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## A Review: Big Data Analytics for enhanced Customer Experiences with Crowd Sourcing

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### Abstract

The objective of this paper is to analyze and study the ways of considering customer experience big data analytics and incorporate crowd sourcing in the process to increase customer satisfaction and loyalty, revenue and greater employee satisfaction where commerce is immediate and secure. In an era where customer experience play a very important role to improve the necessary target profits and where customers are interacting with many brands across many channels, big data through crowd sourcing gives us a way to focus on the outcomes to increase collaboration coming from expert crowdsource workers, data providers and big data analytics. It is one of the biggest trends that is going to dominate the year 2017-2018 where big data is an exploding area of focus and where business intelligence can be transformed into crowdsourced business intelligence. Since it is nowadays a smart digital world where applications has to support essential workflows, the emerging research areas in big data and crowdsourcing can explore the means to provide big benefits and great potential from a customer service prospective. Findings give us a better understanding how companies are able to understand and monetize their customers better.

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## 1. Introduction

From past some years, the biggest challenge companies are facing in this area with massive data is translation of business to models. Since it is just an evolving area, it is difficult even to define a problem thoroughly for example non technical staff can't communicate the problem definition to the technical data scientists<sup>1</sup>. A large amount of data is produced from structured, semi structured and unstructured sources which makes it very difficult to manage information about customers usage. Mainly it's the need of big Shopping giants like Amazon and Flipkart to process huge amount of data so as to process massive datasets to find hidden patterns. These data have to be extracted

,transformed and loaded to study patterns related to customer behavior and their interactions. Companies can improve the overall performance by using the customer feedbacks. Survey results from big data show them where they stand today in the competitive market. Crowd sourcing is an idea which is different from Big Data, crowdsourcing projects have shown the potential of using a wide group of real people to collect useful and accurate data<sup>2</sup>.

To begin with, there cannot be reliable data management without some human involvement to check for errors and the administrators can easily make their own mistakes and put their own subjective slant on the filing of information<sup>2</sup>. Big data companies need crowdsourcing in their operations to ensure objectivity and diversity, prevent against errors more effectively and let social trends play a part in data examination. This combination of big data and crowdsourcing provides a way to modern data collection for customer experiences to make information more valuable, authentic and manageable. Big benefits can be reaped by pairing up crowdsourcing with big data<sup>2</sup>.

## 2. Literature Survey with a perspective of big data in customer experiences

In order to get possible required research from the published literature, a systematic literature search capturing big data with crowdsourcing work of the recent three years have been undertaken .i.e. SpringerLink, ScienceDirect, Scopus, Procedia and many international journals as well as the Journal of MIS (JMIS) were searched,

Big data is getting larger and larger day by day and data continues to explode. Assuming valuable customer experiences from large amounts of structured and unstructured data from different sources in different formats require the proper structures and tools. To obtain the maximum business impact, this process requires proper combination of people, process and analytic tools<sup>3</sup>.To improve lasting relationships, programs that influence big data need to think about more tactical ways about making the customers stay, their loyalty, and relationships. The problems that need to be solved should be focussed not on whether big data can show us what will prompt the customer to do a next purchase, but how can we maintain the loyalty of the customer. It's not about what are the customers total transactions or how much profits the customer is giving but till when the customer will stay, What's his value to the organization is so that the customer won't go to the competitor if the competitor provides a lower best price<sup>4,5</sup>.

Examples like Amazon and Netflix uses big data in the form of recommendation engines that create value for customers by helping them search what they need. Big data works with crowd sourcing to answer some questions like “what can I learn from other customers?” or “how do I compare with other customers?”.what is their purchase behaviour. What are the experiences of unhappy customers<sup>6,7</sup>.

Another example is Opower where customers can share their bills with Facebook friends to know the differences among other customers. INRIX, collects traffic data from customers' mobile phones and other sources to provide real-time traffic reports. Zillow combines information to provide consolidated insight about home attributes and values, competitive properties, to buyers, sellers, and agents. Customer behaviour is monitored in real time and analysed to look carefully into processes to assess evidences and yield proper results. We have more examples like Diabetes UK extends their methods for shoppers on the basis of their food shopping history and gives them with advice on how to reduce their diabetes risk<sup>8,2</sup>.

By targeting customer data many organisations can compare the data on a larger scale and improve their productivity. Viacom, owner of household brands such as Comedy Central, Nickelodeon and MTV, has made a real-time big data analytics platform using Apache Spark and Databricks, through which they can check the quality of videos feeds and reallocates resources in real-time.

Past findings on big data shows that 70% of customer data is never used for making improvements. Only 30 % organizations are able to use CX to know about their organizations pitfalls and help to succeed in today's market<sup>8,2</sup>.

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