

The Relation Between Hiring Queuers and Emotions - A Pre-Study of Experiment Design

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Abstract

Consumers considering whether or not to queue make their decisions based on queuing size and the expecting waiting time. If a consumer is frustrated because he / she cannot know how long will wait, he / she will quit from a Consumers who are frustrated because they do not know how long they must wait will quit a queue or ask someone for help if the good is worthy to pay more money to own. If a good is worth waiting to purchase, a consumer will chose waiting or buying the privilege to get the good. However, a long wait causes customers to have negative feelings about the queue. Frustration also has a substantial effect on customer loyalty to a good. Therefore, the relationship between perceived waiting time and paying for queuers to buy the good is worth studying. Frustration is a moderating effect that is also worth studying. In the formal study, to make the frustrating emotion, the authors asked all participants to have a contest before they can take the tickets to enter a queue for taking the ticket to a famous concert in Taiwan. The questions used in the contest had different levels of difficulty. However, the difficulty of the questions must be verified before the formal experiment. Therefore, the 60 participants in this pilot study were asked 40 questions in history, mathematics, and Chinese to find the most difficult ten questions and the less difficulty ten questions for the formal test.

Keywords: Queuing behavior; negative emotion; perception of waiting time;

1. Introduction

A customer who finds a good worth buying must decide whether or not the good is worth queuing to buy it. Of course, joining a queue is not a fun experience. However, the stronger the intention to buy a good, the more possible that a customer joins a queue. Therefore, even a customer who dislikes waiting might be willing to join a queue. For example, when a company sells the iPhone 7 in the end of 2016, there are a lot of buyers waiting in front of the retailing stores. Fans of “Mayday”, a famous band from Taiwan, are also willing to join a queue for tickets to their concerts.

A long queuing time may cause customers to have negative feelings about queuing. Consumers may feel that the waiting time is longer when they are in a hurry [27]. Hui & Tse [23] said that the consumers feel that the schedule is tiring, because they expected nothing about the actual waiting time. Hornik [21], Kellaris & Kent [28] reported that consumer emotions affect perceived waiting time and that negative emotions increase the perceived waiting time. Waiting is a negative experience because it makes consumers feel unhappy, nervous, and bored when the customers meet the waiting situation again [9] [13] [27] [31] [34] [35] [41] [46] [51]]. A long wait also causes negative feelings [17] [20].

Customer frustration affects customer loyalty [46]. The loyalty represents the repeat purchase behavior. Restated, customers might skip the wanted product or service and stop their repeating purchase. However, these customers might opt to find others to queue for their purchase of goods. For example, the famous band “Mayday” is with a dramatically attraction to its customers and the customers want to ask others the help of purchase because the long waiting experiences. However, whether feelings of frustration affect customer awareness of waiting time and further hire queuers is still unknown. We hypothesize that frustration has a moderating effect between customer perception of waiting time and the behavior of hiring queuers. Liang [35] has proposed a waiting model mixed with enjoyable situations and further, Liang [35] proposed the model named enjoyable queue model (EQ model) mixed with four cases of waiting situations in Taiwan. This study used the EQ model to analyze the moderating effects of frustration

on waiting time perceived by the customer and on the decision to hire a queuer. To find the moderating effect of frustration in the formal study, all participants must join a contest before they can take the tickets to enter a queue for taking the tickets to a famous concert in Taiwan. The participants in the contest were asked questions of varying difficulty. However, the difficulty of the questions had to be measured precisely before the formal experiment. Therefore, the 60 participants in this pilot study were asked 40 questions in history, mathematics, and China to find the most difficult ten questions and the less difficulty ten questions for the formal test.

2. Literature

2.1. Queuing phenomenon

The term “queuing” refers to the phenomenon of waiting in line for a new restaurant, for a new phone that is on sale, or for a department store anniversary sale. Raz et al. [40] and Debo & Veeraraghavan [11] found that the witness of many consumers in a queue affecting consumers chooses. For example, many customers queuing at the front door of a company might attract other customers to wait in the line [35]. However, the main factors in consumer willingness to queue are the number of people in the queue, the type of queue, the quality of service, marketing strategies, and customer perception of waiting time. Consumers who are willing to queue may still leave if their schedule is tight or if they expect a long waiting time [29]. Katz & Larson [29] point out the companies tried to reduce the consumer's actual wait time, but consumers respond their perception of waiting time and they often underestimate the actual time.

2.2. Waiting Time

The actual waiting time is the standard measurement for objective judgment of time [8]. Consumers are likely to perceive a long waiting time when they have a tight schedule [29]. When consumers wait a long time, the actual time is increased, customer emotion will turn from excitement to uncertainty, which can then cause frustration, anger, or other negative emotions [35].

Seawright & Sampson [44] found that perceived waiting time is a psychological expectation of waiting time. Perceived waiting time usually differs from actual waiting time [50]. Schmenner [41] reported that the subjective perception waiting time is more important than actual time in the time related studies. Many studies agree that a long waiting time can cause negative economic behaviors and psychological reactions [30] [38] [44] [45]. Jones and Peppiat [28] reported that customers are more willing to wait when the waiting time is known, and the customer felt the perception of waiting time is longer than actual time.

2.3. Emotion

Levine, Wyer & Schwarz [34] divided emotions into fourteen species and then divided the fourteen species of emotion into positive and negative emotions. Watson & Tellegen [49] found that a person who has positive emotions feels happy or at ease in life. Negative emotions cause a person to feel angry or unhappy. Some studies found that different kinds of emotion could affect customer perception of waiting time [23] [30] [47]. Hornik [23] reported that consumers who have positive feelings perceive that time is passing quickly and tend to underestimate the time that has passed. In contrast, consumers feel negative that will feel the time are slowly, and hope the time are fast. For example, a man or a woman felt easy when he / she walked slowly along the street and it makes him / her feeling that the time is fast and vice versa. Of course, frustration causes a bad mood, which has an unknown effect on the perception of waiting time. Customers may also hire queuers to wait in line for them if they feel that the waiting is without cost performance. However, the relationships among frustration, customer perception of waiting time, and hiring queuers are rarely studied.

3. Method

The concert of a famous band in Taiwan, named "MayDay", always drives crazy fans to join the queue to get a ticket for the concert. Some more crazy fans will be at the queue when the ticket starts sale, and the actual wait time will be longer. If the process of queuing is too long, the fans will feel intolerant and dissatisfied or not, and fans think the waiting time is too long when they feel intolerant and dissatisfied.

Based on the literature and EQ model, the study must design an experiment for evaluating frustration and survey participants the EQ model. In the formal study, we will propose an experiment for the participants chasing the ticket of the performance of the Mayday concert. A participant must put his / her token to a lottery box as the one of the candidates to win the ticket. Before he / she put the token, the participant must take a series of quizzes. The quiz is designed for building frustration. The quiz contains 40 questions from the easy to the hardest ones. The participants might feel frustration or other emotions. If a participant decided to hire a queuer for the ticket, he / she must raise his hand for help. Therefore, we will help him / her by putting the token into the lottery box. Additionally, to find the moderating effect of frustration, a survey to judge participant emotion is also needed. In this pilot study, all 40 questions items are made and find some participants for the evaluation of the difficulty and the spending time for us to chose the valid 20 question items (10 for the hard questions, and ten for the easy questions) for the quiz making the frustration.

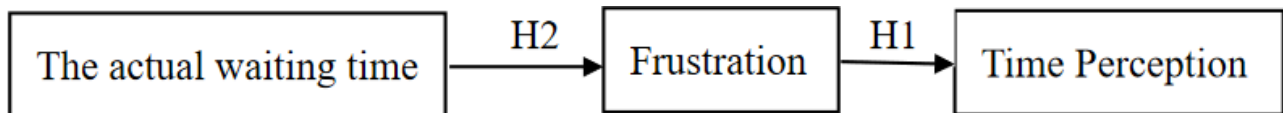


Figure. 1. Research Architecture

Finally, this study must find at least 100 fans of the famous band “MayDay” as the participants. After this pre-test, the study will invite the students who are willing to participate in the formal experiment by posting posters and open recruitment on campus.

4. Results and Discussion

According to Table 4.1, there are eleven questions have high correct rate (a1, a3, a5 ~ a, 8, a10, a11, a13, a15 and a26), and twenty questions have high error rate (a2, a9, a12, a14, a16, a17, a19, a21, a24 ~ a34, a37, a38).

Table. 1. Items Analytical Results

Question	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10
Number	57	57	57	57	57	57	57	57	57	57
Correct (%)	77.8	30.2	66.7	36.5	57.1	90.5	65.1	90.5	20.6	55.6
Wrong (%)	12.7	60.3	23.8	54	33.3	0	25.4	0	69.8	34.9
Question	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20
Correct (%)	90.5	30.2	73.0	11.1	69.8	14.3	27.0	49.2	39.7	47.6
Wrong (%)	0	60.3	17.5	79.4	20.6	76.2	63.5	41.3	50.8	42.9
Question	a21	a22	a23	a24	a25	a26	a27	a28	a29	a30
Correct (%)	11.1	42.9	41.3	20.6	28.6	66.7	7.9	12.7	17.5	14.3
Wrong (%)	79.4	47.6	49.2	69.8	61.9	23.8	82.5	77.8	73.0	76.2
Question	a31	a32	a33	a34	a35	a36	a37	a38	a39	
Correct (%)	30.2	15.9	19.0	22.2	47.6	31.7	30.2	42.9	46.0	
Wrong (%)	60.3	74.6	71.4	68.3	42.9	58.7	60.3	46.0	44.4	

According to Table 4.2, the response time of a question is not over 60 seconds. Additionally, because the data showed the extreme values, some participants may not seriously answer those questions.

Table. 2. Analytical Results of Responding Time

Question	Min (Seconds)	Max (Seconds)	Avg	SD	Question	Min (Seconds)	Max (Seconds)	Avg	SD
b1	0	300	42.79	48.619	b21	1	330	65.11	60.733
b2	1	120	18.61	20.659	b22	0	270	41.60	41.418
b3	1	120	19.02	21.721	b23	1	150	32.23	25.164
b4	0	270	55.81	63.801	b24	0	270	40.65	46.647
b5	0	270	16.86	36.699	b25	0	150	39.00	32.808
b6	1	60	16.81	13.174	b26	1	270	25.33	37.348
b7	0	270	19.42	38.587	b27	0	300	31.82	42.631
b8	0	40	12.09	10.458	b28	0	180	39.35	36.780
b9	1	60	12.96	13.710	b29	0	300	47.98	59.472
b10	0	120	17.00	18.268	b30	0	240	32.02	41.761
b11	5	330	64.04	60.418	b31	0	200	28.37	30.093
b12	3	270	55.58	51.989	b32	0	270	26.79	38.547
b13	0	110	22.39	22.493	b33	0	60	21.82	15.780
b14	5	120	41.04	29.539	b34	0	180	29.44	31.390
b15	1	270	42.18	49.032	b36	0	200	26.70	35.829
b16	0	180	29.96	32.191	b37	0	300	35.49	44.011
b17	0	300	86.16	86.020	b38	0	275	25.98	42.745
b18	1	150	35.77	33.133	b39	0	300	30.95	42.262
b19	1	120	23.16	21.262	b40	0	270	25.53	42.450
b20	0	172	42.19	35.457					

According to Table 4.3.1 to Table 4.3.4, the easy questions are c1, c3, c6, c8 ~ c10, c13, and the difficult questions are c16, c19, c20, c21, c24, c29, c30, c32, c34.

Table. 3. Items Analytical Results

		c1	c2	c3	c4	c5	c6	c7	c8	c9	c10
N	Valid	57	57	57	57	57	57	57	57	57	57
	Average	1.58	1.70	1.44	2.04	1.91	1.26	2.07	1.30	1.70	1.51
	Easy (%)	54.0	42.9	57.1	19	42.9	69.8	22.2	68.3	46	49.2
	Fair (%)	20.6	31.7	27.0	49.2	12.7	17.5	39.7	17.5	25.4	36.5
	Difficult (%)	15.9	15.9	6.3	22.2	34.9	3.2	28.6	4.8	19	4.8
		c11	c12	c13	c14	c15	c16	c17	c18	c19	c20
	Average	2.11	2.02	1.42	2.04	2.04	2.51	2.88	2.30	2.30	2.61
	Easy (%)	14.3	17.5	58.7	20.6	22.2	12.7	1.6	9.5	17.5	3.2
	Fair (%)	52.4	54.0	25.4	46.0	42.9	19	7.9	44.4	28.6	28.6
	Difficult (%)	23.8	19	6.3	23.8	25.4	58.7	81.0	36.5	44.4	58.7
		c21	c22	c23	c24	c25	c26	c27	c28	c29	c30
	Average	2.61	2.12	2.35	2.79	2.37	2.19	2.39	2.26	2.47	2.61
	Easy (%)	1.6	12.7	4.8	1.6	6.3	19	12.7	7.9	7.9	6.3
	Fair (%)	31.7	54.0	49.2	15.9	44.4	34.9	30.2	50.8	31.7	22.2
	Difficult (%)	57.1	23.8	36.5	73.0	39.7	36.5	47.6	31.7	50.8	61.9
		c31	c32	c33	c34	c35	C36	c37	c38	C39	
	Average	2.44	2.53	2.11	2.44	2.12	2.33	2.39	2.32	2.26	
	Easy (%)	7.9	6.3	17.5	11.1	17.5	3.2	7.9	14.3	14.3	
	Fair (%)	34.9	30.2	46.0	28.6	44.4	54.0	39.7	33.3	38.1	
	Difficult (%)	47.6	54.0	27	50.8	28.6	33.3	42.9	42.9	38.1	

5. Conclusion

The pre-study design the questionnaire for a formal experiment to measure the consumer emotions when they are waiting for putting their token on hand into a lottery box. The study analyzed the designed question items, and the found difficult questions and easy questions will be used in the formal study.

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