Blockchain Technology in Online Political Advertising to Address Ethical Concerns

Harshavardhan Subramanian Madhavan
Department of Computer Science
Lakehead University
Thunder Bay, Ontario, Canada
1189360, hsubram1@lakeheadu.ca

Abstract—In world politics, politicians campaign every time when there is an election that will be taking place. The election campaign will be in public as well as online, where they talk about their electoral promises and other things. In online campaigning, there will always be a lot of ethics and rules to be followed which will be put forth by the election commission/committee for that election. Right now we are in 2023 the whole world is getting digitalized, Advertisements are no longer being broadcast on televisions and radios. In this case, political ads are not left out nowadays politicians are taking the digital platform as their stage to promote themselves, and their political party and to share their campaign promises in order to reach a broader range of people around the country and world. This online political advertising helps politicians in a lot of ways but also at the same time, politicians misuse and use it to manipulate the people by micro-targeting them to get their votes and win in the elections. Because of this, there won't be any transparency and accountability between the voters and the politicians and there won't be any fairness in conducting an election, and trust between the people and politicians will be lost. In order to revert from this situation, in this paper, I have discussed how Blockchain technology can be helpful for both politicians and people by improving transparency and accountability during this online political advertisement campaign which will lead to a clean and fair election.

Index Terms—Online Political advertising, Micro-targeting, Transparency, Accountability, Blockchain Technology

I. INTRODUCTION

Advertisements are commercials through which companies/organizations promote and publicize products so that people can buy them. Previously these advertisements are through newspapers, televisions, radio, and through some big hoardings placed on the roads. Though these kinds of advertisements still exist, in recent years one way of advertising which is getting very popular and now the widely used way of promoting products is online advertising because of its easy reach to a wider range of people. This rise of the internet and social media has paved a great path for politicians all over the world a great stage to promote their political agendas to the people as their political campaign advertisements to get their votes and win the election. Cambridge University in the year 2020 published a paper about online political advertisements and how creating an online advertisement is of low cost and it has the ability to reach a wider audience and it is less negative than the campaigns promoted on television and their reach to the people [1]. The digital platform has a lot of advantages but also has a lot of disadvantages because in social media anything can become trending news just within minutes of it getting shared and also at the same time the same might also get unnoticed. But when it comes to political news anything that is shared will become hot news and it will be the talk of the town irrespective of whether it is positive or negative news. It is very difficult to find ethics from politicians around the world, just to gather votes and win in the elections they will go to any extent, because of this a true and elections are almost impossible. Just to help politicians there are some political consulting firms around the world that collect, analyze and give tactical data frameworks of the people just to help them win in the election. Social media platforms like Facebook, TikTok, and YouTube helped politicians in their election campaigns by generating new algorithms to understand the people and post ads depending on it [2]. As digital advertising has become the new primary channel for the sharing of political advertisements it creates a lot of new challenges by affecting the transparency, accountability, and fairness in elections.Campaigning online allows politicians not only to help them in reaching a wider range of voters but also allows them to share their electoral promises elaborately and clearly which they cannot do in a physical campaign due to some time constraints and other things. Just like the rules imposed by the electoral law of every country for the ground campaign even for online political campaigns and advertising, there are always certain ethics and rules to be followed by the political parties contesting in the elections in order to conduct a smooth and fair election in the country.

Online political advertising is like a boon to politicians but most of the time it is like a curse for the people for the serious concerns it contains. A negative political ad campaign can benefit a lot of people just like I mentioned in the previous lines like the sponsors or the consulting firms who will make a lot of money but the ones getting affected by them are the people and politicians [3]. Since social media is being used as the main channel here people's private data is not safe which itself is a serious concern that can be used by politicians to micro-target them by which they and manipulate

them by knowing their personal information by which they can influence the voters by tailoring messages about their campaigns. There is a paper that speaks about data privacy during the 2012 US presidential campaign where people's social media data were used to in which they get tailored messages about the political campaigns [4]. Due to this, the trust between politicians and people is eroded which in term will compromise the fairness and integrity of the electoral process.

In this paper, I have discussed the potential of blockchain technology as a solution for the issues occurring due because of online political advertising. Blockchain technology is a building block for the future of digital advertising which is beneficial to society in many ways [5]. Blockchain technology offers decentralized and permanent features which can ensure the transparency, accountability, and integrity of the data is protected. By leveraging blockchain, each political ad can be recorded and it cannot be tampered by anyone ensuring that all the advertisements and their associated data are verifiable and traceable. As blockchain is associated with cryptocurrency, there was a debate on how to reconnect citizens with politics using blockchain technology using which the cost of election campaigns and advertising will be recorded [6]. The decentralized nature of this technology would eliminate the possibility of politicians manipulating a group of voters using their personal data by ensuring their fairness and preventing the voters from getting manipulated. Blockchain technology has some unique characteristics by which politicians and voters can regain trust in the electoral process by creating an environment to conduct a clean and fair election.
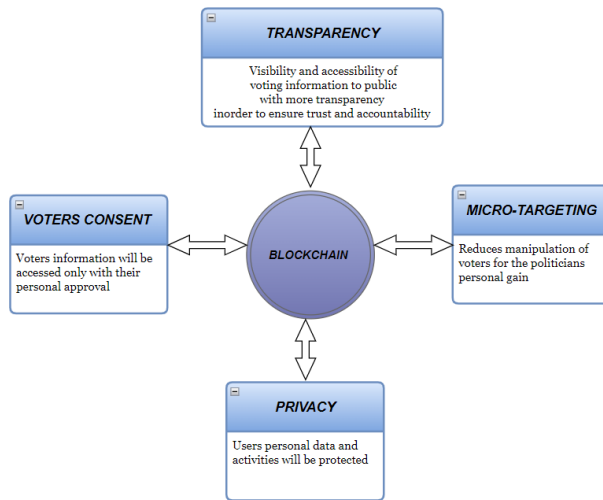

Fig. 1. Blockchain Technology for Political Advertisement

II. RELATED WORKS

In the past few years, we have all been able to see the drastic growth of politics all around the world. Even though we can sense the difference in how the politicians, political parties, and people change their ideologies and mindset there is one thing which has not changed for a long time is the ethics, rules, and the breaking of people's trust. No matter how many years have passed since democratically elected government/politics have been accepted it is difficult to find ethics in it. Previously a few years back it was only the print media all the political campaigns and advertisements will be either on television or in newspapers but right now the whole is technologically developed it is very convenient for politicians around the world to talk and spread their agendas through this giant platform that is the digital platform or social media. Social media ethics is an essential factor when it comes to posting advertisements on social media, there was an article that uses the Rawlsian framework in which they used a psychometric approach to understand the advertising policies used to post ads in social media [7]. The transparency between the voters and the politicians will be lost if it is found that there were some manipulative tactics used by the politicians to draw the people with some false information and continuous tailoring of messages in their social media to vote for them, and it is also told how people are getting manipulated in online and offline by unreal influences which can be problematic [8]. Social media is being used as a platform for politicians to manipulate the people to win votes, The Facebook Cambridge Analytica scandal which provides many fundamental bases about social media policies and their methods of influencing people which gave a lot of information about the cyber warfare operations [9]. Data Privacy is an essential factor in online political advertising because people's private data can be accessed without their consent. There was an article that states how data privacy and other ethical issues are analyzed when the Facebook Cambridge Analytica scandal got exposed [10]. The Facebook Cambridge Analytica scandal has exposed a series of issues in which one article speaks about how micro-targeting is a serious security and ethical threat to the people [11].

In order to resolve this issue a lot of papers have suggested Blockchain Technology as a solution that can build a future of digital advertising one block at a time [12]. There was an article in 2020 that suggests how blockchain technology can reshape the whole social media scenario through transparency, decentralization of data, and ownership awareness [13]. Blockchain is a decentralized and transparent ledger that secures users' social media activity by encrypting them [14]. Regulation of online political advertising in social media is an essential factor because it constitutes a large factor of revenue than any other advertisements [15]. Since there are a lot of issues related to the digital world, there was an article that talks about regulating online politics after taking insights from UK politics [16]. Blockchain technology can be used to unravel the transparency and accountability of user data in online politics [17]. Blockchain technology is one of the newest perspective technology which can contribute to the modern economy, there is a paper that talks about the pros and cons of blockchain technology and how effective it will be in online politics [18]. There is a lot of work related to online political advertisements

and how effective blockchain technology will be.

III. ETHICS IN ONLINE POLITICAL ADVERTISING

Maintaining the fairness and integrity of the democratic process is always crucial for any nation that practices it. In that situation, online political advertising is extremely important because politicians use the digital platform to spread their messages to the public in an effort to win their support. As a result, it's critical to abide by the morals and guidelines outlined in the Constitution. One case study that discusses the morality of political micro-targeting is found in [19], where politicians use social media platforms to specifically target a group of people in order to advance their political agendas and win those people's support at the polls. This is just one of many unethical issues with online political advertising that will damage the public's perception of politicians and their reputations. There are a few things that are listed below that can help in upholding the principles of democracy in order to follow ethics in online political advertising.

A. Trust and Truthfulness

The two things that are most significant in a person's life are truth and trust. Every governmental entity, politician, and political party should be fair and honest to the people because there are those who vote for them and allow them to win the election because democracy is something that is by the people, for the people, and to the people. It is crucial that they always abide by the morals and laws set forth. It is crucial to emphasize the veracity and accuracy of messages in political campaigns when it comes to online political advertising. Instead of disseminating false propaganda that will mislead the populace, candidates and parties should always offer the public accurate information. Voters will be able to make the best choice based on accurate information if trust and truthfulness are upheld rather than being duped by misleading strategies.

B. Privacy and Transparency

Privacy protection for individuals is always crucial in online political advertising. The source and funding of the advertisements must be made clear in order to be considered transparent. Protection of users' private information is crucial because, during these advertising campaigns, there is frequently an unauthorized use of user's personal information, which results in a violation of their privacy and, in some cases, a betrayal of their trust. Voters can judge the veracity of the information presented and the potential for bias by being informed of it through transparency, which enables them to judge how trustworthy the information is and base decisions on it. Data Politicians who micro-target their constituents without their permission are violating their privacy. An example of a data privacy concern is AggregateIQ company where a lot of users' personal information where used for political purposes. It was found that they had access to millions of users' personal data which were used to target voters using tailored messages. People's private information must be used

with their permission in order to uphold ethical standards, and information collection should be transparent to prevent unauthorised access.

C. Accountability and User Respect

Politicians and political parties should be held liable for all of their actions in internet political advertising. Politicians utilise the tactic of micro-targeting to influence voters and win elections. These manipulation tactics, also known as targeted advertising, are used by people to attack a certain group of people without their knowledge out of disregard for people's private information by customising messages in their social media accounts about their political goals. Political campaigns that are ethical always put the consent of the electorate and their freedom to participate in politics above bombarding them with irrelevant messages that show up in their social media feeds.

These are a few examples of what constitutes the ethics that must be upheld in internet political advertising. These moral guidelines must always be followed in order to run a pure campaign that will uphold fairness, integrity, and public confidence in the democratic process. In order to maintain the public's faith and respect for lawmakers, the privacy of individuals will be preserved in a courteous and inclusive manner.
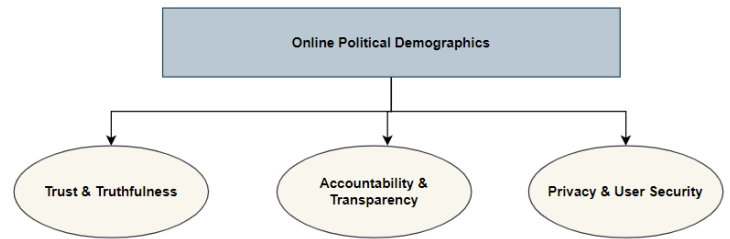
Fig. 2. Ethics in Online Political Advertisement

IV. PROPOSED SOLUTION FOR USING ETHICS IN BLOCKCHAIN TECHNOLOGY FOR ONLINE POLITICAL ADVERTISING

"Blockchain technology is a decentralized and transparent digital ledger that records and verifies the transactions across multiple computers". Blockchain technology is currently one of the leading technology which can be used to enhance transparency in online political advertising. The use of this technology can provide great transparency and accountability to the politicians and voters using which they can record all the transactions and activities related to political advertising. Technology like Blockchain can be used to enhance transparency which in return will provide immutable and auditable records of political ads, funding sources, and targeting criteria. There was a research paper that talks about how in today social media context, the security of the user's private data is a serious concern due to the political advertising and how blockchain

technology can be helpful in this situation [20] Some of the Ethical issues that happened during online political advertising can be solved using blockchain technology. There are certain key ethical aspects that tell why blockchain technology can be a serious game changer when it comes to ethics in online political advertisements.
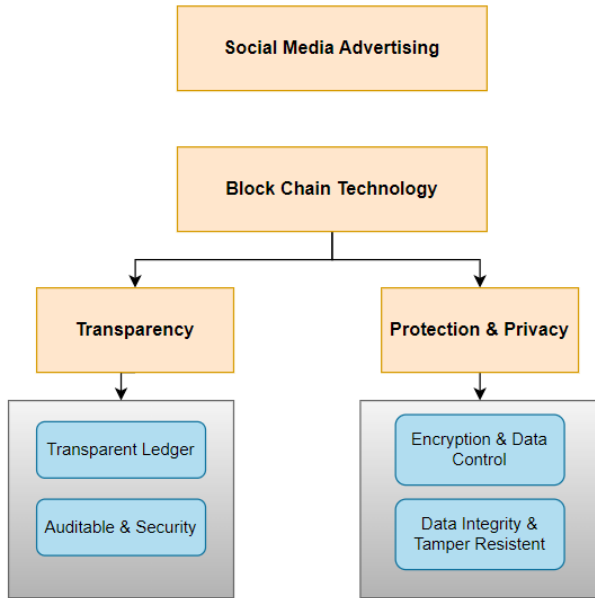

Fig. 3. Blockchain Technology and its key aspects

A. Transparency

When it comes to politics, transparency is important. Political transparency is a critical issue everywhere in the world. The material presented in online political advertisements should be accurate and morally correct; it should not contain any deceptive information that sends the wrong messages to the public and influences their voting behavior. In addition, politicians use information about their constituents' private social media activity to tailor messages that further their political objectives by using micro-targeting techniques. This is done with the assistance of political consulting firms. The transparency and accountability of digital advertising campaigns are greatly impacted by problems like these. Blockchain technology may be utilized to resolve issues.

1) Transparent Ledger: Typically, blockchain functions as a decentralized, transparent ledger that stores all the data in an immutable fashion. Due to a number of instances where the transparency between the people and the politicians was compromised, blockchain technology offers a very transparent ledger.One such example is the Cambridge Analytica scandal, it is a British political consulting firm that, along with Facebook, came under fire in 2018 for gathering millions of user's personal information without their consent and using it primarily for political advertising.

They only became widely known after it was discovered that they collaborated with former US President Donald Trump during his 2016 Presidential Campaign, using the information gathered to create psychographic profiles of the candidates based on their Facebook activity. This controversy exposed the benefits of data-driven elections for politicians, who may be micro-targeted and manipulated based on their Facebook usage.Voters and politicians can access and validate the data contained in the blockchain, which gives real-time updates regarding all the political adverts, by using this transparent ledger.

2) Auditable and Security: A lot of cash will come from politicians and other stakeholders when there is an online advertising campaign, especially for politics. To ensure the accuracy of the data, every transaction on the blockchain is timestamped with those that came before it. Another justification for implementing blockchain technology is its security aspect, which makes data manipulation exceedingly difficult because every transaction is auditable. Every piece of information that is kept is protected because safe cryptographic techniques are used to prevent tampering. This blockchain security feature can help voters and politicians build trust by ensuring that their financial data and messaging are safe from manipulation during the campaign.

B. Data Privacy and Protection

"Data privacy is the branch of data management that deals with handling personal data in compliance with data protection laws, regulations, and general privacy best practices."Data Privacy is the issue that was more spoken about when it comes to ethical issues in online political advertising, Even in the challenges we have spoken about how data privacy has been a big issue in the use of blockchain technology can reduce this issue because using this the users will have more protection to their personal data.In digital platforms, maintaining user privacy is always essential to maintaining the secrecy between users and other individuals. Blockchain technology prioritizes the security and privacy of the user's personal data during an online political campaign. The three components of blockchain technology—confidentiality, integrity, and availability—can be used to protect user identities and sensitive data.

As previously noted, politicians utilize micro-targeting strategies to entice and control the populace in order to advance their agendas, and for this purpose, many businesses provide assistance with the user's data without the user's consent and use it for their own purposes. In Transparency, I gave the example of Facebook-Cambridge Analytica, a company that improperly obtained user information by manipulating it. They obtained millions of users' Facebook activity records without their knowledge in order to aid politicians in advancing their causes, which were fully displayed in their social media profiles. Blockchain technology offers various advantages for the safety of users'

private data to address all these issues.

1) Encryption Algorithms: Blockchain technology makes use of encryption methods that give users complete privacy and enable them to communicate using cryptographic addresses rather than their real names. Using this encryption algorithm gives users the assurance that their private information will remain private and safe from attacks, thus enhancing data security.

2) Users Data Control and Consent Access: Because of the unauthorized access to user information during political campaigns without their consent for the purpose of micro-targeting and manipulating them for their votes, data privacy has become a severe problem. Blockchain technology addresses this problem by giving people more authority and control over their personal data. Once this is in effect, it is up to the user to decide whether to give permission for politicians to access their accounts during online political campaigns, as well as to decide how much personal information they are willing to share. Users also have the option to withdraw their consent at any time if they no longer feel comfortable doing so. This gives users control over their personal data and enables them to allay their fears of information being accessed and used without their permission.

3) Data Integrity and Tamper-resistant: People trust politicians in politics because they operate with honesty and integrity. These days, it is incredibly difficult to find both from our politicians, thus this plays a very significant role and is a very serious worry. Using blockchain technology, online political advertising keeps information integrity from being tampered with. Data becomes tamper-resistant once it is saved in the blockchain, and any attempt to change it would require the network's approval. The two most important factors in preserving the reliability of the personal information utilized in online political advertising campaigns are data integrity and prevention from data manipulation.

V. BENEFITS OF USING BLOCKCHAIN TECHNOLOGY IN ONLINE POLITICAL ADVERTISEMENTS

Because of its extensive features and intended usage, blockchain technology for online political marketing offers many advantages for its users and stakeholders. Due to its system for ensuring there is more transparency and accountability for every piece of data that is accessible, the use of this particular technology has the potential to significantly alter the existing online political campaigns. Figure-4 shows some of the advantages that Blockchain offers when it is used for online political advertisements are listed below.

A. Reduced Manipulation

The decentralized and transparent mechanism of the blockchain eliminates the possibility of social media users being micro-targeted by politicians who would otherwise send them personalized messages promoting their agendas
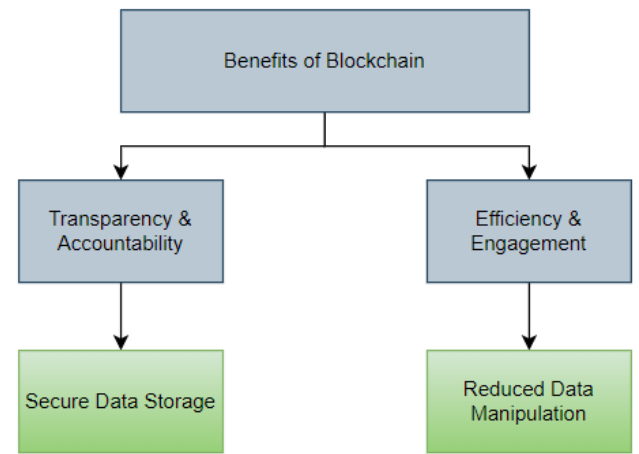

Fig. 4. Blockchain Technology Benefits

and directing them to vote for a particular party in elections. Since Blockchain has a distributed network, the likelihood of being swayed or joining a particular biassed group can be reduced, allowing voters to make decisions on their own rather than having false information enter their minds through advertisements. All of this stops the dissemination of false information, resulting in a fair electoral process in the end.

B. Secure Data Storage

Everyone is aware that one of the most often used technologies when it comes to cryptocurrencies is blockchain technology. Blockchain assures that the data saved will be secure and that any sensitive information related to the campaign will be protected with the aid of these cryptographic techniques. Unauthorized users find it challenging to access this sensitive information because of the decentralized nature of blockchain; even if they do, the users will be immediately alerted about the attempt to violate the security to access that information.

By using blockchain technology for online political advertising, the electoral process may undergo a new revolution that increases accountability, transparency and reduces voter manipulation. It will also provide voters with trustworthy information, ensuring that all political campaigns are run with the utmost integrity and transparency.

VI. OPEN CHALLENGES USING BLOCKCHAIN TECHNOLOGY IN ONLINE POLITICAL ADVERTISING

Everything we discover has obstacles, and blockchain technology is no different. These challenges must be resolved. Two issues, anonymity and speed and scalability, need to be resolved in order to introduce new innovations that can greatly enhance online political advertisements.

A. Anonymity

Blockchain, as I have explained, functions as a decentralized transparent ledger that stores and verifies data across numerous computers. Although Blockchain makes a lot of advances

to online political advertising campaigns, it also poses some severe problems for user privacy and anonymity. Blockchain's transparency improves accountability and decreases fraud, but it becomes problematic when it comes to the privacy of personal data. For the goal of targeted advertising, a lot of sensitive user information will be gathered during this Internet advertising campaign, including users' political inclinations and demographic choices. In this situation, it will be dangerous to store a lot of sensitive user data in the blockchain because it might be compromised. It is important to safeguard data privacy in blockchain technology in a way that will be advantageous in the future, if not right away. Using boosting techniques like zero-knowledge and safe encryption protocols can help solve the anonymity and privacy problem.
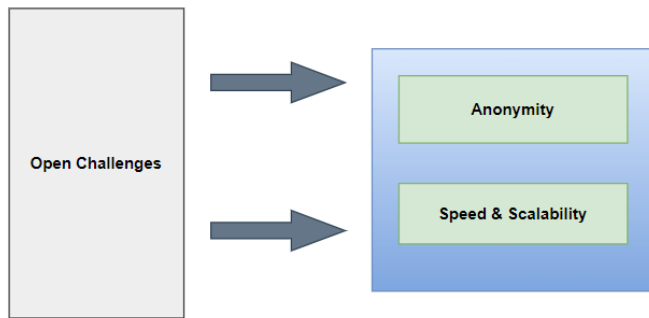

Fig. 5. Open Challenges in Blockchain Technology

B. Speed and Scability

Online political advertising entails the real-time tracking and processing of an enormous amount of data and transactions. There will be certain speed and scalability restrictions during this phase that may impair the advertising campaign's efficacy and responsiveness. The public blockchain has a long transaction time as a result of this scalability and speed issue, which makes them less useful for rapid transactions and data utilization. The scalability challenges can be handled by employing a different blockchain architecture, such as a private or hybrid blockchain, which can process numerous transactions concurrently without compromising security or decentralization.

If there are technology developments that result in new legislative frameworks that can enhance the system in a way that will secure sensitive data and increase the effectiveness of the Blockchain networks, it may be able to overcome these obstacles. Politicians and other interested parties ought to band together and propose new rules that would balance openness, accountability, and data privacy in online political advertisements that use Blockchain technology.

VII. Conclusion

There should be some honesty in the work we all undertake, which is why rules and laws are imposed. Whether it is offline politics or online politics, ethics are something that is fundamentally lacking in politics.Online political advertising faces numerous challenges and ethical issues, including the spread of misinformation, lack of transparency, and concerns about data privacy.There should be some honesty in the work we all undertake, which is why rules and laws are imposed. Whether it is offline politics or online politics, ethics are something that is fundamentally lacking in politics. In order to address this issue, I have proposed in this paper that the use of blockchain technology could result in a number of changes to the entire demographics of online political advertisements. This is because one of the most recent developments in technology, blockchain, has enhanced features that can maintain the relationship of accountability and transparency between politicians and the general public. Private information about individuals is shielded from unauthorized access in order to prevent micro-targeting and voter manipulation. Blockchain technology has some roadblocks but they can all be overcome, and they have the potential to alter the entire dynamic of digital advertising in the future. Politicians, the general public, and other stakeholders must all agree on this in order to completely adapt this to online political advertising for it to be effective and moral when it is implemented.The adaption of this technology can improve the ethics and fairness of online political advertising, which brings a lot of trust between the politicians and the public while their data is safe and the spread of misinformation will be reduced.

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