

# Measuring the Effects of Pressure on Consumer Impulse Buying Intention in Online Group Buying

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## Abstract

Group buying organizations (GBO) have recently stepped up their well-established practice of employing super-low prices combined with limited product and service supply in a short transaction time span as a means of exerting pressure on consumers. The purpose of this research is to 1) identify and define three types of pressure that are triggered by online group-buying (OGB) promotions, 2) examine the effects of these three types of pressure on consumers' impulse buying behavior, and 3) investigate and produce knowledge about the mediating role of emotion in the relationship between pressure and impulse buying intention (IBI) of consumers. By integrating stimulus-organism-response (SOR) model and consumer impulse buying literature seen from the perspectives of marketing and enterprise information systems respectively, this research has identified three types of pressure (i.e., time pressure, quantity pressure, and price pressure) that influence the impulse buying behavior (IBB) of consumers regarding OGB. The research then examines the mediating role of emotion with reference to pleasure and arousal level. The results of a large-scale online survey combined with an analysis of a structural equation model demonstrate that the above-mentioned three types of pressure have different effects on IBI of consumers. Moreover, the research finds that this is achieved through different mediating mechanisms. Based on the results of the analysis, the authors have made some suggestions that marketers can utilize in developing effective OGB strategies. This research also provides the basis for enterprise information systems (EIS) to develop technologies that will allow organizations to better serve the needs of their OGB customers.

### **Background to the Study**

Online group buying (OGB) has witnessed rapid growth since Groupon first introduced it to the global marketplace in 2008 as a business model where consumers join together as a group via the internet to seek lower prices on goods and services. For example, China's largest group buying company, Pinduoduo, announced its gross merchandise volume (GMV) of 2,441 billion RMB in 2021 which represented an increase of 46% on the year before. And the GMV of its overseas subsidiary TEMU in Q1 2023 rapidly exceeded 1 billion RMB after opening for business in 2022. Pinduoduo's success has been attributed to its effective use of promotional tactics which include special offers at incredibly low prices with limited supply quantity in a short time span. According to Wu et al (2020) these incentives have largely been very successful in inducing consumers' pressure and urge leading to a favorable respond to group buying initiatives.

Previous studies saw OGB as a rational purchase behavior in which consumers joined together as a group with the specific purpose of securing volume discount for a product at the lowest price (Chen et al, 2002) while, at the same time, maximizing its utility (Jing & Xie, 2010). Moreover, displaying real-time, updated information with respect to the cumulative number of deals sold to other consumers contributed to lowering the uncertainty level regarding the product which, in turn, contributed to enhancing its awareness in the marketplace (Li and Wu, 2018) and signaled the value of the deal (Luo et al., 2014).

Previous research has investigated the impact of different factors (e.g. marketing stimuli such as online merchandise attractiveness and promotion techniques, a person's impulsivity trait such as conscientiousness and action orientation, situational factors such as ease of use and communication style of a website, the influence of vendor cues (Kaur, S. et al, 2017), gender differences and education (Alam, M. S-A et al 2019), and emerging social factors such as goal commitment (Yujong Hwang et al, 2023), product recommendations and celebrities' posts, among others on IBI (Xu & Huang 2014; Redine et al., 2023; Chen et al., 2019; Daoping Wang, Abdul Waheed, 2019 Alam, M.S. Thürmer et al., 2020; Zhao et al., 2022), the impact of advertising values (Malafe, N.S.A., et al, 2023), the effect of eWOM (electronic word of mouth), Roy, G. et al, 2021), and the more recent impact of Covid-19 and the moderating role of digital marketing (Salem, M. et al, 2022). However, context-specific marketing stimuli in OGB remains under-explored. Specifically, the effect and the influencing mechanism of the three most frequently used promotional tools (i.e., super low price, limited quantities offered, and short transaction time span) in OGB has not been sufficiently addressed.

In this research we take the position that by employing super-low-prices with limited product supply in short transaction time span, OGB is different from other online shopping scenarios for its three pressure-inducing characteristics (i.e., unpredictable, and uncontrollable results, competing mechanism, and perceived scarcity), all of which are very likely to stimulate emotional responses. When setting a super low price in online group buying, sellers often require minimum and maximum quantity limit. The success of traction depends on whether there are adequate buyers joining together to satisfy the

minimum requirements, and this leads to uncertain results. Previous research demonstrates that unpredictable and uncontrollable outcomes are related to affective responses (Lee & Qiu, 2009) which might trigger subsequent impulse buying behavior. In addition, given the fact that the special offers available are often quickly snapped away by other buyers, this effectively leads to a situation of immediate and significant decrease in the number of available offers. This competing mechanism might trigger buyers' desire to win with high arousal level and result in impulse buying (Adam et al., 2015; Wu et al., 2020). Moreover, sellers often set a deadline for limited offers in OGB and both perceived time scarcity and product scarcity have proven to be strong drivers of emotions and sense of urgency (Zhu et al., 2015; Li et al., 2021).

The effects of the above-mentioned three characteristics of OGB as enablers of emotional response on consumers' purchase decisions are significant and therefore worthy of further research. To gain a more comprehensive understanding of how sellers influence OGB, and also gain a better insight into the underlying psychological mechanisms, this research empirically explores the impact of pressure triggered by three most frequently used promotional tools in OGB (i.e., super-low-price, limited supply, and short transaction time on impulse buying) and highlights the mediating effect of emotion. This research contributes to enhancing our understanding of the mechanisms of IBI for consumers with respect to OGB. Moreover, it enriches the theory of impulse buying and provides practical tools for marketers to use in OGB. In view of the preceding discussion, therefore, the objectives of this research have been outlined as follows:

1. To identify and define three types of pressure which are triggered by OGB promotions.
2. To examine the effects of these three types of pressure on consumers' impulse buying behavior;
3. To investigate and produce knowledge about the mediating role of emotion in the relationship between pressure and IBI of consumers.

The above-outlined three research objectives, in turn, constitute the basis for hypotheses development for our work which are presented later in the paper.

## **Conclusion**

The focus of this research has been to investigate and produce knowledge about the underlying influencing mechanisms of three consumer pressure factors (i.e., time pressure, quantity pressure, and price pressure) in OGB. It empirically verifies the effects of the three factors on impulse buying intention through the mediation of emotion. The results show that time pressure, quantity pressure, and price pressure have different effects on consumer emotion and therefore play different roles in impulse buying intentions. These conclusions help us further understand impulse buying and its antecedents in OGB seen from the perspective of emotion. Specifically, price pressure has been shown to bring pleasure and excitement to consumers. Quantity pressure leads to low pleasure emotion but does not necessarily affect arousal emotion. Time pressure has a positive impact on arousal emotion but its effect on pleasure emotion is not significant.

Analysis of the empirical data demonstrates that in OGB both pleasure emotion and arousal emotion of consumers have positive effects on impulse buying. In comparison, pleasure emotions significantly impact IBI more than arousal emotion. Among the three types of pressure, price pressure appears to have the greatest impact on both arousal emotion and pleasure emotion. These conclusions suggest that in OGB, marketers should attempt to provide more attractive prices to exert pressure on consumers. This will lead to a more effective promotion of consumer impulse buying which, in turn, will increase sales volumes and thus bring about higher economic gains. As OGB rapidly increases in popularity across many parts of the global marketplace we believe our research has significant implications not just for marketing managers but for organizations generally who, faced with increasing competition and dynamism of the marketplace, need to constantly recalibrate their strategies to remain competitive in the marketplace. We have seen this phenomenon already taking place in markets such as China and the U.S. – the world's leading economies.

This research also contributes to the field of EIS in that it provides a basis for organizations to innovate in the development of technologies that enhance better coordination of their business processes. More specifically, given the fast-changing pace of consumer behavior due to eMarketing generally and specifically the emerging phenomenon of OGB, the fundamentals of customer relationship management, customer experience management, and enhanced supply chain integration and management need to be reappraised to reflect the changing dynamics of consumer buyer behavior in the marketplace. Organizations need to better streamline their customer relationship and experience management activities as well as their supply chains to better satisfy the demands of their OGB customers. In this regard it can be said that EIS are uniquely placed to provide organizations with the necessary technology to better manage their relationships and experience with OGB customers. Moreover, EIS can also provide organizations with the necessary technology to restructure their supply chain management activities with a view to better satisfying the specific needs of their OGB customers. In conclusion it can be said that the findings of this research have contributed towards reflecting on just what kinds of technology platforms can be developed by EIS with a view to enabling organizations to better satisfy the needs of their OGB customers.

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