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The Impact of Big Data and Social Networking for Decision making

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Abstract:

This report is basically a review paper; an idea is produced regarding how can social media help us to make better decisions. The word 'Big Data' was introduced just two years back and now has become the burning topic. In the world of technology, big data has occupied the entire field, the big data era. It is very sophisticated and complex to deal with data so large; social networking sites create most of the data of the world. Already we have so much of data and everyday more is added to it. It is necessary to use data as resource and utilize it best way. Big data analysis is very important in business. A decision is only possible after have a good analysis.

Big data analytics have many techniques like social network analysis, optimization, data mining, machine learning, etc. In this paper only some of the part of social network analytics is included.

The art of decision making can be made better by the deep analysis of information from social networks, intact it acts as a major tool. In this paper, it is tried to give an outlook on the utilization of social networking data as a tool for profitable decision making. Different mythologies and examples are also included here.

Keywords: big data, social networking, decision making, big data analysis, optimization, social networking analysis, abstraction process

1. Introduction

The technology is dynamic; it changes every day with the invention of new strategies. Earlier, there was a time when 1G.B memory space was very large for us, but now even terabytes of data space is less. With more use of the internet in all the types of sectors like to gather climate information, posts to social media sites, digital pictures and videos, purchase transaction records, banks, companies, cell phone GPS signals, etc. everywhere huge amount of data is created This huge amount of data is named as "big data".

Now it's the era of technology. 90% of data in the world has been generated in the last two years alone [1].

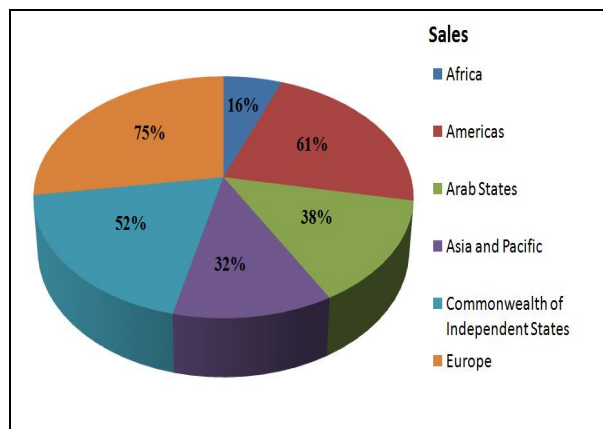


Figure 1: Growth of internet users [2]

In this pie graph in the year 2013 the percentage of internet users with respect to the population of different countries is shown. We can see Europe has the most of users and then comes Americans. It is expected the percentage will go on increasing with the growth of technology.

While talking about big data it is very important to mention about its characteristics. It has three characteristics- volume, variety and velocity.

- **Volume:** The volume of big data is very large; by the year 2002 it was around 800,000 Petabytes of data stored in the world. The social Networking sites like facebook, twitter, etc. is creating several terabytes of everyday, so it is increasing very rapidly.
- **Variety:** Initially the basic form of data shared was text. But the arrival of new technologies is creating new techniques of sending different form of multimedia data like image, video, audio, etc. The unstructured data occupies most of the space.
- **Velocity:** Big data is not only related to volume and variety, it is incomplete without velocity. The speed is a very important matter; how fast data can be arrived, stored and retrieved [3].

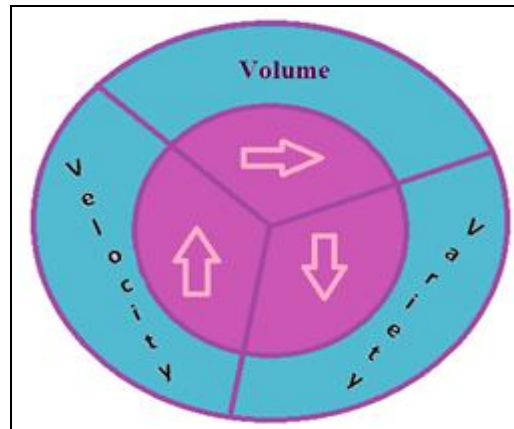


Figure 2: Characteristics of big data

Big data analysis is a new technique and architecture of extraction of very large volume of data economically. [4]

Social networking can be defined as grouping of a person into specific group, like small communities or a neighborhood subdivision [5]. Social network includes different types of messaging apps, online shopping, investments sites, etc.

Optimization is a technique of analysis of drawing insights for large data and by supplying chain planning objectives. [6]

Decision making is a process of making the better decision. It is the study of recognizing and selecting better choice based on the values. Decision-making is one of the major tasks of management and is a huge part of any process of implementation [7]. There is so much information available that sometimes it is a problem to select the right thing for us. In this paper, it is tried to give a small idea how the social networking sites can help us to take the best decision.

2. How Can Big Data Analysis Help Us?

Analysis is very essential step in every decision. The analysis of big data is important and hard task. Big data used some traditional techniques for analytics such as supply chains, risk management, or pricing. The traditional techniques were not appropriate and created problems as it used external data to improve the analytics. [8]

Big data is a huge volume of data so the proper management is essential. This is not just about volume of data but also different varieties in the fastest possible time, so we cannot depend on the traditional techniques instead new ones like digital marketing optimization and social network analysis should be applied.[9]

Social network analysis and optimization together can solve the problem of big data analytics. Therefore the information collected from the abstraction can be compared and can help to take a perfect decision.

3. Role of Social Network Analytics

Social network analysis is a kind of network theory which supervises social networks. It has emerged as a solution in the modern time, even used as a consumer tool [10]. It uses maps for measurement of relationships and flows between people, groups, organizations, computer and other entities [11]. With the collaboration of different enterprise it has been possible to view different social tools like the enterprise Wikis, blogs and forums, etc. Also, so many comparing site and applications are available.

4. Some Real Life Examples

It is very important to take the right decision as the world is ready to fool us. There are so many examples of being cheated for not having proper knowledge of business context before taking an important decision.

A very simple example can make us understand better. Suppose a person wants to buy a car but he is unable to decide which company will give him the best product at the lowest rate. Social network can help him by giving him some information like which band's

product is sold the most, satisfaction of the customers, etc. here is a graph showing different car brands liked by people through social network.

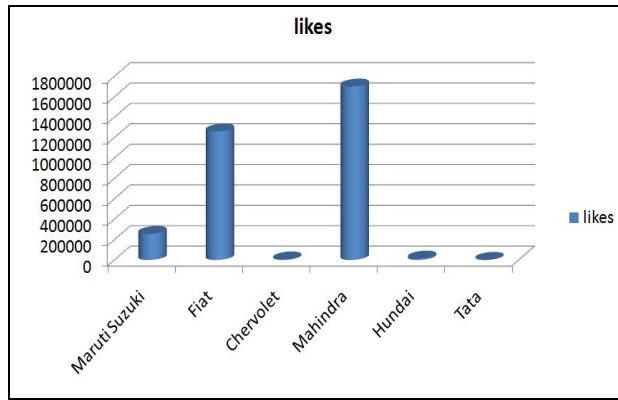


Figure 3: Bar graph of popular cars v/s likes [12]

We can see Mahindra has the highest likes so the person gets an idea that people are more satisfied with this brand. After deciding the brand he/she can decide the car of his/her beget.

Using the techniques of decision making it has really become easy to take hard and confusing decisions. From buying a simple phone to buy big properties, business deals; the strategies of decision making is applies with the help of social networking.

Some of the websites that helps decision making-

- Policybazar.com- It's a life insurance and general insurance comparison portal. [13]
- FICO- It's an American public company that provides analytics software and services, including credit scoring, intended to help financial services companies make complex, high-volume decisions [14].
- Decider -- Social Decision-Making - Decider is a social app that lets you post a "Yes or No" question to help you make a decision [15].
- Google Shopper - Google Shopper is a mobile portal to all of Google's shopping options, including Google's local offers, daily deals, and more importantly, product search and comparison shopping via Google Shopping [16].

5. Factors of Decision Making [17]

Some important factors for making a good and beneficial decision-

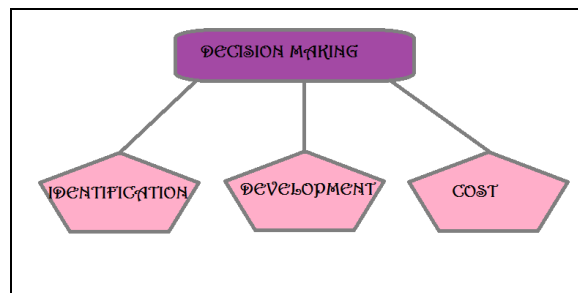


Figure 4: Factors of decision making

- Identification- it's very important that a person identifies the profit and loss after attaining the complete information.
- Development- after going through all the information and identification, development of clever ideas is very important.
- Cost-it's a very important factor. The value of quality and cost comes parallel, it is necessary to take a decision within the budget and also satisfy his need.

6. Abstraction Process using Big Data [18]

It's important to transform the lost raw data from the huge database into information so that it helps to take complex business decisions. This process contains certain procedures-

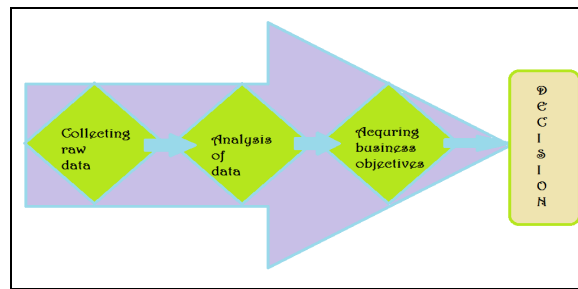


Figure 5: Process of abstraction

- Collecting raw data- collecting the raw data is the basic and the first step; it is done by data sourcing, data extraction, cleaning and representation.
- Analyzing of data- after collection it is required to analyze the data. Optimization, creating of algorithm, etc. is impotent steps.
- Acquiring business objectives- the last step is to use the data viewing it deeply and make useful profitable decisions.

7. Methodology

We have understood that there are different applications which help us to decide our choice, but how they help us? There are different methods applied by the sites-

- Policybazar.com holds an expertise and experience in the field of insurance; they make it simple by comparing the prices and key features of different plans. They show an array of insurance plans offered by a reputed pool of insurers, to help us to select the best [19]
- In FICO a score is created from several different pieces of credit data in the credit report. FICO Score considers both positive and negative information in the credit report [20]

8 .Practical Illustrations

It is highly possible that sometimes we receive wrong information which can lead to wrong decision. This is because in the developing countries like India it is not possible get the real information from the root level.

A person wants to buy the best raw materials for his business and suppose a remote village has the world’s best material but it has no link with the network. So in this case it is loss for both the side as the village lost a better contract and the businessman did not get the best material. It is a major drawback of developing countries which is creating more differences in the economy.

Although with the advancement of education it is growing in some of the places, but it is still backward. Because of this backwardness the rich is getting richer and poor is getting poorer. Therefore to maintain the economy a major plan should be there connecting all the people for better business and a stability in the economy.

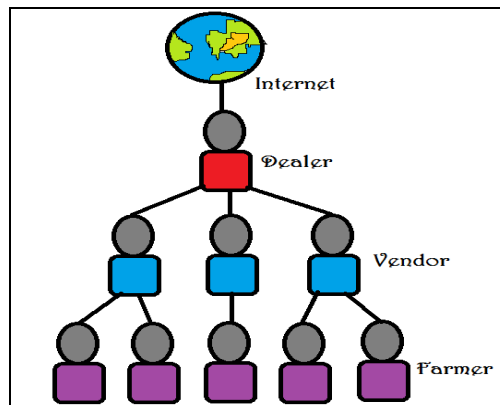


Figure 6: Chain traditional business

- **Case 1:** In the Fig 6 the materials are sold at a very low rate by the farmers to the vendors and vendor sells to the dealer gaining some percentage of profit in-between; now dealer is his own master. It will depend on him, what he want show, people will see that. So he may produce wrong information which may create wrong decision. This can be said as a traditional way of business.

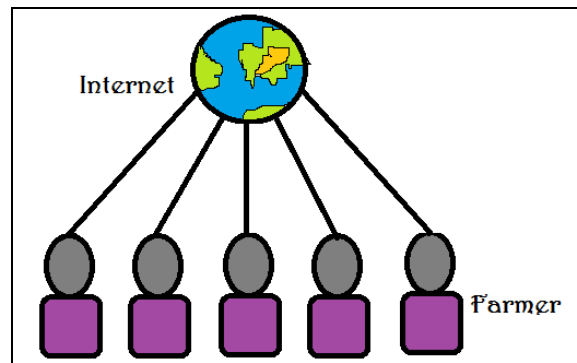


Figure 7: Chain of modern business

- **Case 2:** In the Fig 7 the farmers are directly connect with the internet. So now they can directly deal with the businessmen and have better contracts for the farmer and more options for the businessman to decide.

Introduction of new social networking application can make it possible. Today every person has at least a mobile; it can act as best medium for good business. An application where the farmers can give the information of their products and the customer can get the details of the material and have so many options to decide the best for him. This will intact help to stable the economy to some extent.

9. Conclusion

With the increase in the scope of big data our excitement is also getting raised. Abstraction and utilization of big data is a very big challenge for us. It is our duty and responsibility to find the best utilization of the information. The researchers and scientist are continuously working on the issues of big data. In this paper only a review is presented with the help of various research papers and social networking sites.

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