

## THE CUSTOMER'S PERSPECTIVE ON WAITING TIME IN ELECTRONIC MARKETING

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From the perspective of range theory we explored whether or not consumer evaluation of waiting time depends on a comparison between the actual waiting time and the expected range of waiting time that is specified in the marketing communication. A  $2 \times 2$  between-subjects design was employed, and evaluation of waiting time served as a critical dependent variable. Results indicated that consumers' evaluation of waiting time was significantly different when they were advised of different ranges of waiting time guarantee. For the condition of 3-7 days of waiting time guarantee, participants' evaluation of waiting time was significantly favorable because the actual number of waiting days was less than the maximum of 7 in the guarantee.

*Keywords:* waiting time, range theory, electronic marketing, consumer behavior.

*Electronic markets* are marketplaces where *sellers offer their products and services electronically and buyers search for information, identify what they want, and place orders using a credit card or other means of electronic payment.* Unlike traditional face-to-face marketing, within the context of electronic market, consumers usually have to wait to receive products and services after placing orders. In several studies, however, evidence has been found of a negative relationship between waiting and relevant consumer evaluation of performance, such as service quality and satisfaction (Baker & Cameron, 1996; Davis &

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Maggard, 1990; Katz, Larson, & Larson, 1991; Taylor, 1994, 1995). "The longer one has to wait, the lower the evaluation of service" (Taylor, 1995, p. 39). For the Internet market, understanding and managing customers' expectations and evaluations of waiting time are, therefore, critical.

From the perspective of range theory, which accounts for how people make sensory judgments, we explored whether or not consumer evaluations of waiting time depend on a comparison between the actual waiting time and the expected range of waiting time that is specified in the marketing communication. Since the relationship between waiting and service evaluation is robust, and waiting is a negative experience for many customers (Scotland, 1991), our focus in this study was on answering the following research question: How does a consumer evaluate waiting time for products and services? By manipulating the range of waiting time guarantee, our aim was to investigate what endpoints consumers use to evaluate the waiting time.

### **WAITING TIME**

In purchase situations, customers often need to wait for products and services. They may wait before, during, or after a purchase. Several factors can result in waiting, including a queue, a delay, and the customer's early arrival for an appointment. In some cases, such as a catalogue or online purchase, customers must wait for delivery after placing orders through electronic means while the orders are processed and the products are delivered, usually within 2-3 days.

Expectations and perceptions of waiting time, and even waiting experiences, may vary from person to person and by situation for the same person. Haynes (1990) points out that "waiting expectations are influenced by how customers value time spent in waiting in comparison with the reason for the wait" (p. 21). Similarly, Haynes observes that two factors dominate the waiting experience: First, a customer's time/money trade-off affects the value of time spent in waiting. Second, the customer's perception of his or her control over, and amount of choice while, waiting. It seems that customers' expectations and experiences of waiting time, compared with the definite quantity of actual waiting time, are relatively subjective. In other words, waiting expectations and experiences are recognized and evaluated on the basis of a customer's individual judgment. Because consumers' perceptions of time are subjective we reasoned that the forming of judgments regarding expected waiting time should be clarified. Hence, in this study we used range theory to investigate how people make sensory judgments regarding waiting time.

### **RANGE THEORY**

*Range theory* is a theory of sensory perception in which it is postulated that "the range of the values of the stimuli to be judged determines the perceived

*value of any one stimulus in the range*" (Janiszewski & Lichtenstein, 1999, p. 353). According to these authors, when integrating range theory into behavioral pricing issues, "people use the range of remembered price experiences to set a lower and upper bound of price expectations, and the attractiveness of a market price is a function of its relative location within this range" (Janiszewski & Lichtenstein, 1999, p. 353). Janiszewski and Lichtenstein conducted four experiments providing further evidence that a consumer's assessment may also depend on a comparison between the market price and the end points of the evoked price range, which is independent of the internal reference price.

Similarly to price, when time is considered as a cost, the less time one has to spend, the more benefit one recognizes. Basing the structure of our study on the work of Janiszewski and Lichtenstein (1999), we investigated whether or not consumers use the end points of a range of times as anchors or standards to evaluate the acceptability of waiting time. According to Janiszewski and Lichtenstein (1999) a consumer's assessment of price depends on a comparison between the market price and the end points of the evoked price range. We therefore inferred that a customer's assessment of waiting time is similar to an evaluation of price. In the context of online shopping, while manipulating the range of waiting time guarantee for delivering products and services, a consumer forms an expectation regarding the waiting time and, at the same time, a context-based range of expected waiting time is evoked.

With regard to expectations, this expected range of waiting time is held by the consumer as a standard of comparison or as a referent for performance (Oliver, 1980; Parasuraman, Zeithaml, & Berry, 1985, 1988). Researchers have recognized that expectations might have different referents for the same levels or types of expectations. Miller (1977, p. 79) stated that expectations may be "ideal" (can be), "expected" (will be), "minimum tolerable" (must be), and "deserved" (should be). Other researchers also distinguished types of expectations. For instance, Parasuraman, Zeithaml, and Berry (1991) suggested that customers' service expectations fall within a tolerance zone, with the high end as a desired level (what the customer hopes to receive), and the low end as an adequate level (what the customer finds acceptable). Thus, drawing on the emerging research, we reasoned that expectations can be regarded as a dual standard for making judgments.

Furthermore, the range of expectations may expand and contract, varying from customer to customer and from one situation to another for the same customer. Therefore, the desired and adequate levels, and hence the tolerance zone, are essentially dynamic. They are likely to be determined by various factors, including customer experience, the expectations of the customer or a superior, the number of perceived alternatives, and emergency or recovery situations (Parasuraman et al., 1991). Oliver (1997) also concluded that external and

internal factors create expectations in consumers' minds. External factors include promotional claims, word of mouth, third-party information, and product cues of price, scarcity, brand name, store image, and advertising. Internal factors, on the other hand, include ease of recall and the vividness of the events being recalled. In addition, Oliver (1980) ascribed expectations to three factors: the product itself, the context, and individual characteristics, where the context includes the content of communications from salespeople and social referents. Therefore, in this study we assumed that, for the consumer, the expectation regarding waiting time is a range that is evoked by exposure to a range of waiting time guarantees given in the product information.

The consumer who reads information that states "After ordering the product, you will receive it in 2-6 days" and the consumer who reads information nominating 3-7 days of waiting time will have two different ranges of expectations about waiting time. The endpoints for the first consumer would be two and six days, while for the second consumer the end points would be three and seven days. If both of these consumers placed orders for a product and received it on the sixth day, the first consumer would be less satisfied than the second consumer because six days of waiting exactly loads on one anchor of the range of expected waiting time. The second consumer would be more satisfied than the first because six days of waiting is less than seven days, one anchor in the range of the expected waiting time (Janiszewski & Lichtenstein, 1999). We reasoned that the attractiveness of the actual waiting time (six days) was a function of its relative location within the expected range (2-6 days versus 3-7 days). Thus, in this study, we proposed that a consumer uses the end points of the expected waiting time range to evaluate the actual waiting time. An actual waiting time that is within, or less than, the range of expected waiting time will increase consumer satisfaction. Therefore, we proposed the following hypothesis: The evaluation of waiting time will be based on a comparison of actual waiting time and the end points of a range of expected waiting time, which will be evoked by context.

### **A FOCUS GROUP INTERVIEW**

In order to achieve a better understanding of consumers' experiences of online purchases, we conducted a focus group interview with respondents who had experience of online purchasing. The participants were three females and two males. Our findings were as follows: First, regarding the waiting time, respondents were informed by confirmation of purchase order by mail or cell phone message. After completing the ordering procedure, the respondents were informed of how many days they would have to wait to receive the product, such as "in seven days you will receive the product you purchased". Second, in most cases respondents received the products earlier than they were informed they would. However, when

they did not receive the products within the communicated period of waiting, the respondents' emotional reactions were mostly negative. Third, their willingness to purchase online was determined principally by the possibility that they could choose to pay by installments or by credit card. Fourth, relatively long waiting times were acceptable to the participants, because the products they ordered were not for immediate usage. Finally, the type of product might affect respondents' expectations about waiting time. For example, a female respondent mentioned that she would expect to receive a computer in 1-3 days, while she could tolerate waiting 5-7 days for a bed sheet. She gave the reason that a computer was a relatively high-value product, and she wished to receive it soon to test it. Drawing from the findings of the focus group interviews, we concluded that the category of consumer goods might affect consumers' evaluation of waiting time.

## EXPERIMENT

### OVERVIEW

The aim in our experiment was to assess whether or not respondents evaluated waiting time based on a comparison between actual waiting time and the end points of an expected waiting time range. We manipulated the range of waiting time guarantee presented in the purchasing information, and selected the two categories of consumer goods via a pretest – search goods and experience goods – without introducing the price of the goods. Evaluation of the waiting time served as a critical dependent variable. The measure of wait evaluation was taken from Hui and Zhou (1996). Respondents were asked to evaluate the statement “Please describe your feelings concerning the waiting time you have experienced” by using five 7-point scales, ranging from *annoying* (1) to *pleasant* (7), *unsatisfactory* (1) to *satisfactory* (7), *irritating* (1) to *not irritating* (7), *long* (1) to *short* (7), and *unacceptable* (1) to *acceptable* (7). These items reliably measured a single construct ( $\alpha = .89$ ) and were summed to yield an attitude index. Perceived risk in online shopping, defined as “the expectations of any loss or negative consequences as a result of online shopping” (Hassan, Kunz, Pearson, & Mohamed, 2006, p. 139), was also examined using a multi-item scale developed by Hassan et al. In their study, perceived risk in online shopping was assessed using seven dimensions (three items for every dimension), including perceived financial risk, performance risk, time-loss risk, social risk, physical risk, psychological risk, and source risk. In this study, respondents were instructed to “Select the answer that corresponds most closely to your opinion”, and they were presented with 7-point Likert scales ranging from *strongly agree* (7) to *strongly disagree* (1). The values of coefficient alpha ranged from .71 to .86, and the items of all the dimensions were summed to represent the dimension of perceived risk in online shopping.

### PRETEST

To obtain two representative categories of consumer goods, we conducted a pretest. The first category of search goods have search properties that a consumer can determine before purchasing the product, and the second category of experience goods have experience properties that can be sensed only after purchasing or during consuming (Nelson, 1981). We selected 10 types of products that were frequently traded in electronic markets, including travel products, tickets, computers/personal digital assistants, mobile phones, digital cameras, beauty products, clothes, video compact discs/DVDs, books/magazines, and household merchandise. The respondents were 57 undergraduate students who were asked to evaluate the statement "When I buy a product, the quality of the product can be judged easily before purchasing", by using a 5-point Likert scale with endpoints labeled *strongly agree* (5) and *strongly disagree* (1). The result of analysis of variance (ANOVA) demonstrated that the 10 products were significantly different,  $F(9, 560) = 2.81, p < .03$ . The mean values with higher scores indicated that the quality of the products could be evaluated prior to purchasing, and such products were considered as consumer goods with search properties. For experience goods, the mean values resulted in lower scores. We finally selected books/magazines ( $M = 3.74$ ) as search goods for this study and beauty products ( $M = 3.04$ ) as experience goods.

### PROCEDURE

According to the findings of the focus group interviews and pretest, we obtained an initial insight into consumers' online purchase experiences, especially the waiting time. Therefore, the manipulated ranges of waiting time guarantee were 2-6 days, and 3-7 days with books/magazines as search goods, and beauty products as experience goods. The design of the experiments is set out in Table 1.

**TABLE 1**  
A 2 × 2 BETWEEN-SUBJECTS DESIGN

Category of product	Range of waiting time guarantee	
	2-6 days	3-7 days
Search goods (books/magazines)	Condition 1	Condition 3
Experience goods (beauty products)	Condition 2	Condition 4

The experiment was conducted via the Internet, and the website was located at <http://www.edward.idv.tw/ex2/>. The respondents were 82 university students who participated in exchange for course credit. They accessed the experimental website and were randomly assigned to 1 of the 4 experimental conditions.

At the beginning of the experiment, respondents were informed that they were participating in a survey to understand opinions about online purchasing and that their responses would remain anonymous. On the next page of the website, respondents were asked to complete questions about online shopping frequency, amount of consumption, name of online purchase website, and types of products bought. After answering the questions, respondents were asked to go to the third page where they were asked to imagine that they were shopping online. The manipulated product information (books/magazines or beauty products) was randomly presented to the respondents. After the presentation of the information, the respondents were directed to click on a purchase confirmation button, and they were randomly provided with a manipulated waiting time guarantee, which stated "Thank you for ordering, and we guarantee that you will receive the product in 2-6 days (or 3-7 days)." On the fourth page, all respondents were informed that they actually received the product on the sixth day after purchasing and were then asked to go to the dependent measure tasks (evaluation of waiting time and perceived risk in online shopping) on the fifth, and last, page.

## RESULTS AND DISCUSSION

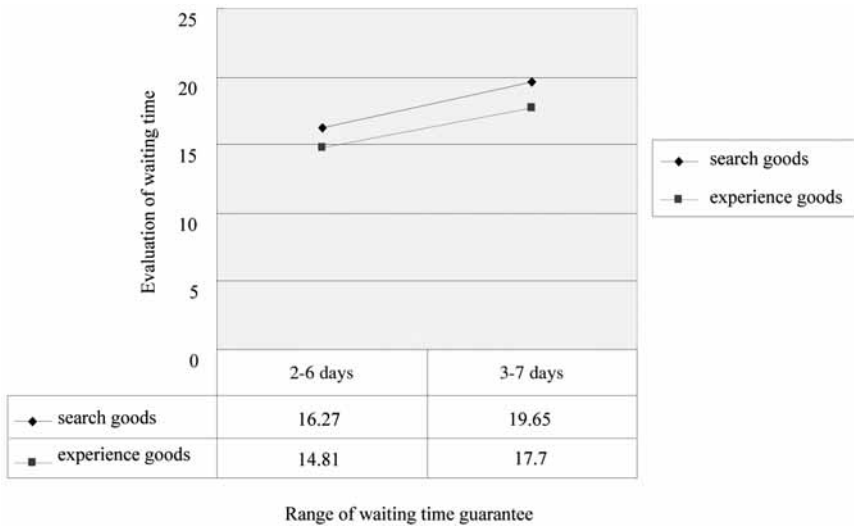
In this study, a 2 (range of waiting time guarantee: 2-6 days, 3-7 days)  $\times$  2 (product type: search goods and experience goods) between-subjects design with several process measures was used. The sample size sufficient for analysis for condition one was 26, for condition two 16, for condition three 17, and for condition four 23.

The multivariate analysis of variance (MANOVA) results revealed that the interaction effect was not significant ( $p = .358$ ). This means that the results for the product types did not differ across the two ranges of waiting time guarantee collectively for all dependent variables (evaluation of waiting time and the seven dimensions of perceived risk). The univariate tests also confirmed this finding. As for the principal effects of the ranges of waiting time guarantee and product types, the former had a significant level of .044 for the multivariate tests and the latter had a nonsignificant level of .546.

Further, the results of univariate  $F$  tests indicated that waiting time guarantee had a significant effect on the waiting time evaluation,  $F(1, 78) = 6.411$ ,  $p < .013$ . Respondents who were given a 3-7 day waiting time guarantee had a more favorable attitude toward waiting time evaluation ( $M = 18.53$ ) than those who were given a 2-6 day waiting time guarantee ( $M = 15.71$ ).

The means of the four conditions are plotted in Figure 1. For the search goods condition, the difference between the evaluation of waiting 3-7 days ( $M = 19.65$ ) and the evaluation of waiting 2-6 days ( $M = 16.27$ ) was marginally significant,  $F(1, 41) = 3.61$ ,  $p < .064$ . However, for the experience

goods condition, no significant difference ( $p < .099$ ) was found between 3-7 days ( $M = 14.81$ ) and 2-6 days ( $M = 17.70$ ) of waiting time guarantee.



**Figure 1.** Effects of waiting time guarantee and product types on waiting time evaluation.

The ranges of waiting time guarantee were significant at  $p < .013$  for the univariate test, indicating that respondents' evaluation of waiting time was significantly different according to the range of waiting time guarantee that they were given. In this study, all respondents were told that they actually received the product on the sixth day after purchasing. For the condition of 3-7 days of waiting time guarantee, the MANOVA results revealed that respondents' evaluation of waiting time was significantly favorable because the actual days of waiting were fewer than seven days, one end point of the range of expected waiting time. For the condition of 2-6 days of waiting time guarantee, respondents evaluation was significantly less favorable because the six days of waiting exactly loaded on one end point of the waiting time range. Our results support the hypothesis that the evaluation of waiting would be based on a comparison between actual waiting time and the end points of a range of expected waiting time, which would be evoked by the context of manipulated shopping information.

From a management perspective, to provide pleasant waiting experiences for customers, it is important to make efforts to keep to promised waiting time, as set out in the purchasing confirmation. Managers need to have control over every step of order processing, so that they can guarantee customers a reasonable range of waiting time and can deliver the products within that time.

Finally, there were a number of limitations in this study. Based on the result of the focus group interviews, the category of consumer goods might affect a consumer's evaluation of waiting time but the findings of this research indicated that product types (search goods and experience goods) had no significant effect on waiting time evaluation and perceived risk. We therefore suggest that further research be undertaken to investigate other types of products. Second, the manipulation of the length of waiting time guarantee was four days (2-6 days, 3-7 days). We suggest that different ranges should be investigated in further research. Third, the manipulated website of virtual shopping conditions might be less realistic than a practical shopping website. In future research a more elaborate website could be designed for exploring experimental conditions.

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