
The seven steps of an e-customer behavior process model

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Abstracts

Nowadays, the e-marketing strategy is needed to improve the profitable sales strategically in the global e-business environment. However, it is very difficult to build up an e-marketing strategy. As the primary cause, behaviors of online customers are not visible above everything else. Therefore, the e-customer behavior process model is needed to enable to pick up and retain 20 % of most valuable e-customers who brings 80 % high profitable sales. Accordingly, we develop the seven steps and motives of an e-customer behavior process model based on the e-CRMM proposed by Ko et al. [4], [5].

◆ Introduction

Along with the development of information technology, and the spread of the Internet and the IT industry, the e-business market is also growing.

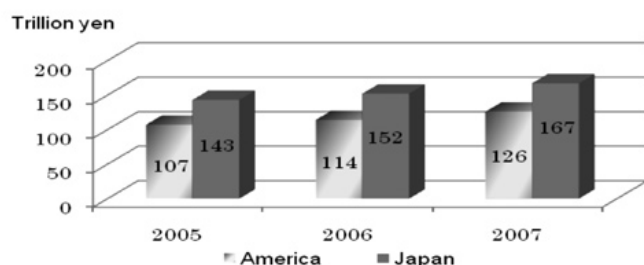


Figure.1 Japan and American market size in e-commerce

Estimating the market size of the global e-business with citing the United States and Japan, which are countries of the No. 1 and No. 2 in the world economy scale, the EC market size of America grew up at the average growth rate of about 8 %, and Japan's EC market grew up largely at the average growth rate of about 7 % in three years from 2005 to 2007 (see Fig. 1) [1].

Furthermore, the internet users of the world are about one billion four hundred and seventy million, and the widespread rate is reached about 8.7 % [2]. The remarkable aspect which must be kept an eye on is that the ratio of users who have ever made an online purchase grew up rapidly from 10% in 2005 to 85% in 2007 [3].

Nowadays, the building up an e-marketing strategy is

needed for a company achieving the sales improvement strategically in the emerging e-business market. However, it is very difficult to get and retain customers in online with the existing marketing strategy because the characteristics of a customer's purchase behavior in online are different to the offline. Especially, the difficulty of building up the e-marketing strategy results from the invisible e-customer behavior.

In offline environments, we can easily catch a customer behavior visually, but in online, we cannot find out a customer's figure. Moreover, we cannot catch up e-customer's behaviors because an e-customer can move easily to any other shopping sites just by only one click. In other words, a customer in online is like a ghost. Thus, it is very important to visualize the ghost customer's behavior to acquire and retain customers for improving profitable sales in online.

Therefore, we develop the e-customer's behavior process model based on the e-CRMM model proposed by Ko et al [6]. In developing the behavior process model, we consider seven behavior steps, and motives for making a step forward and evaluating an e-customer's level.

Accordingly, in chapter 2, we consider an e-customer behavior by comparing a customer behavior in offline environments. And then, in chapter 3, we propose the seven steps behavior process model of an e-customer. In chapter 4, we draw several motives which make a step forward in the e-customer behavior process.

◆ An e-customer behavior Process

The e-customer's behavior process up to a site visit and purchasing products etc. is quite different in offline and online. Especially, an e-customer can move easily to any site with only one click, and compared with the offline customer, it is very difficult to identify behaviors in online because we cannot see them. Therefore, we can not find out that what kind of e-customer's behavior brings the profits to a company. However, we must pick up which e-customer's behavior is linked to sales and profits of a company.

In this chapter, we consider an e-customer behavior based on factors of offline customer's behaviors generally suggested. Then, we draw an e-customer's behavior process by reconsidering an e-customer's behavior.

◆ Customer behaviors in online

To understand e-customer's behaviors, we first find out the influences on customer's behaviors in online, and then analyze and judge how these influences relate to e-customer's behaviors. Nakato Hirakubo [7] explained that generally, there are customer behaviors in offline environment, such as problem recognition, information search, alternative evaluation, purchase decision and post-purchase behavior. Namely, it is considered that the customer behavior start from problem recognition and proceed by turn of information search, evaluation and selection, purchase, and postpurchase evaluation.

Nakato Hirakubo stated as follow. The customer behavior starts from recognizing a problem such as the need of ink or garage etc., for the printer is out of ink or for your new car. Thereby, the customer begins to search the information by being motivated to purchase for trying to resolve the problem. Especially, it is considered that the customer may want detailed information on a newspaper, a magazine, the internet etc if it is high ticket items or goods with high purchase risk. Then, he or she evaluates the choice after analyzing information, and pick up a brand or a store. Next, clerk's manners and demeanors, shop atmosphere, goods collaboration and display etc. have an influence on the purchase. Consequently, the customer behavior reaches to goods evaluation of post-purchase.

However, Nakato Hirakubo explained that if satisfaction can not be obtained here, the customer does not become loyal. But we consider that it is more rational to ask whether a customer is retained or not rather than ask whether a customer become loyal or not. He explains that the customer who take these behaviors also carry out a psychological process such as motivation, learning, perception, and attitude formation etc. Furthermore, he state that although whole customers do not carry out according to these customer behaviors, to complicate these customer behaviors is the existence of influence factors such as commercial stimulus, personal factor, and social factor etc. And then, he explains as follows.

Customers are always receiving a commercial stimulus such as TV ad, article in a newspaper or magazine, package of products to be put on the shelf, products itself, and prices etc.. There are personal attribute, selfimage, lifestyle, personality or degree concerned to purchasing products in personal factors. The frequency of product use and the use situation, which become behavioral variables, have a great influence on products choice. Then, there are two aspects in the social factor, one is micro environment and another is macro environment. That is, there are family, friends, colleagues, or celebrity and specialist etc. in the micro environment, and

social change, culture, subculture, progress of technology etc. in the macro environment. Furthermore, he said that a customer has accepted what a familiar person said without a question, while the customer does not believe the advertising copy from commercial stimulus.

As mentioned above, we think that various factors affect to behaviors by the time a customer results in purchase on offline environment. We have so far considered factors influencing customer behaviors in offline environment. We also think that these factors influence customer behaviors in online environment. By Na Li [8], it is generally considered that an e-customer behavior is carried out by turn of prerequisites, attitude formation, intention, decision making, and purchase etc. In other words, we can say that e-customer behaviors are performed the purchase by linking the attitude formation as prerequisites are satisfied.

Concretely, there are external environments, demographic elements, personal characteristics, feature of products and services, and quality of a site as prerequisites of the attitude formation to the purchase. Observing these prerequisites, we can understand that in prerequisites linked to the attitude formation, the same factor as the behavior factor in offline is affecting. Because it can be considered that external environments and demographic elements are involved in the social factor, and personal characteristics are in the personal factor and feature of products and services and quality of a site are in the commercial stimulus. Also, we can consider that the attitude formation receive the influence of social factor etc. because of receiving the prerequisite's influence. On the latter behaviors, we consider that the same logic argument can be adapted. Therefore, a factor which affects an e-customer behavior may be the same factor which affected the above-mentioned offline customer's behavior.

However, contents which formed factors that affect behaviors are different in the offline environment and the online environment. This is brought about by the difference in time and spatial concept. For example, in the offline environment, the purchase is occurred by a clerk's manners and demeanors, shop atmosphere and location etc. but in the online environment, the purchase is occurred by a design and easy view of site, the quantity and quality of product information etc. That is to say, it is considered that the behavior pattern differs between offline customer behavior and online customer behavior by the environmental characteristics. Thus, we are going to consider the behavior process based on a behavior pattern peculiar to e-customers.

◆ Customer behavior process in online

We think that the e-customer behavior process make up with a relation stage, a purchasing stage and a partnership stage. Online consumers have the relation with a company in the relation stage, and the consumer becomes an e-customer through an experience of purchase in the purchasing stage, and some e-customers contribute to a company in the partnership stage.

Most online consumers search goods and services, and visit a site which allows customers to get a wanted thing after searching if they need to buy something. Otherwise, they take an interest in goods and services after seeing the ad, and visit the site for purchasing it. It is considered that consumers who visited a site make a purchase soon or flee from the site in a minute. However, in most cases, if they have an interest in the site, such as being satisfied with contents etc. they revisit the site for getting more information about the site, goods and services. Therefore, the relation stage in online shopping is the trigger stage for carrying out the purchase.

Online consumers can visit many sites and get information because the movement to sites by one click is possible in online shopping. Online consumers who acquired various information pick up a site with the favorite goods and services, and revisit the site repeatedly. In the purchasing stage, as the result of comparing with other sites and revisiting, online consumers who once purchase goods and services become e-customers of the site that is, e-customers in the purchasing stage repurchase or frequently communicate with the company or repeat the purchase behavior again and again.

In the purchasing stage, some e-customers who repeat the purchase and communication frequently require his or her needs and wants to the site. The relation between an e-customer and a company is strengthened as the company meet these demands through the site, and then the e-customer take a behavior like the member of company, such as advices, business promotion, and buzz which become profits of the company. The stage where an e-customer takes these behaviors of contributing to the company is regarded as the building up partnership stage.

Until now, we considered the e-customer behavior process by classifying three stages. However, it is very difficult to clarify the value of an e-customer's behavior by only understanding e-customer behavior process. Moreover, it needs to consider behaviors of the most evaluable e-customer who a company wants to sort out. Therefore, we propose the seven steps behavior process of an e-customer as considering behaviors of the most valuable customer in online.

◆ Seven steps of the behavior process

In order to clarify the value of an e-customer's behavior for sorting out the e-customer who must be retained, we think that it is necessary to consider what types of e-customers are important for a company. It is because that the value of e-customer behaviors which we develop is the evaluation basis for picking up royal e-customers who must be retained. That is, we think that as considering behaviors of royal e-customer who must be picked up and retained, it is possible to draw out attributes which must be evaluated. Accordingly, we analyse the royal e-customer as well as their behaviors based on the e-customer behavior process considered above.

Consequently, we propose the seven steps behavior process model by using the e-customer's behavior process.

We can explain about the royal e-customer, who is the most valuable customer, as follow. Generally, the most valuable customer is considered from Pareto's law which 20 % upper ranking customers bring about 80 % of sales or profits. In other words, the most valuable customer is defined as an upper ranking customer who bring a high sales to a company by doing an expensive shopping and/or doing a shopping continuously [9]. As a matter of course, since this Pareto's law is applied on online situation, 20% upper ranking e-customers are considered as the royal e-customers.

However, the current definitions of Pareto's law and the most valuable customer are considered on the basis of only the purchase. Thus, the relationship between a customer and a company, and profitability are not involved in this definition. We think that e-customers who bring about not only a high purchase amount but profitable sales by a strong relationship are the real royal e-customer who results in 80 % of sales or profits. Because we think that the most important thing for a company is profits, not sales.

With that in mind, we can think that the royal e-customer has a strong relationship with a company, and carry out a behavior linked to high sales or profits for a company. That is to say, the royal e-customer makes a contribution towards a company's profits and brings about profitable sales by getting new customers with buzz.

Integratedly reviewing the results so far considered, we can predict behaviors of the royal e-customer. As the royal e-customer in turn carry out visit of a site, revisit or purchase, interactive communication, demand of needs and wants, advices, business promotion, and buzz, the retention rate becomes high, and the profitable sales becomes big. Through these seven behaviors, it is considered that the royal e-customer bring a high profits of sales to a company. Accordingly, we propose the seven steps behavior process of

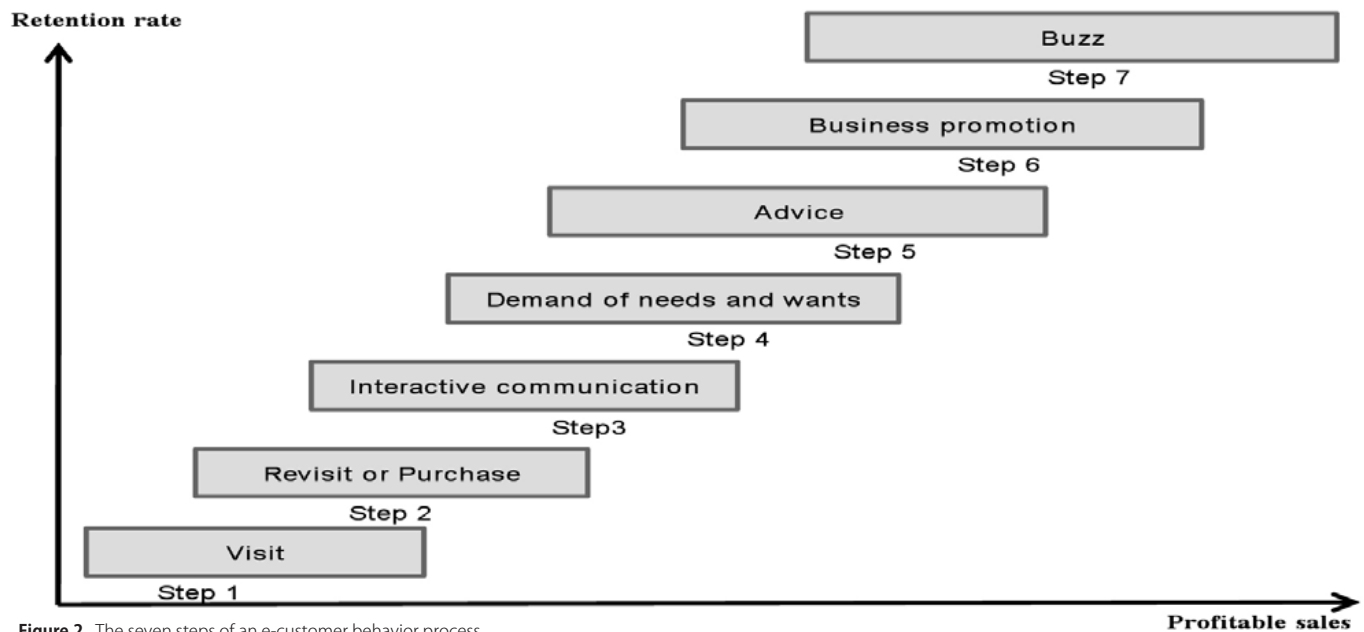


Figure.2 The seven steps of an e-customer behavior process

royal e-customer based on these behaviors, retention rate, and profitable sales.

In the seven steps behavior process, it starts from step 1 which the e-customer visit a site. Then, go to step 2 which he or she repeat the revisit or purchase of a goods with satisfaction with the contents of the site. With frequently repeating purchases, he or she progresses to step 3 in which frequently take a mutual communication with the company. By the improvement of relationship along with the frequent communication, the e-customer behavior reaches to step 4 which forward the needs and wants to the company. And then, a step progresses to step 5 in which an e-customer take a advice behavior as the relation with the company is more strengthened by responding the needs and wants of the e-customer, and a partnership has begun to sprout. As this partnership is more improved, the step progresses to the step 6 in which an e-customer take a behavior of business promotion. Lastly, the step progresses to the step 7 in which new e-customer is acquired by the buzz. ,

Through this process flow, the royal e-customer brings profitable sales to a company. In order for a step to progress, a motive for making a behavior is needed. In the next chapter, we draw the e-customer's behavior attributes which must be evaluated.

◆ Motives as the factor of step forward

Nowadays, to evaluate a customer's behavior in offline, RFM analysis or Decile analysis etc. are used. However, by these methods, we can not exactly single out the royal e-customer wanted. Because it is focused on only a purchase to evaluate a customer's behavior, as purchase recency, purchase frequency, and purchase amount are evaluation factors in the existing RFM analysis [6]. In other words, it is evaluating only the

direct purchase sales, and it is completely not considering the relationship, which must be evaluated, strongly linked to purchase sales in online.

In online, the relationship which is the evaluation target must be considered based on an e-customer behavior linked to profitable sales for specifically picking up the royal e-customer. Therefore, it is needed to draw motives strongly related to the progress of seven steps behavior process suggested above.

◆ Frequency

Above all, the first considerable behavior attribute which must be evaluated is frequency. That is to say, the behavior attribute frequency in each step is the factor of making a step forward. Moreover, some frequencies such as visit frequency, purchase frequency and communication frequency are related to build up trust relation with the company. Furthermore, since profitable sales and profits are improved by increasing these frequencies in each step, various frequencies of e-customer's behaviors for a company become the evaluation factor of e-customer's behavior value.

◆ Recency

Similarly, behavior recency must be evaluated. In the seven steps behavior process, various recencies of e-customer behaviors such as visit recency to a site, communication recency with a company etc. as well as purchase recency can be considered. The high recency of an e-customer behavior shows that e-customers are retaining at the present time. Accordingly, the possibility to link to a repeat is high. Therefore, recency along with frequency becomes big evaluation target for a company because it improves sales profits.

◆ Response degree

Next, response must be considered as an important motive factor. It is because that an e-customer carries out the behavior such as revisit, purchase, and interactive communication etc. as the good response result. A good response can be provoked by satisfying the contents and goods, and a mail exchange with a company. To put it simply, if there is no good response, an e-customer will not take any of these steps. Since a possibility of frequent purchase becomes high by this good response, we can say that response also becomes the very important evaluation factor.

◆ Monetary

Monetary is the barometer to indicate the materialization of behavior value. That is, monetary is to stand for profitable sales. We consider that monetary is made up of direct sales and indirect sales. Direct sales are the purchase amount by an e-customer, and indirect sales are purchase amount by new e-customers acquired from a buzz. Direct sales can be achieved by a frequent purchase which is a purchase behavior based on the strong ties between an e-customer and a company. Next, indirect sales are the amount purchased by new e-customers who acquired from an e-customer's mouth of word. Since the e-customer who brings high direct sales is well-acquainted with goods, he or she delivers this accurate information to well-known neighbors. Furthermore, Sales of new e-customer acquired by a buzz produce the highest profits because acquisition cost is not involved.

Consequently, these high profitable sales do not express the mere purchase amount but become one important motive for evaluating the behavior value of steps.

◆ Relationship

In the seven steps behavior process model, we think that the improvement of relationship between an e-customer and a company is indispensable for bringing profitable sales. The relationship described here is the relation with a company that becomes strong by frequency, recency, response, and monetary in the seven steps behavior process raising each other mutually. The relationship not only makes the purchase carried out repeatedly but becomes the motive for forwarding to the step in which he or she takes contributing behaviors, such as advice, and business promotion etc.

Furthermore, the improvement of relationship is linked to the buzz which is the behavior of final step. This link to the buzz increases the monetary of a company. Therefore, the relationship is the most important factor for evaluating the behavior value in seven steps.

◆ Partnership

Partnership is born by improving a relationship between e-customers and a company. Partnership indicates that an e-customer becomes a member of a company and makes a buzz contribution. Especially, partnership is a factor to enables to maximize the profitable sales by buzz. Therefore, we can consider that partnership is the important factor for evaluating a behavior value.

The buzz must be considered as the relationship which must be evaluated because it attracts new e-customers, and brings profitable sales to a company. These behavior attributes are becoming important motives which make steps forward in seven behavior steps as well as bring profitable sales. That is, we think that various evaluation factors of e-customer behavior, such as frequency, recency, response, monetary, relationship, and partnership, are related to the seven steps behavior process model.

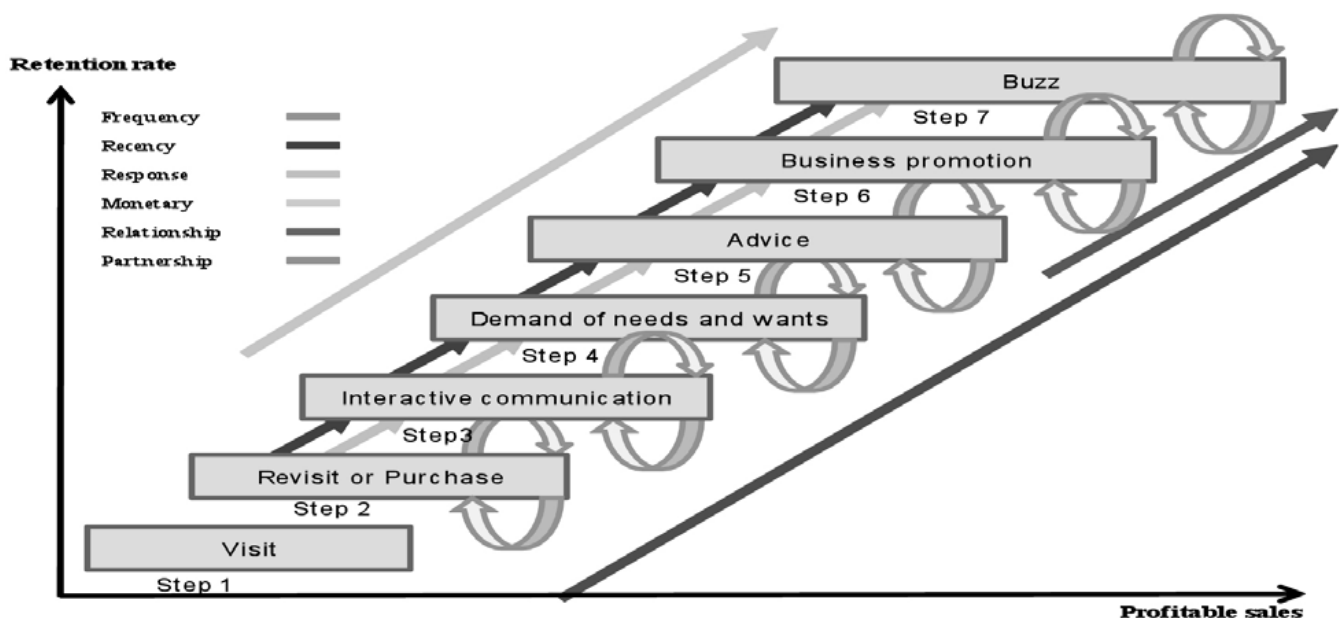


Figure.3 The seven steps of behavior process and relation of motives

relationship, and partnership etc., moves seven behavior steps forward (see Fig.3), and improves sales profits.

From the consideration stated above, it is very difficult to exactly evaluate a customer's behavior value in online only by purchase frequency, purchase recency, and monetary of RFM analysis. Therefore, we consider that it must be evaluated by using motives which progress seven steps, and factors which bring profitable sales.

◆ Weights of evaluation factor

By the above consideration, we have draw six evaluation factors of a behavior value in seven steps process model. For evaluating an e-customer by exactly measuring a behavior value with using these factors, we must apply weighted value to each evaluation factor [10]. It is because that it is not directly linked to sales or profits, but there are motives such as relationship etc., which influences a factor related to sales profits directly. If all these motives were evaluated equally, it is possible to evaluate e-customers' behaviors who do not actually bring sales or profits highly by only having a strong relationship. Thus, in order that we may not cause such a mistake, we must to set up the weighted value of evaluation factor. In setting up the weighted value, we must consider characteristics of a most valuable e-customer by focusing on the retention rate and profitable sales in the seven steps behavior process model.

First, we set up the heaviest weighted value to partnership in six evaluation motives. This is because an e-customer with a strong partnership brings not only a high direct sales than anyone else, but indirect sales with a high profits created by many new e-customers acquired with a buzz. Therefore, he or she is considered to perform the biggest contribution to a company in sales or profits. In our seven steps behavior process model, it can be said that if an e-customer with a high partnership reaches up the buzz step, he or she takes behavior of the word of mouth which is most contributing to a company. That's why we give the heaviest weight to the partnership in six evaluation factors.

Next, an e-customer with a high relationship is likely to link to further purchase, and then, evaluate the relationship, we can find out whether he or she repeats the purchase or not. If an e-customer reaches up to the step 6 or step 7, he or she has the higher retention rate, and brings relatively high sales. Therefore, we think the relationship is secondly important, and give the corresponding weighted value.

Since the monetary against the relationship is to evaluate results such as direct sales, indirect sales, and profitability etc., we can not predicted that whether there is the following

behavior step or not. If the weight to monetary is set up more heavily than relationship, it is possible to evaluate an e-customer highly who may not purchase in the future. Therefore, we put the weight to monetary lower than relationship.

In weighting to response degree, recency, and frequency, we can measure whether an e-customer is retained or not in relation to direct sales by these evaluation factors. That is, in the seven steps behavior process model, an e-customer, who is at the situation that response, recency, and frequency are high but monetary, relationship, and partnership are low, repeats behaviors of step 1 and 2, thus we can judge that this e-customer is retained. Accordingly, if setting up a high weighted value to these 3 factors than monetary, relationship, and partnership, it can be judged that there is very high possibility of not taking a behavior such as a buzz. In other words, when putting the high weighted value to frequency, recency, and response of a behavior which do not affects profitable sales, so much it highly evaluates a behavior which does not bring a high profitable sales. In order not to make such mistakes, we have to set up the weighted value lower than three factors mentioned above.

First, frequency and recency can not be almost measured without a response. Thus, we give the high weighted value to the response degree than frequency and recency.

Next, comparing an e-customer with a high recency with an e-customer with a high frequency, there is a possibility of having already churned or of beginning to churn in the even situation that an e-customer has the highest frequency but has not taken a recent behavior such as purchase etc. That is, it costs much to retain an e-customer with a high frequency for a company. On the other hand, since an e-customer with a high recency has a strong concern to a company, it is highly likely that he or she brings sales or profits in the future, and is a retainable e-customer. Therefore, we give the high weighted value to the recency than frequency,

◆ Conclusion

While an e-marketing strategy is required for achieving the sales improvement strategically along with the growing e-business, in order to build up the effective e-marketing strategy concerned with e-customer retention, we considered the evaluation factors of an e-customer's behavior for picking up the most valuable e-customer who must be retained.

As considering a customer behavior in online based on e-CRM model proposed by Ko et al [5], we suggested the seven steps behavior process model which is the behavior process of the most valuable e-customer. Also, we considered that

the profitable sales is brought by improving motives which forward steps in the seven steps behavior process model. Since the improvement of these motives changes with e-customers, we judged that it is an important factor in evaluating an e-customer's behavior value. And then, we proposed motives such as frequency, recency, response, monetary, relationship, and partnership as the motives which must be evaluated in the evaluation of an e-customer's behavior value.

We think that these six evaluation factors can be used in real e-business marketing strategy. However, it is very difficult for a company exactly pick up a most valuable e-customer to be retained by applying these six evaluation factors solely. Because, what we proposed is the motive which evaluates an e-customer's behavior value and it is not how to pick up the most valuable e-customer in an e-business. In order to make clearer the measurement to single out the most valuable e-customer by the evaluation of an e-customer's behavior value, a study such as development of evaluating factor that is more segmented, and establishment of a life time value formula of e-customer using evaluation factors are needed [11]. We think that as these studies are advanced, a marketing strategy in an e-business is established, and can be developed practically.

We confirm that this paper provide the broad research area in e-business marketing model study in the future.

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