

# **Do Initiator Characteristics Impact Member Decision: A Study of Online Group Buying in Taiwan**

**Yi-Fen Chen<sup>1</sup>, Yu-Te Chen<sup>2</sup> and Jui-Feng Hsieh<sup>3\*</sup>**

## **Abstract**

In recent years, online group buying has rapidly become popular and has become an important part of Internet users' social life and shopping activities. The current study sought to examine the relationships between members and initiators in such online group buying website using a number of variables to describe the initiators and the members. Based on sample of 688 members and 61 initiators in online group buying website, the research demonstrated the use of a two-level hierarchical linear modeling to examine the relationships of online group buying initiator and members, appropriately adjusted for a nested structure. The results indicated that members who engage in higher levels of purchase intention in online group buying are more likely to find initiators who have ability and respond to the members. To sum up, initiator characteristics affects the initiator reputation and member's trust to initiator. Moreover, initiator reputation and member's trust positively affect member purchase intention.

**Keywords:** Online group buying, Characteristics, Trust, Reputation, Purchase intention

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<sup>1</sup> Department of International Business, College of Business, Chung Yuan Christian University, Taoyuan City, Taiwan.

<sup>2</sup> Department of International Business, College of Business, Chung Yuan Christian University, Taoyuan City, Taiwan.

<sup>3</sup> Ph. D. Program in Business, College of Business, Chung Yuan Christian University, Taoyuan City, Taiwan. \*Corresponding author.

# 1. Introduction

## 1.1 Research background

In recent years, the Internet utility rate has raised year by year, which means users can interact or connect each other more conveniently and more easily. Internet has become a powerful force in communication and business. As the booming development of Internet, more commerce activities happen via the Internet because Internet can easily gather the buyers and sellers' attention. Mostly buyers enjoy online shopping which provides a convenient way to shop (Usman & Kumar, 2021). Nowadays customers not only can shop at the bricks-and-mortar retailers but also can shop at e-retailers. Both customers and sellers take advantage of online shopping because at online shopping it is very easy to search information and connect customers with sellers (Givan et al., 2021). Furthermore, online shopping has the advantage of low price, convenience, less restriction and more kind of good categories than traditional shopping (Duarte et al., 2018).

With the development of online shopping, online group buying has emerged (Liu & Sutanto, 2015). Recently more and more well-known enterprise also set up internal online group buying website (He, 2022). The main idea of online group buying to aggregation of geographically dispersed customers, and it gathers those customers purchasing power from all over the countries that have an identical needs and common interests in a certain product and come together at the online group buying website to reach the destination of cost down (Lim, 2017). For consumers, the purpose of reducing purchasing costs can be achieved. The most important thing is online group buying not only can get price discounts through the advantage of large quantity and service of delivery (Hossain & Rahman, 2021), but also can shares or cooperates shopping experience with online group buying members (Wu et al., 2022). Online group buying also is the common way to get the highest price discount (Klein & Sharma, 2018), that is why buyer who likely to shopping at the online group buying. At the same time, companies are gradually paying more attention to the online group buying market.

## 1.2 Research objectives

Previous studies focus on group buying auction situation and try to figure out how the online group buying auction mechanism affects welfare for the participants (Chen et al., 2009). Chen, Tu, & Tung (2022) simulated the online group buying decision-making structure to represent the entire process of online group buying. Hsu et al. (2015) used the expectation confirmation model to explore the determinants of repeat purchase intention in online group buying. Kauffman et al. (2010) explore three incentive mechanisms: sequenced-based, time-based and quantity-based, to explain why consumers tend to join the auction. Yen & Chang (2015) conducted a study from a collectivism perspective to examine the factors that influence buyers' motivation to participate in auctions on online group buying websites. Past research only considered how to influence group buying auctions, focusing unilaterally on the motivations and intentions of individual buyers or

corporate group buying businesses. However, in Taiwan group buying is through one initiator and many members to be a group and reach the destination of cost down. This study aims to examine initiator characteristics affecting member decisions and the relationship with initiator and members in online group buying in Taiwan.

The current study aimed at disentangling the factors between initiators and members of online group buying is by its nature multilevel insofar as initiators are matched with members according to online group buying groupings (i.e., members are nested under initiators' purview). Hierarchical linear modeling (HLM) has made it possible to estimate initiator effects more accurately when such nesting occurs (Miller & Murdock, 2007). Research in marketing particularly those interested in cross level research questions should find HLM is notably beneficial in marketing research due to the ability of HLM to survey relationships simultaneously within a specific hierarchical level as well as between or across hierarchical levels (Wech & Heck, 2004). The objective of this study is to explore the essential factors for initiators and members in order to evaluate their practical importance from the perspectives of both initiators and members.

## **2. Literature Review and Hypothesis Development**

### **2.1 Online group buying**

The online group buying phenomenon, which emerged in the late 1990s has been termed as aggregate demand buying (Liu & Sutanto, 2015), consumer group buying on the web (Anand & Aron, 2003), consumer flocking on the Internet (Bhagat et al., 2009), and group buying auction (Kauffman et al., 2010) apparently assuming online group buying as an online version of traditional group buying. The concept of online group buying came from the concept of a slight profit can make more sale in marketing. Online group buying websites collect a variety of individual customers who can control and be synchronously through the website to get the price discount by large purchasing goods (Lim, 2014, 2017). Recently, online group buying can be divided into two kinds. The first one is to buy products with family or friends, and this kind is simpler. The second one is to have a main buyer who is responsible for collecting online buyers' purchasing orders (Liew & Falahat, 2019). Online group buying also divided customers participating into two roles, which are main buyer and people who join the group (Hung et al., 2022). A main buyer is the initiator of online group buying who post the information of online group buying on online group buying websites. The main buyer is also responsible for collecting the amount and assisting members to purchase products and accept orders (Cheng & Huang, 2013). In recent years, most enterprises tend to create a new kind of online businesses, that is online group buying system the most successful and profitable online business, it can attract the attention of companies because through the Internet enterprises provide the marketing practice especially to the pricing and promotion junction (Sohn & Kim, 2020). For consumers, online group buying can easily find more people in a short period of time, it also can share freight costs and

to buy masses of product so as to get a lower price (Hossain & Rahman, 2021). In the United States, the leading brand Groupon introduced a substantially large number of deeply discounted product categories, essentially becoming a category busting deep discount site. Additionally, Groupon removed price uncertainty by providing daily deals with set final prices and consistent discounts for each offer. Fundamentally, Groupon operates on both the consumer and supplier sides to facilitate the timely formation of groups for these deals (Liu & Sutanto, 2012). According to Zhang et al. (2013), Groupon has gained significant popularity among consumers, who demonstrate strong intentions to return. On the supplier side, Groupon provides deal providers with mobile applications to track the progress of deals. Above all, Consumers are greatly satisfied with the suppliers of deals (Hsu et al., 2015). Groupon, with its high consumer and supplier satisfaction, has become the quintessential example of the successful resurgence of the online group buying phenomenon (Sharma & Klein, 2020).

In Taiwan, online group buying has become a rapidly growing online transaction model in recent years and has attracted research attention. Hsu et al. (2015) used the expectation confirmation model to explore the determinants of repeat purchase intention in online group buying. Yen & Chang (2015) conducted a study from a collectivism perspective to examine the factors that influence buyers' motivation to participate in auctions on online group-buying websites. Chen, Tu, & Tung (2022) simulated the online group buying decision making structure to represent the entire process of online group buying. Lin et al. (2022) explored the connection between buyers' psychological precursors and their intentions to repurchase in the context of online group buying. Past research has focused on buyers' motivations and decision making patterns. Current research defines online group buying as the gathering of buyers and sellers on well-known and commonly used online group buying websites such as Ihergo, Momo, Yahoo, and Gomaji in Taiwan (Chen, Tu, & Tung, 2022; Hsu et al., 2015; Liao & Yang, 2020). Companies created a website to attract different customers to purchase goods. Meanwhile, an initiator with good characteristics and reputation form a purchasing group, which can obtain price discounts and achieve cost reduction, for the followers. This research aims to investigate the critical factors for both initiators and followers to assess their practical significance from the viewpoints of each group.

## **2.2 The factors of influence the intention of attending online group buying**

When member want to join an online group buying they should consider initiator's situation such as initiator's characteristics, trust and reputation. Subsequently, the member will determine their intention to purchase.

### **2.2.1 Characteristics**

According to the Ambrose & Johnson (1998) a seller can improve his characteristics by consciously managing three factors – ability, benevolence and integrity. Ability refers to skills, competencies and characteristics that a seller has in a domain (Mayer et al., 1995). Benevolence is the extent the seller is perceived as wanting to do good to a buyer (Rampl et al., 2012). Integrity refers to the buyers' perception that the seller adheres to a set of principles that the buyers find acceptable (Kim et al., 2020). Based on the existing literature indicated seller characteristics such as ability, benevolence, and integrity all play a role in online purchasing behavior (Gui et al., 2022; Guru et al., 2021; Hwang & Lee, 2012). McKnight & Chervany (2001) also categorized characteristics into four types. First, benevolence means caring and being motivated to act in one's interest rather than acting opportunistically. Second, Integrity means making good faith agreements, telling the truth, and fulfilling promises. Third, competence means having the ability or power to do for one what one needs. Fourth, predictability means trustee actions that are consistent enough to be forecasted in a given situation. Further, Xie & Peng (2009) indicated consumers perceive three buyer characteristics as follows: competence refers to the ability to realize promises, which develops when the organization holds adequate knowledge, expertise, skills, leadership, and other characteristics in related domains; benevolence is a sincere concern for customers' interests and the motivation to do good for them; and integrity is the adherence to a set of sound principles.

Robust reputation mechanism fosters trust of users should assure users' beliefs like benevolence, competence, integrity and predictability towards the reputation mechanism (McKnight & Chervany, 2001). Sutcliffe (2006) also defined reputations of each trust to be assessed from their perceived benevolence, competence, integrity and predictability. Research showed that website reputation and seller reputation are significantly affected by integrity in the website and integrity in the seller respectively (Hsu et al., 2014). Additionally, Yu et al. (2022) stated that competence and reputation contribute to high innovation performance. From the perspective of clients, the perception of a company's reputation is likely to be more positive when there is a strong sense of competence (Nguyen, 2010). Moreover, SimanTov-Nachlieli et al. (2020) found that counterparts with honest and friendly reputations induce higher benevolence ability. Meanwhile, Nguyen (2010) pointed out that benevolence, as a variable, positively affects corporate reputation. This study thus regards integrity, competence, and benevolence as initiator characteristics influencing initiator reputation and member trust in online group buying. Accordingly, the following hypothesis is proposed:

**H1:** Initiator characteristic, such as integrity, competence and benevolence, positively affects the initiator reputation.

### 2.2.2 Trust

Trust can determine the customer's purchase attitude at the online shopping, which afterward affected intention to purchase and actual purchase behavior (Liew & Falahat, 2019). In addition, trust is a critical role in electronic commerce. Previous studies have found that trust improves the intention to purchase from a seller (Hsu et al., 2015; Hung et al., 2022; Shiau & Luo, 2012). Further, Keh & Xie (2009) indicated the trust is one of the central factors that contribute to successful relationship marketing because of their ability to lead indirectly to cooperative behavior and produce outcomes that promote efficiency, productivity and effectiveness, that linkage between trust and behavioral intentions is often or partially mediated by commitment. Trust also serves as a prerequisite to building customer relationships and as a preceding state for the development of commitment. Palvia (2009) defined that trust is based on the three trusting beliefs dimension that is integrity, competence, and benevolence. Integrity means that the initiator to pursue a set of desirable principles. Competence refers to the initiator's skill to fulfill their promises. Benevolence denotes that the initiator is pursuit the member's welfare. The study categorizes trust into three types. First, integrity can indicated initiator honesty and promise keeping. Second, competence is ability of the initiator to do what the member needs. Finally, benevolence is initiator caring and motivation to act in the member's interest (Deljoo et al., 2018; Minza, 2019). Previous studies have shown that the integrity, competence, and benevolence of e-commerce companies significantly influence consumers' trust perception (Deljoo et al., 2018; Oliveira et al., 2017). Thus, this study proposes the following hypotheses:

**H2:** Initiator characteristic, such as integrity, competence and benevolence, positively affects member trust to initiator.

Trust is a critical role in market, because customer typically must purchase goods before experiencing it (Miao et al., 2022). Schilke et al. (2021) stated that trust tends to the similar to a personality character and in some situation it has been treated as one, and it is a general tendency resulting from past experiences. Customers trust as the perception towards the competence, benevolence, and integrity that trust will occur when one party has confidence in an exchange partner's reliability and integrity (Wu et al., 2010). With trusts of online stores, the customer will be more likely to purchase there, that is when customers have a higher level of trust in seller, and they will be more likely to purchase products and services from this seller (Chetioui et al., 2021). In the social commerce literature indicated that intention to purchase through social commerce are fully mediated by trust (Dabbous et al., 2020). Kouser et al. (2018) found that more trust in the web site will increased customer purchase intention. Research on online shopping consumers found that perceived trust is significantly related to willingness to participate in online buying (Jadil et al., 2022). Accordingly, the following hypothesis is proposed:

**H3:** Member trust to the initiator positively affects member purchase intention.

### **2.2.3 Reputation**

Reputation is a social process dependent on past transactions, in particular, the degree of honesty that a selling party has demonstrated in those earlier transactions, between consumers and the sellers (Diekmann et al., 2014). According to the research result of McKnight & Chervany (2001) reputation does not completely include all information. Reputation also reflects the collective perception of a seller's historical actions and their capacity to provide value to customers (Kim et al., 2004). Based on reputation, a consumer is likely to infer that the selling party information is likely to continue its behavior in the present transaction (Kim et al., 2008). Moreover, a seller needs to invest substantially to cultivate a favorable reputation and is typically hesitant to risk this reputation by engaging in opportunistic behavior (Teo & Liu, 2007). Reputation becomes a powerful lever that suppliers can use to build consumer trust (McKnight et al., 2002a). Furthermore, a good reputation fosters trust and comfort among buyers, reducing the time they need to decide on a group buying service provider (Khoa, 2020). For example, reputation scores and seller photos are considered two types of signals that foster trust in e-commerce. Reliable photographs and a positive reputation contribute to building trust with buyers, leading to increased purchase rates (Bente et al., 2012). According to the Kim et al. (2008) company's reputation, have strong effects on Internet consumers' trust in the website, that is positive reputation will more likely to infer that the company will honor its specific obligations to oneself, and therefore conclude that the selling party is trustworthy. Kim & Park (2013) also found that trust will develop in such relationship especially reputation, that is trust induced by reputation effects. Puffer et al. (2010) indicated reputation is the critical role of the cultural-cognitive dimension of trust. When consumer perceived a good company reputation, trust in the company also increased significantly (Islam et al., 2021). Research on e-commerce suggests that reputation has a direct impact on trust (Chen, He, & Xiao, 2022; Sadeghi et al., 2021). Research on online suppliers pointed out that online suppliers' reputation guarantee and customers' trust tendency are positively related to customer trust (Mahliza, 2020; Teo & Liu, 2007). Consumer attitude toward online group buying is found to be significantly related to three factors representing website trust: website reputation, structural assurance, and website quality (Liu et al., 2013; Suki & Suki, 2017). Overall, past research has indicated that reputation and trust are intimately linked, and that reputation ratings are a highly influential element in online transactions (Aparicio et al., 2021). In line with these empirical evidences, this study hypothesizes that:

**H4:** Initiator reputation positively affects member trust.

#### 2.2.4 Purchase intention

According to Ajzen (1991), purchase intentions serve as an indicator of the degree to which individuals are prepared to engage in a particular behavior. In the theory of reasoned action posits that consumer behavior can be forecast from intentions that are directly aligned with the behavior in terms of action, target, and context. (Fishbein & Ajzen, 1975). Moreover, the focus of decision making can be a product, service, idea, or website that the consumer deems relevant. (Sharma & Klein, 2020). In the web shopping environment, customer online purchase intention is indicative of the strength of a consumer's resolve to engage in a specific purchasing behavior over the Internet (Salisbury et al., 2001). Ling et al. (2010) defined online purchase intention as the extent of a consumer's readiness to purchase products from an online retailer. Purchase intention is thus a crucial variable in gauging the potential actions a consumer may decide to take (Jadil et al., 2022).

Previous studies have typically considered the following two variables for trust performance: purchase intentions and Word-of-Mouth. Purchase intentions are defined as the probability of a consumer buying a product or service in the future (Liu et al., 2021). Moreover, Einwiller et al. (2010) indicated the reputation is considered particularly important by the respondents exert a significant influence on purchase intention. Park & Kim (2008) found the e-Word-of-Mouth has great potential for improving a product transition from the early market to the mainstream market. They also found that the sellers' reputation has strong impact on the willingness of buyers to bid on items sold in online auction. Pan et al. (2013) selected and analyzed low-reputation and high-reputation sellers from Yahoo Market. High-reputation sellers can impose higher surcharges, thus raising the total price paid by buyers, whereas low-reputation sellers are unable to do the same. Therefore, highly reputable online sellers can create additional purchase intentions through price increases. The study by Ziaullah et al. (2017) suggested that the components of perceived procedural, distributive, and interactional justice are significant predictors of customer purchase intention and the reputation of online retailers. The reputation of online retailers has a significant impact on customer purchase intention. Malak et al. (2021) evaluated the subsequent effects on purchase intentions within the e-marketplace platform. The results point to the third-party seller's reputation positively affecting purchase intention. Thus, this study proposes the following hypotheses:

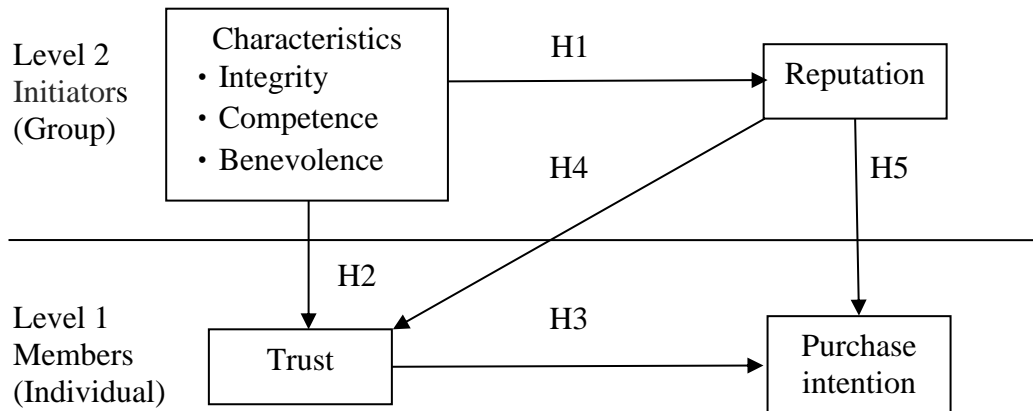
**H5:** Initiator reputation positively affects member purchase intention.



### 3. Methodology

#### 3.1 Research framework

The research framework is illustrated in Figure 1. This study uses two-level HLM to examine the relationships of online group buying initiators and members. The variables which describe the initiator are: characteristics with integrity, competence and benevolence, reputation as well. The variables which describe the members are: reputation, trust and purchase intention.



**Figure 1: Research framework**

#### 3.2 Measures

The instrument's survey items were derived from the existing literature and modified slightly to fit the context of online group websites. Every participant signed up voluntarily. Each item was measured on a 5-point Likert scale. Participants were asked to indicate their level of agreement with each statement, from 1 = strongly disagree to 5 = strongly agree. The initiator-questionnaire included 24 items and the member-questionnaire included 10 items. The questionnaire items and sources for the variables are provided in Table 1.

**Table 1: Measurement items**

<b>Construct</b>	<b>Research item</b>	<b>Reference</b>
Competence	I have ability to handle sales transaction for online group buying.	McKnight et al. (2002b); Schlosser et al. (2006); Okazaki et al. (2009)
	I have sufficient expertise to do online group buying.	
	I am successful at the things that every initiator tries to do.	
	I have specialized capabilities that can take care of each sales transaction.	
	I feel very confident about online group buying skills.	
Benevolence	I will give members the best suggestions.	
	When members require some help, I will do my best to help them.	
	When members are confused with some information, I will find out what they want.	
	I concerned about members welfare very much.	
	Members' need and desire appear to be important to me.	
	I really look out for what is important to members.	
Integrity	I will not charge more for online group buying.	
	I am honest to members.	
	I act sincerely in dealing with members' transactions.	
	I will not overcharge members during sales transaction.	
	I am truthful in dealings with each transaction.	
	I would keep my commitment.	
	I am very sincere.	
	I have a strong sense of justice.	
	I try hard to be fair in each transaction.	
Reputation	I am a highly-regarded initiator.	Hennig-Thurau et al. (2002); Keh & Xie (2009)
	I am a successful initiator.	
	I am a well-known initiator.	
	Members will tell their friends about my information.	
Trust	I like to trust this initiator.	Keh & Xie (2009); McKnight et al. (2002b)
	I find this initiator trustworthy.	
	I like the reliability of this initiator.	
	I can value the trustworthy characteristics of this initiator.	
	I like the trustworthiness of this initiator compared to other online group buying initiator.	
	I feel generally that the initiator is very responsible to members.	
Purchase intention	I will join most of online group buying from this initiator in the future.	Keh & Xie (2009); Ling et al. (2010)
	I will consider the initiator at the first choice from which to join online group buying.	
	I will do more transaction with the initiator in the next few years.	
	I want my friends to join online group buying from this initiator.	

The internal consistency reliability of the variables was assessed using SPSS 24 to compute Cronbach's  $\alpha$ . The Cronbach's  $\alpha$  values of all the variables, ranging from 0.734 to 0.948, are all over 0.7 (Chau & Lai 2003), which is considered satisfactory for measures (see Table 2).

**Table 2: Reliability**

<b>Construct</b>	<b>Cronbach's <math>\alpha</math></b>
Competence	0.758
Benevolence	0.878
Integrity	0.940
Reputation	0.839
Trust	0.734
Purchase intention	0.841

### 3.3 Sample and procedure

This study decided to introduce the online survey as it has several advantages over the paper-based survey, due to lower costs, no geographical restrictions, faster responses and higher response rates (Bhattacharjee, 2001; Kaplowitz et al., 2004). Using traditional paper-based survey poses a restricted effect on participants and increase social desirability, which means that online survey may lead to higher level of honesty and certainty in the case of self-reporting (Wood et al., 2004). In the beginning of this survey, several pretests were performed, ultimately validating the instrument. Pretesting clarified and solved some problems such as questionnaire clarity, question wording and question applicability (Lin, 2006). The most recent pretest involved 69 respondents from seven groups and in order to assure readability as well as detect any logical errors within questions.

The main survey involved installing an online questionnaire system within the online group buying websites and online group buying bulletin board system for 4 weeks as a survey promotion, and it was conducted on online questionnaire survey website. First, place the questionnaire within the website forum, and contact group initiators via email by asking them to fill out the initiator questionnaire. Then, post messages in social networking sites (e.g. Facebook and blog) and 4 online group buying websites (e.g. Ihergo, Momo, Yahoo and Gomaji) declaring the purpose of this survey and ensuring confidentiality. The websites are diversified in respect to several sizes and types of product. The types of product websites involved in the study included: food, cosmetic, dress, travel, entertainment and service. The data were gathered through an online questionnaire survey carried out over a period of one month.

In total, 812 participants from 4 online group buying websites participated in the online survey during this 4 weeks period. Among 4 online group buying websites, each forum had at least twenty respondents. The forum was not considered in the study when the number of member responses was fewer than twenty. Consequently, all online group buying websites were available for analysis, including 61 initiator-

questionnaires (each website could have more than one leader) and 688 member-questionnaires. Most of initiators participants were between 21 to 30 years old (40.98%); 62.3% of the participants were female. More than 52.46% of participants, their educational level were college and university. About 44.26% of the participants worked in service industry. Most of members participants were between 21 to 30 years old (54.51%). 54.94% of the participants were female. More than 65.41% of participants, their educational level were college and university. About 36.63% of the participants worked in service industry. All of the initiators have initiated online group buying experience. For 61 initiators, about 52.46% of participants have ever initiated online group buying less five times, above 39.34% of participants has online group buying experience more than one year; 86.89% of participants join online group buying less than 5 times per month. Above 40.98% participants spent more than 500 New Taiwan Dollar (NTD) for online group buying each time. About 42.62% participants spent under 500 NTD for online group buying per month. 24.59% of participants answered that the online group buying website they used to go is “Yahoo”. All of the members have online group buying experience. For 688 members, about 32.41% of participants have ever joined online group buying more than six times, above 42.44% of participants has online group buying experience more than one year; 69.77% of participants join to online group buying less 5 times per month. Above 30.81% participants spent more than 500 NTD for online group buying each time. About 53.05% participants spent under 500 NTD for online group buying per month. 23.26% of participants answered that the online group buying website they used to go is “Gomaji”.

## 4. Research Results

### 4.1 Hypotheses testing

H1 predicted that initiators' characteristics will positively affect reputation. The results showed that competence, benevolence and integrity had a significant effect on reputation. The analysis results are shown in Table 3, competence ( $F=5.188$ ,  $p<0.01$ ), benevolence ( $F=22.515$ ,  $p<0.001$ ) and integrity ( $F=5.068$ ,  $p=0.001$ ). Therefore, the results supported H1.

**Table 3: Results of ANOVA**

Construct		DF	MS	F	p-value
Reputation	Competence	7	0.111	5.188**	0.002
	Benevolence	7	0.480	22.515***	0.000
	Integrity	10	0.108	5.068***	0.001

\* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

## 4.2 HLM analysis

HLM can be viewed as a modified version of multiple linear regressions designed to deal with data with a hierarchical nested structure. It also can be directly made the analysis of cross-level models instead of straightforward (Woltman et al., 2012). Specialize HLM can estimate within-group relationships and combine these relationships with between-group variables. At sub-model, regressions are built at each level of nested structure; this nested structure of the data is common to many sample designs where the data at one-level cannot be inferred to be independent from data at another level. Each level of model is associated with a different level in an analysis. In this study, the researches took two-level to approach cross-level investigations, at level-1 models are estimated split for each group and factors are characteristics and reputation, at level-2 units are trust and reputation. The intercepts and slopes are used from the level-1 analysis as dependent variables. In this study, the HLM6 statistical package is used (Raudenbush & Bryk, 2002), and a sequence of HLM is required: the null model (random effects ANOVA), random-coefficient model, intercept-as-outcomes model and slope-as-outcomes models.

## 4.3 Null model

In this study, hypotheses predict that member and initiator level variables would be significantly related to member purchase intention. Support for these hypotheses required significant between group variance in member purchase intention. Thus, using HLM, we can estimate the null model in which no predictors were specified for either the level-1 or level-2 function to test the significance of the between-group variance. As the results shown in Table 4, a significant chi-square for the member purchase intention was obtained ( $u_{0j} = 0.136, p < 0.001$ ). In addition, using information estimated in the null model, an intraclass correlation coefficient (ICC[1]) and reliability of the mean (ICC[2]) were computed, representing the percentage of the total between group variance in the dependent variable (Bryk & Raudenbush, 1992). The ICC[1] indicated the amount of variance that could potentially to explained by the level-2 predictor, initiator characteristics. The ICC[1] was 0.983, indicating 98.3% of the variance in member satisfaction resided between groups, and 1.7% of the variance resided within groups. Meanwhile, ICC[2] value was satisfactory at 0.999, which is over the minimum 0.7 requirement (Schneider et al., 1998).

**Table 4: Null model (Random effects ANOVA)**

Fixed effect	Coefficient	S.E.	T-ratio	p-value
Intercept, $\gamma_{00}$	4.495	0.046801	96.042	0.000
Random effect	Variance component	DF	Chi-square	p-value
Between-group residual variance, $u_{0j}$	0.136	60	40914.68478	0.000
Within-group residual variance, $r_{ij}$	0.002			

#### 4.4 Random-coefficient model

After examining the null model, the study assessed whether significant between-group variance existed in the intercepts and slopes using a random-coefficient model. Hypotheses 3 predicted that the proposed factor would contribute to member purchase intention. This research estimated a level-1 model including these variables, with no predictors specified for the level-2 model. With information provided from the null and random-coefficients models calculated the explained variance proportion by level-1 was 0.412, that the member engagement variables explained 41.2% of the within-group variance. As the results shown in Table 5, specifically, Trust ( $\gamma_{10}=0.88$ ,  $p<0.001$ ) had a significant positive effect on member purchase intention. Thus, Hypothesis 3 was supported.

**Table 5: Random coefficient model**

Fixed effect	Coefficient	S.E.	T-ratio	p-value
Intercept, $\gamma_{00}$	0.52	0.370462	1.411	0.164
Trust, $\gamma_{10}$	0.88	0.082083	10.755***	0.000
Random effect	Variance component	DF	Chi-square	p-value
Between-group residual variance, $u_{0j}$	2.74	60	267.38329	0.000
Between-group residual variance, $u_{1j}$	0.14	60	261.46291	0.000
Within-group residual variance, $r_{ij}$	0.001			

#### 4.5 Intercept as outcomes model

After examining that significant variance exists across groups in the level-1 intercepts, the cross-level was directly tested. As to predictions in Hypothesis 2 and 4, initiator characteristics and reputation had a positive relationship with intention to trust significantly. As the results shown in Table 6, aggregated initiator characteristics and reputation (competence:  $\gamma_{01}=0.74$ ,  $p<0.001$ , benevolence:  $\gamma_{02}=0.76$ ,  $p<0.001$ , integrity:  $\gamma_{03}=0.67$ ,  $p<0.001$ , reputation:  $\gamma_{04}=0.73$ ,  $p<0.001$ ) demonstrated a significant relationship with member trust, after accounting for member-level predictors. Hence, Hypothesis 2 and 4 was supported.

**Table 6: Intercept as outcome model (Intention to Trust)**

<b>Fixed effect</b>	<b>Coefficient</b>	<b>S.E.</b>	<b>T-ratio</b>	<b>p-value</b>
Intercept, $\gamma_{00}$	4.47	0.021593	207.193	0.000
Competence, $\gamma_{01}$	0.74	0.095880	7.743***	0.000
Benevolence, $\gamma_{02}$	0.76	0.093598	8.076***	0.000
Integrity, $\gamma_{03}$	0.67	0.096269	6.969***	0.000
Reputation, $\gamma_{04}$	0.73	0.049039	14.806***	0.000
<b>Random effect</b>	<b>Variance Component</b>	<b>DF</b>	<b>Chi-square</b>	<b>p-value</b>
Between-group residual variance, $u_{0j}$	0.03	59	6951.94466	0.000
Within-group residual variance, $r_{ij}$	0.03			

To test Hypothesis 5, we estimated a model in which the member engagement variables were the level-1 predictors, and then regressed the intercept coefficients obtained from level-1 on the measures of aggregated initiator reputation at level-2.

As the results shown in Table 7, aggregated initiator reputation ( $\gamma_{01}=0.27, p=0.01$ ) demonstrated a significant relationship with member purchase intention, after accounting for member-level predictors. Hence, Hypothesis 5 was supported.

**Table 7: Intercept as outcome model (Intention to Purchase Intention)**

<b>Fixed effect</b>	<b>Coefficient</b>	<b>S.E.</b>	<b>T-ratio</b>	<b>p-value</b>
Intercept, $\gamma_{00}$	4.51	0.038856	116.044	0.000
Reputation, $\gamma_{01}$	0.27	0.099676	2.675**	0.01
Trust, $\gamma_{10}$	0.02	0.017691	1.297	0.2
<b>Random effect</b>	<b>Variance Component</b>	<b>DF</b>	<b>Chi-square</b>	<b>p-value</b>
Between-group residual variance, $u_{0j}$	0.09	59	15976.57646	0.000
Between-group residual variance, $u_{1j}$	0.01	60	364.29912	0.000
Within-group residual variance, $r_{ij}$	0.002			

## 5. Conclusion and Implication

### 5.1 Discussion

By applying HLM, this study found that significant variance in member purchase intention existed both within and between groups; moreover, certain individual factors (i.e., trust) and contextual factors (i.e., characteristics and reputation) specified in this research explained a moderate amount of this variance. All hypotheses were supported, and results of each hypothesis will be summarized and explained.

First, the result indicated that initiator characteristic, such as integrity, competence and benevolence, positively affects the initiator reputation. The online group buying initiators improve their reputation if they have higher levels of ability. If the initiator had more ability, members can get a good service or product so that they will give initiator a good reputation. That is initiator have more ability can improve their own reputation. Thus, initiators' characteristics will improve their own reputation.

Second, initiator characteristics not only affected their own reputation but also influenced members trust to initiators, and the results stated that the online group buying members increase their trust to initiators if initiators have higher levels of characteristic. Since members feel they obtained good services or products from some initiators, they will have more trust in initiators. Thus, initiators' characteristics will make members trust in initiator more.

Third, the result showed that members trust to the initiator positively affects members purchase intention. Trust is the most important factor related to the members whether they want to shopping or not. Thus, trust is significantly determines members purchase intention. When members trust in initiator, no matter what kind of service or product supply by initiator, members tend to adopt initiator suggestions and easily purchase those products so that if members have more trust in initiator, then they have higher levels of purchase intention.

Forth, the result indicated initiator reputation positively affects members trust. If initiator had good reputation, members will tend to believe this initiator because reputation will reflect initiator situation, such as efficiency, service quality and ability that is initiator's reputation will affect members trust.

In addition, initiator reputation was directly associated with members purchase intention, for example when members want to join a group buying they will consider about the online group buying initiator's situation, such as state, experience and the most important factor is reputation, since members cannot easily to collect all information, so that reputation is only way to consider they join or not, that is when initiator have good reputation, members will increase their purchase intention.

## **5.2 Conclusion**

This study aimed at investigating the relationships between initiators characteristics and members decision. This research uses integrity, competence, benevolence and reputation to describe the initiators characteristics and to examine how initiators characteristics influence members' trust and purchase intention. The findings of this study reveal that initiators integrity, competence, benevolence positively affected their own reputation. This finding was consistent with prior studies (Hsu et al., 2014; Nguyen, 2010; Sutcliffe, 2006; Yu et al., 2022). However, the results showed that initiators integrity, competence, benevolence, and reputation significantly affected members trust to the initiator. These results support Deljoo et al. (2018) and Oliveira et al. (2017) who claim that trust contributes to initiator characteristics. The research results indicate that member trust to the initiator positively affects member purchase intention. As previous research has shown, trust plays a crucial role in influencing



members' purchasing behavior (Chetioui et al., 2021; Dabbous et al., 2020; Jadir et al., 2022; Kouser et al., 2018). The results also show that the initiator's reputation has a significant positive impact on members' trust. As in past research, when members generally trust the initiator, they will tend to deal with the initiator because they believe that the initiator with good reputation can provide high quality services or products (Mahliza, 2020; Teo & Liu, 2007). Furthermore, the results of this study indicate that when initiator has good reputation, members will more likely to purchase products or services from this initiator; that is, reputation has great potential to improve transaction and affect members willingness to trade with this initiator (Einwiller et al., 2010; Malak et al., 2021; Park & Kim, 2008).

The initiators' characteristics affect members' decision in this study was significant. However, this study divided initiators' character into four parts. First, integrity means that the initiator pursue a set of desirable principles and in this study the results showed that if the initiator can hold their own honesty and keep their promises, then consumers will have more trust in this initiator and become a member of this initiator. Second, competence refers to the initiators' skills to fulfill their promises; that is, if initiators have ability to achieve what the members' needs, then members will have more trust in this initiator. Third, benevolence denotes that the initiator care about the member's welfare, when initiator care member needs and motivations to act in the members' interests, then members will feel they are highly respected by the initiator, then they will accept that initiator. Finally, reputation is based on past transaction. If an initiator has ever achieved a successful transaction in the past, then they can build consumer trust, which will translate into reputation. Depending on the initiator's reputation, member will likely to join group buying by this initiator.

### **5.3 Managerial implication**

Indeed, in practice, successful online group buying would face several significant challenges, such as failed bidding risk, uncertainty situation, and information asymmetry, which would cause consumer not to join online group buying easily. However how to attract the member to join this online group buying is a challenge for initiator. The results of this study found out that initiator characteristics play a critical role to member trust and it will affect initiator their own reputation, those in turn influences member purchase intention. Therefore, this research emphasizes various implications for online group buying initiator. First, online group buying initiators should improve their ability so that they can provide a good service or product. Since members feel they obtained good services or products from a certain initiator, they will have higher purchase intention. Second, online group buying initiators should pursuit the member's welfare and fulfill their promises. When members highly respected by initiators for their needs, members will have more trust to the initiators then they will have higher purchase intention. Third, initiators should build their own reputation. Because reputation have strong impact on the members, and inspires their purchasing intention, initiators with good reputation will motivate members more likely to deal with initiators.

#### 5.4 Limitation and future research

Several limitations are inherent in this research. First, the sample used in this study focus on online group buying website users. Other types of group buying may have different response as other intention. Second, as the sample was collected in social network, generalization to another way might be limited because of pursue different objectives in member behavior. Third, this study more focus on initiators' characteristics in online group buying, not the product attribute. The perception of members may be different, and the results may differ. Future research may apply product nature into the framework to more closely examine the reality. Finally, the variable in this study are exclusively of some participants' characteristics, and for other personality could be traced in the future research.

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