

Information-oriented Online Shopping Behavior in Electronic Commerce Environment

Chun-An Chen

Department of Information Management, Nan-Ya Institute of Technology, Chung-Li, Taiwan

Email: cachen@nanya.edu.tw

Abstract—This study attempts to identify the information-oriented shopping behavior of online consumers in electronic commerce environment. Rich information revealed on the Internet leads to the change of consumers' purchase decision-making processes. Findings from the consumer focus group interviews support that consumers do have tendency to perform search online before committing to any purchases. Also, it suggests a two-phased information search and evaluation model. In the proposed model, online shoppers tend to place more focus on different marketing mix elements in each phase. Most online shoppers evaluate the product in the first phase and compare prices in the second. While the decision of sales channel selection is postponed, both traditional and electronic alternatives are jointly evaluated in retail markets. Managerial implications from this study contribute insight about modern day consumers and retailing markets.

Index Terms—electronic commerce, consumer behavior, decision process, online retailing

I. INTRODUCTION

In electronic commerce environment, business-to-customer electronic commerce had developed rapidly for recent years. Researchers in the electronic commerce field constantly tried to gain an improved insight into consumer behavior in cyberspace. Along with the development of E-retailing, researchers continue to explain online shopping behavior from different perspectives [1]. Many of their studies have posited new emergent factors or assumptions which are based on the traditional models of consumer behavior, and examined under the Internet context [2]. However, several researchers proposed that consumers' online shopping behavior may be fundamentally different from the traditional shopping behavior [3]. According to these arguments, the purpose of this exploratory research is to clarify the decision process of online consumers' purchasing behavior from the information point of view.

There absolutely are considerable differences between the traditional retail stores and the online stores [4]. One of the major differences between the two channels is the availability and transparency of information over the Internet. This phenomenon consequently improves and accelerates consumers' information search behavior during their purchase-decision process, and reduces the traditional information asymmetry between the buyers

and the sellers [5]. Thanks to the availability of the Internet, almost everyone can acquire information on manufacturers marketing elements mix (4Ps) prior to making a purchase. As a result, the consumers, with the supports of online information and knowledge, are on a more level playing field when dealing with the retailers.

However, little is known about how consumers actually incorporate such information in their shopping decisions and if levels of information disclosure affect consumers' decisions differently [6]. Marketers still do not have a good grip of online consumer's real need, and consequently, their purchasing behavior. This is true even for those who have already been in the electronic market [7;8]. Therefore, the understandings of Internet-assisted purchase activities performed by up-to-date consumers have become the emergent challenge for practitioners and academics [9].

There have already been considerable researches and publications focused on this topic. Unfortunately, almost all of them have ignored the fundamental change in consumer behavior; instead paying attention directly to discussion of online shops, shoppers, or influencing factors. Furthermore, most of the previous researches neglected online consumers' diverse concerns with respect to different stages of the purchase decision-making process. Many researchers subjectively separated online consumers from traditional offline consumers. This always results in confusion between "online behavior" and "online purchase".

Trying to fill the gap of understandings about consumers' behavior between academic research and the real marketplace, this study will: first, clarify the consumer purchase decision-making process as a result of increasing online information available; next, propose a modified model of the consumer online purchase decision making process; then, examine new challenges with regards to price sensitivity, level of involvement, loyalty to brand and channel, information asymmetry, and marketing mix strategies; finally, identify implications and suggestions to practitioners and researchers of marketing or electronic commerce fields.

II. LITERATURE REVIEW

Two main categories of literatures are of particular interest in this study. One is focused on consumer behavior in the marketing field, and the other is focused

on the e-commerce management issues. An extensive literature search has been successfully performed to get a better understanding of the Internet-enabled evolution of consumers and markets.

In the marketing field, consumer behavioral science has played a key role in attracting marketers in the past. However, it is a sophisticated science affected by a variety of uncontrollable factors such as demographic, social, economic, cultural, psychological, and personal characteristics [10;11]. Researchers have constantly attempted to explain or predict consumers' purchase decision making process by various proposed models. Some of their findings have been successfully applied in the real world [12].

Trying to address the relationship between target market and consumers, marketers consider the "marketing mix" - product, price, place, and promotion (4Ps) to draw up the marketing strategy and corresponding marketing plans [13;14]. It is worthy to mention that while the manufacturers try to attract their consumers by the combinations of the 4Ps, consumers, on the other hand, are searching for related information about the 4Ps to support their purchase.

The most popular proposed models of consumer purchasing decision-making process is the EBM model [15;16]. It was abstracted from the EKB model [17]. For the context of this study, the EBM model will provide the basis to explore and analyze consumers' complicated behavior on decision-making. Per the EBM model, the consumer purchasing decision-making process can be divided into five stages: need recognition, information search, alternative evaluation, purchase, and after purchase evaluation. This is illustrated in Fig. 1. For the purposes of this study, the focus will be on the "information search" and "alternative evaluation" stages as these two stages are affected by the Internet-related factors.

Some researches have done in investigating the issues related to consumer's online purchase and diverted into two main areas: first, the intentions and factors affecting consumers' adoption to online shopping; second, online shoppers' behavior and decision process. For research works on the intentions and factors of online purchasing, Gupta et al. examined the relationship between purchase decisions and channel-switching intentions [7]. Smith and Brynjolfsson found that Internet retailers' brand still matters after analyzing the online consumers' decision-making process [18]. Constantinides analyzed the factors affecting the online consumer's behavior [9]. Meanwhile, research works on online shoppers' behavior and decision process include Senecal et al. which investigated the relationship between online shoppers' decision-making process and the complexity of their online shopping behavior [19]. Teo and Yeong focused on the consumer decision process in the context of the online shopping environment in Singapore and discussed the perceived benefits and risks of consumer's deal evaluation [12]. All these studies have applied traditional EBM model as the basis of analysis without taking online environment into consideration.

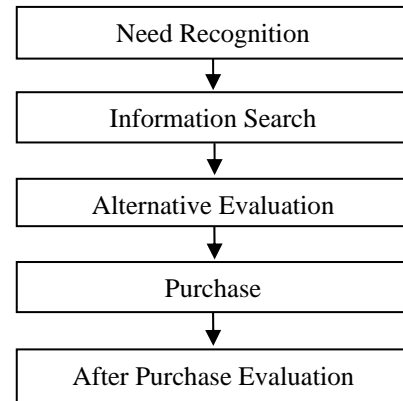


Figure 1. EBM purchase decision model [15]

Indeed, identifying the online behavior of modern consumers has become rather important as Business-to-Customer (B2C) e-Commerce gradually becomes a popular channel in consumers choices [20]. More and more consumers embrace alternative channels such as the Internet, for shopping; thus, consumer marketers are forced to some extent to accept the multi-channel shopping trend [21]. Under the multi-channel marketing environment, although the consumers may conduct extensive online search and evaluation, it does not directly result in an online purchase. Consumers' selection between traditional or electronic channel seems to be very dynamic and varies with each purchase. No matter which type of shopper they are, consumers seem to share similar decision-making process here. First, they will try to gather information as comprehensive as possible and then evaluate what to purchase. This process may take some time. Usually, the details of purchase such as product types, purchase quantity, and channel selection will be determined at the very last moment prior to the actual purchase. Therefore, the distinction between online-consumers and traditional consumers is rather vague, and the payment process also becomes less meaningful.

Most of the previous research in this field subjectively segmented modern market into two independent sections: traditional and online. They proceeded to study a variety of related issues on the premise that all the buyers interacting with sellers electronically among their purchase processes should be classified as online shoppers, no matter where they really complete the deals. In contrast to the way of segmentation, researchers contradictorily defined "online transactions" as all the deals with purchase and payment completed online, and "online shoppers" were all the buyers complete their transaction via electronic channels.

Consider those people who engaged in searching for information and evaluating products/sellers on the Internet but choose to make their purchase at a traditional brick-and-mortar stores, or those retailers who successfully participated electronic marketplace but require the buyers to make the actual purchase in their physical shops. This study argue this with some misgivings: a majority of recognized "online shoppers" discussed in former researches in fact complete their deal

“off-line”, and hence should be excluded from “online transactions”, regardless how much time they have spent online in their purchase decision-making process.

In fact if researchers and practitioners continue to recognize online consumers by whether the physical or virtual stores where deals made, it is hard to correctly describe the real situation of retailing market and consumer behavior. Similarly, if one defines that all online transactions as any online interaction, then all the statistics regarding electronic commerce sales would be miscalculated. To overcome this fundamental miscalculation, we need to have a better understanding of consumers’ purchase patterns following the growing popularity of the Internet. However, a limited number of previous studies emphasized the consumers’ behavioral characteristics in purchase decision-making process. As a result, the majority of discussions on online marketing tend to be misunderstood due to insufficient theoretical background knowledge on modern consumer behavior.

By examining the situation in the real world, one can observe that most consumers tend to interact with sellers by incorporating the online activities at various stages of the purchase decision-making process. Typically, the consumers themselves do not know whether they will choose to make their purchase online or off-line until the final purchase decision is actually made. Empirically and theoretically, the final choice of channel seems to be affected by perceived risks and benefits. Significant benefits and risk fall into various categories such as product price, delivery time, quality of product, convenience, service level, store’s reputation, trust to retailers, and details of promotion.

In summary, the Internet has already become a powerful tool for people to search information, evaluate alternatives, and make decisions before making a purchase. Even though some behavioral adjustments occurred, consumers did not completely turn away from the traditional purchasing behaviors. This study, based on the well accepted EBM model, attempts to clarify and reform consumer decision process under the influence of information searches on the Internet, and further bringing up some helpful suggestions to the marketers.

III. FOCUS GROUP INTERVIEWS

In this study, the authors applied the focus group method to investigate the evolution of consumers’ purchasing behavior and decision-making process as a result of the growing popularity of the Internet, with an emphasis on the stages of information search and evaluation of the EBM model. The focus group is a research method generally utilized by researchers and practitioners to perform qualitative analysis or exploratory study in the fields of marketing, education, management, decision-making, and other social science issues. The results obtained from the focus group studies are particularly effective in supplying information about how people think, feel, or act regarding a specific topic [22]. The function of the group may be to suggest ideas, to clarify potential options, to react to ideas, to

recommend a course of action, to make a decision, to plan, or to evaluate [23].

The authors screened over 1,000 evening school university students, and selected a sample of twenty-four participants. The selection criterions included the ability to utilize Internet resources, purchasing power, communication skill, and availability. They all have stable income from their full-time or part-time jobs, and they can make purchase decision independently. All participants were arranged into three subgroups randomly. Each group consisted of eight participants. Three sessions of focus group interviews were conducted, each with one group. The profiles of participants are shown in Table I.

TABLE I.
CHARACTERISTIC PROFILE OF FOCUS GROUP

	Proportion
<i>Gender</i>	
Male	58.3 %
Female	41.7 %
<i>Age</i>	
21-23	41.7 %
24-26	50.0 %
Over 26	8.3 %
<i>Marital status</i>	
Single	79.2 %
Married	20.8 %
<i>Income(per month, US\$)</i>	
Under 600	29.2 %
600-1,200	58.3 %
Over 1,200	12.5 %

The researchers of this study served as moderators. A research assistant was present at each focus group and served the role of recording secretary. Participants in each session were encouraged to give their experiences and opinions on each subject objectively. Open discussions on the subjects were also welcome. The moderator’s job was to encourage participation and to stimulate discussions. He was also responsible for time control. All the discussions in the three sessions were digitally recorded and subsequently compiled into archives.

The subjects discussed in the interviews were organized in advance to prevent the logical mistakes on follow-up qualitative analysis. Discussions covered the following main topics:

- the convenience of using Internet resources,
- tendency to perform information search and evaluation online before purchase,
- intentions of their on-line behavior and experienced benefits,
- detailed procedures of the search and evaluation stages, and
- factors influencing their channel selections.

As in most focus group studies, during the open discussion, the participants offered additional viewpoints beyond the above investigation scheme/scope. All of these valuable contributions from group interviews not only provided additional insights into consumers’ online behavioral characteristics before purchase, but also inspired the modification of the consumer decision-making model. Details will be introduced later in this paper.

IV. RESEARCH RESULTS

A. *Shopping Behavior under the EC Environment*

After analyzing the data from the investigations, a qualitative and quantitative understanding of the consumer's online behavior to search for information and evaluate alternatives before purchase was obtained. The most significant results are as follows:

1) *The utilization of the internet resources*

About half (45.8%) of the participants responded that they were able to utilize Internet resources both in office and at home whenever they needed. In contrast, only one-fifth (20.8%) of the samples interviewed claimed their inconvenience to use the Internet resources. The proportion may tend to be higher than average because the MIS background of the samples selected. However, for the purpose of exploring online behavior of consumers, these samples can exactly stand for the future online shoppers.

2) *Information search and evaluation online*

The level of involvement with respect to different types of products was an important factor influencing their intentions to search information. For products with higher level of involvement (e.g. electronic devices), 87.5% of the participants incorporated online information search and evaluation stages into their decision process. This significant proportion indicates the behavior to search and evaluate online is likely to be more popular than one might assume. Although it could probably be biased by the demographics of respondents, but it is clear that the consumers' habits have changed.

Additionally, while performing online search activities, the participants' efforts to support their purchase decision can be conceptually divided into two phases. According to the responses, they rigorously consider brand, specifications, and functions of products based on their needs in the first phase. Price information appears to be of minor importance in this phase. Consumers only roughly refer to it based on their budgets. Moreover, information about channel and promotion are not under consideration in this phase.

At the conclusion of the first phase, the participants have narrowed down to a select few candidates. The list could probably only contain one specific item, or comprise of a small number of candidates. Over half of the participants (58.3%) indicated their preference for online information about users' experiences and appraisals of the selected brands/ products.

In the second phase, majority of the participants are no longer interested in any additional product-related information. The emphases of their search and evaluation, according to the statements from participants, shift to price comparison of the targeted candidates. Furthermore, the participants tend to incorporate reliability attributes of retailers into their evaluation work, such as reputation, terms of returns, level of after-sale service, etc. Finally, they examine information about promotions provided by retailers to form their final decision of purchase, including subsidiary channel selection. Their final deals

could probably be completed online and classified into "online transactions". However, some consumers decided to select the off-line channel at last and therefore are not qualified to be considered as online transactions. The evidences from interviews once again reinforce the viewpoint discussed earlier.

With regards to channel selection, 66.7% of the participants agree that price is the most important concern in the second phase. Secondly, they focus on the reliability attributes of the retailers. The results are likely to indicate that price competition has become increasingly fierce in the retailing market.

Additionally, 70.8% of the participants do not one channel over another. However, the perceived benefits that may induce them to shop online come from lower price (75%) and convenience (54.2%). Comparatively, the perceived risks that inhibit their online shopping behavior are from product inferiority (66.7%), service deficiency (50%), and transaction insecurity (33.3%), in that order. The drivers and inhibitors to adopt electronic channels substantially support the results from Ramus & Nielsen's study [24]. However, this study extends the notion to remind retailers who want to attract online buyers that they should work on improving their quality of products, services, and securities in order to establish consumers' trust and, consequently, loyalty.

3) *Online information processing / experienced benefits*

More than half (62.5%) of the participants would expect to perform on line research and evaluation to gain more understandings about various products in order to target their needs. Additionally, 58.3 % of the participants would also perform price comparisons for specific product to avoid overpaying. It is interesting to note that these two common intentions of consumers stimulate the first and second phase behavior of information search, respectively. This validation also partially supports the inference about a two-phased information search and evaluation behavior.

With regard to experienced benefits of information search and evaluation from the Internet, 70.8% of the participants stated that for a particular product, they received a better deal than their friends, on the same item due to online evaluations prior to making the purchase. Half (50%) of the participants expressed that they were satisfied with their purchase after having performed online search and evaluation.

However, there is a warning message for scholars and marketers: almost half of the participants (45.8%) reported that they experienced quality diminution, both from product and service, in the trade-off to economic benefit. This means many retailers, while facing heavy price competition in the marketplace and losing the ability to differentiate on the basis of price, may adopt some improper cost leadership strategies such as depressing the purchasing cost, quality standard, or service level. Obviously, consumers' trust of the retailer will be seriously hurt by such dissatisfaction with their purchases. In fact, it is a long-term loss as a result of a short-term gain. To summarize the above discussions, key quantitative statistics are listed in Table II.

TABLE II.
QUANTITATIVE RESULTS OF FOCUS GROUP INTERVIEW

Items	Proportion
Internet resource is always available whenever they need	45.8 %
Information search and evaluation on the Internet before purchase (for highly involved products)	87.5 %
Refer to online information about former users' experiences and appraisals of the selected brands and products	58.3 %
Channel selection primarily affected by price	66.7 %
Without preference on either traditional channel or online one	70.8 %
Choose online shops for the perceived benefits from:	
- lower price	75.0 %
- convenience concerns (less time spent)	54.2 %
Reject online stores for the perceived risks from:	
- product inferiority	66.7 %
- service deficiency	50.0 %
- transaction insecurity	33.3 %
Intention of online information search before purchase:	
- for understanding product's characteristics	62.5 %
- for performing price comparison	58.3 %
Experienced benefit of information search online is:	
- economic reward due to lower price	70.8 %
- satisfaction from finding the right product	50.0 %
Perception about inferior product or serve accompanied by lower-price deal	45.8 %

It is clear that the widespread use of the Internet has changed a majority of consumers' thoughts and behaviors. From the perspective of the retailers, stiff price competition is inevitable for them. For this reason, more attentions should be paid to challenges that marketers would face in attracting and retaining loyal customers by delivering real value to them [5].

B. Modified Model of Consumer Decision Process

Due to the increased transparency of marketing mix information, buyers can search efficiently and cost effectively over the Internet to obtain information they want anytime. Based on the quantitative and qualitative results presented above, it is clear that information obtained from the Internet plays an important role in a consumer's decision process. Additionally, this study has tried to clarify the different marketing mix elements emphasized by the consumers at different stages of their search and evaluation.

According to the findings above, the purchase decision of modern consumers basically follows the conventional process. However, some modifications arise in the stages of information search and alternatives evaluation. For the purpose of showing this critical change, the part of the consumers' efforts is conceptually divided into two separate but interrelated phases based on the EBM model and the findings of the investigations. Additionally, consumers' marketing mix (4Ps) information emphasis at each phase is listed in Fig. 2. From this clarification of the consumers' decision process, marketers can effectively put their efforts on the appropriate key selling points given the consumers' decision process stage. Fig. 2 illustrates the modified model of consumer decision process and the corresponding focus on marketing mix proposed in this study.

In the modified model, the focus of the first phase is the search and evaluation performed by consumers on product-related information, such as brand, specification, function, and appraisal. Consumers rigorously search for and evaluate products, while only generally referring to price to ensure the products are within their budgets. However, little emphasis is placed on information about channel and promotion in the first phase.

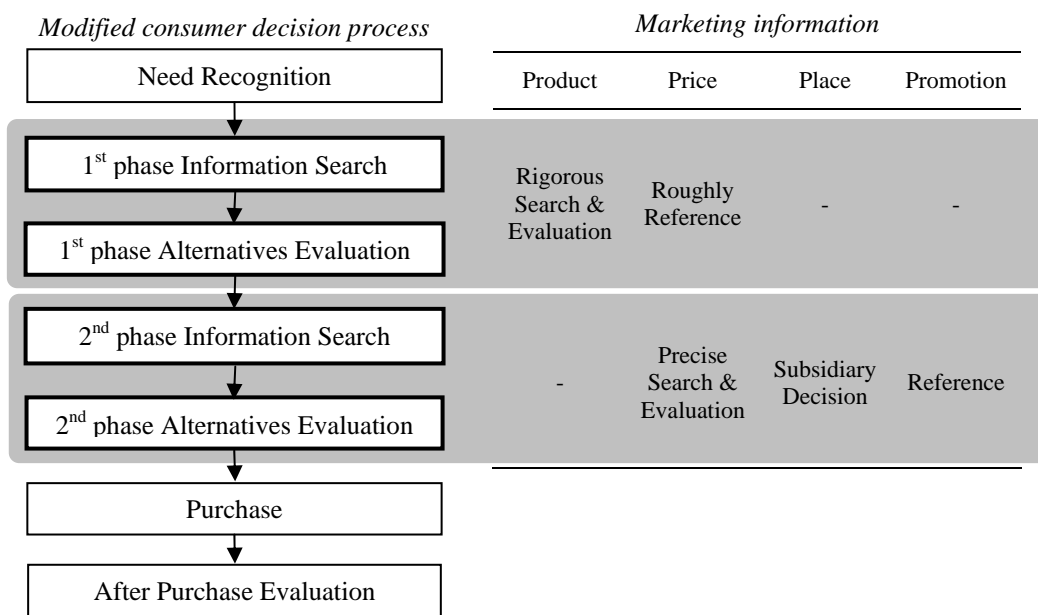


Figure 2. Modified model of consumer decision process and corresponding focus on marketing mix elements

One key point is that consumers have made a rudimentary decision on target products at the end of the first phase. It could probably be a clear target on a single product or a list containing a few items. After that, consumers proceed to perform the second phase of information search and evaluation. Based on this model, the brand owner should focus on providing detailed information of their products online to address the needs of the consumer in the first phase. Only if enough information is provided, consumers can incorporate the brand owners' products into consideration.

Additionally, marketers need to particularly concentrate on market competition among brands and products as the main product evaluation occurs in the first phase. If a product does not make it on to the target list after the end of the first phase, the product will have little chance of being considered in any of the remaining stages. Gupta et al. had the same inference about retailers' strategy in their research [7]. But in terms of effectiveness, the authors argue that the brand owners should be the main drivers for exposure of product information, not retailers.

In the second phase, consumer's focus the search and evaluation of price information. They tend to undertake price comparison across a variety of retailers and then make their final decision which product and on where to purchase the product (both online and off-line). Channel selection is a secondary decision related to the result of price comparisons, and promotions provided by retailers are just for their reference.

As discussed earlier, except those with existing preference or familiarity of channel types, most consumers do not make the decision about the location of the point of sale before last moment of their purchase process. In other words, consumers who search and evaluate products on the Internet do not automatically complete their purchase online. For this reason, consumers' compound behavior should not be classified into dichotomous types as online or off-line.

Moreover, retailers compete intensively on price among consumers' second phase decision process. For following the trend of more online interactions performed by consumers, both online shops and traditional retailers need to be engaged in providing attractive price messages (accompanied by the enticements including appropriate promotion and convenient place) to buyers over the Internet.

Furthermore, the Internet significantly saves shopper's search effort via online price comparisons [25], at the same time, brings the significant benefits in purchase [26]. Brynjolfsson and Smith indicated that prices listed on the Internet are 9-16% lower than prices in conventional outlets [27]. Consumers with the supports of product/price information from the Internet have chances to enhance their bargaining power to counteract sellers, and hence be strong enough to master their own deals. As a result, asymmetry of information, the common issue in information economics field, should gradually disappear in future e-marketplace.

As discussed above, consumers emphasize on information about product element of marketing mix in the first phase. Meanwhile, price only plays the supporting role of screening qualified products. Price sensitivity of consumers in this phase is inferred to be generally low. Based on the consideration set generated in first phase evaluation, consumers proceed with their second phase information search emphasizing on price comparison. Because price information is transparent on the Internet, the sensitivity to price significantly rises in the second phase. Unfortunately, some of the previous research did not know well about this key behavioral pattern of consumers and then roughly concluded that web site can reduce price sensitivity by providing in-depth information through the highly interactive interface [28]. However, there are different levels of price sensitivity in different phases of consumer decision process. Under the clarification, this study supports that managements should modify their competitive strategies accordingly with respect to different emphasis on marketing mix elements to attract buyers in the two phases.

Studies have revealed one of the main reasons for online shopping is competitive price, therefore while some online retailers frequently use price promotion to attract consumers and influence their purchasing decisions [29], others use product characteristic (e.g. brand and quality) strategy to build up loyalty [30]. Unfortunately, many studies had only concluded that brand and price do affect consumers' purchase decision, but have failed to explain how these factors affect the decision-making process because the details of consumer decision process were not identified in advance (e.g., [31]; [18]; [32]; [33]). For this reason, our study proposes a two phase model which clearly describes how the on-line consumer makes the purchasing decision and how the two factors (i.e. brand and price) affect the decision-making. Indeed, based on the 4P's marketing strategy, our study finds that brand loyalty or product characteristics are critical to attract shoppers in the first evaluation phase while price promotion is an effective way to attract shoppers mainly in the second phase.

Furthermore, under the price competition in the second phase evaluation, retailers composed of both traditional and online shops tend to be less profitable. As a result of information disclosure openly, price of the same products will incline to identical across sellers and no longer be the competitive tool of differentiation. Level of price dispersion is likely to be diminished due to higher market efficiency. As a result, competing on price may not be a viable long-term strategy for online retailers [34]. Consumers' emphasis therefore directed to the comparison on retailers' reputations and services. For winning the success in competition, retailers need to do their best to establish and maintain loyalty by satisfying the existed customers. They should try to expose their reputation over the Internet by all means in order to attract the potential buyers. After obtaining the trust from consumers, firms can successfully face the new challenges and stay on the marketplace for a long time.

V. MANAGERIAL IMPLICATIONS

In summary, from this study, there are some interesting points for researchers and practitioners about marketing evolution on consumer behavior. For the convenience of future reference, some notable managerial implications from this study are listed as follows:

A. Information Asymmetry and Seller Superiority

Due to the bounteous information over the Internet, consumers search and evaluate online more actively in their purchase process. The common situation of information asymmetry between buyers and sellers will gradually disappear. With the support of online information, consumers have more power to make decision on product and channel. Seller superiority will consequently no longer exist.

B. Two-Phased Information Search and Evaluation

Resources on the Internet have changed the consumer decision process. Information search and alternatives evaluation performed by consumers tend to be two-phased. Product and price information are emphases of consumers in the two phases respectively, as well as product evaluation and channel selection are undertaken within each phase.

C. Different Concerns of Brand Owners and Retailers

Brand owners should pay their attention to consumers' first phase evaluation and introduce enough information about products to attract the buyers. In contrast, retailers need to focus on the second phase, trying to win the deals by providing attractive price, promotion, and service.

D. Jointly Competition of Both Physical Shops and Online Stores

Online and off-line stores dependently existed in the modern compound market. Except for those consumers with existed familiarity or preference, decision on channel was frequently postponed to the second phase of evaluation. Both traditional and electronic retailers are jointly evaluated by consumers, and lead to a severe competition.

E. Different Level of Price Sensitivity in Each of the Two Phases

Consumers' emphasis is on the product in the first phase evaluation. Price only plays a subsidiary role and then sensitivity to price tends to be lower. However, precise price comparison significantly lifts up the sensitivity of consumers in the second phase.

F. The Trend of Micro-Profit in Retailing Marketplace

The effect of price disclosure over the Internet lifts the sensitivity and bargaining power of consumers. It is all the more difficult for retailers to earn the surplus from buyers under the furious competition. The result of less profitability obviously leads to micro-profit of retailers.

G. Level of Involvement Affects Consumers' Online Behavior

Level of involvement is influenced by factors such as product categories and personal characteristics. For those purchase with higher level of involvement, intensive online information search and evaluation are likely to be incorporated by consumers into their decision process. As a result, two-phased evaluations emerge from the process.

H. Disintermediation Intensified in Supply Chain

Facing to the trend of micro-profit, supply chain cost need to be brought down for competitive considerations. This stimulates the supply chain dominators to eliminate intermediates from their distribution structure. Disintermediation could be more likely achieved through the online marketing efforts focused on different phases of consumer evaluations.

VI. CONCLUSIONS

For the developing scale of electronic commerce, information accessibility over the Internet induces consumers to undertake search and evaluation before purchase. Common practices reveal that some modification happened to consumer decision process. Unfortunately, very little conceptual or empirical research focused on this fundamental issue. Some of the conclusions and inferences from previous works tend to be indeterminate due to lack of understanding about online consumer behavior.

This study proposes a modified model of two-phased information search and evaluation in consumer decision process. With respect to each phase, there are different concerns about elements of marketing mix. People who involved in marketing and EC fields could be supported to identify the characteristics of modern consumers' behavior. Based on this model, practitioners may be inspired to adjust their marketing strategies and plans. With regard to the academics, Internet-enabled evolution on consumer behavior revealed in this study can be a basis for future investigation on marketing issues.

For the exploratory nature of this study, focus groups are applied as the tools to explore the behavioral characteristics of modern consumers. While adopting the convenient sampling from university students, respondents undoubtedly have the tendency towards higher frequency of Internet usage and more involvement on purchase. However, these younger students are just enough to represent the future consumers existed in the compound marketplace and to reveal the evolvement in consumer decision process. Follow-up researchers interested in this topic could base on the model proposed in this study and build further on empirical verification. Only if the online consumer behavior is clearly identified, all the marketing efforts will be more effective.

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Chun-An Chen is an associate professor at Department of Information Management, Nan-Ya Institute of Technology, Taiwan. He received his doctor degree from Department of Industrial Engineering of Chung-Yuan Christian University, Taiwan. He has acted as a consultant to various industries and to the Taipei City Government for more than ten years. His research interests include electronic commerce, consumer behaviour, and total quality management in public sector organizations.