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Predicting Elections with Big Data

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Abstract: ***A rapidly growing sector of the Indian political landscape is data consulting services for political campaigns. The US Presidential election served as a major catalyst for the emergence of data-driven political campaigns, as Barack Obama's campaign managers utilised big data to their advantage. Since then, larger data banks have been developed by election campaigns in numerous countries, including India. The BJP relied heavily on big data and the campaign managers to create its political plans for the 2014 general election. The BJP's resounding victory in this election has created enormous new opportunities for political marketing in India. Big Data analytics approaches aid campaign managers in analysing larger databases and developing the most effective voting-winning strategy. Because of this country's large and highly diversified population, the methods of such microtargeting political campaigns were unthinkable and alien to the largest democracy in the world. This essay is a modest attempt to comprehend the importance of big data analytics in contemporary Indian election campaigns.***

Keywords: Election Campaigns, Big Data Analytics, Target Audience, Micro Targeting, Digital Marketing.

I. INTRODUCTION

In contemporary election campaigns, the adoption and advancement of digital and communication technology is increasingly important. Indian political campaigns now have a new option thanks to the employment of cutting-edge technologies like artificial intelligence, big data analytics, search engine optimization, blockchain technology, etc. Data analytics is one of these technologies that makes it possible to quickly extract, manipulate, and analyse large data volumes. Big Data Analytics allows for the quick discovery of previously unnoticed connections and novel patterns, which enhances the decision-making process by analysing larger, interconnected, real-time databases as opposed to smaller, separate, batch-processed data sets. Political parties and campaign managers can create communications that are micro targeted and uniquely tailored thanks to these contemporary campaign strategies.

II. WHAT IS BIG DATA ANALYTICS

Big data analytics is a complex process that involves evaluating large data sets in order to uncover information such as occult patterns, undiscovered connections, market trends, and consumer preferences that can help businesses and political organisations make wise decisions.

Big data analytics involves the application of cutting-edge analytical methods to very large, heterogeneous data sets that comprise structured, semi-structured, and unstructured information. These data sets can be anywhere from terabytes to zettabytes and originate from various sources.

Big data refers to data collections that are too large or of a different type for conventional relational databases to efficiently capture, manage, and handle. The following traits describe big data: high volume, high velocity, or high variety. Data complexity is being fuelled by new data forms and sources like the Internet of Things (IoT), mobile, social, and artificial intelligence (AI). Big data, for instance, originates from devices, networks, log files, transactional apps, the web, and social media — the majority of it being produced on a massive scale and in real time.

Big data analysis enables analysts, academics, and business users to use data that was previously inaccessible or unsuitable to make better and faster decisions. Businesses can acquire new insights from previously untapped data sources alone or in conjunction with current corporate data by using advanced analytics techniques including text analytics, machine learning, predictive analytics, data mining, statistics, and natural language processing.

III. DEVELOPMENT AND EXPANSION OF BIG DATA ANALYTICS

The term "big data" was initially used to describe the growing amounts of data in the middle of the 1990s. In 2001, Doug Laney, who was working as an analyst for the consulting firm Meta Group Inc., broadened the definition of "big data" to cover both the variety and speed of data generation by enterprises.

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After Gartner acquired Meta Group and hired Laney in 2005, the three elements of volume, velocity, and variety came to be known as the "3Vs" of big data.

Separately, the Hadoop distributed processing framework was introduced in 2006 as an Apache open-source project, sowing the seeds for a clustered platform designed to run big data applications and built on top of commodity hardware. The idea of big data, along with Hadoop and other related big data technologies, began to take off in organisations and with the general public by the year 2011.

IV. BIG DATA ANALYTICS OUTSIDE ELECTIONS

Predictive analytics are currently being used for applications across industries to aid enterprises in making better operational decisions as a result of the growth of the Internet of Things (IoT). Here are a few prominent application examples:

1) Models made to forecast the locations of crimes
2) Estimating future oil prices
3) Information on how future events might affect a firm
4) Estimating the likelihood that a start-up will succeed
5) Observing patterns in the scholarly literature

V. WHY DATA IS NEEDED FOR CAMPAIGNS

Although there are many innovative ways that modern campaigns use data, the main function of political data has been, and will continue to be, the provision of a list of voters to contact. A list of citizens to contact must be provided for campaigns along with precise contact information. For the purpose of tracking polls, campaigns would like to keep track of which voters take particular campaign-related actions, such as giving money, volunteering, attending rallies, signing petitions, or expressing support for candidates or causes. In fact, the Election Commission mandates that all donors of any amount to campaigns and coordination committees during a given calendar year must have their identities disclosed. Because of these disclosure obligations, campaigns are both legally required and financially motivated to keep accurate contributor lists.

In order to focus campaign communications more effectively and to support larger campaign plans, campaigns also use data to build predictive models. Each voter in the voter database receives one of three types of "predictive scores" as a result of these predictive models: behaviour scores, support scores, and responsiveness scores.

VI. APPLICATION OF BIG DATA IN THE CONTEXT OF THE INDIAN ELECTION

When it comes to leveraging big data analytics to reach out to voters with messages that are pertinent to their requirements during election campaigns, political parties are eager to establish IT cells ("How Big Data Has Transformed the Election Scenario in India," 2019).

Political parties now have an easier time comprehending voter interests and crafting campaign themes that reflect those interests thanks to technology. The political parties in India benefited greatly from these strategies during the recent general elections in 2014 and 2019. Political parties use big data analytics to analyse voters' socioeconomic backgrounds, castes, local issues, etc. to determine their choices. They create customised campaign messages and send them to the target audiences based on this data. There is a feedback system in place as well, where they can gather data on how well these messages are received and disseminated to the widest potential audience. The BJP's election campaign communications during the 2014 general election serve as an excellent illustration of how big data analytics and regionally specific messaging can be used to great effect. The BJP's overwhelming victory has demonstrated the crucial role that technology plays in election campaigns.

Other national and regional parties began to rely on these technologies for election campaigns by the 2019 general election. The data from every by-election, assembly election, and general election held since 2009 for INC has been mined by the data analytics division, which is led by Wharton alumnus Praveen Chakravarty. According to a 2019 article titled "How Big Data Has Transformed the Election Scenario in India," the Congress has also launched a Big Data-enabled digital platform known as Project Shakti. The goal of this effort is to establish a connection between party members and Rahul Gandhi, the party leader.

VII. HOW HAS BIG DATA AIDED INDIAN POLITICAL PARTIES

Making micro-target communications for political leaders in such a large democratic country was extremely difficult. The local leaders in each state and each particular region were able to hear about the issues that were unique to that state and region thanks to the state party leaders.

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However, the development of big data has given national party leaders more alternatives to create tailored messaging for whatever region they are travelling to during election campaign. The use of big data analytics techniques has numerous additional advantages.

A. Micro-Target Voter Groups

The collection of big data and the use of machine learning algorithms to decode, categorise, and analyse the data to understand specific interests of a specific group of people in a given area of society is the most crucial quality of big data analytics utilised in election campaigns. This is the riskiest and most effective Big Data analytics technique because it supports democratic settings by drawing attention to the various issues facing each small group of citizens, forcing governments to serve all of the needs of the populace, and enabling each person to participate in governance. Therefore, it is effective in uniting the populace for national progress yet dividing society due to disparate vote banks and a great concern about the eventual loss of government control and authority.

B. Predictive Modelling

It is the ability to analyse historical voting trends and make future predictions. For this, data will be gathered from a variety of sources, including the websites of the Election Commission, the government, and other historical electoral papers. Through social media sites, mobile apps, etc., voter interest and personal information can be gathered. The parties can utilise the models created from this to tailor and improve their campaign in various constituencies.

C. Supervision Over Party Workers

In today's hi-tech world, there is a need for a large number of technologists and media workers, thus coordination of party employees throughout the election campaign is also a crucial issue. It is not just the party volunteers that are working for the campaign in such vast election campaigns. In addition, there will be paid volunteers. All of these campaign workers can benefit from big data, which the campaign managers and party leaders can effectively handle. A classic example of a big data-enabled digital platform to connect the party workers to the party leader is "Project Shakti," a digital platform created by the Indian National Congress during the 2019 general election campaign.

D. Feedback Mechanism

Big data analytics can enable the assessment of people’s comments and responses to the campaign messages and even allow the people to register their complains and provide suggestions for better governance on government websites and apps. This will allow the parties to take better political agendas and government policies and even help in selecting the right candidate for each constituency.

VIII. CONCLUSION

Campaigns now have the chance to concentrate their resources where they will be most effective thanks to the greater capacity to target specific voters. Despite this, the nature of campaign work has not significantly changed as a result of this capability. One may claim that the increasing significance of data analytics in campaigns has increased the significance of conventional campaign activity. Targeting is no longer primarily determined by message polling, but the increased need for data during the campaign has increased the quantity of polling used to create snapshots of the voter. Professional phone interviews are still utilised for message creation and tracking, but they are also crucial for creating predicting candidate support scores and determining how voter preferences vary in randomised studies. Similar to how more precise targeting has improved mass communication types of outreach, grassroots campaign strategies are now more cost-effective and effective. Although volunteers still need to win over doubting neighbours, they are now better equipped to concentrate on winnable neighbours and utilise persuasive arguments that are more likely to succeed. This results in encounters of a higher calibre and (perhaps) a more enjoyable volunteer experience.

Predictive scores will be used by intelligent campaigns to their advantage, but they will only benefit those ones that were already successful. only support the efforts that have already proven successful.

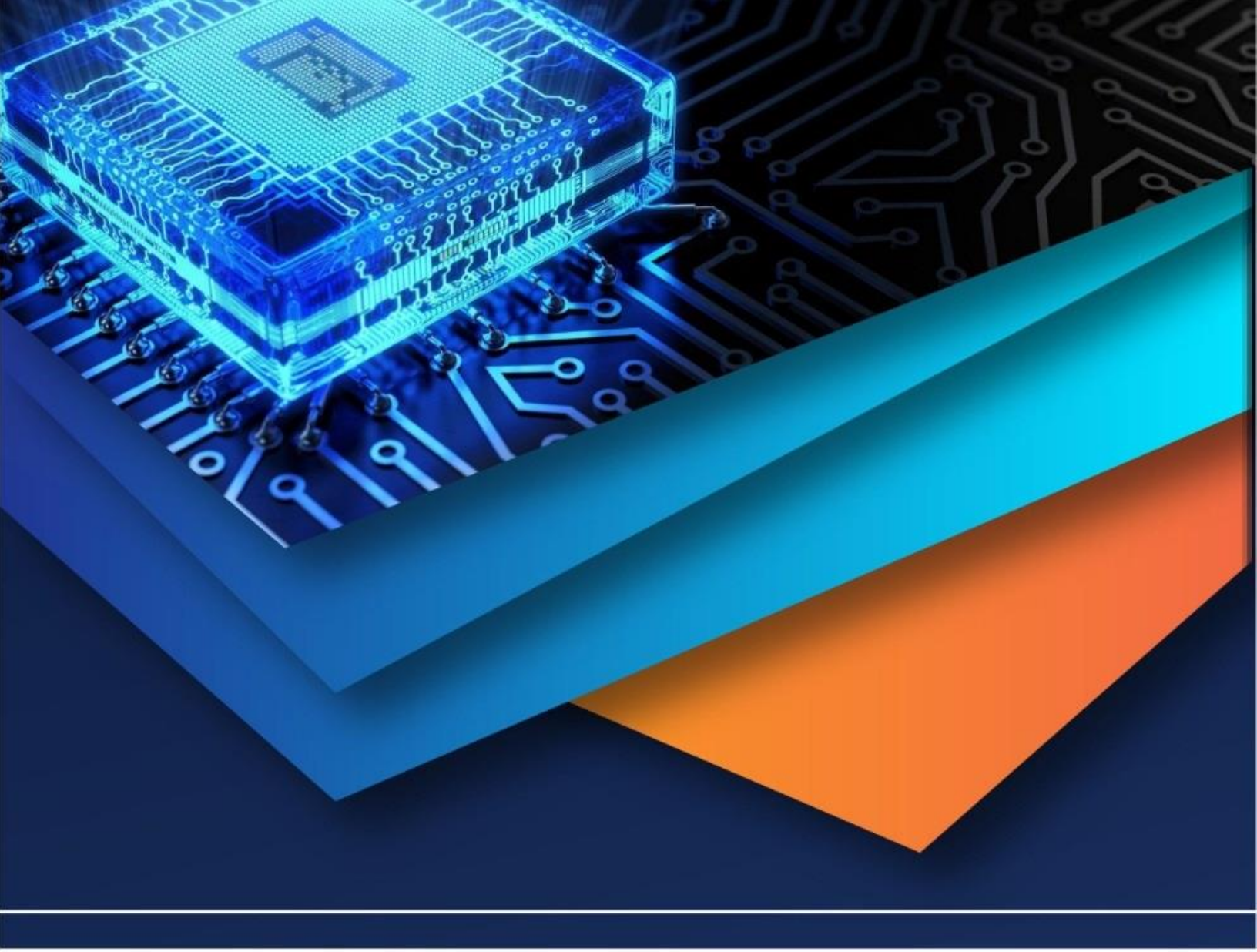
Big data analytics and other emerging technologies have completely altered India's electoral campaigning process. It produces an abrupt change in the tone of the leaders' messages and communications during the election campaign. There was more face-to-face connection when campaigns used traditional tactics, but communication was mainly one-way. With the specific issues of each group of people being addressed by the leaders, big data analytics broadens and simultaneously improves the contact of leaders with the public. Big data analytics can enhance the interactivity of election campaigns while also supporting India's democratic system.

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