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| **Impact of Customer Video Reviews**  Mini-Project 1  CIS8045  Unstructured Data Management  Master’s in Information Systems Fall 2018  Georgia State University |

Rahul Sharma

Shruthi Jabshetty

Shrikant Patel

Deepali Pareek

Anubhav Pradhan

**Amazon Customer Review System**

Amazon.com provides users with an interface, allowing them to write reviews, post pictures and videos of products such as Books, Electronics, Apparels etc. Reviews provide a forum for sharing authentic feedback about products and services- positive or negative. Customer Ratings allow you to share information on the product attributes you consider important and rate those attributes on a 5-star scale. [1] The review system can improve an organization’s Search Engine Optimization rankings by generating fresh, unique content for the page, and expanding the content. It is one of Amazon’s key strengths as it helps buyers figure out the quality of a product before the purchase, hence the key contributor for the amazon’s SEO ranking. [2]

**Components**

The review system mainly comprises of 5 components namely, *Star Rating* which ranges from 1 to 5 stars, where 1 is the lowest and 5 being the highest. Amazon calculates these ratings based on a machine-learned model instead of a raw data average. The model takes into account factors such as the age of a rating, whether the ratings are from verified purchases and factors that establish reviewer trustworthiness. *Customer reviews*, being another component, provides users with an option to express their views on products, also featuring the total number of reviews submitted till date Reviews can be given in three forms, Comments, Photos and Videos. The comment box has a word limit ranging from twenty to five thousand words. Users also have the flexibility of adding videos and photos, while the photos can be TIFF, JPEG, GIF, or PNG form and Videos reviews have a ten-minute limit. *Top positive/ critical reviews* cater top positive and negative reviews which were selected from the pool of past reviews. *Sort by/Filter by* *options* helps users to sort and filter the reviews according to parameters like “Most recent reviews”, “verified purchase only,” and “Number of stars” etc. The *Badging* component indicates the popularity of the reviewer. More helpful reviews make a user more popular making him eligible for various badges. Customers may comment or vote on the reviews indicating whether they found it helpful to them, which is another component “Helpfulness of Reviews”. If a review is given enough “helpful”, it tends to appear on the front page of the product [3]

**Policies**

Amazon incorporates the policies, which take care of the integrity of the users and the review platform. The features of the policies that amazon pursues are Anti manipulation policies, and community Guidelines for participation and posting the reviews and the comments. Any attempt to manipulate reviews, including by directly or indirectly contributing false, misleading or inauthentic content, is strictly prohibited.

**EVOLUTION**

Amazon.com (AMZN) first began letting customers post reviews of products in 1995[4]. In 2010, Amazon was reported as being the largest single source of internet customer reviews [5]. In the current scenario, The Internet has become the world's greatest research tool, and consumers hardly buy anything anymore without first getting the insights online. Around 70% of Americans say they consult product reviews or consumer ratings before making a purchase, according to an October 2008 survey by Penn, Schoen & Berland Associates [6], a research and consulting firm. Amazon is the first successful Web retailer to embrace consumers' views consequently ranked first in ‘customer satisfaction’.

**Its Intended use**

The system strives on making the purchase experience better for a buyer. One of the major dilemmas a user faces while purchasing a product at e-commerce website like Amazon.com is not being able to guess the quality of a product. The review system helps them by displaying the opinions of other customers who had used the product. User reviews are proven sales drivers, and something the majority of customers will want to see before deciding to make a purchase and according to statistics. Recent surveys have reported that 50% of online shoppers spend at least ten minutes reading reviews before deciding on a purchase, and 26% of online shoppers read reviews on Amazon before making a purchase.[7]

**LITERATURE REVIEW**

The literature review focused on the study of the mode of customer reviews for the products purchased via e-commerce. The effects of different type of reviews (Text, Photos or Videos) on the decision making of the user- and conclude that Video reviews had more positive responses as compared to other modes of reviews.

**Research Paper 1[8]:**

Research paper targets to understand the impact of consumer-generated video reviews has on the purchase intention of other consumers. It wants to establish the fact that a video testimonial has a higher degree of persuasions and contributes significantly towards the decision-making process of a new buyer. The basis of the research is the fact that, in the world of e-commerce, the purchasing judgment of any given product depends on the information presented about the product. Further addition of consumer video reviews will significantly increase the product information quotient and can be a powerful medium to convert leads to customers.

The argument Quality is the persuasiveness strength of an argument that perceived from an informational message. Source Credibility is the answer seeker’s perception of the answer provider. To establish their theory, they have backed up their hypothesis with structured data analytics. They have used Structural Equation Modelling(SEM) to analyze the cause and impact of Argument quality, and Source Credibility has on Purchase Intention

**Research Paper 2[9]:**

Visual Presentation Modes in Online Product Reviews and Their Effects on Consumer Responses. This Research compares the different modes of customer reviews of the product and finds the effect of these reviews on the consumer responses. To compare, Researchers have considered five different factors of customers: involvement, credibility, helpfulness, persuasiveness, and intentions to purchase. The hypothesis was that interactive visual mode of reviews like using the video review has more positive responses from the consumers compared to other modes like text and image-based reviews. To prove this, an experiment was conducted with around 71 participants. Each participant was provided with reviews in all the three modes and their responses(based on each factor mentioned above) were monitored. This experiment proved the hypothesis regarding the mode of a product review . In this experiment, only three products were considered, it has more scope of research by considering different types of products.

**Research Paper 3[10]:**

Studies the impact and persuasiveness of Computer-synthesized and video testimonials on customers review system. This research paper discusses that a written review for a product can be easily fabricated, while a video review is fully transparent, and we can see who is giving the review. This, in turn, provides social proof, trust and provides a more compelling information about a product. Video reviews can be the gold bullet of growth for any e-commerce store and are way powerful. Individuals formulate stronger trust beliefs, attitude toward the purchase intention of a product through computer-synthesized reviews. In other words, simply varying the message presentation method from text to video testimonial or computer-synthesized speech, persuasiveness improves. This result is important because it shows that decision-making in commercial settings is influenced by the interface.

**Research Paper 4[11]:**

Discusses the effectiveness of user-generated video product reviews and testimonials. A user-generated video testimonial can convert potential customers into actual customers, at the same time it is an important and fun way of building brand loyalty through customer engagement. There is nothing more important than making the customers feel good about themselves. By interacting with the customers and encouraging them to share their experience, the customers will feel that their opinions are valued and appreciated. This builds brand loyalty in the long run, converting them into brand ambassadors and bringing in recurring sales revenue. User-generated content builds trust and allows your brand to embrace authenticity. It is produced by people just like the customer himself, hence relatable. The content is raw and unmodified, shared by someone who has gone through the same experience. Video testimonial reviews drive authenticity.

**Research Paper 5[12]:**

# The article uses a bar graph to demonstrate that the customers who watched more videos ended up purchasing more products than the customers who did not watch product videos. Video length of Online reviews are the primary deciding factor between purchasing or passing on a product. According to this article, majority of consumers say that watching product videos makes them more confident in online purchase decisions. Video has the ability to illustrate a brand’s story, personality, product, or even a mission faster than words alone. The length and content of a product video also plays a significant role as it engages the audience without losing their interest.

**Research Topic**

Customer reviews play a very important role in helping the users decide on products. The current review system has three modes as discussed above, Text, Photos and Videos. We have divided our problem into two parts and they are the following

* Hypothesis 1 – Interactive customer feedback in the form of videos has a significant impact on the decision-making process of a buyer
* Hypothesis 2 – Analyze different ways that encourage the customer to provide video review and decide which is the optimal way to do so

Solution:

1. After the analysis of data, we found that the helpfulness ratio of Video reviews are better when compared to that of other modes. So, Amazon.com should promote Video reviews.
2. How to encourage users to provide more Video reviews on the products? We will take a data set of reviewers and segment reviewers on the basis of the mode or reviews. The segmented non-video providers

**Dataset**

For our analysis we will consider the customer review dataset from Amazon, the focus will be more on choosing the correct product types to ensure diversity and ensure the hypothesis is valid for a varied set of products. For our analysis we will consider the data set for grocery, beauty , electronics and apparels. Product review for both beauty and grocery are relatively difficult as the perception of product relatively varies more at a personal level. The difference being , Beauty is a luxury product while grocery is an essential product. Electronics product again is a set of products where customer heavily depend on the product review. Feedback on Apparels can again be segregated into two types, one where customer buys from prior experience and other because the product is part of the ongoing fashion trend

Note : We are cognizant of the fact that video review might not be helpful for all product set and Books being one of them

**Pre-processing steps**

After gathering the data set, we would only consider the product which have more than 15 reviews. Cause a product with less number of reviews can be biased and unreliable.

**Unstructured Data Set for Hypothesis 1**

* We will consider the following points to perform our analysis
  + Product Id ,Reviewer ID, Review Text, Review Image, Review Video, Ratings , Review Time , The number of Votes on the helpfulness for review medium, Total number of Votes

**Unstructured Data Set for Hypothesis 2**

* Apart from few of the data points that have been considering above we will also add the following customer related details
  + Age, Gender, Number/ Type of product bought, Number/Type of product reviewed, mode of review provided
* Cluster the Customers into two groups, using unsupervised ML-like K means Clustering
  + Customer who provided Video Reviews
  + Customer who didn’t provide
* For our analysis, we will consider the sample of customers who haven’t provided the Video Reviews

**Analysis**

**H1**

Convert the unstructured dataset into a structured dataset and calculate the Helpfulness ratio

Helpfulness Ratio = Helpful Votes / (Helpful votes + Not Helpful Votes)

And as per our hypothesis, the Helpfulness Ratio of products which have a video review will be on the higher side, visa vis products which have only text or image review

**H2**

We divide the Sample customer data set into four subsets with similar attributes (Age, gender, etc) to remove any biasing during further analysis

We devised four methodologies which will be tested on the four-different data set, to analyze and conclude what will be the best medium to encourage customer to provide video reviews

**Product Review Request**: Passing a message along with newly shipped product requesting the customer to provide reviews in video format for the product bought, including the steps to do so.

**Email follow up**: Sending a simple follow up email to the customer requesting to provide the video reviews.

**Reward them:** Including a complimentary product or discount coupon along with the product bought, and incentives customer.

**Customer Reviewer Ranking:** Letting the buyer know about the Reviewer ranking system and how this is beneficial like getting invitation for the Amazon Vine Program. If the customers provide reviews in video format, they have more chances to rank higher than other buyers.

Finally, we target a large number of customers and use the method found by the above analysis to get more video reviews from the customer.

**LINKS:**

[1] https://www.amazon.com/

[2] https://www.forbes.com/sites/forbesagencycouncil/2018/07/18/amazon-seo-seven-factors-for-ranking-highly-on-amazon/#a59cd849aafd

[3] https://www.amazon.com/

[4] https://www.bloomberg.com/news/articles/2009-10-15/amazon-turning-consumer-opinions-into-gold

[5] https://en.wikipedia.org/wiki/Amazon\_(company)#cite\_note-120

[6] https://www.bloomberg.com/news/articles/2009-10-15/amazon-turning-consumer-opinions-into-gold

[7] https://link.springer.com/chapter/10.1007/978-3-319-25524-8\_18

[8]https://ris.utwente.nl/ws/portalfiles/portal/5399228/Impact+of+online+product+reviews+on+purchasing+decisions++Final+WEBIST+2016.pdf

[9]https://aisel.aisnet.org/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1429&amp;context=amcis2012

[10]https://dds.cct.lsu.edu/ddslab/pdf/presentation\_format\_and\_online\_reviews\_persuasiveness.pdf

[11] https://tubularinsights.com/user-video-product-reviews/

[12] https://www.crazyegg.com/blog/powerful-ways-videos-impact-conversions/