Usage of Big Data Analytics for Customer Relationship Management

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Abstract: Customer Relationship Management plays an important role in the enterprisesthat runned large scale business and small scale business.Customer Relationship Management provides a relationship between the customers and management of the industry or companies. Every industry or company working onfor the customer expectations and their needs. Customer plays an important role in the business activities and decision making process of the companies.In this paper we are proposing a set of steps to identify the customer relationship with the management of industry.Earlier marketing strategies are based on data mining activities and storedrelationship database .But these strategy without big data analytics not providing excepted results to industries. We are providing big data with new velocity rule, new variety rule, and new privacy data and with a new volume rule for the business activities to optimize the decisions.

Keywords- Big Data Analytics, Decision Making Process, Business Activities, Customer Relationship Management.

I. INTRODUCTION

Big data is the latest incitement in the dictionary. The impact of big data technologies is very popular in the recent research area. Business activities are identified with the customer relationship management,which made a huge impact on the business world over the years. So it is directly improving the profitability, branding and satisfaction. Big data is all about processing interpreting and representing large data typically petabytes or even zeta bytes of data sourced from text, database fields, voice, video, social network and websites.In the past year we have 2.4 billion internet users,more than a billion face book subscribers and at least 200 million uses professional networking sites such as likened generating a huge amount of data in the forms of *viz.*blogs, web clicks, like andcomments.

Big data technologies affect the capability to interpret these large data into information and knowledge such as the best time, channel,and incentive for advertising content to direct at a particular segment. The goal of all customer relationship management solutions is to increase the customer satisfaction to achieving organizational business objectives.

Big data has the prospective to change the way companies manage customer relationship by offering businesses prevailing new tools,accomplished of identifying sales opportunities and analyzing customer's responses to product, by combining internal data with comments made on social networks.CRM describe the strategy that is used for handle customer interaction. Using big data organization can collect more accurate and detailed performance information. Leading companies are using data collection and analysis to make better management decision for low frequency forecasting and high frequency.

Using big data and customer relationship management analytics to find associations recognize patterns and identify trends that allow the company to include customer experiences for increased engagement and greater profit is a great way to bring the perspective of the customer into business decisions. This paper schematized as follows: section 2gives particulars of related work Section 3 gives problem definition. Section 4 givesBenefits & Steps of Big Data in Customer Relationship Management. Section 5surveyed by the conclusion& future work.

II. RELATED WORK

Nicholes C. [1] provide electronic Commerce customer relationship management system with multilevel secure data models.Multilevel data models can be used to address sharing and managing this large information system. Bing liu at el. [2] Customer relationship management emerged in last decade toreflect the central role of customers for strategic positioning of a company.Customer relationship management encompasses all measures to achieve customer understanding and to exploit this knowledge in marketing and productions.Henry .C.W La[3] eCRM ties customer relationship management with e-business.eCRM is interfaced with other information to form a seamless integration and interchanges of information both inside and outside organization.Omar[4] Evidence based medicine(EBM) is the conscientious,obvious and thoughtful use of contemporary best evidence in marketing decisions about the care of individual patients.They present a research agenda for leveraging business intelligence and big data analytics in evidence based medicine and illustrate how analytics can be used to support EBM.Jeffrey Spiess[5] in an environment where communication service providers increasingly have same services offers and devices offering a superior customer experience is a priority to compete.

Sining Chen[6] Data collected by service providers can track an individual users experience in details,at flow or packet level in real time.Though we still lack analytics procedures that can translate these informationsinto a comprehensive and ever evolving representation of user experiences.Olivera[7] the provision of right data with appropriate quality according to the need of decisions makers or automated processes is crucial for successful operations of companies and government agencies.

III. PROBLEM DEFINITION

In this paper the problem is arises due to earlier out dated decision process without real time artifacts. The data stored in data warehouses and in the relationship databases

for structured data. Privacy and risk analysis also becomes a hurdle for the business activities especially in customer relationship management. So need to develop a new strategy to handle these problems. The new strategy will help to provide the solution of these above said hurdles. The predictive and descriptive analysis provides a better management activities will help to these artifacts for customer relationship.

IV. BENEFITS & STEPS OF BIG DATA IN CUSTOMER RELATIONSHIP MANAGEMENT

Big Data Analyticshas its crux from the past in arrears to progression of technology and its potential to be applicable to variety of fields make big data analytics a momentoustechnology of anera.Big data analytics will have intense possessions across a range of fields viz. medical, health care, data mining, data warehousing, manufacturing, transportation, predictive analysis energy and utilities.Efficient customer understanding using the big data analytics approaches and tools that will help to improve the better understanding of customers' needs and expectations.Efficient understanding of customer when facing the problems using big data analytics. When customer contacting with the business activities some may be identified by the customer so using the big data analytics techniques it can removed and customer having efficient understanding with the problems. Efficient usage of decisions supports using big data analytics. Decision support is plays a major role in customer relationship management. Efficient usage of predictive modeling using big data analytics.Predictive analytics will help in future to make relationship management in the business environment. Establishing efficient standards benchmarking using big data analytics. Many tools are used with the big data

technologies which provide better standard benchmarking in the customer relationship management.

Big data analytics helps to deliver faster customer value. Big data is mainly used to developing the strategies by the industry or company to take effective decision to improving the customer relationship management. Providing efficient infrastructure tools and advanced visualization of the data to improve the customer relationship management to take the better decisions.

Figure 1 shows big data in customer relationship management which is having some set of steps with successful CRM activities. The first step is the description analytics of the big data analytics. In which complete data set are available in description form. So it will helps into make better customer relationship with the companies and industries. Next step is the diagnostics analysis of big data analytics in which big data technology is used viz. hadoop, Hbase, R studio.

Predictive analysis provides a predictive behavior of the patterns that are used in the big data analytics.Predictive Analysis for Big data is an emerging area and processed by database technology and tools of the big data. Prediction means looking ahead with a set of advanced technologies that are based on the real time data and from the historical perspective. Big data having large data set and extracting the relevant information to analyze the futuristic behavior of data set using Big data tools.

Predictive analytics aspects of future to provide sensitivity into risk assessment. It can be used for hypothesis testing; risk modeling and forecasting.Finally perspective of data analysis is the taken using big data analytics. When combining these above said steps to customer relationship management. It will become more opportunistic and successive with real-time and enhanced values
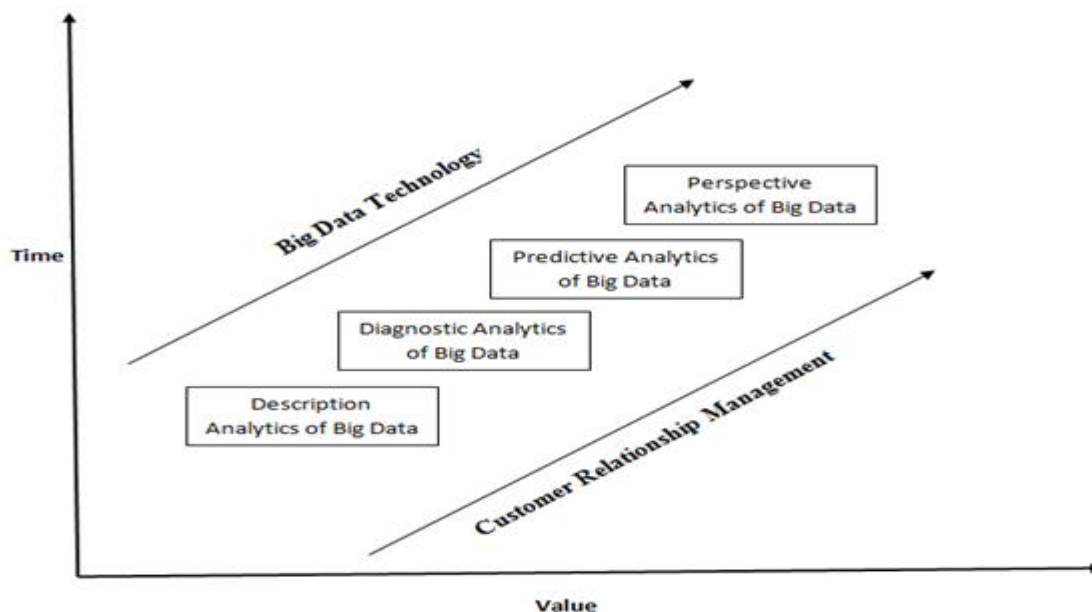

Figure 1. Big Data in Customer Relationship Management

V. CONCLUSION AND FUTURE WORK

We conclude that this paper an employment of big data in customer relationship management provide a better decision making process and strategies of business analysis.

This paper provides an effective domain of predictive perspective of the customer relationship management. The futurework of thispaper will be efficient strategies that are notidentified with the help of earlier activities will be implemented with big data strategies.

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