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CONSUMER MOTIVATIONS IN ONLINE GROUP BUYING: A MEANS-END CHAIN APPROACH

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Abstract

The Internet enables low-cost transaction-making via a variety of market mechanisms. It also facilitates the exchange of information between buyers and sellers more quickly without the limitations of time and space. Among the many new and innovative online business models, the online group buying model is an especially interesting one. Despite the enormous growth and significant impacts of group buying on Internet business marketplaces, little is known about the consumers’ motivations for participating in online group buying, the hierarchical structure of these motivations, and the hierarchical structure based segmentation.

Derived from the Uses and Gratifications (U&G) theory, this study aims to identify consumers’ motives behind their group buying behaviour, and build a hierarchical model of buying motives based on Means-end Chain (MEC) theory. According to the hierarchical structure of motives identified, the market will then be segmented. The results can provide a valuable insight into motivation theory by understanding the complexities underlying consumers’ motivational process that determines their online group buying behaviour. In addition, using U&G and MEC as theoretical frameworks, this study can not only provide in-depth insights into the major psychological and social drivers of group buying on the Internet, but also the concrete websites attributes which directly correspond with these motivations. By incorporating these lower levels attributes, group buying websites can attract more customers and survive in the competitive e-market.

Keywords: Online Group Buying, Means-end Chain, Uses and Gratifications Theory, Market Segmentation, Hierarchical Framework.
1 RESEARCH BACKGROUND

The Internet enables low-cost transaction-making via a variety of market mechanisms. It also facilitates the exchange of information between buyers and sellers more quickly without the limitations of time and space than we have seen in any market mechanism so far (Kauffman et al. 2010). Among the many new and innovative online business models, the online group buying model is an especially interesting one. The main idea of group buying is that consumers can utilise their collective bargaining power to lower the prices at which they buy products or services they are interested in. At the same time, suppliers will also be able to diminish the cost of recruiting customers (Kauffman et al. 2010). The group buying websites act as the intermediary medium to gather geographically dispersed consumers that have common interests in certain products or services. The objective of which is to get price discounts on the one hand, and contact suppliers to make them sell multiple items in a minimum of time on the other hand. By connecting consumers and suppliers, the group buying websites can get profits and gain reputation. Thus, the goal of online group buying on the Internet is to create a three-win situation among consumers, suppliers, and intermediary group buying websites (Kauffman et al. 2010).

The online group buying model represents tremendous opportunities for marketers and merchants of e-commerce. Reports indicate that the group buying industry revenue in the US reached 1.12 billion dollars in 2010, and increased 138% to reach 2.67 billion dollars in 2011 (Local Offer Network 2011). In China, according to the report published by CNNIC (2012), the number of people who joined online group buying reached 83.27 million by the end of 2012, which increased 28.8% compared to 2011. The revenue of group buying in China reached 21.39 billion Yuan in 2012, which increased 93% compared to 2011. With the growing number of people joining in online group buying, more and more online group buying sites were launched in recent years. According to the investigation by iResearch, there are more than 5000 online group buying sites by the end of 2011 in China alone (iResearch 2011). Thus, it is evident that group buying is seen as an effective form of e-commerce and is a promising field.

2 RATIONAL

Despite the rapid growth of group buying on the Internet and the large number of people participating in online group buying, many group buying websites cannot attract customers and gain profits. In January 2012, the Top 20 group buying websites accounted for 94.9% of the market share in China. Revenue of the Top 10 group buying websites accounted for 92.8% of the overall revenue in the group buying industry (Dataotuan.com 2012). By the end of 2011, there appeared to be 5877 online group buying websites in China, of which 1968 shut down because of the fierce competition (iResearch 2011). Thus, it is imperative for online group buying sites to understand how to become competitive and survive in the e-marketplace. One way to achieve this goal is to better understand customers, as they are the ones who finally buy the goods and services in the e-marketplace (Elliott & Speck 2005). However, due to the newness of online group buying, limited research has been conducted to understand consumers. Specifically, there are three gaps evident in the research.

Firstly, prior reports have indicated that many of the failed group buying sites, especially small ones with limited financial support, just copy the business model used by Groupon – the most successful group buying website - without understanding consumers’ needs (e.g., the attributes of the group buying websites required by consumers and the characteristics of suppliers preferred by consumers) that drive consumer behaviour (iResearch 2011). In shopping literature, there is a long adopted notion that consumers have different needs to gratify and these motivate their consumption behaviour (Childers et al. 2001; O'Brien 2010). Dawson et al. (1990) also proposed that it is the motives that bring consumers into the marketplace. A motivation is defined as a desire, need, or process that influences an individual’s behaviour (Smith et al. 1982). According to Jun and Cai (2001), understanding customers’ motivations has been a key issue for business success, especially in the e-marketplace, where customers can easily switch to other providers. From a practical perspective, if only cybermarketers know how consumers are motivated, then they can then adjust their marketing
strategies to convert potential customers to real ones and retain them. In addition, understanding these needs or motives is particularly relevant for the increasingly competitive online group buying websites, while they compete with each other in the online group buying market as well as with online companies and bricks-and-mortar stores. As previous studies have shown, understanding consumer’s motivation behind shopping behaviour on the Internet is important for e-business success (Delafrooz et al. 2009).

Secondly, the famous online group buying websites like Lashou.com, Nuomi.com, and Jvmei.com have spent more than 100 billion Yuan on promotion strategies (e.g., advertisements, new service attributes on the websites) in 2011 (iResearch 2011). These strategies have increased the costs but not the revenues. Reports have indicated that the profit margins of most of the group buying sites decreased from 20% to less than 10% (Wang 2011). Thus, how to allocate the limited resources to decrease the costs, becomes extremely important. This can only be achieved through understanding the most important needs or motives consumers emphasise, and take strategies to focus on the most important ones. Then, there is a need to understand consumers’ needs fulfilment path to explore the motives that have strong driving powers in the group buying context. Extant literature in e-commerce, which focuses on the buyers’ motivations, has ignored the hierarchical structure of human motivations (Chen & Wu 2010; Liao et al. 2011). Need theories and motivation theories have long emphasised the hierarchical structure nature of human needs and motives that drive human behaviour (Maslow 1970; Vallerand & Ratelle 2002). These theories view motivational hierarchies in terms of developmental prerequisites, where an individual’s fundamental basic needs must be satisfied first before less essential higher-order needs become activated (Maslow 1970). By ignoring the hierarchical structural path, group buying website may lack in-depth understanding of consumers’ needs fulfilment process (Orsingher et al. 2011) and result in inefficient allocation of resources. In addition, looking at motivations together the same time may seem to be equally important and sometimes overriding each other. The development of a hierarchical motive model can help group buying websites understand which motives are more essential and emphasised as more important by consumers, thereby helping them make strategies to focus on the most important ones effectively. Such a hierarchical model can help marketer in group buying industry know exactly HOW they should offer WHAT they should offer to meet consumers’ needs in order to truly gratify them, in order to achieve high service quality.

Finally, there has been limited academic focus on investigating the existence of a discernible typology for consumers in terms of their motives for participating in online group buying. Effective online group buying marketing and management require an understanding of the existing market segments. So far, demographic and socio-economic characteristics have mainly been used as the basis of segmentation. Marketers have increasingly pointed out that the most effective predictor of purchase behaviour should be the behaviour itself, including benefits and motivations (John & Gyimothy 2002). In this regard, buyers’ motivation-based segments are valuable for marketers in online group buying industry. Traditional motivation variable based segmentation studies are mostly item-based, which bear some risks (Botschen et al. 1999); (1) several motivations may not be relevant for the respondents, but due to the fact that all of them are presented, they are forced to evaluate them all; (2) respondents tend to rate any motivations sought relatively high on the corresponding rating scale, even those which are not relevant; and (3) depending on the amount of items, respondents tend to loose concentration. Reynolds and Olson (2001) argue that using the hierarchical motive chain to segment consumers offers better prospects from both theoretical and practical perspectives. Theoretically, chain-based segmentation classifies consumers more accurately, based on a causal linkage to consumer behaviour, and identifies potential market segments that are normally overlooked by other traditional approaches (Sun 2007). Practically, by using chains to segment market, the hierarchical structure motives chain for each consumer group can be applied as a tool for developing an advertising strategy. It can provide actionable information for organisational operation. Thus, a motive chain-based segmentation study in online group buying context is valuable and necessary.

3 RESEARCH AIMS AND QUESTIONS

Based on the above discussion, the aim of this research is
To provide a comprehensive understanding of buyers’ hierarchical purchase motivations and segment market based on motivation structures in the online group buying industry.

To achieve the goals, four research questions are formulated to seek answers in this research project:

1. What factors motivate consumers to participate in online group buying?
2. What are the inter-relationships among these motivation factors?
3. Are there meaningful hierarchical motive structure-based market segments?
4. What are the differences in the hierarchical motive model in different market segments?

4 THEORETICAL FOUNDATION

To answer these four questions, two theories are adopted in this study. First, the Uses and Gratifications (U&G) theory will be introduced to guide the understanding of the content of buyers’ motivations from social and psychological perspectives. Then, the means-end chain (MEC) theory will be outlined, which would provide theoretical foundations for understanding the structure of these motivations.

4.1 Uses and Gratifications theory

Derived from mass communication literature, the U&G approach provides a user-centered perspective on the relationship between users and technology. The U&G perspective focuses on explaining the social and psychological motives that explains why people use technologies (Katz et al. 1974; Rubin 1994). One basic assumption of this approach is that technology users are goal-directed in their behaviour, and the personal use of the technology is an active choice made to satisfy needs (Katz et al. 1974). The second assumption of this approach is that technology users are aware of their needs and select the technology to satisfy their needs.

The U&G approach has been frequently applied to mass media such as newspapers, radio, television, VCR, cable TV (Ruggiero 2000). The emergence of online technologies has expanded the applicability of the uses and gratifications approach, because the higher level of interactivity of these technologies requires audience members to become active users (Raacke & Bonds-Raacke 2008). The different features of these Internet-based technologies indicate that users are more aware of the needs they are attempting to gratify. Numerous studies have applied U&G approach to Internet technologies and Internet-based applications. For example, Chang et al. (2006) identified five motivation factors for the online game adoption: action, companionship, passing time, solitude, and substitute for friends. Farquhar and Meeds (2007) established five motives for online fantasy sports users, including entertainment, escape, arousal, social interaction, and surveillance. Chung and Kim (2008) found four gratifications of cancer patients using blogs: prevention and care, problem-solving, emotion management, and information sharing. Collectively, the U&G perspective has been very useful in understanding motivations and needs for using the Internet-based applications.

Group buying on the Internet requires one to come face-to-face with technology. Studies exploring online group buying behaviour have found that buyers are active Internet technology users who are optimistic with technology (Liao et al. 2011). The present study incorporates the U&G assumptions. First, researchers have indicated that consumers in the e-market place are goal-directed and motivated for a variety of reasons (Chiang & Dholakia 2003), as they have choices to conduct any kind of shopping activity to satisfy their needs. Second, online group buying is a new and innovative kind of online shopping behaviour, which requires consumers to use Internet-based technology when purchasing and paying online. Thus, in this more complex environment, users are more aware of the needs they are attempting to gratify through their buying behaviour, compared to traditional shopping behaviour. The U&G theory can guide the understanding of the content of motivations or needs from social and psychological perspectives and it has been successfully applied in the context of consumers’ technology use in the market place, therefore it is appropriate to adopt this theory to guide the exploration of answers to research question 1.
RQ1: What factors motivate consumers to participate in online group buying?

4.2 Means-End Chain Theory

The means-end chain (MEC) theory was developed by Gutman (1982) to understand how product or service attributes facilitate consumers’ achievement of values or goals. Specifically, this theory focuses on understanding the consumer decision-making process by connecting the product attributes, the consequences of using a product, and the personal goals or values achieved by use of that product (Reynolds et al. 1995).

The common MEC framework consists of three elements, namely, attributes, consequences, and values (Olson & Reynolds 2001). Attributes represent the observable or perceived characteristics of a product or service. Consequences reflect the perceived benefits associated with specific attributes. The consequences can be functional, which includes direct tangible outcomes derived from consumption. It can also be psychosocial, which involves intangible, personal and less direct outcomes (Claeys et al. 1995). Satisfactions of functional and psychosocial consequences lead to realisation of personal values. Values can be considered as cognitive elements that trigger motivations for behaviour (Vinson et al. 1977). In summary, products have attributes, and the consequences of which are sought by consumers to satisfy the core values by which they are driven.

The major assumption of this theory is that consumers are likely to select products that are more relevant for achieving their personal goals or values. In other words, people do not use products for the sake of the product, but for the positive consequences (benefits) that their consumption can provide. This is, in turn, important for the fulfillment of their personal goals (Costa et al. 2004). Hence, using group buying websites for shopping should be seen as a means of fulfilling their needs through the attributes of group buying websites, thereby facilitating the realisation of their values or goals. The second assumption of the MEC theory is that consumers make voluntary and conscious choices between alternative products (Gutman 1982). For consumers’ shopping activities, there is a free choice of the different shopping patterns, such as normal online shopping, traditional offline shopping, catalogue shopping, and online auction. The MEC holds very similar assumptions with U&G about consumer behaviour. Because of this high theoretical and practical relevance, it seems logical to integrate both theoretical perspectives toward understanding the motivations for consumers’ group buying behaviours.

The MEC approach explicitly links consumers’ needs and product characteristics, and reveals their motivations in purchasing a product or service. It has been successfully applied to investigate purchasing motives for organic food (Zanoli & Naspetti 2002), buying motives for imported fruit among Chinese consumers (Sun & Collins 2007), consumption motivations for olive oil as opposed to other fats and oils (Santosa & Guinard 2011), and the hierarchical nature of shopping motivation (Wagner 2007). In these studies, the linked elements which comprise the MECs are regarded as the consumers’ underlying motivations. This view has long been supported by prior research. For instance, Reynolds and Gutman (2001) pointed out that an understanding of the structure of attributes, consequences, and values that are depicted in MECs, facilitates a “motivational perspective” because it uncovers the underlying reasons why certain attributes or expected consequences are desired. Cohen and Warlop (2001) also define the hierarchical levels inherent in a MEC as “motivational layers”. Thus, by uncovering the way the attributes, consequences, and values are linked in online group buying process of consumers, MEC can provide insights into understanding the hierarchical structure of motives.

The MEC theory can guide the understanding of the hierarchical structure of motivations. In addition, the hierarchical structure of motivations obtained from data analysis can serve as a basis for marketing segmentation. It is therefore appropriate to adopt this theory to explore answers for research question 2, 3, and 4.

RQ2: What are the inter-relationships among these motivation factors?
RQ3: Are there meaningful hierarchical motive structure-based market segments?
RQ4: What are the differences in the hierarchical motive model in different market segments?
5 RESEARCH METHODOLOGY

To answer the research questions, a two-step interview and a three-step means-end chain analysis method recommended in MEC theory (Reynolds & Gutman, 1988) are adopted. Segmentation analysis is also conducted based on the HVM obtained from the three-step data analysis. The data collection and data analysis procedures are described specifically in the following sections.

5.1 Sampling Plan and Data Collection

The data were collected in December 2012 and January 2013. The research subjects are those who have online group buying experience in China. To recruit the subjects for interviews, announcements were posted on Bulletin Board System (BBS) of a few famous group buying websites. The respondents located in Shanghai, China were contacted for the interviews. In addition, other interview respondents were recruited through snowball sampling, where initial respondents provided names and contact information for others who have online group buying experience. Shanghai is selected for its high percentages of consumers using online group buying. According to an investigation taken by CNNIC (2011), Shanghai was ranked the first among cities in China in terms of percentages of people using online group buying in 2011. There are many MEC studies that have sample sizes of 30. Reynolds and Gutman (1988) recognise that a pool of 50-60 subjects provides the opportunity to address the research questions by evaluating several different solutions during the generation of the hierarchical motive model. Thus, a total of 55 participants in this study meet the criteria. Overall, each interview lasted approximately 30 to 50 minutes. Before the interview, participants were asked to fill out a survey on their basic demographic information, then on online group buying experience.

5.2 Interview Technique - Laddering Technique

Laddering is an interview technique used to identify Means-end Chains. The purpose is to reveal people’s motives for choosing a particular product or service (Russell et al. 2004). The laddering technique allows researchers to dig below consumer’s surface knowledge about the perceived product or service attributes and consequences, and uncover their underlying beliefs and values that motivate their behaviour (Peter & Olson 2005). Laddering can take two forms: hard laddering or soft laddering. Hard laddering assumes a hierarchical structure and therefore produces a series of straightforward ladders one by one. Soft laddering allows people to go back and forth within the hierarchy with as few constraints as possible. Semi-structured, open-ended, in-depth interview for soft laddering allows the researcher control over the line of questioning, while also providing participants with enough reign for rich descriptions (Costa et al. 2004). Prior studies have found that although hard laddering and soft laddering approaches can produce comparable results, it is the soft laddering approach that generates more means-end chains of increased abstraction level, and thus more appropriate to identify more complex underlying motivations of consumption decision-making (Botschen et al. 1999; Grunert & Grunert 1995). In addition, soft laddering is usually employed in the case of studies with few subjects and more exploratory research. In view of the exploratory nature of this study, the soft laddering was used. The interview consists of two steps: eliciting relevant attributes and getting the ladders (Reynolds et al. 1995).

Step 1: Eliciting relevant attributes

The laddering interview started by eliciting attributes of products or service, which were used as the bases for eliciting the respondents’ self-relevant consequences and values (Zanoli & Naspetti 2002). There are five specific methods for eliciting attributes for the purpose of means-end chain analysis: choose from a list of attributes; free elicitation; direct elicitation; triadic sorting; and ranking. It is suggested that the interview outline should include at least two distinct methods of eliciting attributes to make sure no key attributes are overlooked (Reynolds & Gutman 1988). In this study, the ranking and direct elicitation methods were adopted. In the ranking method, respondents were asked to rank the listed online group buying websites, and then asked to explain why they preferred the first to the second, the second to the third, and so on. In the direct elicitation method, the respondent was asked
to come up with the attributes most important to him/her when choosing the online group buying websites.

**Step 2: Getting the ladders**

In this step, the consequences, values, and linkages among attributes, consequence, and values were established by using probing questions such as “why is this important to you?” First, the list of attributes established in the elicitation stage was presented, and the respondent was asked to choose the attributes of most importance to them to adopt online group buying. He/she was then asked, “why is that important to you?” The laddering process continued with repeated probes using this question, “why is that important to you?” after each response. When the respondent struggled to articulate an answer, the negative laddering was used by asking what he/she thinks the outcome would be if the attribute or consequence was not delivered. The probing stopped when respondent insisted that he/she did not know the answer.

**5.3 Data Analysis**

**5.3.1 Means-end Chain Analysis**

The data collected from interview can be analysed using three steps suggested by Reynolds et al. (1995).

**Step 1: Analysing content**

Content analysis serves to reduce the raw data in order to facilitate interpretation. In this step, the entire set of ladders across respondents will be recorded in a separate coding form. Then all the responses will be classified into attributes (A), consequences (C), and values (V) levels and broken down into individual summary codes.

**Step 2: Constructing an implication matrix**

The implication matrix is used to summarise the connections between each attribute, consequence, and value. It displays the number of times each element leads to other elements. Two types of relations, direct and indirect, are represented in the implication matrix. For instance, the ladder A (attribute) to C1 (consequence 1) to C2 (consequence 2) to V (value) represents relations between adjacent elements. The A to C1 relations is direct, as is C1 to C2, and C2 to V. The indirect relations are A to C2, C1 to V, and A to V. Elements with a high incidence of indirect relations should not be ignored, so both types of relations should be considered in determining the importance of path (Reynolds & Gutman 1988).

**Step 3: Constructing an aggregate hierarchical value map (HVM)**

To construct a HVM from the implication matrix, one begins by considering adjacent relations, that is, if A→B and B→C and C→D, then a chain A-B-C-D is formed (Reynolds & Gutman 1988). A HVM is gradually built up by connecting all the chains by considering the linkages in the implication matrix. Usually, the HVM does not display all the elements and linkages in the implication matrix. The decision regarding what elements and links should be represented in a HVM, is usually the result of a trade-off between retaining enough information from the interviews and producing a simple, clear and sufficient HVM (Costa et al. 2004). Thus, only the relations value above the cut-off level will be considered. To select an appropriate cut-off point, Reynolds and Gutman (2001) recommend applying multiple cut-off points and evaluating the respective solutions in terms of the level of information and interpretability provided. They suggest that a cut-off point between 3 and 5 is usually appropriate for a sample of 50-60 subjects.

**5.3.2 Market Segmentation**

The “Hierarchical Value Map” (HVM) provides graphical representations of the “perceptual marketplace”. Each pathway on the map represents a dominant perceptual orientation among consumers, including the value level motivation of the consumer, as well as the personal
interpretations of how the product/service attributes fit with the individual consumer’s self-goal and values (Reynolds & Gutman 2001). The MEC has widely been used in segmentation studies (Botschen et al. 1999; Reynolds & Gutman 2001). For example, using MEC, Barczak et al. (1997) identified four motivational clusters that differ significantly in their attitudinal and behavioural responses to technological innovations in banking service systems. Aurifeille and Valette-Florence (1995) proposed a clustering method to identify the relative dominance of various MECs, based directly on the clusters of chains rather than the clustering of items, as used in previous approaches did. Sun (2007) used MEC to segment the Beijing mobile phone market. Based on the HVM, he identified nine dominant MEC perceptual orientations, indicating nine unique market segments with distinct cognitive structures.

An analysis of pathways in the HVM from bottom to top can reveal potential market segments. The dominant pathways can be identified via analysing the clustering of linkages between “attributes-value” pair as suggested by Reynolds and Gutman (1988). Each dominant pathway potentially indicates a consumer segment. In order to define the market size and consumer profile of these segments, each interviewee will be ascribed to these segments via an analysis of value types of the MECs generated by him/her.

6 IMPLICATIONS AND CONCLUSIONS

This study has implications from both theoretical and practical perspectives.

Theoretically, this study explores the new phenomenon of online group buying from the customer perspective. It then extends extant studies in the group buying by focusing on surface of this phenomenon. The combination of U&G and MEC as theoretical perspectives, and laddering as a data collection method, is an effective way of understanding people’s higher level motivations in using Internet-based technologies. Through laddering interview technique, the consumers’ “root reasons” for participating in online group buying can be revealed. Future studies could use U&G and MEC as conceptual frameworks for understanding people’s motivations in using information systems.

From a practical perspective, as online group buying is new in the field of e-commerce, this study can help marketers understand consumers’ needs so as to recognise the potential for the trend of development of changes according to consumer requirements to become competitive. By using MEC and laddering technique, the results can provide a cognitive structure of consumers’ decision process. This is to clearly articulate how consumers utilise the group buying websites attributes or service characteristics to get the benefits to satisfy their needs, then finally achieve the higher order personal values. These results can help group buying websites and suppliers understand the true benefits which consumers are seeking, in order to provide better service and succeed in the group buying industry. By segmenting consumers into different clusters, marketers can make appropriate strategies to tailor-fit services to different segments of consumers, based on their different motives.
REFERENCES


