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Abstract

Presented Research work focusing on digging into the facts behind the review system in the e-commerce domain. This work is centered on finding the solution for the identification of malicious reviews by customers and third-party vendor companies. The consumer is the key to running this domain efficiently and many giant ecommerce firms try to entice the customers to benefit the retailers on their portal. Key areas of this ongoing work are to find out previous literature solutions for review systems and analytics in e-commerce. This research work involves more than twenty pieces of literature from ten different journals, digital libraries, and website articles for study. Furthermore, this work does not include the results of the finding because the data collection and methodology is in progress.

Reliability of Customer Review for Product Purchasing: A Work in Progress

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ABSTRACT

Presented Research work focusing on digging into the facts behind the review system in the e-commerce domain. This work is centered on finding the solution for the identification of malicious reviews by customers and third-party vendor companies. The consumer is the key to running this domain efficiently and many giant ecommerce firms try to entice the customers to benefit the retailers on their portal. Key areas of this ongoing work are to find out previous literature solutions for review systems and analytics in e-commerce. This research work involves more than twenty pieces of literature from ten different journals, digital libraries, and website articles for study. Furthermore, this work does not include the results of the finding because the data collection and methodology is in progress.

Keywords

Review System, Big Data Analysis, E-commerce, Case Study.

INTRODUCTION

Trading online for merchandise and goods comes under the e-commerce domain. This will be reaching Trillian dollar busyness by the end of 2020. At present, many things are in online trading like goods, digital products, household equipment, and so on. There are many categories. Business to consumer (B2C), Business to business (B2B), Consumer to business (C2B), Consumer to consumer (C2C). Government to business (G2B), Business to Government (B2G), Consumer to Government (C2G).

Past two decades e-commerce has spread across the globe and it has helped a lot of businesses to grow but every consumer wants assurance of the products they going to buy. So now every e-commerce website has review policies either different consumers post those reviews on e-commerce portals after purchasing or a retailer himself posts one. There are pictorial, video, and text reviews available for products to build the trust of consumers. A lot of marketing third-party vendors also work for giant e-commerce websites to provide good reviews for their products to increase the sell. Trustpilot, Feefo, Kiyoh, and Bazaar Voice are third-party tools to build positive reviews for products [1].

More than 70% of consumers read reviews before buying things, more than 65 % of consumers buy things from websites that have review and rating systems, and more than 67% of consumers read many reviews before trusting the buying of any product. Everything has its pros and cons so sometimes negative review ruins the image of a retailer on e-commerce portals for example more than 80% of customers rely on negative review and bad ratings and they will not purchase those products [2].

Now that e-commerce is part of everyone's life, retailers also want to enhance their domain and for that, they hire some e-commerce marketing agencies to help them flourish in the e-commerce market. Many marketing agencies are available for this job and their prime target is end users the consumers. Here is the term coined third party promotion in which a vendor does promotion for small or giant retailers for selling their products. Many marketing firms work in that direction like, LYFE, Disruptive ad., SocialSEO, and so on.

The fact is good reviews are less effective than bad reviews because good reviews just give a perception to consumers for purchasing but bad reviews give them a clear vision to not to buy such products. So, retailers use many strategies to collect reviews like they give incentives to the consumer for writing or adopting email marketing for review collections [3].

After seeing growth and huge work in this giant domain, a lot of researchers showed their interest in working in this direction. The aim of this research work is to understand the research going on in this fashion. The following Section of the presented literature review identified some questions that will help to understand the research going on in e-commerce that is,

- What attributes are taken from researchers to evaluate review systems in e-commerce?
- What models or techniques do they use to evaluate their theories?

- What are the problems they found and their solutions?
- What is the future scope they suggest to work, on in an ecommerce review system?

LITERATURE REVIEW

The presented literature review works in three directions to understand research going on in e-commerce First is the review system and Second is the role of analytics in e-commerce. Perception of this review to find out the answers to questions which are identified in the above section. As specified in the above section there are many types of e-commerce domains, so researcher also have their choices to work. Review and rating system in e-commerce helps people to make their decision to purchase a product. Social influences also play a vital role in that direction. Suppose some merchandise launches a new product on e-commerce so, many consumers are afraid to take risks and then they try to find out reviews about that product or they talk to their social community friends. Many people wait before purchasing they analyze others' reviews and then they make their own decision. Kim and Shrivastava [4] try to find out such reasons for social influences in e-commerce They analyzed the data collection methods from social networking websites and try to find out how these data helps ecommerce portal to make people buy the products. In their work, they find out how to capture social interaction in e-commerce and how to utilize it for product purchasing. Online exchanging opinions or experiences with others counts as a WOM(word of mouth) which will also impact product sales. Davis & Khazanchi [5] represent a conceptual model regarding this which will help to find out the impact of not only WOM but also by product category, views, and promotions. They also emphasize on Valance factor in WOM because it affects harshly than the positive WOM for sales. The review system of e-commerce only scalable measurement should not be considered for judging the product sales. Textual content associated with product reviews is also important Some researchers apply textual mining on a different product category for example Archak [6] collected 15 months of data on product sales and their reviews by Amazon and applied text mining techniques to find out the impact of reviews. Most of the time researchers also try to find out some flaws in review systems. In [7], the authors state that people make their decision to buy something on e-commerce basically by two things first based on the description of the product, and second one is based on review experiences.

To create an unbiased review or rating system it is important to remove the malicious ratings or reviews from those [8]. A framework in that they compare with existing systems used by e-commerce websites and they assert that their framework succeeded in removing malicious ratings and providing fair ratings to customers. It is also important to consider review portals and blogs where reviewer posts their view regarding new products. Finding out the salient topics from the review made by users and further ranking them accordingly is the new approach rather than the elementary one in which reviews are centered according to ranking and clustering [9].

There are six major factors related to customer reviews that should be considered usefulness, reviewer expertise, timeliness, volume, valence, and comprehensiveness. These factors affect the online booking of hotels positively if reviews are positive and vice versa [10]. Getting profit for product sales also depends upon the product category and getting a beneficial review of customers also depends upon the customer characteristics [11].

The writing style also plays an important role in finding out the manipulated context but different people have different styles, so it is challenging to find out false one if there isn’t enough data [12]. Reviews of products are not stationary they may change over the period and as a result, the product adaptation also changes although it depends upon the product category and range [13]. Many giant e-commerce companies are trying to build their models for review analysis eBay is the one that initiated to patent for System and Method for product review information generation. Analyzing the eCommerce domain require dealing with big data efficiently which is why there is a need to apply analytical approaches in this direction although it has a lot of challenges like definitional aspect, distinctive characteristics, and business values [14]. In this direction, there is a huge challenge in front of the researcher if some products have a huge number of reviews so it is tough for consumers to decide whether it is good or bad and also finding positive and negative reviews from large no of reviews is another problem so, here is need of mining based on customers opinion [15].

Analyzing the online business space requires managing huge information proficiently which is the reason there is a need to apply diagnostic methodologies toward this path even though it has part of difficulties like definition angle, particular attributes, and business esteems [14]. The pervasiveness of Web 2.0 makes the Web a significant wellspring of business data. As the quantity of reviews is expanding exponentially, supposition mining and recovery methods are expected to distinguish vital surveys and sentiments to answer clients' inquiries [16]. However, it isn't clear how critical these appraisals are to shoppers when contrasted with other store attributes, such as site structure, lucidity of information, order following, on-time conveyance, and client service. In customary promoting, word of mouth (WOM) is the data one acquires through relational correspondence

with loved ones however in an online domain, store appraisals are the wellspring of this relational correspondence what's more, are gotten from different shoppers, not simply loved ones. WOM has been examined widely in conventional showcasing [17].

Besides, the level of negative reviews has a more noteworthy impact than that of positive surveys, affirming the pessimism inclination [18]. Nonetheless, scientists have generally neglected another fascinating element of this content examination issue. Particularly, the review readers must not just understand every individual supposition but additionally gauge numerous occasionally clashing sees [19].

The proposed work identifies some problems in current policies opted by the retailers or directly by the ecommerce websites i.e.,

- Posting good reviews of products that fail to quality check.
- Do not recognize the quality product for promotion.
- Value a product more than its worth.
- Lack of control over false representation of products in terms of video or pictures.

This work aims at a single but crucial problem i.e., Reviews posted by customers who were posted by them or are doing it because they are getting some profit from retailers or by companies, how to identify those?

RESEARCH METHODOLOGY

Universally understandable that review plays an important role in making customer decisions for purchasing but false or malicious reviewers use this system to provide inaccurate reviews for the products whether these are good or bad reviews. Providing reviews is always based on an individual's perception some provide positive reviews, some provide negative and some provide mixed reviews. That's why the sole objective of this product is to identify biased or false reviews. This research work is a study about electronics products available on the Amazon e-commerce website to understand about relationship between Amazon and retailers which will help to identify actions taken by Amazon to prevent such retailers who promoting false reviews. Secondly, the reason behind selecting electronics for this work is a nowadays this product category has a large number of daily transactions. For the collection of data, this work utilizes the qualitative data collection approach which is best fit with case study research. Focused data will be collected by Amazon's prior transaction database of certain periods specifically for electronics products. After the collection of data, a word phrasal or sentiment analysis will be performed to identify malicious reviews.

FUTURE SCOPE

Presently, the existing research landscape presents a broad spectrum of artificial intelligence (AI) within the domains of machine learning, data analysis, and e-commerce. Thus, it is essential to adopt the state-of-the-art techniques of AI that have demonstrated its prowess in distinct research domains. For example, the following studies emphasize the application of machine learning in addressing critical challenges. [20] explores improved association rule mining using Particle Swarm Optimization (PSO) and Genetic Algorithms (GA). In [21], Long Short-Term Memory (LSTM) networks are harnessed to assess news credibility on Twitter. A similar LSTM-based approach is applied in [22], but this time for classifying customer reviews. [23] tackles the rampant issue of fake news using LSTM-based techniques.

Further studies pivot towards real-world challenges. [24] explores the classification of COVID-19 cases, incorporating transfer learning and cloud computing. [25] demonstrates the power of machine learning in automating the classification of societal sentiments on Twitter. The next set of studies delves into pressing issues on social media platforms. [26] conducts a systematic literature review on health misinformation. [27] delves into the clandestine world of anonymous trading on dark web marketplaces. [28] reappears, this time incorporating deep convolutional neural networks and transfer learning.

Further studies showcase the potential of machine learning in addressing complex societal issues. [29] examines societal emotions related to the Russia-Ukraine war on Twitter. [30] tackles the detection of malicious bots on Twitter using BERT embeddings. [31] introduces an intelligent surveillance system using fog computing. [32] contributes to cloud-based security.

Moreover, further studies delve into optimization and e-commerce. [33] focuses on optimizing negative association rule mining. [34] employs a design science approach to assess customer review credibility on Amazon. [35] explores data analysis techniques for the retail industry.

CONCLUSION

Based on this literature it is noticeable that ecommerce is emerging as an interesting research area for scholars. This Research work found that answers to all identified questions arise as an objective of this article. In terms of attributes taken from the researcher for their research, their focus is on positive and negative reviews of customers. However, this work has its limitations in that it includes a few numbers of literature to conclude this gap or problem. It requires more evidence to cite this problem. In the future, this work will concentrate on the following problems,

- Removal of such reviews mislead the customers and indirectly forces them to buy the product.
- Identify the continuous pattern of false reviews used by customers.
- Prevent such retailers from using customer data for their marketing strategies which attracts the customer to provide fake reviews.

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