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# Analyzing consumer goal structure in online group buying: A means-end chain approach

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## ABSTRACT

Given the enormous growth and significant impacts of group buying on Internet business marketplaces, this study aims to understand consumer goal structure in online group buying (OGB) contexts using a means-end chain approach. Using the laddering interview technique, 52 OGB consumers were interviewed. From the interview data, we identified 27 goals consumers pursued and their goal striving paths that are summarized in the hierarchical goal structure. This study has the potential to make significant contributions to both information systems research and e-commerce by utilizing a different approach to explain consumer technology adoption behavior.

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## 1. Introduction

Online group buying (OGB) is considered an innovative e-commerce model that aggregates the buyers' power, allowing them to obtain lower prices [56,110]. With the initial introduction of "Groupon" in the USA, OGB has experienced rapid growth and evolved into a massive e-commerce market worldwide, especially in China. According to a recent report from the China Network Information Center (CNNIC) [16], the number of users in the OGB market in China reached 180.22 million by the end of 2015 and accounted for 26.2% of the netizens. Despite the rapid growth of the market and the significant benefits OGB businesses have gained, surviving in this market remains a challenge [56]. In China, more than 4670 OGB websites have shut down to date and the mortality rate is up to 75% as consumers have more choices among the numerous OGB websites available [120]. These circumstances raise the need for a solution that not only attracts consumers in the first place but also retains them, enabling them to eventually engage and create value. To develop such a solution, however, it is indispensable to understand the goals consumers pursue when they visit the OGB websites as it is widely acknowledged that individual's behavior is strongly affected by a person's goals to action [84]; moreover, OGB consumers are goal directed, and their desire to achieve their specific goals goes some way in explaining their technology use behavior [31,74,114]. In this regard, a goal is defined as the aim or the desired outcome of an action [84] and is used to guide people's behavior. Thus, understanding these goals would be a useful framework for OGB businesses to understand why consumers use one OGB website over another and what consumers want to achieve with OGB behavior.

Despite the relevance and significance of understanding consumers' goals to be fulfilled when visiting OGB websites, researchers have paid little attention to this critical phenomenon, and a few significant gaps remain to be fulfilled. First, although an increasing number of studies has paid great attention to understand the various factors leading to consumers' purchase or repurchase intention in OGB contexts to enhance our understanding of OGB consumer behavior, most of them are mainly quantitative in nature and utilize traditional user-adoption theories such as the technology acceptance model (TAM), theory of planned behavior (TPB), and DeLone and McLean information systems (IS) success model [40,61,109], with the focus of understanding what IS (in this case the OGB website) can offer to the customers rather than identifying what customers really want from this technology use behavior. This resulted in fragmented and inconsistent findings about factors that are influential in OGB consumer behavior. Consequently, it becomes difficult to deduce generalizable findings because of mixed and fragmented results [81]. Given that a significant feature of the OGB is its emphasis on "customer-driven commerce" [114], researchers [60,109] called for studies to explore OGB phenomenon from a user

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perspective. However, few studies have incorporated all or most explanatory variables to explain what goals consumers strive to attain in OGB behavior. In particular, given that much of the consumer behavior is goal directed, a more systematic framework, generated from a user perspective, regarding OGB consumer goals to be fulfilled when visiting the websites is timely and critical for OGB businesses to understand what customers' requirements are and how to meet their needs to gain competitive advantage in e-marketplaces.

Another disadvantage of these traditional user-adoption approaches in OGB research lies in their limited explanation and understanding of OGB consumer behavior and whether these identified factors are organized in hierarchical or other structures [6]. Researchers [34,84] have argued that multiple goals exist to provide the primary motivating and directing factors for consumer behavior, and these goals are interrelated and organized in hierarchies to facilitate their accomplishment. Only by identifying goal hierarchies can we uncover the theoretical mechanism of OGB user goal-satisfying process and develop an understanding of the reasons behind their behavior and the relative importance of each goal, thus enabling businesses to offer corresponding operational strategies to satisfy goals along these paths. Despite the certainty of the concept of a goal hierarchy in consumer behavior [84], few attempts have been undertaken to examine the underlying mechanisms OGB consumers follow in striving to achieve their goals, although some studies focused on the OGB user motivations but treated motivations in isolation [e.g.,59,113,114]. Consequently, we have little knowledge on not only WHAT OGB consumers want but also WHY they want them and HOW we should offer to meet their goals. As Pervin [83,p.475] states, "attention must be given to how goals become interrelated and organized in some hierarchical fashion" to understand the complex consumer behavior goal systems and develop good plans and strategies to gratify consumer goals.

To address these gaps, we adopted a goal-directed approach with the focus on what OGB users want rather than what technology (OGB website in this case) can offer to uncover the goals consumers pursue in OGB behavior and explore the goal-striving paths that explain the relative importance of each goal and elucidate consumer OGB goal fulfillment behaviors. To achieve these objectives, we employed the means-end chain (MEC) theory, which elicits and places goals within a structure that includes a hierarchical system of interrelated goals [84]. This hierarchical goal structure, which is a summary outcome of the goal attainment paths derived from the analysis, provides richer information and offers more nuanced understandings of consumer goal-striving process. By inspecting the hierarchical goal structure, the different goal attainment paths and the relative importance of the goals can be identified. By uncovering this information, OGB website providers can not only foresee the influences of each goal but also more efficiently allocate the resources when designing the OGB websites and making Internet-based marketing strategies.

This study has the potential to contribute to both emerging OGB literature and general e-commerce literature in a number of ways. First, it contributes to the current knowledge of OGB by using a systematic method to identify a comprehensive and coherent set of multiple-level goals that influence OGB consumer behavior and uncover the relative importance of them, thereby expanding our understanding of the phenomenon of interest. Second, by integrating MEC with the hierarchical goal theory, we identify the cognitive goal attainment paths, which uncovers the theoretical mechanisms through which consumer goals are fulfilled step by step, therefore deepening our understanding of consumer technology use behavior [82]. Third, it demonstrates that using a user-goal oriented approach can be a novel approach for exploring consumer's technology adoption behavior in IS, in particular in e-commerce research, providing a very different but insightful lens for future research on understanding consumer technology adoption behavior.

We begin the paper with an overview of OGB, followed by a description of the goal-directed hierarchical approach and the MEC theory, which provides the theoretical foundation for the study. Next, we describe the sampling and data collection procedure. The hierarchical goal structure derived from data analysis is described in detail and interpreted in the results and discussion sections that follow. Finally, the implications of goal-directed consumer behavior in OGB highlighted by the structure are discussed, including implications from both theory and practice perspectives.

## 2. Theoretical background

### 2.1. OGB

The core concept of OGB is to offer cheap services or products by leveraging the buying power of individual consumers as a group [61]. The Groupon mode business has been introduced and widely adopted in many countries worldwide [69], particularly in China. According to the recent report, the OGB sales in China alone reached 74.75 billion Yuan (11.5 billion US dollars) in 2014, an increase of 108.3% compared to that in 2013 [15]. The users of OGB reached 180.22 million in 2015, an increase of 21.3% compared to that in 2014 in China [15].

The operation of OGB is simple: companies (i.e., products/services suppliers) that aim to promote their products/services apply to OGB website providers; if they agree to cooperate, the OGB website providers announce the campaign via their website, including the actual price, discount rate, discounted price, number of minimum required buyers, transaction due time, and supplier information. Consumers interested in the deals pay in advance via the OGB website and receive the products/services from the supplier at a later date. OGB is different from traditional e-commerce in several respects [56]. First, compared with traditional e-commerce, OGB often offers a limited range of product types [69]. The service products such as restaurant coupons, entertainment-related coupons, and hotel coupons are the top products purchased in OGB [15]. Second, OGB websites typically adopt the discount business model and provide buyers with greater bargaining power so that they can purchase the products/services at a lower price [45]. Third, compared with traditional e-commerce, an OGB transaction has a time limitation for the products/services to be transacted [14]. Finally, the suppliers may set restrictions for consumption, for instance, that service is not available on public holidays.

With the booming of OGB worldwide, researchers started to pay attention to this new e-commerce model and took multiple theoretical perspectives for conceptualizing and explaining the use of OGB. These studies generally fall into three categories. The first category of studies focused on examining technical factors influencing consumer OGB behavior from a theoretical perspective of TAM and the DeLone & McLean IS success model. Factors of perceived ease of use, perceived usefulness, and website quality were confirmed influential in these studies [e.g.,40,61,104,109]. The second category of studies focused on social and psychological factors from a theoretical perspective of trust, theory of reasoned action, TPB, social capital theory, and social comparison. Factors such as trust, commitment, relational embeddedness, and social interaction tie were empirically examined [e.g.,13,14,96,114,115]. The third category emphasized transaction-related factors such as perceived price fairness, participation volume, Internet advertising, prior purchase experience, and satisfaction [e.g.,60,95,118], where theories of transaction cost economics, expectation-confirmation, and social identity were adopted.