

# A Path Analysis of Online Group Buying: Insights From Taiwan

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## ABSTRACT

Online group buying has emerged as a new bargaining power for many shoppers and become more so as a result of the increasingly growing popularity of social networking and community-based web sites. Aside from significant quantity discounts, these buying groups can also potentially influence the manufacturers and retailers on policies, product characteristics, and services. The authors propose an online group buying decision framework to model the overall process of online group buying. They use a major group buying community website in Taiwan, *ihergo.com*, to test the framework and conduct follow-up analysis. Based on the proposed framework, they design a survey study in an attempt to gain more insights on group buying communities, their activities, and culture within these communities. They then perform a path analysis, a special technique of structural equation modeling (SEM), to study the relationship among the factors used in the survey. The findings provide useful advice for online group buying sites to attract customers and increase sales.

## KEYWORDS

Online Group Buying, Path Analysis, Quantity Discount, Structural Equation Modeling, Survey Study

## 1. INTRODUCTION

E-commerce has emerged since the late 1990's. It continues to grow at a fast pace and becomes the dominant shopping means for most shoppers today. The forms of e-commerce vary, including B2B, B2C, and C2C. Each platform can be further classified into many sub-categories based on the variations of different parameters. Online Group Buying (OGB) is one of such sub-category. It is a mechanism where shoppers of similar products form online communities and use the power of their ordering quantity to negotiate prices with sellers. These groups of shoppers can also potentially influence the manufacturers and retailers on policies, product characteristics, and services. Similar to other e-commerce websites, many OGB sites started in the later part of 1990's, for example, MobShop and Mercata. Many such sites, however, ceased to exist only several years after their inception, due to reasons such as fast expansion (cash burning rate), improper operation, and fierce competitiveness. But they were quickly replaced by many more with modified business operations, mainly because of the sound concept of the fundamental group buying idea.

The concept of group buying or quantity discount is not at all new to e-Commerce. In fact, many large wholesale stores such as Costco and BJ's operate exactly under this principle. It can also be commonly seen that certain benefits (free shipping, extra peripherals for free, etc.) applied to transactions when the order exceeds a threshold, either in quantity or total dollar amount, on many

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popular e-Commerce sites such as Amazon and eBay. Most sellers are eager to sell their products in large bulk in return for a little cheaper price. That is the reason why after many OGB sites closed operation, more similar sites emerged. Also, another key direct benefit that most sellers receive from OGB channels is the comments and feedback provided. Unlike traditional channels where these comments and feedback mostly come from individual buyers, they are now integrated from many consumers and can be viewed as consensus group opinions.

Online group buying remains a relatively under-researched area despite being existed for many years. Many aspects of this phenomenon deserve more investigation. Using a survey study, this research attempts to gain more insights on group buying communities, their activities, and culture within these communities. Specifically, our study is based on a major group buying community web site in Taiwan, i.e. [ihergo.com](http://ihergo.com). It is the largest group buying website in Taiwan and has been existed for more than 14 years. As of April 2021, it has more than 1.25 million total registered members. Taiwan's e-Commerce revenues had reached NT\$4.34 trillion ( $\approx$  US\$ 144 billion) in 2019 (<https://www.statista.com/statistics/956205/taiwan-ecommerce-revenue/>). According to a research report by the Institute for Information Industry (<http://www.iii.org.tw/>), Taiwan's e-Commerce total transaction amount is expected to grow between 10% and 15% annually from 2017-2022. This represents about 4.8% of its overall retailing market. Annual group buying size is about NT\$ 12 billion ( $\approx$  US\$ 400 million), which is a small portion of the overall e-commerce. Obviously, there is still much room for consumers to resort to the online venue for their shopping needs in Taiwan. This work sheds lights with businesses on how to seize these market opportunities.

There are plenty of studies on e-commerce existing in the literature. However, studies on online group buying (OGB) are very limited so far. Much of existing OGB literature use the theory of Technology Acceptance Model (TAM) to study factors leading to final group purchases, without looking into how final purchase decisions were reached. In this study, we attempt to bridge this research gap by proposing an online group buying decision framework with buyers' demographics and online features, their internal group communications as well as dispute handling prior to purchase decisions. By using the survey data, we show the descriptive statistics of OGB members and their responses to the questions about the buyers' communication, satisfaction, and dispute handling. Then, we investigate the impacts of buyers' demographics and online parameters on their OGB purchase decision of purchasing amount and frequency. Based on the significant factors associated with their purchase decision, we compare OGB members' differences in their communication, satisfaction, and dispute handling. We discuss the managerial implications from our findings and provide the OGB platform and sellers with our recommendations. These efforts would help grow the OGB marketplace and enhance the efficiency of the market. We believe our contribution to the literature will help future research in more accurately identifying strategies to better capture market opportunities in group buying settings.

## **2. LITERATURE REVIEW**

Quantity discount has long been a common business practice. Buyers typically expect a reduction of unit price for bulk order transactions. With the convenience of e-commerce and online communication channels, shoppers either individually purchase multiple quantities of the same item or communicate with each other to form shopping groups to place bulk orders, allowing them to enjoy the price reduction under quantity discount. Hence the emergence of group buying. The pricing of group buying quantity orders is typically a mechanism set by the sellers or as a result of the negotiation process between buyers and sellers.

There is considerable research on pricing policies and quantity discounts. Kohli and Park (1989), while analyzing the transaction efficiency of quantity discount, found that it is a win-win strategy because it's the outcome of cooperation between buyers and sellers. Kauffman and Wang (2001) studied group buying activities in typical e-commerce environments such as B2B and B2C, as well

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