Customer Perception towards Internet Selling Platforms through Opinion Mining

Aswathy R, Malavika G

Abstract: Online selling applications are becoming popular day by day. Customers of these applications find them easy to use, convenient, reliable, and quick at fetching responses. The number of such applications are growing in number by each passing year. There is also growing competition to win customers from each of the operating applications. Sometimes customers get confused by the variety of offers given by these applications. This study has looked at the customer perceptions towards two popular online selling applications namely, OLX and Quikr through the lens of sentiment analysis. Sentiment analysis is a way to capture the sentiments of customers using various analytical software. This study has used Python to do the analysis. The results of the study point out that one of the applications is favored by customers because they have experienced good service through it compared to the other application. The results show that customers value good service at all times and they develop a trust towards the service provider providing better value for money. The managers of the online selling applications should make an effort towards giving confidence to the users about the ease of use of the apps, its reliability, safety and security features, etc. The economy is moving towards adopting more of collaborative consumption practices and the future for such applications looks very promising. The study is relevant in the current times because customer perceptions towards online selling service providers can contribute to the very survival of these kind of applications and hence it is necessary to capture the same.

Keywords: Collaborative consumption, sharing economy, OLX, Quikr, perception

I. INTRODUCTION

The advent of internet of things have made life easy for consumers all around the world because it provides them with an uninterrupted flow of information about their purchase needs at the click of a mouse. It is not only convenient but cheap with easy access to information without having to go out and search for it physically. The number of online shoppers has increased exponentially over the past few years (Fernando, Sivakumaran, & Suganthi, 2016). Online businesses have also become very profitable over the past few years (Chopra, 2013). The online businesses have become profitable due to their low cost of production, self-organization, increased connectivity, and modularity (Chopra, 2013).

Second hand online selling markets are also one of the inventions of the internet of things that have made the life of consumers easier, smoother, and faster than before.

The online second hand markets have made their presence felt through their websites and mobile applications (apps). They act as bridges between prospective sellers and buyers for redistributing already used goods (Cameron & Galloway, 2005). The buyers and sellers are actually consumers themselves or prosumers as they are becoming part of collaborative consumption or sharing economy through an online app (Ertz et al.,2016). The sharing economy or collaborative consumption practices are supported by the growth of internet technology (Hamari et al., 2016). Online second hand markets have taken advantage of this growth in internet technology through the development of mobile friendly applications (Durif et al., 2017). Across the world, online second hand market places are growing day by day (Lee & Stewart, 2016). Therefore, it becomes important to know how consumers of these second-hand online markets perceive them in terms of value for money. Perceived value is the difference between the sacrifices made to obtain a product or service and the benefits obtained from the same (Zeithaml, 1988). Uncertainty in online dealings is a big deterrent to its successful penetration among consumers (Dimoka et al., 2012). Perceived uncertainty is the difficulty in predicting the outcome of an online transaction due to information asymmetry arising from the seller's or buyer's end (Dimoka et al., 2012). The e-commerce retailers or e-tailers are also interested to know the kind of uncertainties that consumers perceive when buying from them as compared to buying from physical stores. They are also interested in finding out ways to iron out the uncertainties that consumers perceive (Sir Deshmukh et al., 2002). Removing uncertainties will definitely add value to their output and also give them a competitive advantage (Reichheld & Schefter, 2000; Anderson & Srinivasan, 2003; Yang & Peterson, 2004). Online e-tailers of second hand goods also need to promote repurchases from their e-stores. Hence, understanding consumer perceptions towards e-tailers of second hand markets and their value propositions becomes important. Therefore, this study attempts to look at consumer perceptions towards two very popular online second hand marketers, OLX and Quikr through the lens of sentiment analysis.

OLX is a free online site to sell used goods ranging from used cars to mobile phones or anything under the preview of usable goods. Sellers can submit online advertisement about the goods that they want to sell on the OLX website (OLX.in) or through the mobile application. Sellers need not create an account to do the same. Buyers have to browse the goods that they want to purchase on the OLX website or mobile application and they can chat with prospective sellers and fix the deal among themselves.

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The website or mobile application of OLX serves as a link to connect prospective buyers and sellers, but they do not have any role in fixing the deal between the two parties. Similarly, Quikr is also an online classifieds platform where people (buyers and sellers) can connect with each other for the purchase of buying and selling goods. Quikr has over 4.2 million listings and have generated over 150 million replies. The mode of operation of Quikr is same as that of OLX. It is headquartered in Mumbai and operates in 940 cities across India.

They have a website and mobile application to enable transaction between buyers and sellers.

To understand customer perceptions towards both the e-tailers the study has used attitude formation and subsequent purchase intention as important constructs. Attitude is a "learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a given object" (Fishbein and Ajzen, 1975). People have attitude towards anything that gives out a stimulus to the environment whether it is religion, politics, food, music, and other people. Attitude formed through cognitive processes can make people like or dislike objects or ideas prompting them to move towards or away from them (Kotler, 2004; Bearden et al, 1995).

II. LITERATURE REVIEW

The purchase of already owned products is referred to as second-hand goods shopping. There are a large number of brick and mortar stores outside the online shopping arena that deal in the sale of second-hand goods, for example there are flea markets, garage sales etc. With the development of internet of things, the online exchange of used goods among consumers, that is C2C exchanges have been greatly facilitated. The buyers and sellers remain anonymous to each other in C2C exchanges until the time of final deal (Yen & Lu, 2008). The method through which buyers evaluate the reputation of buyers is through online reviews which are provided by the internet facilitators like OLX and Quikr. Most of the studies on online C2C exchanges have looked at trust as an important construct in smoothening the exchange process. (Ghose, 2009; Yeh et al., 2012). Online platforms like OLX and Quikr provide a take-off ground for buyers and sellers to meet each other for the purpose of exchange of goods and do not provide any other value-added services (Kapitan & Bhargave, 2013). This study looks at factors that lead to a positive or negative perception formation towards the online e-tailers of second hand goods and how this perception eventually leads to attitude formation and purchase behaviour.

There are many factors related to online service providers that affect consumers' perception towards them and the subsequent attitude formation. One of them is online security. Positive customer experiences on the security aspect provided by online e-tailers lead to formation of a positive security perception and subsequent attitude formation towards the same (Krishnamurthy, 2001; Ha, 2004). Enhanced security features like secured payment gateways and confidentiality of personal information enhance customer experience and perception (Ha, 2004). Similarly, privacy is another factor that has an impact on customer perception and attitude formation. Privacy is the perception of risk experienced by consumers when they expose personal information to online service providers

(Saputra & Dewi, 2016). A secure website with enhanced privacy features which protect online privacy of users can lead to a positive perception and attitude formation towards the service providers (Sheehan & Hoy, 1999; Ha, 2004). Popular brand names like OLX and Quikr which evokes familiarity and trust also gives rise to positive perceptions towards them in the minds of the consumers (Keller, 2003; Ha, 2004). Positive word-of-mouth (WOM) produces trust towards the brand that leads to formation of positive perceptions and attitude (Westbrook, 1987). WOM helps consumers to take a purchase decision based on the positive or negative experiences of fellow consumers (Bone, 1995). WOM is generally based on consumer experiences with the online service providers. A good service experience leaves a lasting impression on the minds of the consumers (Ha, 2004). Experience has been studied as an important variable in studies related to online consumer purchase behaviour (Mitchell, Reast, & Lynch, 1998). In case of online market exchanges, consumers expect the service provider to give them a positive experience (Ha, 2004). Complete information regarding all aspects of the good being sold also adds to a positive consumer experience (Ha, 2004). Consumers are interested in customized information related to their purchase behaviour and they expect the online service providers to provide them with the same (Meyvis & Janiszewski, 2002). Irrelevant or useless information weakens consumer trust on the online service provider and they perceive the online service provider to be poor in quality (Ha, 2004).

Based on the observations from the studies mentioned above, it can be said that customers develop positive perceptions towards the online service providers like OLX and Quikr if they are able to provide online privacy, security, brand quality, and customized information to the consumers. This leads to development of positive attitude and subsequent purchase intention.

The mediating role of attitude on behaviour was explained through the theory of reasoned action (Ajzen & Fishbein, 1980). This theory has been extensively used in literature to explain the influence of motivational factors on behaviour. According to this theory, actual behaviour of individuals are shaped by their attitude towards the particular behaviour which in turn is shaped through beliefs associated with the behaviour.

III. MODEL AND HYPOTHESES:

H1: Brand quality has an impact on customer perception towards OLX and Quikr.
H2: Information quality has an impact on customer perception towards OLX and Quikr.
H3: WOM has an impact on customer perception towards OLX and Quikr.
H4: Privacy and security has an impact on customer perception towards OLX and Quikr.
H5: Positive/Negative perceptions have an impact on attitude formation towards OLX and Quikr
H6: Positive/Negative attitude has an impact on purchase behaviour towards OLX and Quikr.

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IV.METHODOLOGY

One of the key influencers of human activities is related to opinions (Liu, 2012). Specifically, consumer perceptions towards products and services are related to a considerable degree on the opinion of fellow consumers' evaluation and experience about the same. Hence, consumers often seek the opinion of others before making any purchase decision (Liu, 2012). For this reason, opinions expressed by consumers on social media are important research tools to dig into their perceptions towards any product or service.

This is where opinion mining or sentiment analysis becomes an important research tool for researchers. Sentiment analysis has rapidly grown as a research tool because of the popularity of social media among consumers. Now consumers take to social media forums like forum discussions, blogs, microblogs, Twitter, and other social networks to express their opinion about anything that interests them. There is a huge volume of opinionated data available through social media platforms mentioned above. This has given scope to sentiment analysis to grow as a widely accepted tool for data mining, web mining, and text mining studies. Earlier it was concentrated on studies related to machine learning, but in the recent past it has spread to management sciences and social sciences as a tool of research studies.

This study has used entity and aspect level of sentiment analysis. This level of sentiment analysis helps in identifying what people liked or disliked exactly about the target product or service (Hu & Liu, 2004). This level is based on the idea that an opinion consists of a sentiment which can be positive or negative and a target for whom the opinion has been given (Hu & Liu, 2004). Therefore, the aim of this level of analysis is to find sentiments about targets which can be firms or service providers as in this study. This study has taken both regular and comparative opinions for the study. A regular opinion is a sentiment only about a particular target whereas a comparative opinion is a sentiment about multiple targets (Jindal & Liu, 2006b).

This study collected 200 opinions (both regular and comparative) from social media sites like Twitter, blogs, microblogs, and social networks about Uber and Quikr. The analytical software used for the study was Python. Data was loaded and visualized in Python. The data was processed by removing punctuations, converting to lower case, and creating a list of reviews. The data was analysed further to get the results.

The above tables show the polarity derived for Quikr and OLX when analysed in Python. Finding out the polarity of words and phrases in sentiment analysis was the pioneering work of Hatzivassiloglou and McKeown (1997). Contextual polarity as used in the study can be positive, negative, both, or neutral. A total of 10,521 subjective expressions from 200 documents (5632 sentences) were given contextual polarity as shown above. Of the 5632 sentences, 25% contained no subjective expressions, 25% contained only one subjective expression, and 48% contained two or more expressions. Out of the 2602 sentences that had two or more than two expressions, 18% contained a mixture of positive and negative expressions, and 62% had a mixture of polar (positive, negative, and both) and neutral subjective expressions.

The 5632 sentences that were selected contained terms related to the constructs used in the model. The words related to WOM, brand quality, information quality, privacy and security. About 10% of the sentences were comparative opinions in which consumers had compared OLX and Quikr to each other in terms of the above-mentioned constructs. Table 3 shows the number of positive, negative, and neutral statements for OLX and Quikr.

From the table it can be inferred that polarity greater than 0 (positive polarity) was shown for statements related to OLX as compared to Quikr. Similarly, polarity less than 0 (negative polarity) was shown for statements related to Quikr as compared to OLX. Statements with polarity greater than 0 were treated as positive statements and statements with polarity less than 0 were treated as negative statements. Statements with polarity of 0 were treated as neutral statements. OLX scored over Quikr on the dimensions of positive WOM, better brand image, information quality, and enhanced privacy and security features as compared to its rival Quikr. The results showed that consumers perceived OLX to be a better online second-hand market place as compared to Quikr. They had developed a positive attitude towards OLX and were ready to repurchase from them.

V. DISCUSSION AND RESULTS

Consumers today want value for money. That is one of the reasons why they have encouraged and supported the growth of online second-hand goods market. The mushrooming online service providers have to be very careful towards taking care of customer experience with them in order to survive competition from established players. The established players like OLX and Quikr have to understand the importance of customer experience in shaping their future purchase behaviours. This study has shown that customers give importance to the opinion of other consumers, the quality of information provided by online service providers, the kind of privacy and security given to consumers online, and the image of the brand in terms of earlier customer experiences. Managers have to understand that consumers are not fooled by fancy offers and advertisements anymore. They are connected to each other in a much better way through social media. WOM spreads like wild fire and one bad customer experience spoils all good experiences which they might have had earlier with the brand. The focus should be on delivering it right the very first time to create long lasting customer experiences. Consumers are also an informed lot today. They have access to all kinds of information at the click of the mouse at their fingertips. Fooling or misleading consumers by providing fake information about service quality can be easily detected by them. Managers have to ensure that all the information provided about their service quality are accurate, up-to-date, useful, and valuable to the consumers. Online privacy is a big concern with most of the consumers. In fact, most of the potential consumers stay away from online purchase because of their privacy concerns. The online service providers seek to gather personal information from consumers. Most of the consumers are wary of providing the same in the fear of it being misused by them in the future.

Managers have to ensure that they follow privacy guidelines to the core and communicate about the same to consumers in a reliable manner. Concerns about security in the transaction process is another challenge that most of the online service providers fail to address. Consumers are very smart and they are well educated on online fraudulent methods of money extortion. Managers have to make consumers believe in the safety of their money transactions by providing them information about working of secure payment gateways. Security has to be provided against criminals operating in the online service arena who pose a threat of physical harm to consumers once the deal is finalized between the two parties.

Managers of online service providers should have mechanisms in place to verify the personal details of both buyers and sellers and filter out criminals from engaging with consumers. The above-mentioned factors, if properly implemented, gives an image of a quality brand to the consumers. Once consumers are convinced that online transactions are reliable, safe, secure, and provide value for money, the service provider gets a positive brand image. The positive brand image, thus created, can be leveraged to build a loyal customer base and stay in the market for a long time.

VI. LIMITATION OF THE STUDY

The study was limited to analysing the consumer perception towards only 2 popular service providers, OLX and Quikr. It could have been extended to include other players also. The study has looked at the customer perception from the lens of only 4 constructs. These 4 constructs were selected because they appeared in most of the opinions expressed about OLX and Quikr on social media. Other factors like quality of mobile apps and website of the service provider, delivery time, trust, and self-efficacy in technology usage can be considered as important precursors to perception and attitude formation. The number of opinion statements collected were also limited to 200. There is a spate of opinions on social media that keep on increasing day by day. We are of the view that collecting and analysing around 1000 opinions would have given different results. This can be explored in the future.

VII. CONCLUSION

Based on the result it was very clear that the OLX has revolutionised Indian online classified market. OLX and quikr came up with the interference of buying and selling of goods online without interference. OLX and quikr is highest in their brand quality and this brand quality is having an impact on customer perception. OLX is a business of free classified, while other sites have call services of employees posting advertisements on behave of sellers.

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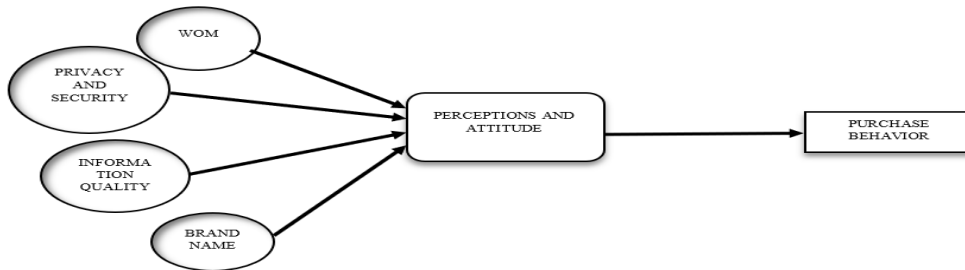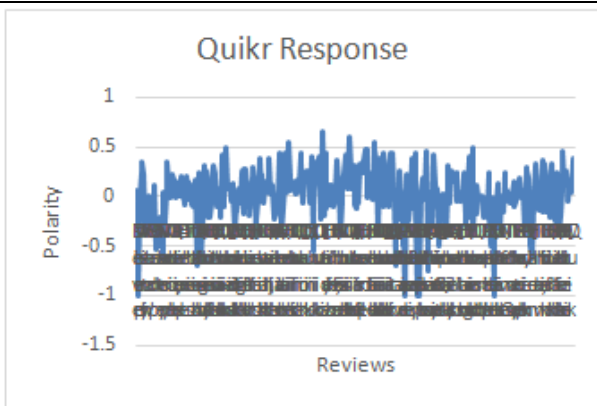
APPENDIX

Model 1

Table 1	**Table 2**

Table 3

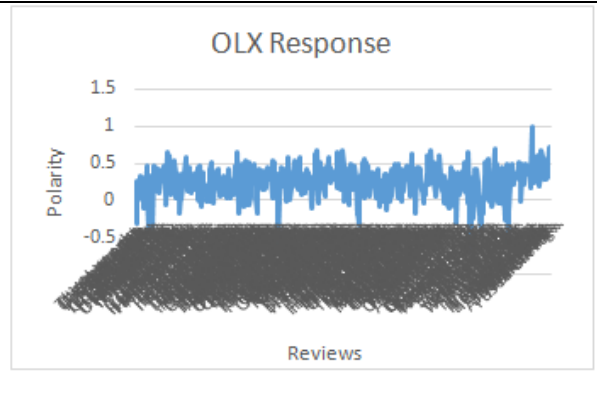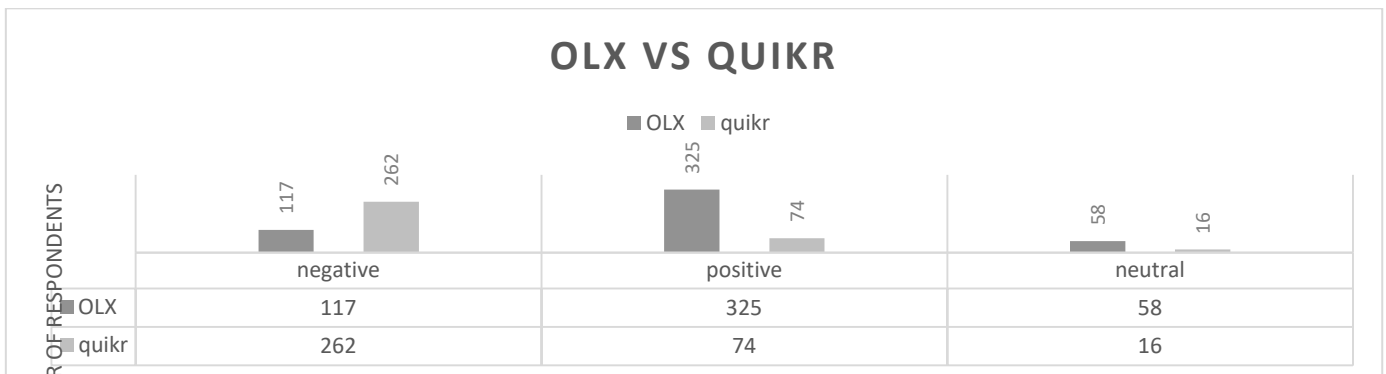|	negative	positive	neutral
OLX	117	325	58
quikr	262	74	16

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