate online store popularity.

Online store should (a) offer well arranged layout, in time information, smooth



animation, delicate film, comfortable music, elegant copywriting; (b) launch attractive marketing activity with sufficient information; (c) provide products with practical function, beautiful and attractive appearance, stable quality, and reasonable price; (d) provide detailed delivery time, return policies, and immediate feedback and friendliness of service provider. If online store operators would aggressively plan on the 4 dimensions, it would enhance customers' adhesion and thereby stimulate the fermentation effect of popularity.

(3) Customers' consumption ability would moderate the path of online store popularity → purchase intention:

Customers with lower consumption ability would carefully consider if they can afford such spending, which thus reduce their purchasing impulse and opportunity. However, customers with higher consumption ability aren't limited by such ability and thus generate purchase intention significantly by popularity. Therefore, online store operator should manipulate such "interference phenomenon", select and face the best group of customers with proposal of appropriate marketing activities to maximize the effect of popularity.

### **Managerial Implication**

This research proposes "Online Store Popularity Effect Model", which contains following 3 managerial implications: (1) In management application dimension, this model can (a) specifically display a foundational framework of online store establishing and popularity rising to avoid mistake on operation direction and approach. (b) be an important reference for online store operators while configuring human and resource so to improve overall performance; (c) provide online store operator the foundational basis while manipulating related factors and dimension, and thereby boost the effectiveness of marketing activity.

(2) In management mechanism dimension, this model (a) can assists online stores build management role, then increase management efficiency; (b) clearly presents necessary ability and function of each department so that function of the department and layout can be more definite. (c) avoid misalignment on management objectives and targets; causing ineffectiveness of management mechanism and waste of various resources.

(3) in management decision dimension, this model can provide online store operators : (a) specific dimensions and factors that should be strengthened by, thereby enhancing their ability for decision making (b) based on internal and external information, timely adjust marketing activity, service quality, product power, web page design etc. in order to satisfy customers of various consumption capability and further ensure for a long term profitability of online store. (c) Establish the reference of "key performance indexes" in order to implement and enhance overall operational performance of online store.

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