Investigating the Factors Influence the Reuse Behavior of Group-Buying Website

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Abstract

With the proliferation of online group-buying shopping, website interaction will play a vital role in the rapidly growing shopping websites. To explore what factor drives online customers satisfied and reuse online group-buying website are important challenges. However, there is not enough accumulated knowledge to understand specifically the determinants of consumer satisfaction in online group-buying. In order to understand the issue more accurately, this study focus on customer’s perceived benefits and examines its relationships with the customer’s satisfaction and reuse intention. Prior studies suggested that price benefit make repurchase and reuse online group-buying website. Besides the price benefit, this study proposes convenient, risk-reducing, interpersonal, and experimental benefits to figure out perceived benefits more exactly. The results of this study show that risk-reducing, interpersonal and experimental benefits and website interaction contribute significantly to the attainment of user satisfaction. However, the convenient and price benefits have no significant positive impact on user satisfaction toward reuse intention. Moreover, the finding indicates that website interaction is an antecedent of perceived benefits, and influencing reuse intention through user satisfaction. Thus, user satisfaction is also a strong mediator on reuse intention. Explanations are presented along with the implications.

Keywords: online group-buying, user perceived benefits, website interaction, user satisfaction, intention to reuse
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I. INTRODUCTION

Group-buying via Internet is regarded as a shopping form of E-commerce. As Internet growths, it is becoming prosperous and popular. In recent years, considerable concern has arisen over online group-buying in Internet business research. Therefore, this study proposes a framework of behavior and investigates its determinant factors in online group-buying environment.

Why people join in group-buying? When buyers cooperate with each other, a seller can offer a discount on goods or services. In general condition, if the price of one product is cheaper, customer may buy it. From this, price seems a critical factor of group-buying. Thus, there have been numerous studies in the literature dealing with the affect of price. Nowadays, on group-buying websites not only emphasize the importance of price but also require convenience and low risk and so on (Li, 1999; Miyazaki, 2005; Tan, 2007; Juha 2008). An increasing number of recent studies have reassessed the contribution of other factors can make to group-buying, such as saving time and effort (Li, 1999; Bellman, 1999; Wolfinbarger, 2001).

Five issues that need to be introduced in online group-buying are price benefit, convenient benefit, risk-reducing benefit, interpersonal benefit, and experimental benefit. Prior studies have investigated the roles of these benefits in group-buying and attempted to address the concerns of these issues. Meanwhile, this study wants to understand why website interactions affected user satisfaction and affected users’ intention to reuse the same website to shopping. Furthermore, this study also attempts to understand that users’ perceived benefits may affect re-usage intention directly or indirectly via user satisfaction. This paper, therefore, proposes two constructs (i.e., perceived benefits and user satisfaction) influence intention to reuse on online group-buying as well as investigates the impact of website interaction on user satisfaction.

Present research addresses several important research questions such as “What is user’s perceived benefits that influence users’ intention on reusing the group-buying website?”, “Does website interaction functions affect consumers’ perceived benefits?”, “In the relationship of benefits, website interaction, what kind of role does the user satisfaction play?”, and “Is it a partial mediator or full mediator?”. To answers these questions, this study investigates buyer views of group-buying website as both in IT user as well as customers. This research develops a theoretical foundation that integrates key constructs from previous studies and conducts an empirical study to validate their importance in the group-buying context.

II. LITERATURE REVIEW AND HYPOTHESIS
This study proposes that website interaction has enhanced users’ perceived benefits (i.e., convenient, risk-reducing, price, interpersonal, and experimental benefits) further influence user’s satisfaction and intention to reuse. The research model tested in this study is shown in Figure 1.

2.1 User satisfaction and intention to reuse

Evaluations of the success and user satisfaction of information systems are important issues to information management. Prior information systems studies have shown that when users are satisfied with a system, they are more likely to use the system again (Delone & McLean, 1992). Thus, user satisfaction has continued to be an important topic for IS researchers (Melone, 1990; Aladwani, 2003; Whitten, 2004-2005), especially used to discuss the intention to use service or products for online systems (Mellarkod et al., 2007). It is also the most commonly employed measures for implementation success (Agarwal & Prasad, 1997; DeLone & McLean, 1992; Saga & Zmud, 1994). Furthermore, previous researches have indicated that satisfaction is a reliable predictor of intention to reuse (Yi et al, 2009). When consumers satisfy with a group-buying website, they will return to this website and shopping again. Thus, this research proposes the following hypothesis:

**H1**: User satisfaction has a positive relationship with user intentions to reuse group-buying website.

2.2 Users’ perceived benefits

There has been little consensus on how benefits should be measured objectively and thus they are usually measured by the perceptions of those who use the system. Therefore, in IS success model, “perceived benefits” has been adopted as an important surrogate of user satisfaction and intention to use (Wu, 2006). In the perceived benefits of group-buying, this research following Wang’s descriptions of the HVM approach results (Wang, 2006). The perceived benefit of group-buying can be assessed at various levels of perceived value that

![Figure 1. Research model](image-url)
derived from a combination of benefits. These benefits are tangible such as price, and benefits that are psychosocial in nature such as convenient, risk-reducing, interpersonal, and experimental benefits (Wang, 2006). Those five key constructs observed by Wang (2006) as the following descriptions, but they still need to further study and discuss.

First, saving time and effort are important in convenient benefits when customers participate group-buying. There is no doubt that saving time and effort can make more time available for customers to do other activities. As Seiders et al. (2000) investigated that about 52% of the customers unwilling to spend time in shopping. Rohm and Swaminathan (2004) noted that shopping convenient is formed by saving time and effort; both of them are customers’ concerns. Hoolbrook (1996) stated that efficiency and convenient are central interest in the benefits of customer value.

Second, participating group-buying to obtain the important benefit is risk-reducing which the major attribute is word-of-mouth recommendation for initiators or buyers. Online shopping transaction channel is compared with traditional face-to-face channel, the former exists much risk during transaction. Trust, therefore, becomes a critical factor (Reichheld & Schefter, 2000). On group-buying websites, buyers provide the opinions after using the products or sellers exchange their transaction experiences with website members to avoid cheating happened on the website. The interaction among buyers and sellers form word-of-mouth recommend. People who first time joins this group-buying website can obtain the information from those recommendations on the website to evaluate latent risks before they buy the products (Rothaermel & Sugiyama, 2001).

Third, money-saving is one of important benefits in price benefits. It illustrates the reason why the discount on group-buying benefits websites may cheaper than physical storefront one. And consumers can share the freight over an increased number of goods to achieve the goal (Annand & Aron, 2003). These results are consistent with those reported for emphasized the important in price benefits to influence the motivation in previous studies (Kauffman & Wang, 2001). Reduced price increases customers’ willing to participate group-buying activities (Anand & Aron, 2003; Yuan & Lin, 2004).

Forth, if an initiator completes his transaction, members who participate will satisfy. They would perceive the important factor in interpersonal benefits. As Armstrong and Hagel (1996) proposed interaction is a basis of virtual social network relationship to satisfy four types of demand: interest, interpersonal, illusion and transaction. Initiators can be satisfied when interacting with other people during group-buying in the virtual social network.

Finally, experimental benefit is defined as initiators and buyers will have an opportunity to try new or special products via group-buying website. When the group-buying website provides the particular products that not appear in other shopping channel, it will cause the novel sense of customers to try new products. It is satisfied of customers’ varied experimental. As Rohm and Swaminathan (2004) proposed that seeking variety is an important motivation as customer to participate the online group-buying actions.
As Yi (2009) suggested that the quality-value-loyalty (intention to reuse) chain is an important concept that illustrated the effect of perceived benefits on user satisfaction. User satisfaction results are aggregating from all the benefits so that perceived benefits can influence user satisfaction (Wu, 2006). Thus, this research proposes the following hypotheses:

**H2a:** Perceived convenient benefit has a positive relationship with user satisfaction.

**H2b:** Perceived risk-reducing benefit has a positive relationship with user satisfaction.

**H2c:** Perceived price benefit has a positive relationship with user satisfaction.

**H2d:** Perceived interpersonal benefit has a positive relationship with user satisfaction.

**H2e:** Perceived experimental benefit has a positive relationship with user satisfaction.

Yen and Gwinner (2003) suggested that relational benefits are the mediating mechanism, through which selected technology attribute variables operate with respect to their impact on customer loyalty and satisfaction. Yi et al. (2009) mentioned that loyalty is referred to as intention to reuse or repurchase. This study has considered perceived benefits influence customers' intentions to reuse a group-buying website. Thus, this research proposes the following hypotheses:

**H3a:** Perceived convenient benefit has a positive relationship with user intention to reuse group-buying website.

**H3b:** Perceived risk-reducing benefit has a positive relationship with user intention to reuse group-buying website.

**H3c:** Perceived price benefit has a positive relationship with user intention to reuse group-buying website.

**H3d:** Perceived interpersonal benefit has a positive relationship with user intention to reuse group-buying website.

**H3e:** Perceived experimental benefit has a positive relationship with user intention to reuse group-buying website.

### 2.3 Website interaction

An understanding of consumer group-buying behavior can help website designer to develop related interact features which will increase consumers’ benefits and user satisfaction on their websites. Ghose and Dou (1998) integrated previous literature to define interaction is an ability that it is direct effect each other between people and real time respond. They found that the more interactive a website, the more likely the website was included in the attractive and perceive quality. Peterson et al. (1997) suggested that used Internet as a sales channel, sellers must more consider the important of interact with customers.

Any function of the website provides will affect the customers’ attitude, go further, will increase the risks and customers’ intention to online group-buying. Janda et al. (2002) pointed out that when customers entered the company’s website as well as accept the service, the content of website will influence customer’s sense further to influence their shopping intention. The perceived website quality and users intend to reuse the site are primary concern of online businesses. User satisfaction is also central to website evaluation research (Te’eni &
When user experience satisfaction with a website; they are likely to reuse. Intention to reuse also is positively associated with increased user satisfaction with the perceived benefits. Thus, this research proposes the following hypotheses:

**H4:** Website interaction has a positive relationship with user satisfaction.

Websites have become a major channel for selling and interacting between sellers and customers (Zahedi & Song, 2009). As a result, website design has become most important further as sellers’ representative communication message that interact with customers will impact the customers’ perceive benefits. As one of the tremendous benefits of the Internet, online shopping is convenient and time saving for customers (Chen & Dubinsky, 2003). The Internet has also raised consumers’ experimental and interpersonal in online transaction. Chen and Dubinsky (2003) suggested that ease of use of website raised the interaction between sellers and buyers, and increased the perceived benefits. Therefore, the online group-buying website’s interaction may has effect on users’ perceive benefits (i.e., convenient, risk-reducing, price, interpersonal, and experimental benefits) and further impact on users’ satisfaction and intention to reuse. Thus, this research proposes the following hypothesis:

**H5a:** Website interaction has a positive relationship with users’ perceived convenient benefits.

**H5b:** Website interaction has a positive relationship with users’ perceived risk-reducing benefits.

**H5c:** Website interaction has a positive relationship with users’ perceived price benefits.

**H5d:** Website interaction has a positive relationship with users’ perceived interpersonal benefits.

**H5e:** Website interaction has a positive relationship with users’ perceived experimental benefits.

### III. RESEARCH METHODOLOGY

The main method of data collection for this study was the use of a survey. The data gathered from the survey was then tested using partial least squares (PLS). The unit of analysis was the individual Internet customer with prior online group-buying shopping experiences. These prior experiences were necessary because the repeat use, as we proposed, could be derived from website interaction, benefits and satisfaction.

#### 3.1 Measures of the constructs

To ensure the content validity of the scales, the item selected based on our review of the previous related literature. We used the multiple-item method in which each item was measured on a seven-point Likert scale from strongly disagree to strongly agree. The items in our survey instrument were developed either by adapting the existing measures validated by other researchers (i.e., user satisfaction) or by converting the definitions of the constructs into a questionnaire format (i.e., perceived benefits).
According to Rohm and Swaminathan (2004), this research defines overall convenience benefit as time and effort savings in group-buying. Therefore, the items used to measure convenient benefits were adapted from them. This study used responses about the participants’ perceived financial risk and perceived psychological risk to understand their perceptions about economic and psychological cost of shopping in group-buying. The items for the risk-reducing benefit construct were adapted from Stone and Gronhaug (1993). The price benefit is defined as the extent to which a person believe that using the group-buying website will save money. The interpersonal benefit is defined as the extent to which a person believe that using the group-buying website will has good relationship with others. The experimental benefit is defined as the extent to which a person believe that using the group-buying website will has an opportunity to try new or special products. These items used to measure price benefits, interpersonal benefits and experimental benefits were adapted from Bhatnagar and Ghose (2004) and Wolfinbarger and Gilly (2001). The website interaction is defined as the extent of interaction between a person and the group-buying website. The items for the website interaction construct were adapted from Ghose and Dou (1998). Finally, the items used to measure user satisfaction and intentions to reuse were adapted from Wang (2007). The items were modified to make them relevant to the online group-buying context. Pretesting of the measures was conducted by users and experts selected from the group-buying field.

3.2 Data collection

Since this study aimed to explore the effect of perceived benefits, website interaction and satisfaction on repeat use the website in the context of online group-buying; the participants are those who had the experience of online group-buying shopping. Data used to test the research model was gathered using a convenience sampling approach. Respondents then self-administered the questionnaire and were asked to circle the response which best described their level of agreement with the statements. On this basis, a sample of 178 usable responses (usable rate was 89.4%) was obtained from a variety of respondents with different demographic background. There are 122 female (68.5%) respondents and 56 male (31.5%) respondents. The largest group of respondents was in the range of 21-25 (41.0%) years old and the majority being students (36.5%).

IV. DATA ANALYSIS AND RESULTS

The empirical data was analyzed using the partial least squares (PLS) approach, which was employed because it does not require the data to have a multivariate normal distribution and is less demanding in terms of sample size. SmartPLS software was used for the data analysis of this study, which contained two steps. In the first step, all measurement models were examined for their psychometric properties, while the second step focused on testing the research model and hypothesis.

4.1 Assessment of measurement model
Assessment of the measurement model involved evaluations of reliability, convergent validity and discriminant validity of the construct measures. Reliability was examined using Cronbach’s α and composite reliability and all of them were exceeded 0.8 for each construct. Convergent validity of the construct measures was examined using factor loadings and average variance extracted (AVE). Following Hair et al. (2009)’s recommendation, factor loadings greater than 0.50 are considered to be significant. All of the factor loadings of the items in the research model were greater than 0.70 and the AVE was all above the recommended 0.50 level. This analysis showed that the shared variances between factors were lower than square root of the AVE of the individual factors, thus confirming discriminant validity. In summary, the measurement model demonstrated adequate reliability, convergent validity and discriminant validity.

Table 1. Path coefficients and summary of testing results

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Path coefficient</th>
<th>t-value</th>
<th>Hypothesis</th>
<th>Testing result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 US─ITR</td>
<td>0.780</td>
<td>15.034***</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>H2a CB─US</td>
<td>0.151</td>
<td>2.247*</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>H2b RB─US</td>
<td>0.162</td>
<td>2.689*</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>H2c PB─US</td>
<td>-0.010</td>
<td>0.232ns</td>
<td>ns</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H2d IB─US</td>
<td>0.143</td>
<td>2.172**</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>H2e EB─US</td>
<td>0.059</td>
<td>1.062ns</td>
<td>ns</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3a CB─ITR</td>
<td>-0.047</td>
<td>1.229ns</td>
<td>ns</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3b RB─ITR</td>
<td>0.025</td>
<td>0.680ns</td>
<td>ns</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3c PB─ITR</td>
<td>0.144</td>
<td>2.417**</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>H3d IB─ITR</td>
<td>-0.048</td>
<td>1.050ns</td>
<td>ns</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3e EB─ITR</td>
<td>0.063</td>
<td>1.414†</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>H4 WI─US</td>
<td>0.428</td>
<td>6.191***</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>H5a WI─CB</td>
<td>0.400</td>
<td>5.016***</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>H5b WI─RB</td>
<td>0.484</td>
<td>8.531***</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>H5c WI─PB</td>
<td>0.467</td>
<td>7.738***</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>H5d WI─IB</td>
<td>0.517</td>
<td>8.998***</td>
<td>Positive</td>
<td>Supported</td>
</tr>
<tr>
<td>H5e WI─EB</td>
<td>0.559</td>
<td>10.315***</td>
<td>Positive</td>
<td>Supported</td>
</tr>
</tbody>
</table>

†p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001, ns Not significant.

H, hypothesis; CB, convenient benefit; RB, risk-reducing benefit; PB, price benefit; IB, interpersonal benefit; EB, experimental benefit; WI, website interaction; US, user satisfaction; ITR, intention to reuse.

This study proceeded to test the path significances using a bootstrapping re-sampling technique with 500 sub-samples. Statistical results of the structural model, including path coefficients, t-value, p-value and summaries the results of the hypothesis testing are shown in
Table 1. The path coefficient indicates the strengths of the relationships between the independent and dependent variables. The R square (R²) value represents the amount of variance explained by the independent variables (see Figure 2).

As shown in Table 1, as expected, hypothesis H1 was supported. These argued that increased user satisfaction of the online group-buying website would be associated with increased user intention to reuse. For perceived benefits, hypothesis H3c and H3e were supported but hypothesis H2c and H2e were not. These implied that increased perceived price benefit and experimental benefit of the online group-buying would be associated with increased user intention to reuse the group-buying website directly. For convenient benefit and risk-reducing benefit, hypothesis H2a and H2b were supported but hypothesis H3a and H3b were not. These presented that increased perceived convenient benefit and risk-reducing benefit of the online group-buying would be associated with increased user satisfaction indirectly then increased user intention to reuse. Besides, one interesting finding is that hypothesis H2d was supported but H3d was not. Those pointed that increased interpersonal benefit of the online group-buying would be associated with increased user satisfaction then increased user intention to reuse. The inconsistent analysis result implied that interpersonal benefit whether establish satisfaction, if not, they would not to reuse. For website interaction, hypotheses H5a to H5e were all supported. These displayed increased website interaction of online group-buying website would be associated with increased user perceived benefits. Finally, hypothesis H4 was supported. These showed that increased website interaction of the online group-buying would be associated with increased user satisfaction indirectly then increased user intention to reuse the website. The significant path coefficients relationship between each constructs are shown in Figure 2.

![Figure 2. Research model with significant coefficients](image-url)
V. DISCUSSION AND CONCLUSIONS

This study explored the factors affecting user’s re-usage intention of group-buying website by perceived benefits and website interaction. The results indicate that user satisfaction is a full mediator of convenient benefit, risk-reducing benefit and website interaction on user reuse intention. The explained that although the group-buying of shopping way has convenient and risk-reducing benefit, the condition based on users’ satisfaction via the group-buying website. Interpersonal benefit has positive influence on satisfaction. Moreover, price and experimental benefits both directly influence users intention to reuse, does not need to penetrate satisfaction. This means that the price and experimental benefits are appealing conditions to participate in online group-buying action.

Besides, users’ satisfaction plays an important role between users’ benefits and intention to reuse. This result is consistent with the findings of previous research (e.g., Wu, 2006). In this study, website interaction of the group-buying website is an antecedent of all perceived benefits. Furthermore, user satisfaction is also a strong mediator on reuse intention.

5.1 Managerial and academic implications

The study has shown that users’ perceived benefit and satisfaction are factors that affect users to revisit the same group-buying website. Online group-buying website needs to pay attention to design a user-interaction interface. The website should allow consumers to share their knowledge, browse information from other members and provides transaction information efficiently.

The academic contribution of this study is concern more factors of group-buying benefits. In the past studies, price benefit was considered as one of group-buying benefits and confirmed it was a critical factor of behavioral intention. However, group-buying benefits not only have price benefit, but also still have more factors in these relationships such as convenient, risk-reducing, interpersonal and experimental benefits. Finally, website interaction positively influenced users’ benefits, therefore, user’s perceived benefits could be found more value based on the group-buying website’s interaction quality.

5.2 Limitation and future research

Although rigorous research procedures were employed, this study has some limitations that could be addressed in future studies. First, the sampling method has potential bias, as a sample of willing respondents (i.e., convenience sample) may not be generalization. If future researchers wish to make generalizations from the data, they should randomize their sample. Second, the use of self-report scales to measure study variables suggests the possibility of a common method bias for some of the results. Third, the theoretical framework only to discuss the conception on website interaction of quality, future research should considers more variables in the model such as information or service quality and product types. Finally, as group-buying action both to involve sellers and buyers, this research is not proposed in the model respectively. Building customer trust is important for Internet businesses, especially in
online shopping. Therefore, future research may measure the different relationship between them and knows that the potential effect factors.

REFERENCES


摘要

隨著網路團購的日益盛行，探究消費者滿意度與再使用意圖的原因成為團購網站的重要議題。本研究針對消費者的知覺利益、網站互動性、滿意度及再使用意圖之間的關係進行探討。除先前文獻提出之價格利益，本研究更進一步探討便利性、風險降低、人際關係與體驗等知覺利益概念。研究結果顯示，風險降低、人際關係與體驗利益以及網站互動對於使用者的滿意度有顯著影響，而便利與價格利益則無。研究結果亦發現網站互動為知覺利益的前因，其會透過使用者滿意度影響再使用意圖。本研究結果對團購網站的理論與實務發展提供了重要的意涵。

關鍵詞：線上團購、知覺利益、網站互動性、使用者滿意度、再使用意圖