Survey Paper on Big Data on Profits and Customer Behavior

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Abstract-*Big Data got hype in market recently by its ability to make more and more profits to the big industries. By definitions we know that it is something that is use to manage or extract some organized useful information from the enormous data. This paper is about how big data is actually used and applied in industries; how it is used to understand customer behavior; how companies did grew and expand their businesses.*

Big data plays a crucial role for big brands, companies and corps to understand their customer need, behavior and problem faced by them.

Keywords*-Big data, Hadoop, Profits, Company growth secrets, expanding business, understanding customers, facts about big data.*

I. INTRODUCTION

Big Data basically is nothing but a huge amount of data and by huge amount of data I mean data in Terabytes', Petabytes', Exabyte' and beyond. This data is too large for a traditional data processing system to deal with it. Lately the term "big data" tends to refer to the use of predictive analytics, user behavior analytics, or certain other advanced data analytics methods that extract value from data, and seldom to a particular size of data set [1].

Big data comes with the 4 characteristics (as till 08/2017) that are Volume (Size), Velocity (Speed), Variety (Various types) [2], lastly a newly added one Veracity (Trustworthiness) [3].

Big Data is not just a data it has become a complete subject which includes techniques and various by which the valuable information can be fetched and analyzed which can eventually be turned into profits or growth.

II. BIG DATA SCOPE AND STATS

Now we know Big Data is something big, but how much actually? And what is data consist of? How other various industries use it? And how it is helpful to them? We will have quick look on this topic.

The Data the companies are getting is really big, it can vary from 1 GB per hour to 200 TB per hour and beyond.

- Talking of the Data growth: Data created in past two years is more than the entire previous history of Human Race [4].

- If you want to judge according to the social media that you use daily, it's like Facebook expanding itself by 500TB+ every day[5], every hour 300+ hours of videos are uploaded to YouTube and all factors are increasing day by day.

- 550+ New Websites are coming live every minute.

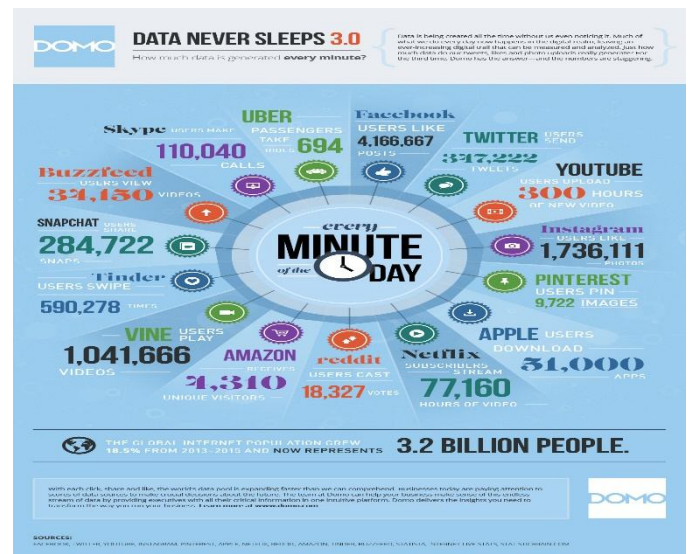Here's a glimpse of what happened over internet while you were reading my article.

Fig-1: What happens in 1 min over internet [6].

That seems a lot of data and if you observe it is not necessarily from social sites.

- There huge business of ecommerce giants like Amazon who produces again a good amount of big data, every user's transaction, user behavior, items, logs, stock etc. is maintained.

- Some car companies keep the track of the data of cars; for example today's cars generates like 15+ GB of data from the cars per hour [7].

- Even some of the game console you use, send their logs to the company which on one hour of playing by user generates over 5GB of data.

So, they are putting so much efforts and investment in just getting those data from user, there should be some good big reason for doing so, isn't it? Below is discussed how this data is useful to them.

III. USE OF COLLECTED DATA

The use of collected data varies; because it's not necessary that data is use to check customer behavior and growth.

For example, there are huge amount of data in cloud services like Google Drive, Dropbox, etc. (The service that provide you the service to store data). The data stored in Google drive is not something you are growing your business with unless and until its some business related material; The data used for their growth is related to what types of files are people uploading more, when they are uploading, how they are interacting with software, log files etc. They earn via providing extension/premium plans on subscription bases to you or many companies or organizations.

The data is used in various forms of research like if we talk about the health care, it is used for disease pattern analysis, drug discovery and development analysis. In Finance field it is used in Trade surveillance, abnormal trading pattern analysis, fraud detection and security analytics, credit risk storing and analysis, it's almost present in every field now a days from education field to big hotels and casinos.

IV. REAL LIFE EXAMPLES

We got some idea about what's the data iscollected for; below are the examples of behind the scenes of implementation of data.

McDonald

McDonald few years back improved the drive-thru (It is the McDonald service where you can order the food from the first window and then get it from another) experience which on that instant gave 2% growth and was able to process the order 80% better than its competitor Wendy's. Due to that it got a huge amount of growth in coming years [8].

The problem of drive-thru was that for example if there's a big van in front of you with large menu and a men behind the van who wants just milkshake that made the customers frustrated and they were losing customers at drive-thru which made them loss and decrement in the drive-thru experience. So they came up with an optimized solution by studying the big data and analyzing the outcomes. They pretty well predicted the coming customers and made the meal accordingly and if there was long lines in afternoon they slightly increase the price of the meal which took a lot time to get ready and display the ones which are easy to prepare. This noticeably boosted up their revenue as well as drive-thru experience.

Apart from that they used big data to give the same experience by optimizing the food, as around the world there was variation in raw materials of food that lead to small difference in color and taste [9].
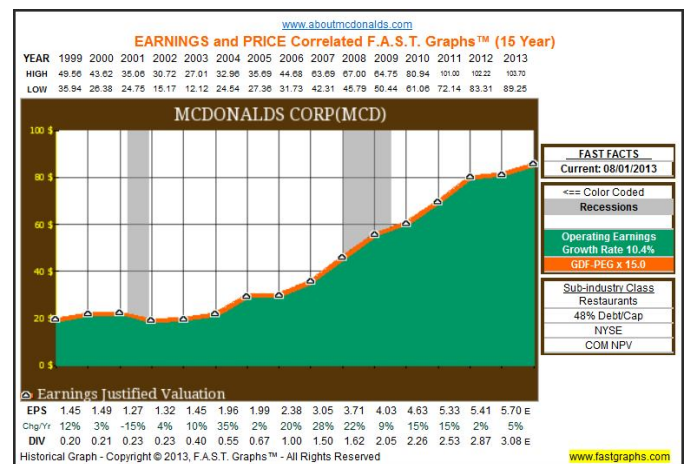
McDonalds Growth [10].

Facebook

Now, let's talk about one of the biggest social giants Facebook, you are generating lots and lots of data by uploading photos, videos, liking, sharing etc. and just imagine the data of 2 billion+ active users on monthly bases. So how does the storing your pictures and videos help them? If you didn't know Facebook is one of the biggest place for Marketers to target their customers. The freedom you are getting to play around and create enormous big data help them

to understand you, your interest, and your behavior which on behind the scene it helps marketers to find right person.

For example, if you love cats, you must have shown interest in cat's and pets pics and pages and shared some cat pics or at least commented on one; that puts you into the list of cat lovers and hence if any marketer is searching to sell any product, let's say cat food, it will charge the marketer to show the ads to the people like you who can be potentially be interested in buying cat food.

You can consider the Facebook the daily customer of big data, just say your every behavior is counted in their result, it analyzes more than 30+pentabyte data.

Couple years back they noticed in spite of suggesting related videos of the user interest they were not able to get their satisfied results; So they silently added an auto-play feature on the videos showing up on peoples news feed which boost the user on time criteria on Facebook; As the videos start playing when you pass which makes you pause for a while and if it got you it's their advantage.

YouTube and Netflix

If you want me suggest someone who are the best in the recommendation game, I would suggest YouTube and Netflix. We can't deny the fact that the YouTube has one of the best user engagement out in the market while one other hand Netflix said we are competing against YouTube and User's Sleep. Now the biggest factor in growth of these industries is Big Data.

As per the recent paper published by the Google and mentioned by the blogs, clearly explains the importance of Big data, Artificial Neural Networks (type of models used to estimate outcome, based on large number of unknown input) in the growth of YouTube and Netflix [11] [12]. To understand the user more clearly; YouTube uses Google's data, so even when you are not using YouTube you are helping it to improve your video recommendations. Similarly with Netflix it's using neural networks, big data to improve its algorithm, by data it knows what kind of person you are, what will attract you the most, what TV series your type of people watch. In addition to that it's working on its UX/UI by A/B testing.

Here's an recent example: Netflix changed its traditional login screen to something profitable, the changes were like this: On based on its studies of your time engagement with shows, type sef shows you watch, etc. It matches the best one for you; So when you login next time it changes login wallpaper to that show's cover so, it does that every time, even when you logout it displays an another attractive one. Doing this several times, you develop high chances that you will check out that series and will give Netflix another 12+hours of viewing. This is predicted to give a good boost in the revenue of Netflix in coming months.

V. CONCLUSION

More and more companies are believing in big data. In today's world the more you understand the problem deeply more better solution you will come out with; And for business to develop better products in this competitive market, it is essential for them to understand the customer needs and problem which can be gained by the proper use of big data. As per the changes occurring in big data industry seems like it is at its beginning stages and there is so much new techniques to discover, which on learning and applying on time will boost your growth at amazing rates.

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