The Dissection of Unpleasant Customer Experience in Electronic Commerce Contexts

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***Abstract*—To many consumers, online shopping has become one major way to shop, so e-commerce and other related industries has enjoyed fast growth in recent years. Online retailers interact with their customers via Web-based or so-called virtual storefronts. Inevitably, various unpleasant shopping experience keep emerging along with increasing adoption of shopping via virtual storefronts. A successful online retailer must be aware of these negative factors and know how to handle them effectively. This research work investigates the perceptions of online shoppers, identifies the critical incidents leading to consumers' unpleasant experiences during shopping processes, and gains insight into the reasons behind these experiences. Furthermore, a set of solutions for increasing customers' satisfaction were proposed accordingly.**

***Index Terms*—E-commerce, online shopping, virtual storefronts, customer experience, critical incidents**

I. Introduction

With emerging of diverse online businesses, e-commerce becomes a major sales and consuming channel to most enterprises and people. Among others, online retailers provide two-facet advantages for manufacturers as well as consumers. From manufacturers' standpoint, bulk transactions could be made through online retailers that can attract and retain volume of individual customers who would not have gathered fast and easily without an online intermediate. From customers' viewpoint, lower priced products and services could be available due to the lower operating cost of online retailers that usually do not pay similar amount of tax in many countries and can reduce inventory and the related cost, comparing with their brick-and mortar counterparts..

The typical procedure of an online retail transaction is very close to the one in physical storefronts. At the beginning of the procedure, customers browse retailers' storefronts to collect information of products interesting them. After thinking over and comparison, customers make decisions and then place the corresponding order after payment. Once customers obtain order numbers, they can return or exchange purchased products, ask relevant questions, all via online customer service desks. Obviously, online retailing transaction is a highly interactive process between customers and the virtual storefronts.

Just like in physical retailers, various types of mis-understanding and disputes inevitably arise in the highly interactive course of the online shopping. Unfortunately, those understanding and disputes usually result in customers' dissatisfaction or even might tarnish images toward the involved personnel and merchants. Even worse, according to prior research works, customers' dissatisfaction will make adverse impact on their loyalty in terms of their re-purchase intention [1-3]. Customer loyalty in turn is critical to business's revenue [4] and profit [5]. Obviously, if online retailers do not come up with proper solutions for handling these dissatisfaction and disputes, subsequent unfavorable consequences will not only tarnish the image of the merchant, but also shrink its revenue eventually. However, due to the intrinsic differences between physical and virtual retailing contexts, lessons associated with negative customer experiences from physical retailers cannot completely resolve the issues that online retailers are facing.

In view of significance of the aforementioned issue and paucity of solutions, the present work aims to identify customers' unpleasant experience toward the procedure of online retail transactions, and investigate reasons behind these experiences. The anticipated contribution of the present work is providing online retailers and other

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e-commerce industry concrete suggestions, which are helpful in improving their service quality, customer satisfaction, and eventually operating performance.

II. Prior Studies

Before presenting the work that investigates customers' unpleasant experience toward the procedure of online retailing transactions, and the reasons behind them, relevant studies are reviewed first.

A. Eco-system of Online Retailing

In an eco-system of online retailing, a retailer mainly plays an intermediary role between end customers and manufacturers offering products or providers offering services. To play its role adequately, online retailers need to build Web-based information systems for soliciting and managing both manufacturers and customers; displaying catalogs and taking orders; broadcasting promotion messages autonomously or on behalf of manufacturers from time to time; processing payments; delivering products, services, or vouchers to customers; responding questions and requests from customers.

Many prior studies about the Web-based information system enabling online storefronts focus on the user interface design [6-9] and operation process [10, 11] issues. In other words, most people still treat online storefronts as an intermediate between human and machines. However, if investigating issues through the perspective of social contacts, issues beyond GUI and operation process levels such as customer unpleasant experiences should emerge. Obviously, customers still will feel unpleasant if they encounter inconsiderate or even rude actions or wordings from online storefronts, no matter those storefronts possess attractive visual design and efficient processes or not.

B. Service Encounter

In physical commerce contexts, during the course of service encounters, customers interact with front-line merchants' staff. Customers personally experience and assess a merchant's service quality in the course of service encounter [12]. Conventionally, merchants' staff play the most significant role in affecting customers' perceptions of service quality [13, 14]. Minimizing problems and promptly solving them during service encounters can reduce customers' dissatisfaction, which is critical to the retention of customers.

The virtual storefronts replace clerks and staff in online commerce contexts, thus the service encounter and consequent experiences happen between customers and Web-based information systems. The service encounter in virtual commerce contexts looks superficially the same with the one in physical contexts, the only difference is the party that customers interact with become a information system. However, in the pure virtual or the hybrid (virtual and physical) commerce contexts, there are different sources leading to customers' unpleasant experiences and the consequent incidents. Obviously, the interactions with a computerized storefront is different from the interactions with clerks in many facets such as the major mode of information disclosure and instructions (visual vs. audio), communication type (active vs. hybrid), degree of interactivity (customer-centered vs. adaptive), and so on.

Consequently, prior studies and lessons regarding customer experiences and service encounter in physical commerce contexts cannot adequately address relevant issues in the virtual commerce contexts. So, it is rational to conduct research for investigating customer unpleasant experiences in online storefronts.

Because it is difficult to find out customers' unpleasant experiences and the reasons by taking quantitative research approach. Accordingly, this research work took a qualitative approach.

C. Critical Incidents Technique

Critical incidents technique (CIT), a qualitative research approach was initially presented by Flanagan [15] about six decades ago, has being successfully applied in diverse domains [16-19] to find out the reasons behind effective and ineffective performance of organization personnel. The core concept of the CIT is critical incidents; they are well-described, real, and significant incidents of human behaviour, which significantly affect observers' perceptions, either positively or negatively. The widely adoption of the CIT by diverse domains during past 5 decades is based on a solid-proved fact that it is a matured and stable research method [20].

The CIT is a systematic and inductive procedure that comprises the following five steps: (1) identifying the aim of the study and the research question; (2) identifying the types of incidents to be collected; (3) identifying the means of data collection; (4) analyzing the collected data; and (5) categorizing and interpreting the data.

The following section details how this research work applied the CIT to find out online shoppers' unpleasant experiences toward virtual storefronts while they were shopping, and the reasons behind these unpleasant experiences.

III. Research Methodology

The research work used critical incidents technique to identify what kinds of unpleasant incidents the customers have experienced, and why they felt unpleasant in the course of online shopping. Subjects were recruited at department stores in urban area during the 2013 fall semester, those with online shopping experiences and unpleasant experiences toward virtual storefronts were screened first, then proceeded the interview based on their willingness because the interviewing takes more than half an hour in average. There were 105 participants involved in this research, 98 of them completed the interview effectively; 52 (53.1%) are female and 46 (46.9%) are male.

The research process proceeded collecting and

investigating the perceptions of subjects through interviews, which comprised the following five questions and might be similar to story-telling activities:

Q1. Do you remember a particular unpleasant event or interaction with virtual storefronts while you were shopping online?
Q2. If an unpleasant incident did happen, when did it happen?
Q3. What did the virtual storefront behave or respond exactly?
Q4. In your opinion, what specific circumstances led up to that unpleasant incident?
Q5. What do you think the virtual storefront should be improved thus you will feel better?

Researchers recorded details of events and behaviours that have been mentioned by participants and resulted in unpleasant experiences while they were shopping online. A critical incident means it contributing to the unpleasant event in a significant way. Obviously, the participants tend to tell the most memorable events if they were particularly unpleasant. Not only incident's general descriptions, time, circumstances , reasons were all recorded.

98 critical incidents were reported by these interviewees, and recorded by researchers. Because the questions of this research work is straightforward, the number of incidents (98) in this research work is adequate for conducting the CIT according to the basic requirement of that research method [15], which was specified by Flanagan.

IV. Data Analysis and Results

A. Classification Scheme

After collecting unpleasant incidents from interviewees, this research tried to classified the 98 collected incidents. Content analysis and coding [21-23] were used to cluster 98 incidents into 5 groups, each group in turn has different numbers of incident types. As Table. 2 shows, the 5 groups are:

Group 1, compulsive actions; virtual storefronts perform certain kinds of action by force, i.e., customers do not have any other options, which usually make shoppers feel disrespectful.

Group 2, system errors; virtual storefronts produce erroneous data or respond to customers' request incorrectly, which usually make shoppers feel the storefronts are undependable.

Group 3, inconsistency; virtual storefronts did different from what they stated or claimed, which usually make shoppers feel the storefronts are deceitful.

Group 4, repetitive input; virtual storefronts ask shoppers to input the same data repetitively, which usually make shoppers feel annoying and inconvenient.

Group 5, misleading, virtual storefronts revealed partial or incomplete information that sometimes lead to shoppers' wrong decisions, which usually make shoppers feel the storefronts are deceitful.

After the classification scheme was established, according to the scheme comprising the 5 groups of unpleasant experiences toward virtual storefronts, each recorded incident was classified into one incident type of the 5 groups by the 3 different judges, respectively.

B. Reliability and Validity of Incidents Classification

Generally speaking, the 98 unpleasant incidents were consistently classified by the 3 judges (classifiers), as Table 1 indicates.

TABLE 1:
INCIDENTS CLASSIFIED BY 3 INDIVIDUALS

No. of consistently classified incidents	Judge 1	Judge 2	Judge 3
Judge 1	98	--	--
Judge 2	66	98	--
Judge 3	68	73	98

The reliability checking of a CIT research work comprises two parts: one is the individual classifying consistency, another is inter-judge classifying consistency. The former one concerns whether the classifying works done by a particular judge is reliable (stable), this could be checked by comparing two classifying works done by the same judge, but at different time. According to prior studies [24-26], if the consistency rate of two classifying works done by a particular judge exceed 0.8, the particular judge did reliable classification. In this research work, the 3 judges' individual classifying consistency indices in the 3 groups are (0.80, 0.82, 0.87), (0.88, 0.85, 0.91), and (0.90, 0.89, 0.87), respectively. Obviously, the 3 judges' classification works were all reliable.

On the other side, inter-judge classifying consistency index measures whether there exist consensus of classification among judges or not. The inter-judge agreement index of this work is 0.70, and the corresponding reliability is 0.88, which indicates the classifying of incidents by the 3 judges was reliable, according to the formula presented by Holsti [22]. The formulas for deriving inter-judge agreement index and reliability are described as follows:

$$R = \frac{(N \times A)}{1 + [(N-1) \times A]} \tag{1}$$

$$A = \frac{\frac{2M_{12}}{n_1 + n_2} + \frac{2M_{23}}{n_2 + n_3} + \frac{2M_{13}}{n_1 + n_3}}{N} \tag{2}$$

'R' is reliability,

'N' is the number of judges (persons who classified incidents),

'A' is average inter-judge agreement,

'M' is the number of incidents that were consistently classified; M_{23} means the number of incidents that were consistently classified by judge 2 and judge 3,

'n' is the number of classified incidents; n1 means the number of classified incidents by judge 1.

Regarding the validity, the 5 questions of the interview were reviewed by 5 domain experts, one of them operated online travel agency, two were e-commerce platform developers in companies developing online retail storefronts, and other two worked with relevant departments in universities. They thought that descriptions of the 5 questions are clear and can find out what the researchers expected to explore; in other words, the face and expert validity of the instrument was confirmed.

TABLE 2:
SAMPLE INCIDENTS LEADING TO CUSTOMERS' DISSATISFACTION

Groups of incidents	Description of incidents
Compulsive Actions	1. A pop-up window blocking shopper's operations
	2. A auto-played background music that bothering shoppers prefer silence
	3. Update software without asking or offering other option
	4. Redirecting to other web site without prompt
	5. Continuously popping-up windows
	6. Adding shoppers to blogs or online groups stealthily
	7. Must click 'YES' or can not proceed
System Errors	1. Broken links
	2. Incorrect catalog categorization
	3. Could not login after registration
	4. Reveal passwords on screen
	5. Could not go back to previous pages
	6. Wrong customer service phone numbers
Inconsistency	1. Could not order items (out of stock) that were already placed in shopping carts
	2. Different prices of the same item appear in catalog and shopping carts
	3. Different discount scales of the same item appear in catalog and orders
	4. Re-open hour is different from the one announced before scheduled shutdown
	5. Downloaded contents is not the one as the link text or image indicated
Repetitive Input	1. Asking input the same data again right after submission
	2. Need to type the username every time
	3. Asking input the same data that were provided in the previous pages
	4. The verification code is unclear, need to regenerate multiple times
	5. The format of inputted data are incorrect, but did not state the acceptable formats
	6. Need to refill all fields' data even only one field is mis-inputted
	7. Need to find out an available username by trying many times
Misleading	1. The item is out of stock when limited items started for sell
	2. Partial information were revealed, need to go to another page for obtaining remaining parts
	3. State restrictions only after joining as a member
	4. Providing claimed discount only after shoppers granting merchant rights of using personal data
	5. Recommending other web pages containing irrelevant contents

V. DISCUSSIONS AND CONCLUSIONS

This article presents a research work that aims to identify online shoppers' unpleasant experience during the process of online shopping, as well as the reasons behind them. The CIT was used to conduct the work.

The research findings are summarized in Table 3. The figures show that shoppers' unpleasant experiences majorly come from the "compulsive actions" group that were 24 reported incidents and account for 24.5% of all unpleasant incidents. This figure indicate that shoppers are unhappy about being forced to see or do something. Among the 24 incidents associated with compulsive actions, 6 (25%) of them belong to the type "update software without asking or offering other option", 4 (16.7%) are "a pop-up window blocking shopper's operations", and 4 are " adding shoppers to blogs or online groups stealthily". The top 3 incident types accounts for more than 50% of all compulsive actions, the figures indicate that online merchants need to pay more respect to shoppers' rights to choose the best one among multiple options rather than forcing them to accept the only one option, while establishing their virtual storefronts that to certain extent, can represent the merchants and brand images.

Followed the "compulsive actions" incidents group, there were 22 incidents being classified as group of "system errors", account for 22.4% of all unpleasant incidents. Among the sources of the runner-up group of incidents, "broken links" topped the ranking, it accounts for 27.3% of all incidents in this group, followed by the "incorrect catalog categorization", 5 occurrences or 22.7%. This figure suggests online merchants that a more thorough quality assurance procedure need to be devised and performed to remove those frequently observed errors before releasing the storefronts, or shoppers tend to leave because nobody want to interact with an undependable business party. Furthermore, the quality

assurance procedure had better be revised and executed regularly to adapt to the unceasingly amendment for meeting new circumstances.

The third ranked unpleasant experiences are "misleading", 19 incidents reported in this group. The top 3 incident types are "Providing claimed discount only after shoppers granting merchant rights of using personal data", "partial information were revealed, need to go to another page for obtaining remaining parts", and "state restrictions only after joining as a member"; they account for almost 70% of the incidents in this group. This figure shows that shoppers prefer completely understanding their usage terms, rights and restrictions of being a customer or member, thus they can make right decisions while they are encountering offerings of interest. If experiencing misleading information several times, they will feel the online merchant are deceitful and will look for other online retailers.

After analyzing the reasons resulting in the 5 groups of unpleasant incidents, carelessness and negligence were found lead to the most of incidents. Obviously, before launching virtual storefronts, more thorough integrated and user acceptance testing are necessary to assure that these negative customer experiences will be reduced to the minimal level.

TABLE 3:
SUMMARY OF CLASSIFIED INCIDENTS

Groups and sub-groups	Freq.	% in category	% in overall
A. Compulsive Actions			
A1. A pop-up window blocking shopper's operations	4	16.7%	4.1%
A2. A auto-played background music that bothering shoppers prefer silence	2	8.3%	2.0%
A3. Update software without asking or offering other option	6	25.0%	6.1%
A4. Redirecting to other web site without prompt	3	12.5%	3.1%
A5. Continuously popping-up windows	2	8.3%	2.0%
A6. Adding shoppers to blogs or online groups stealthily	4	16.7%	4.1%
A7. Must click 'YES' or can not proceed	3	12.5%	3.1%
Sub-total of Group A	24	100.0%	24.5%
B. System Errors			
B1. Broken links	6	27.3%	6.1%
B2. Incorrect catalog categorization	5	22.7%	5.1%
B3. Could not login after registration	3	13.6%	3.1%
B4. Reveal passwords on screen	3	13.6%	3.1%
B5. Could not go back to previous pages	4	18.2%	4.1%
B6. Wrong customer service phone numbers	1	4.5%	1.0%
Sub-total of Group B	22	100.0%	22.4%
C. Inconsistency			
C1. Could not order items (out of stock) that were already placed in shopping carts	2	11.8%	2.0%
C2. Different prices of the same item appear in catalog and shopping carts	4	23.5%	4.1%
C3. Different discount scales of the same item appear in catalog and orders	3	17.6%	3.1%
C4. Re-open hour is different from the one announced before scheduled shutdown	3	17.6%	3.1%
C5. Downloaded contents is not the one as the link text or image indicated	5	29.4%	5.1%
Sub-total of Group C	17	100.0%	17.3%
D. Repetitive Input			
D1. Asking input the same data again right after submission	2	12.5%	2.0%
D2. Need to type the username every time	1	6.3%	1.0%
D3. Asking input the same data that were provided in the previous pages	3	18.8%	3.1%
D4. The verification code is unclear, need to regenerate multiple times	4	25.0%	4.1%
D5. The format of inputted data are incorrect, but did not state the acceptable formats	2	12.5%	2.0%
D6. Need to refill all fields' data even only one field is mis-inputted	2	12.5%	2.0%
D7. Need to find out an available username by trying many times	2	12.5%	2.0%
Sub-total of Group D	16	100.0%	16.3%
E. Misleading			
E1. The item is out of stock when limited items started for sell	3	15.8%	3.1%
E2. Partial information were revealed, need to go to another page for obtaining remaining parts	4	21.1%	4.1%
E3. State restrictions only after joining as a member	4	21.1%	4.1%
E4. Providing claimed discount only after shoppers granting merchant rights of using personal data	5	26.3%	5.1%
E5. Recommending other web pages containing irrelevant contents	3	15.8%	3.1%
Sub-total of Group E	19	100.0%	19.4%
Total	98		100.0%

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