

Investigating the Key Information Dimensions Of Online Customer Reviews Through An Ethnographically-Informed Observational Consumer Study

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Abstract

In today's online shopping experience, online customer reviews are seen as an essential reference in supporting online shoppers to do product study and make a purchasing decision. Online reviews are very influential as they are based on customers' insights and true experience of product use. As e-commerce is becoming more popular, the employment of customer reviews systems grows rapidly as well. Hence, the importance of reviews is acknowledged. But what sort of important information do online shoppers look for when using online reviews? This paper attempts to empirically investigate the engagement between online shoppers and customer reviews to identify what are the key information dimensions that they referred to, searched or looked for regarding online customer reviews. The study conducted an ethnographically-informed observational consumer study aimed at obtaining the important information dimensions of online review contents. The consumer study is based on video recordings of real online shopping experience, and follow-up interviews with the online shoppers. The findings were thoroughly analysed through data coding and validated through inter-rater reliability tests to form a set of key dimensions of important information in online customer reviews. This result shows that the set of key dimensions of review support the reason people look into online customer reviews.

Keywords

Online customer reviews; e-commerce; information dimension; ethnographically-informed observation.

1. Introduction

E-commerce is rapidly growing with the increasing number of commercial Web sites and acceptance of online shopping trending by consumers. Since E-commerce is becoming more popular, the number of customer reviews grows rapidly (Park et al. 2011). Consumers who shop online cannot touch or smell the products; therefore they must refer to product information obtainable from the site to make a judgement on their purchases. The limitation can be mitigated through online sellers offering consumers the chance to share product assessments online (Smith et al. 2005). Generally, online customer reviews are defined as peer-generated product evaluations posted on company or third party websites which contain overviews of products from users' standpoints (Dabholkar 2006).

Today's online shoppers not only browse product catalogues but also seek to find out more information about products which they hope could help in easing their buying decision making process. The online interaction facility in Web 2.0 has enabled online shoppers to pursue their desire to compare prices of products and do product studies. Additionally, customer reviews help online consumers to obtain and collect more valuable information about products which fit their personal preferences (Yang et al. 2009). According to Jmal and Faiz (2013), opinions on the Web have affected our choices and decisions during online shopping; hence it becomes necessary for businesses to offer reviews and provide appropriate forms. Most merchants who sell products on the web often ask their consumers to write reviews on the products they have purchased. The information created by consumers seems very helpful in making purchase decisions because the online customer review consists of new information written from the perspective of consumers who have bought the product. It includes their opinions, general evaluations and self-experiences (Mudambi and Schuff 2010).

Kim and Srivastava (2007) show that the purchase decision-making process is strongly and frequently influenced by online customer reviews. The online customer reviews in an e-commerce system are regarded as important, and this is evidenced and proven by many findings from various studies and surveys from both formal (academic) and informal (commercial) sources. Based on a survey conducted by CompUSA-iPerceptions in 2006, 81% of online shoppers viewed the customer reviews and ratings are important when they are planning for purchasing and another 63% of customers in other study show that they are more likely to purchase from a shopping website that has product ratings and reviews (iPerceptions 2006). The importance of online consumer review could be measured by how much it does help the consumers in developing an appropriately favourable expectations from the vendor (Gefen 2002).

Consumers are welcomed and allowed to write and share their personal experiences by contributing to online reviews, and rating reviews written by other users. Believing that real consumers' views are usually frank and true, online customer reviews are actively used as a major means of information search platform by the online shoppers (Liu et al. 2011). The platform is worth being explored for its user-generated content as it is normally centered on subjective consumers' opinions and product evaluation based on users' experiences (Poyry et al. 2012). Online shoppers are keen to find extra information on the product through customer reviews because it is not available in product descriptions (Jacob 2011). The importance of customer reviews is not limited to its role as a platform for customers to build trust, but also as a highly fruitful information source for enhancing and monitoring customer satisfaction in the online business market (Kang and Park 2014).

The importance of customer reviews has been acknowledged and the literature shows that the content of customer reviews is sourced from users' true experience and insights, but it is still not known explicitly what sort of important information users looked into, searched for or intended to find in customer reviews? Therefore, this paper attempts to investigate engagement between online shoppers and customer reviews to find out what are the dimensions of important information that users are looking into when using customer reviews.

2. Research Objectives

This research aims to investigate the engagement of online shoppers with online customer reviews and find out the key dimensions of important information that are usually being looked for in customer reviews. In order to achieve the aim, the set of objectives is as follows:

1. To conduct an Ethnographically-Informed Observational consumer study to investigate:
 - a. the engagement between online shoppers with customer reviews and,
 - b. the types of important information they look for when using customer reviews.
2. Based on the consumer study, to employ a data coding method on analysing the findings of the important information dimensions of reviews.
3. To conduct an inter-rater reliability test to develop a set of key information dimensions of reviews.

3. The Ethnographically-Informed Observational Consumer Study

Ethnographically-based research is viewed as study by immersion into the social environment where the research takes place. Ethnography carries observation as the fundamental method of gaining understanding about people and cultures. Through participation in the community, the research will have the capability to understand the internal aspects of the observable behaviours (Kunzmann et al. 2011). In the field study, the observation focusses on what happens while in the ethnographic study focuses on why and how things happen (Barnes et al. 2009). Ethnography is traditionally found in sociology or anthropology where studies are conducted over a long period of time (Fetterman 1998). However, this is not a practical method for most commercial research studies as participatory observation could last as long as three years considering the complexities, nuances, histories and other circumstances. Hence, the ethnographically-informed method is proposed in this research to obtain some of the benefits of ethnography. although it is not pure ethnography per-se. Ethnographically-informed observation is a form of modified method that focuses on why and how things happen which conducted in the shorter period of time (Kunzmann et al. 2011)

This study used ethnographically-informed observation to study, not only to find out how people respond to their online shopping activity as in an experimental study, but also to see how they actually behave and work on some particular sub-activities during online shopping. The study aimed to observe how the online shoppers do online shopping or online browsing that occur in online shopping, what items they looked for, and how they engaged with customer reviews to look for more product information in their online shopping process, and if they did, what sort of important information they looked for, based on what items and why they looked out for that information in reviews. All those points were the main target of the observation in this consumer study. After the observations were done, interviews took place with those online shoppers in order to support, explain and confirm the observations of their actions.

3.1 Procedure

The procedure of this study required the participants to record their real online shopping activity including online purchasing transactions and online browsing activity. The aim of this study was to observe the behaviour of people in their online shopping activity. However, to do direct observation is impossible hence virtual ethnography is conducted. The method still allows the researcher to do observation but in the form of video or recording instead of direct observation (Lazar et al. 2010). To make sure that the ethnographically-informed study was successfully conducted, there were no other detailed and specific requirements asked of participants but only their natural behaviour for online shopping activity. It also means that the researcher has no influence on participants by telling them what is expected from the recordings. It is up to the participants to decide what to record, how long the recordings should be, and when to send the recordings. However, so as to control the time and target plan, three months of time was given to the participants to do their video recordings.

3.2 Participant Background

The validity checks were done through background survey where this study only takes participants who are online shoppers, possess basic knowledge about online shopping and have online purchase records of more than 6 times a year. The respondents whom have successfully met all the criteria and have given consent were taken to participate in the consumer study. The following are the other details of background about the respondents who participated in this ethnographically-informed consumer study:

- Came from varies ethnic background and countries such as Malaysia, United Kingdom, Singapore, Brunei, China, Pakistan and Arab.
- Consisted of working class people, students, housewives and also professionals in their fields
- IT-literate and have knowledge of how online shopping is conducted as well as online payment procedures and processes.
- Most of the respondents have membership with certain product brands or online marketplaces such as Amazon, eBay, Tesco and Lazada.

3.3 Data Collection

As for data collection, the consumer study received a total number of a hundred and twenty-five (125) online shopping and browsing video recordings by thirty-one (31) participants. Of these, there were only a hundred (100) online shopping recording videos by twenty-five (25) participants that showed the involvement of customer reviews in online shopping and browsing activities. Those videos were selected and watched, observed and analysed thoroughly and some initial assumptions were outlined and developed as the researcher watched and observed the recordings, but assumptions are not reliable data; hence, an interview was set up with each of the video senders. The interviews conducted were meant to gather more information including clarification based on what they were doing in the recordings. The interviews were also intended to seek feedback from the informants of the consumer study about what type of information is important to them when they look into the online customer reviews as shown and evidenced by their online shopping video recordings, which we showed and discussed. The response contained detailed input which tells the researcher more about their behaviour in online shopping activity, offering reasoning about their acts in the recordings. The interviews were conducted via Skype and recorded via System-O-Matic, an online video screen recorder which enabled recordings of video playback as well as participant images and comments.

4. Analysis of Findings

Based on the observation of online shopping videos and interviews with the online shoppers who represent informants in the consumer study, the following is the analysis of the data collected. This research used Nvivo data analysis software to identify the themes and codes that represent types of information that the informants considered important to read, looked into and referred to through customer reviews in their online shopping activity. Based on data coding analysis, there were five themes or codes of data extracted as follows;

- **User Experience**

People look for cues that suggest the validity of a review based on its content such as experiential reviews which focuses on the reviewers' own experience in using or buying the product (Xia and Bechwati 2008). Through the observation of online customer review usage in the videos, the researcher noticed that the informants were reading about people's experiences in the customer reviews. The observation was confirmed by the informants through interviews when they mentioned that they did look into the experience of other users when reading the reviews. 'User Experience' is the first dimension identified in this study and is supported by the following quotes of the online shoppers who claimed to read about user experience in customer reviews;

*"Well, this is my first time so any kind of information from the **experience of other buyers** is important for me to know of. For example, I could know about the baby carrier material quality, how different type of baby carrier gives impacts to the parents' body, which design is ergonomics and which not."*

(Online shopper 4)

*"For example if I buy electrical stuff, it's quite hard to tell unless you have been using it or buying it previously so yeah I will look into reviews to find out **people's experience** of using the stuff. Besides, different seller sometimes put different prices on the same product so I'd like to know as well what people say about the price."*

(Online shopper 21)

- **Value For Money**

This study has identified the second dimension which is the 'Value For Money'. This kind of dimension is also commonly looked for by users in customer reviews as most online shoppers concern about their value of spending and rather wanted each purchasing is worth every penny they spent (Bronner et al. 2011). The interviews conducted revealed some claims from the informants themselves; that they looked into how other buyers commented about the value for money buying the products that they looked for in the videos. The following are some of the quotes from the informants mentioning value for money as a kind of information that they were interested in when reading customer reviews.

*"When I read a customer review, I'm looking for comments that say whether it is **worth my money**, whether it is cheap but its good quality. Same goes to travel stuff, reviews play an important factor because you would know people's good and bad experience about that place."*

(Online shopper 3)

*"What I like about the review is it is well explained about the durability of the leather which is not easily got a scratch, what departments does the bag have and what sort of stuff that we can put in the bag. This is the most important part of the review about the handbag, because I want **my money worth** to buy that bag."*

(Online shopper 5)

- **Product Quality**

Etzion and Awad (2007) claim that customer reviews play an important role as a mean of communication among customers about the quality of the product, and this claim has indirectly supported the third dimension discovered in this study. According to the claims made by the informants, they were usually looking for reviews about product quality when referring to customer reviews. The following are some example of quotes taken from the informants about finding reviews on product quality.

*“I started to look for reviews because we must know what this product reviewed by other, either this is a **good quality product or bad quality products.**”*

(Online shopper 12)

*“When I read reviews, most of the times I will look for any negative things about a product. For example in this cooker hood product, I’d like to know whether it is too thin, whether it fits well, whether the **quality of the product** meets the price tag.”*

(Online shopper 24)

- **Customer Service**

The fourth dimension of information that the informants looked for based on observation in their online shopping videos concerns customer service. Through the interviews, the following are some examples of quotes on this issue:

*“When I read reviews, what I concern the most is the customer service. For me it is very important because if anything happens to my purchases I know how the **customer service** will handle it”*

(Online shopper 18)

*“In the reviews mostly I looked into their **customer service** especially on the delivery charges. That is why I like Lazada because it’s always free delivery charges”*

(Online shopper 20)

- **Recommendation**

Recommendation is the last information dimension that revealed by the informants in the consumer study. Assessing and searching text reviews can be frustrating when users only have a vague idea of the product, hence people need recommendation reviews (Ganu et al. 2009). Based on the literature, the consumer study has confirmed that people do really need a recommendation from other users about the product after evaluation on other aspects. That is the utmost decision aid that online shoppers need before coming to the final decision whether to buy. The following are quotes from the informants during the interview showing that they read about people’s recommendation during online shopping.

*“From the reviews I found that most of the buyers are unhappy and it is **recommended** to buy other brands of cooker hood filter that offer great thick”*

(Online shopper 15)

*“In this food review blog, it mentioned that the signature and must try is their white coffee and also the chicken Kueh Teow as the **recommendation** of the consumer”*

(Online shopper 7)

5. Data Coding

Based on the analysis made on the findings of the ethnographically-informed consumer study from the previous section, the five key dimensions of important information discovered; User Experience, Value For Money, Product Quality, Customer Service and Recommendation, have been used as the themes or codes for the next task, Data Coding. Data coding is an important validation process to ensure that the codes well represent the important dimensions of information in customer reviews.

5.1 Emergent Coding and Priori Coding

There are two approaches to coding data that operate with slightly different rules. With emergent coding, categories are established following some preliminary examination of the data. The steps to follow are outlined in Hsieh (2005), and will be summarised here. First, two people independently review the material and come up with a set of features that form a checklist. Second, the researchers compare notes and reconcile any differences that show up on their initial checklists. Third, the researchers use a consolidated checklist to independently apply coding. Fourth, the researchers check the reliability of the coding (80% agreement; 0.61 – 0.99 for Cohen’s kappa). If the level of reliability is not acceptable, then the researchers repeat the previous steps. Once the reliability has been established, the coding is applied on a large-scale basis. The final stage is a periodic quality control check.

When dealing with a priori coding, the categories are established prior to the analysis based on some theory. Professional colleagues agree on the categories, and the coding is applied to the data. Revisions are made as necessary, and the categories are tightened up to the point that maximises mutual exclusivity and exhaustiveness (Weber, 1990). The procedures involved are likewise the emergent coding procedures.

This study decided to do both types of data coding to establish reliable and well-understood codes that best present the key important dimensions of information in customer reviews. This study started with Emergent Coding process then a Priori Coding. Based on procedures as explained in the earlier paragraph, there were 6 appointed briefed, well-trained and reliable data coders for the a Priori Coding task while there were 15 data coders for the emergent coding task. In Emergent Coding, the data coders have to come with their own words about what they interpreted from the statements. In Priori Coding, the data coders have to select based on answer options given that they think best represent the statements upon their best judgement and interpretations. The following are Figure 1.2 and Figure 1.3 showing some part of the document contents from both Priori and Emergent Coding Sheets.

Priori Coding

Statement	Information codes;	Sub codes;
<i>“I found some reviews that claimed the cooker hood filter is not thick enough and so thin”</i>	USER EXPERIENCE	Dealing with sellers
		Using products
		Purchasing process
	PRODUCT QUALITY	Features (e.g.; size, looks, materials, weight, etc.)
		Characteristics (e.g.; durability, functionality, etc.)
		Contents (e.g.; music, film, book, etc.)
		General comment (e.g.; good, bad, excellent, poor)
	CUSTOMER SERVICE	Delivery services & charges
		Repairing / Fixing service
		Return / Refund Policy
	RECOMMENDATION	To buy this product or from this seller
		Not to buy this product or from this seller
		Buy from other brands or other sellers
	VALUE FOR MONEY	Worth the money spent
		Not worth the money spent

Figure 1.1 Example of statements on A Priori Coding Sheet

Emergent Coding

Statement 9	Answer
<p><i>“Yes, I do read reviews because here usually people when they buy the product and they are not as what they expected, they will bash the product. They have touched and bought it so their reviews normally reveal the true experience of using the product”.</i></p>	<p>This statement is about;</p>
Statement 10	Answer
<p><i>“I’m looking for the review that says whether it is worth my money, whether the product is considered cheap.”</i></p>	<p>This statement is about;</p>

Figure 1.2 Example of statements on Emergent Coding Sheet

6. Inter-Rater Reliability Test

It is important to assess the reliability and validity of the codes established through the data coding analysis done in the previous section. In the reliability checks, there are two main dimensions that aimed to be achieved which are the stability and reproducibility checks. The stability check is also defined as *inter-rater or inter-coder reliability* where the process involves examining whether the same coder rate or code the data in the same way throughout the coding process. As for validity, indicating that only if it measures what it is supposed to measure, but one can only ask about that if it is in the first place reasonably reliable. So validity checks should in theory follow reliability checks (Lazar et al. 2010).

The results of Emergent Coding were calculated using Cohen’s Kappa, Percentage Agreement, Scott’s Pi and Krippendorff’s Alpha instruments while in A Priori Coding, only Cohen’s Kappa instrument was used. Those instruments were meant to check reliability and validity of the codes established. The reasons of the difference methods used for both data coding types are; in Emergent Coding, the agreement has to be assessed between two coders only all the instruments used are suitable for this purpose while in A Priori Coding, the agreements needed to be assessed by all data coders at the same time and the instrument used suitably served the purpose.

The following is the result of Emergent Coding using Cohen’s Kappa Percentage Agreement, Scott’s Pi and Krippendorff’s Alpha as shown on Table 1.3, 1.4 and 1.5. Based on the results of data coding, the Emergent Coding gave Coder 5, 7 and 8 as coders that have the most promising agreement result achieved. There are three tables represent agreement results between Coder 5, Coder 7 and Coder 8 whom identified as having good and excellent agreement levels compared to other coders.

Table 1.3 Result of Agreement between Coder 8 and 5

Variable Coder 8 & 5	Percent Agreement	Scott’s Pi	Cohen’s Kappa	Krippendorff’s Alpha	N Agreements	N Agreements	N Cases	N Decisions
	76.9%	0.699	0.705	0.71	10	3	13	26

Table 1.4 Result of Agreement between Coder 7 and 5

Variable Coder 7 & 5	Percent Agreement	Scott’s Pi	Cohen’s Kappa	Krippendorff’s Alpha	N Agreements	N Agreements	N Cases	N Decisions
	84.5%	0.802	0.805	0.81	11	2	13	26

Table 1.5 Result of Agreement between Coder 8 and 7

Variable Coder 7 & 8	Percent Agreement	Scott’s Pi	Cohen’s Kappa	Krippendorff’s Alpha	N Agreements	N Agreements	N Cases	N Decisions
	92.3 %	0.895	0.895	0.899	12	1	13	26

Table 1.6 is the result of A Priori Coding using Cohen’s Kappa indicator where it indicates results of agreement level achieved by all coders; Coder 1, 2, 3, 4, 5 and 6. In Priori Coding, those are the 6 coders that have achieved the accepted agreement level result.

Table 1.6 Result of Agreement between All Coders

Average Pairwise Cohen’s Kappa	Pair wise 1 & 6	Pair wise 1 & 5	Pair wise 1 & 4	Pair wise 1 & 3	Pair wise 1 & 2	Pair wise 2 & 6	Pair wise 2 & 5	Pair wise 2 & 4	Pair wise 2 & 3	Pair wise 3 & 6	Pair wise 3 & 5	Pair wise 3 & 4	Pair wise 4 & 6	Pair wise 4 & 5	Pair wise 5 & 6
0.714	0.87	0.74	0.54	0.62	0.80	0.93	0.80	0.53	0.68	0.74	0.75	0.61	0.60	0.60	0.87

Results from both emergent and priori coding have achieved a substantial level of Kappa’s agreement level (80% agreement; 0.69-0.99 for Cohen’s kappa). The findings of preliminary codes, initiated through interview feedback data, then evaluated through data coding and assessed thoroughly via inter-coder reliability and validity checks are sufficient to support the establishment of the key reviews dimensions set.

Based on the results shown in tables above, from both emergent and a priori coding have presented a substantial level of agreements between coders. The results interpreted that the codes extracted are reliable and the set of key important information dimensions in customer reviews consists of User Experience, Value For Money, Product Quality, Customer Service and Recommendation. All these categories or key important dimensions of information are generic yet distinctive which has enabled people to differentiate the difference between the categories.

7. Conclusion

The study has proven that using an Ethnographically-Informed Observational approach is a valuable and practical method which is suitable in investigating online shoppers' information search needs and identifying the key important information dimensions in review content. Based on the consumer study, the findings formed codes that represent the review dimensions and the codes were assessed through emergent and a priori coding processes to establish reliability and validity of the codes developed. Hence the result has signified that the codes represent reasons people look into customer reviews based on the scores achieved. To sum up, the overall output of this research has discovered that the User Experience, Value For Money, Product Quality, Customer Service and Recommendation are the key important information dimensions of customer reviews.

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Biography

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