

# The Effect of Social Rewards and Perceived Effectiveness of e-Commerce Institutional Mechanisms on Intention to Group Buying

Margaret Meiling Luo and Sophea Chea

**Abstract** Previous studies have stressed the functionality and usability of group buying systems, although few studies have focused on social and psychological factors and the business perspective of online group buying. We believe that factors related to consumer psychology, relation exchange, and institutional mechanisms have not been fully explored by previous studies. These psychological and consumer behaviors are crucial for marketers seeking to increase sales rates. The phenomena are worthy of attention, given the potentially significant market gains offered by this novel business model. This study focuses on the application of social rewards in the group buying context and identifies the issue in the context of online group buying by incorporating factors such as reciprocity, reputation, trust, satisfaction, and perceived effectiveness of e-commerce institutional mechanisms (PEEIM). These factors are identified as critical factors affecting both online and physical shopping. With an online survey, we perform PLS analysis and the results suggest that PEEIM has significant effect towards online group buying intention. The results also suggest that SET factors contribute substantial impact to customer's online group buying intention. Theoretical and managerial implications were discussed.

**Keywords** Online group buying · Social rewards · Intention to use · Trust · Perceived effectiveness of e-Commerce institutional mechanisms

---

M.M. Luo (✉)

Department of Information Management, National Chung Cheng University,  
No.168, Sec. 1, University Rd., Min-Hsiung Township, Chia-yi County 621,  
Taiwan, ROC

e-mail: luo@mis.ccu.edu.tw

S. Chea

Business and Information Management, Delaware Valley University,  
700 E Butler Ave., Doylestown, PA 18901, USA

e-mail: Sophea.Chea@delval.edu

© Springer International Publishing Switzerland 2017

J.I. Kantola et al. (eds.), *Advances in Human Factors, Business Management, Training and Education*, Advances in Intelligent Systems and Computing 498,  
DOI 10.1007/978-3-319-42070-7\_77

833

## 1 Introduction

Online group buying has become popular with the emergence of U.S.-based sites such as Groupon, launched in 2008. The term group shopping refers to social or collective buying where items can be purchased at significantly reduced prices when enough buyers participate in the purchase. The transaction proceeds only when the required number of buyers is reached. Significant savings can be made by purchasing more products together to reduce the price [1]. This popular trend in online shopping experienced significant growth during 2010 and 2011. In the United States and Europe, online group buying is highly popular and successful, and is based on a simple but powerful concept: consumers enjoy receiving significant discounts on premium products, although merchants are only willing to provide these discounts if they can sell high quantities [2]. A CNN report in 2010 indicated that this concept has motivated a new category of “group buying” websites, at least one of which may be valued at more than US\$1 billion. In Canada, local merchants offer their services at a discount of between 30 and 90 %. Online group buying websites are also experiencing rapid growth in Asia [3]. In China, more than 1,215 group buying sites have been launched and the total transaction value of the Groupon-type market is projected to reach RMB \$980 million (US \$147.6 million) [4]. Group buying is the fastest growing e-commerce activity (21.2 %) in 2012–2013. In first and second quarters of 2013, the number of buyers in China increases 28 million [5].

This study attempts to understand the most crucial factors influencing consumer continuous intention to engage in repeated online group buying. This study addresses the questions of (1) whether reciprocity, reputation, altruism are antecedents of satisfaction that influence consumer intention to engage in online group buying; and (2) whether PEEIM is an moderating factor affecting consumer intention to engage in online group buying. In the following sections, studies on social rewards and PEEIM literature are reviewed and the results of previous related work are subsequently presented.

## 2 Literature Review

### 2.1 *Social Rewards*

Individuals typically expect reciprocal benefits, such as personal affection, trust, gratitude, and economic return when they act according to social norms. Therefore, interpersonal interactions from a cost-benefit perspective are an exchange where actors acquire benefits [6]. The social exchange model identified social rewards in psychology [7] and organizational behavior [6, 8], by analyzing human behavior and relationships to determine social structure complexity. With an emphasis on the significance of norms, specifically social institutions and formal inter-organizational

exchange behavior, the social exchange model states that people and organizations interact to maximize their rewards and minimize their costs [9]. Related theories of exchange continued to emerge after the advent of the social exchange model, including exchange behaviorism [7], the exchange network theory [8], exchange structuralism [6], and the exchange outcome matrix [10]. Previous studies have developed several social reward factors based on the concept that exchange can provide benefits. The significance of these factors has been ranked from high to low as follows: reciprocity, reputation, and altruism [11]. Reciprocity, reputation, and altruism are likely to provide perceptions of social rewards so this study attempt to investigate whether these factor determine intention toward online group buying.

**Reciprocity.** Reciprocity is frequently interpreted as quid pro quo behavior [12] and is well established in philosophical, psychological, and sociological discourse. The concept is based on how social exchange is made through interpersonal behavior. A stable relationship is driven by exchange [7, 13] and can be a more generalized exchange when returns are not necessarily immediate or in kind, but where a balance of exchange is achieved over time [7].

**Reputation.** Reputation refers to the degree to which a person believes that social interaction potentially enhances personal reputation. In the majority of cases, a knowledge owner wanting to create an image of “a wise person” is often willing to share knowledge. The knowledge provider enriches the knowledge of the recipient while retaining their own knowledge. Thus, the knowledge provider obtains additional intangible assets, including a better reputation, increased personal status, and an increased positive feeling from being a provider.

**Altruism.** Altruism referred to the degree to which a person is willing to increase other people’s welfare without expecting returns. Altruism, reciprocity, reputation, and trust have a positive effect on attitudes [14]. Social rewards that an individual will obtain from altruistic behaviors will encourage him/her to engage in sharing and collaborative behaviors.

## ***2.2 The Effect of Perceived e-Commerce Institutional Mechanisms (PEEIM)***

The effects of e-commerce institutional mechanisms have been studied mainly in the context of initial online purchase; however, a recent study found that the effects remain strong in the online repurchase context [15]. Perceived E-Commerce Institutional Mechanisms (PEEIM) refers to an online customer’s general perception that safeguards exist in the e-commerce environment to protect him/her from potential risks in online transactions. Structural assurance and institutional structure are consistently found to directly promote initial trusting belief in an online vendor [16–18] due to trust transference [19] and cognitive consistency [20]. Trust transference happens when the perceptions of the trustee are affected by one’s perceptions about the security of the transaction context. Cognitive consistency occurs

when consistent perceptions of the trustee are affected by one's perception of institutional mechanisms [21]. Structural assurances are also found to directly affect initial purchase intention. Secondhand information from trustworthy third parties helps customers to feel assured about transacting with an unknown vendor [16, 22, 23]. A recent study found that PEEIM's effect towards intention diminishes when trust is high in web-mobile [21].

### 2.3 *Satisfaction, Creativity, Trust, and Purchase Intention*

In IS, satisfaction is conceptualized as end user satisfaction with systems and a crucial criterion for IS success. Satisfaction is noted in many IS studies as the response of end-users toward system attributes and service quality [24–26]. Satisfaction and attitudes are both affective measures [27] that are used interchangeably. Trust is defined as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” [28]. Trust has been widely studied across various academic domains. It has been conceptualized as a belief in an e-seller that results in behavioral intentions [29–31] and has been viewed as a set of specific beliefs primarily associated with benevolence, competence, and integrity of the other party [29, 30, 32, 33]. Creativity is derived from the Latin word *creatus*. Webster's dictionary defines creativity as “given the existence” and “out of nothing” and “originality.” Creative products often characterize novelty and appropriateness; otherwise, they are general products. Product creativity is defined as the concept of novel ideas and a novel product with competitive advantage [25, 34–36]. Intention is defined as the degree of customer perception that a particular online group buying behavior will be performed. This study applies the theory of reasoned action (TRA), which asserts that beliefs influence attitudes that subsequently influence intentions [37].

## 3 Research Questions

To test the explaining power of our research model, we ask the following research question:

*How well does an integrated social rewards and PEEIM model explain the repurchase intention of the online group buying (OGB) users?*

Along with the research question, we derive hypotheses from related work:

- H1: Consumer reciprocity is positively associated with consumer satisfaction with vendors that provide OGB services.
- H2: Consumer reputation is positively associated with consumer satisfaction with OGB.

- H3: Consumer altruism is positively associated with consumer satisfaction with OGB.
- H4: Consumer trust is positively associated with consumer satisfaction with vendors that provide OGB services.
- H5: Consumer trust is positively associated with consumer intention to engage in OGB.
- H6: Vendor creativity is positively associated with consumer intention to engage in OGB.
- H7: Perceived effectiveness of institutional mechanisms (PEEIM) negatively moderates the relationship between trust in an online vendor and repurchase intention.
- H8: Perceived effectiveness of institutional mechanisms (PEEIM) positively moderates the relationship between customer satisfaction and trust in the vendor.

## 4 Method

A survey design was used for data collection. The study was performed in Fall, 2015 in a major Taiwan university. Students who enrolled in a 400 level IT course and grad students participated the online survey. They receive extra credits for participation. A total of 70 subjects were recruited for our study. The questionnaire developed through pre-validated measures and was further developed via a pretest. The English version of questionnaire was translated into Chinese and then back translated into English. The Chinese version of questionnaire was tested with 35 undergrad students and 24 graduate students. They were asked to read along the questions and then note down the sentences/phrases which they do not understand. The questionnaire items were reworded based on the results of the pretest. An online version of the survey was then developed by using the Google doc. An email message with the URL of survey was sent to subjects and the data were collected in a week.

## 5 Results and Discussion

A partial least squares (PLS) analysis using PLS Graph (Version 3.0) was conducted to examine the reliability and validity of the measures. In first study, the loading pattern was highly consistent, with most loadings above 0.70. In second study, all loadings were above 0.70. Figure 1 show the regression coefficients and variance explained. In the research model, satisfaction is postulated to have effect on trust which in turn predicts repurchase intention to online group buying. The Moderating role of PEEIM is significant.

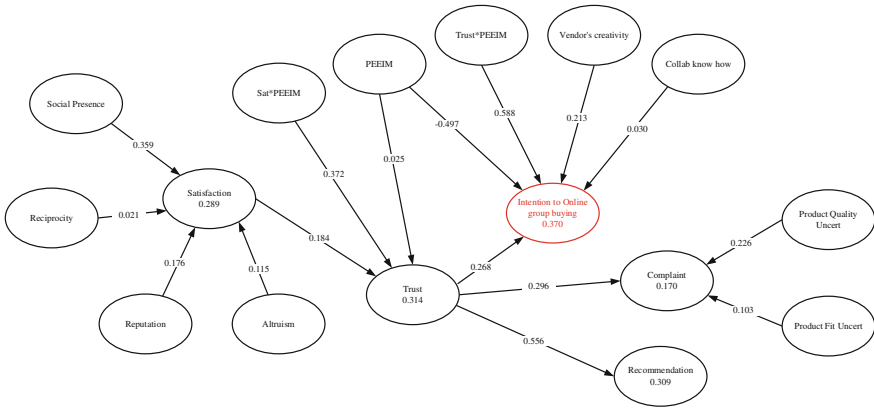


Fig. 1 Study results

### 6 Conclusion

The primary intellectual merit of the study rests on developing and testing a research model which advance the knowledge of online group buying behaviors. Testing the model with a variety of samples simulating a real-world situation where the Internet-based information service is being adopted will help us to pursue the goal of bring new theoretical perspective from social theories to IS. As we pursue this goal, we demonstrate that this study have significant broader impacts. First, the theoretical model under investigation benefit practitioners in continuously developing functionalities that provide the most meaningful impacts towards the online group buying. Secondly, the study can serve as a critical starting point for future scientific investigation of technologies in customer context as the electronic commerce revolution continues to grow.

### References

1. CTVglobemedia. <http://www.marilyn.ca/Technology/TechSho ing.aspx>
2. Pressitt, Ubuyibuy. <http://pressitt.com/smnr/uBuyiBuy.com-Brings-Online-Group-Buying-to-Consumers-in-Hong-Kong-Taiwan-on-June-28-2010/1737/>
3. CNN. [http://articles.cnn.com/2010-04-15/tech/cashmore.group.buying\\_1\\_web-buying-sites?\\_s=PM:TECH](http://articles.cnn.com/2010-04-15/tech/cashmore.group.buying_1_web-buying-sites?_s=PM:TECH)
4. NetworkWorld. <http://www.networkworld.com/news/2010/112910-online-group-buying-taking-off.html>
5. Market Intelligence & Consulting Institute (MIC). <http://ecommercetaiwan.blogspot.tw/>
6. Blau, P.: Exchange, and Power in Social Life. Wiley, New York (1964)
7. Homans, G.: Social behavior as exchange. *Am. J. Sociol.* **63**, 597–606 (1958)
8. Emerson, R.M.: Power-dependence relations. *Am. Sociol. Rev.* **27**, 31–41 (1962)

9. Salam, A.F., Rao, H.R., Pegels, C.C.: An investigation of consumer-perceived risk on electronic commerce transactions: the role of institutional trust, and economic incentive in a social exchange framework. In: Americas Conference on Information Systems. Baltimore, MD, USA (1998)
10. Emerson, R.M.: Power-dependence relations. *Am. Sociol. Rev.* **27**, 31–41 (1962)
11. Davenport, T., Prusak, L., Wills, G., Alani, H., Ashri, R., Crowder, R., Kalfoglou, Y., Kim, S.: Working Knowledge. Harvard Business School Press, Boston (1998)
12. Frazier, G.L., Rody, R.C.: The use of influence strategies in interfirm relationships in industrial product channels. *J. Mark.* **55**, 52–69 (1991)
13. Pervan, S., Bove, L., Johnson, L.: Reciprocity as a key stabilizing norm of interpersonal marketing relationships: scale development, and validation. *Ind. Market. Manag.* **38**, 60–70 (2009)
14. Davenport, T.H., Prusak, L.: Working Knowledge: How Organizations Manage What They Know. Project Management Institute (1997)
15. Fang, Y., Qureshi, I., Sun, H., McCole, P., Ramsey, E., Lim, K.H.: Trust, satisfaction, and online repurchase intention: the moderating role of perceived effectiveness of e-commerce institutional mechanisms. *MIS Quart.* **38**, 407–427 (2014)
16. McKnight, D.H., Choudhury, V., Kacmar, C.: The impact of initial consumer trust on In-tentions to transact with a web site: a trust building model. *J. Strateg. Inf. Syst.* **11**, 297–323 (2002)
17. Pavlou, P.A., Gefen, D.: Building effective online marketplaces with institution-based trust. *Inf. Syst. Res.* **15**, 37–59 (2004)
18. Vance, A., Elie-Dit-Cosaque, C., Straub, D.W.: Examining trust in information technology artifacts: the effects of system quality and culture. *J. Manag. Inf. Syst.* **24**, 73–100 (2008)
19. Stewart, K.J.: Trust transfer in world wide web. *Organ. Sci.* **14**, 5–17 (2003)
20. Abelson, R.P., Aronson, E., McGuire, W., Newcomb, W.J., Rosenberg, M.J., Tannenbaum, P. H.: The Theories of Cognitive Consistency: A Sourcebook. Rand-McNally, Chicago (1968)
21. Suna, Y., Shen, X.L., Wang, N.: Understanding the role of consistency during web-mobile service transition: dimensions and boundary conditions. *Int. J. Inf. Manag.* **34**, 465–473 (2014)
22. McKnight, D.H., Cummings, L.L., Chervany, N.: Initial trust formation in new organizational relationships. *Acad. Manag. Rev.* **23**, 473–490 (1998)
23. McKnight, D.H., Choudhury, V., Kacmar, C.: Developing, and validating trust measures for e-commerce: an integrative typology. *Inf. Syst. Res.* **13**, 334–359 (2002)
24. Khalifa, M., Liu, V.: The state of research on information system satisfaction. *J. Inf. Technol. Theoret. Appl.* **5**, 37–50 (2004)
25. Khalifa, M., Liu, V.: Determinants of satisfaction at different adoption stages of internet-based services. *J. AIS* **4**, 206–232 (2003)
26. Khalifa, M., Liu, V.: Satisfaction with internet-based services: the role of expectations, and desires. *Int. J. Electron. Commun.* **7**, 31–50 (2003)
27. LaTour, S.A., Peat, N.C.: Conceptual and methodological issues in consumer satisfaction research. *Adv. Consum. Res.* **6**, 431–437 (1979)
28. Mayer, R.C., Davis, J.H., Schoorman, F.D.: An integrative model of organizational trust. *Acad. Manag. Rev.* **20**, 709–734 (1995)
29. Chiu, C.M., Huang, H.Y., Yen, C.H.: Antecedents of trust in online auctions. *Electron. Commer. Res. Appl.* **9**, 148–159 (2010)
30. Doney, P., Cannon, J.: An examination of the nature of trust in buyer-seller relationships. *J. Mark.* **61**, 35–51 (1997)
31. Gefen, D., Straub, D.: The relative importance of perceived ease of use in is adoption: a study of e-commerce adoption. *J. Assoc. Inf. Syst.* **1**, 1–30 (2000)
32. Chen, C.J., Hung, S.W.: To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities. *Inf. Manag.* **47**, 226–236 (2010)

33. Kankanhalli, A., Tan, B., Wei, K.: Contributing knowledge to electronic knowledge repositories: an empirical investigation. *MIS Quart.* **29**, 113–143 (2005)
34. Couger, J.D., Higgins, L.F., McIntyre, S.C.: (Un)Structured creativity in information systems organizations. *MIS Quart.* **17**, 375–397 (1993)
35. Couger, J.D., Dengate, G.: Measurement of creativity of IS products. *Creat. Innov. Manag.* **5**, 262–272 (1996)
36. Starko, A.J.: *Creativity in the Classroom: Schools of Curious Delight*. Longman Publishers, White Plains, New York (1995)
37. Fishbein, M., Ajzen, I.: *Belief, Attitude, Intention, and Behavior: An Introduction to Theory, and Research*. Addison-Wesley Publishing, Mass (1975)