Electronic Voting

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ABSTRACT
Electronic voting (also known as e-voting) is voting using electronic means to assist or control the voting and counting of votes.Electronic voting is an electoral system that takes voters voteand record their votes. Votes that are saved are recalculatewhenever it is necessary.Many countries are currently considering introducing electronic voting systems to improve the various aspects of the electoral process.Electronic voting systems speed up election results and reduce electoral costs by significantly reducing the number of people required to run a polling station and record the results.Electronic voting is often seen as a tool to promote democracy, build trust in electoral management, increase credibility in election results and increase the overall efficiency of the electoral process. But not all peoples are satisfied with e-voting. Indian peoples have doubt on EVM, they have no trust on it. The proposed research paper is focused on the risks of electronic voting system. How risky electronic voting is? and can we completely rely on it?
KEYWORDS
E-voting, Electoral system, Costs, Reliable, Risks

I.   INTRODUCTION

Electronic voting systems have been in use since the 1960s when developed card systems were first introduced. Their first widespread use was in the USA when seven countries changed this approach in the 1964 presidential election.The use of EVM and electronic voting was developed and tested by Electronics Corporation of India and Bharat Electronics in the 1990s. They were introduced in the Indian elections between 1998 and 2001, according to categories. Prior to the introduction of electronic voting, India used ballot papers and counting. The ballot paper system was widely criticized for fraudulent voting and kidnappings, in which party loyalists kidnapped booths and stuffed them with fake ballots that had previously been filled. Printed ballot papers are also expensive, requiring a lot of resources after voting to count hundreds of millions of votes individually.

The absurd view of electronic voting is that it is simply a voting process that is well-understood - that is, people vote andthose options are recorded, calculated and processed to produce a result. Depending on the particular use, electronic voting may be by means of electronic voting machines (also called EVM) or computers connected to the Internet. It can cover a wide range of online services, from the basic transfer of table-based results to full online voting with standard home appliances. The level of automation may be limited to marking paper ballots, or it may be a complete system of voting, vote recording, data encryption and transfer to servers, as well as integration and filing of election results.

A proper electronic voting system should perform most of these functions while complying with a set of standards established by governing bodies, and should also be able to effectively meet the strict requirements associated with security, accuracy, integrity, speed, privacy, readability, accessibility, cost effectiveness, measurement and environmental sustainability.Electronic voting technology can include flash cards, optical scan voting systems and special voting centers (including pre-recorded electronic voting systems, or DRE). It may also involve the transfer of votes and votes over the telephone, private computer networks, or the Internet.

II.   THE TRADITIONAL BALLOT

The first use of ballot paper for elections seems to have been in Rome in 139 BC, following the introduction of lexGabiniatabellaria.In ancient India, about 920 AD, in Tamil Nadu, palm leaves were used in the election of district conventions. Palm leaves containing the names of people to be baptized were placed in a mud pot to be counted. This was called the *Kudavolai* system.

By traditional voting, a voter is a person who records his or her vote. This is usually a mark or mark on a ballot paper. These are tangible marks that can be verified directly by the voter himself, i.e., implicit in the

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traditional ballot is the process of voter verification. A voter can directly confirm that the recording of his or her vote is in line with his or her intentions. The voter is also responsible for placing the ballot paper in the ballot box - thus ensuring that the ballot is not read or interrupted before it is cast.

III.   ELECTRONIC VOTING

With an electronic voting system only, the voter presses the (or similar) buttons corresponding to his or her voting preferences and the electronic system records the vote. The voter cannot directly see the recording of the vote but is assured that the vote is recorded and accurately recorded by the machine. This process is markedly different from that of the general vote - an outsourced company presented in a machine-readable form. The machine records the vote, assures the voter that the recording is accurate and apparently puts you in the ballot box. We just hope that this is done the right way.

Most voters will be forced to give a third party their ballot paper as unacceptable but this is what happens by voting electronically without voter confirmation. Whereas previously there was nothing to prevent a voter from verifying his or her vote directly, they are now forced to trust the incumbents.

The fact that the medium is a machine may guarantee some people however the equipment may fail and without direct verification there is always a risk that failure will not be recognized until it is too late. In addition, the machines are made and tested by people who make mistakes and are corrupt. Someone has to verify the equipment and they are the ones who end up taking your vote and making sure it is safe in their hands. Voters have never been forced to distrust anyone before so why start now?

IV.   TYPES OF E-VOTING SYSTEMS

Technically, most e-voting systems fall into one of the following four categories.
• **Direct recording electronic (DRE)** voting machines. DREs can come eitherwithout a paper tracking (VVPAT, or a voter-verified paper-tracking track). Such VVPATsintended to provide concrete proof of the votes cast.
• **OMR systems** based on scanners that can detect voters' choiceson special machine-readable ballot papers. OMR systems can be centralized counting systems (where ballot papers are scanned and calculated by special countingcenters) or precinct count optical scanning (PCOS) systems (where scanningand counting takes place at the polling station, exactly as voters cast theirballot paper in voting machine).
• **Electronic ballot printers (EBPs),** tools such as DRE manufacturinga machine-readable paper or electronic token containing the voter's choice.This token is inserted into a separate balloon scanner that generates an automatic vote
read.
• **Online voting systems** where votes are transferred online at a central locationcalculation server. Votes can be cast on public computers or by votingkiosk atpolling stations or — mostly — from any online connectiona computer accessible to the voter.
The common name for the voting machine (VM) is often used to refer to DRE and PCOSsystems and online voting booths.

V.   FEATURES OF E-VOTING

•Quick vote count and table inclusion.
• Complex managementelection program formulaswhich require hard calculationsprocedures.
• Very accurate results as a personerror not entered.
• Increased ease of use of voters.
• Improved presentation ofhard ballot papers.
• Potential participationand attendees, especially withthe use of online voting.
• Prevent fraud in votingchannels and transfer timeand side effects planninghuman intervention.
• Increased accessibility, e.g.,with blind voting audio ballotsvoters, by voting online againto voters and voters entering the housefrom abroad.
• Most relevant to the needs ofan increasingly mobile society.
• Opportunities for multilingualismfunctional interface multilingual voters are better thanballot papers.
• Reduction of damaged ballot papersas voting systems may alert votersabout invalid votes (thoughshould be consideredto ensure that voters are able to voteempty vote if they vote).
• Saving potential long-term costsby saving the voting functiontime, and reduced costs forproduction anddistribution of votespapers.
• Saving costs over the Internetvoting: access to the world with very littlelogistical overhead. No postingcost, no shipping delayproperty and recovery.
• Compared to post voting, onlinevoting can reduce the incidence of thisselling votes and family voting into allow more voting there onlythe final vote counts and blockscheating on last days emailthrough direct voting controltimes.

VI. DRAWBACKS OF E-VOTING

• Lack of transparency.
• Program certificate required, howeverthere are no generally agreed upon standardscertificate.
• Limited access onceto understand the system ofnon-experts.
• The need for additional voting educationcampaigns.
• Potential violations of the privacy ofvote, especially in programs thatdo both voter authenticityand voting.
• The risk of internal fraud withspecial access to the system orby foreign hijackers.
• Increased cost of both purchasesand maintaining electronic voting systems.
• Increased infrastructure andenvironmental needs, offor example, about powerprovision, communication technology,temperature, humidity.
• Reduced control level byelection management becauseof high retailer dependence and / or technology.
• Limited accountability opportunities.
• Potential conflict with existinglegal framework.
• Opportunities for large-scale fraud by small group fraudto the insiders.
• Possible lack of public trustas a result of the election based onof the aboveweakness.
• Additional security requirements forto protect the voting system in timeandbetween elections includingduring transport, storage andcare.

VII. RISKS OF EVM

The use of EVM and electronic voting was developed and tested by Electronics Corporation of India and Bharat Electronics in the 1990s. They were introduced in the Indian elections between 1998 and 2001, according to categories. India's EVMs are autonomous machines built with one-click, memory-only memory. EVMs are manufactured by secure production processes, and by design, they are self-contained, battery-powered and have no communication capabilities. They do not have wireless or wireless internet components and a visible connector. The M3 version of EVM includes the VVPAT system. The Election Commission of India states that their equipment, system checks, security procedures, and election protocols are "fully temper-proof".

But there is no mechanism that we can consider "fully tamper-proof". Every system has something and somewhere loopholes.Some security experts had tested the evm machine and they said that there is two ways that can be crack this machine.

1) Change Display
If EVM's display changes then u can show result that u wants with the help of Bluetooth devices and display driver system. How it works? machine takes votes, it works properly but it shows only the result that u want.

2) Memory Rewrite
If u rewrite memory with new data, then u can completely change votes. EVM'S software are embedded but u externally forcefully rewrite the memory then this is possible.

PUBLIC SURVEY
we used our data collection service, commonly referred to as a survey bot, to various people and we collected information on various aspects of their electronic voting comprehension.
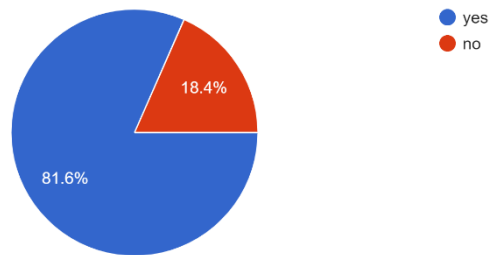
QUESTIONNAIRE
1. Do you know about Electronic Voting?
2. Do you think Electronic voting is reliable?
3. Do you think your personal vote is confidential and secured?
4. Do you think that the vote goes only to those whom you vote for?
5. Do you think there could be a scam in the EVM machine?
6. Would you like to cast your vote on mobile or from any location?
7. Do you want a different voting system than EVM?

VIII. RESULTS
The age of the people in our survey is as follows, 65.8% peoples are of age group 21 to 30.
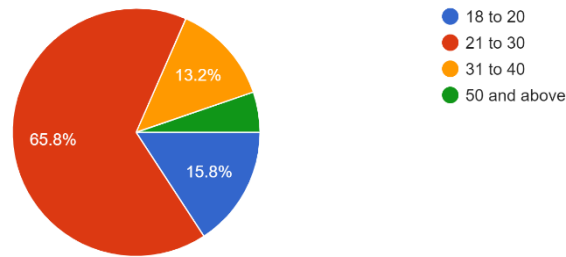
When we asked do you know about Electronic Voting? About 81.6% peoples were know about electronic voting and 18.4% peoples are not aware about e-voting
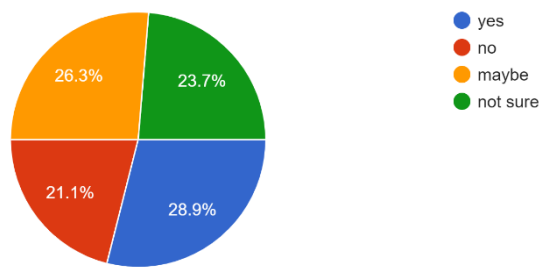

When people were asked do you think Electronic voting is reliable, 52.6% peoples said yes and rest said no.
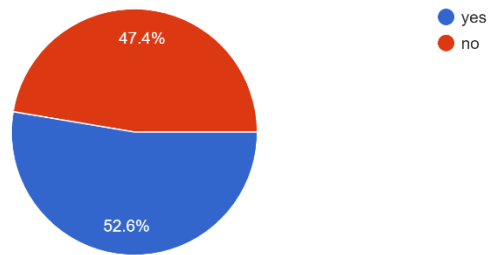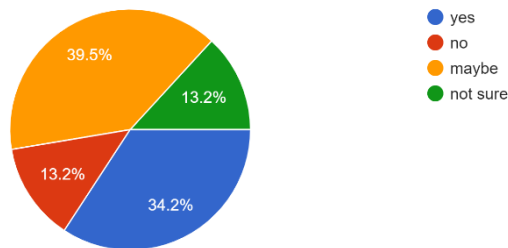

When asked do you think your personal vote is confidential and secured? The observed response pie chart is as follows:
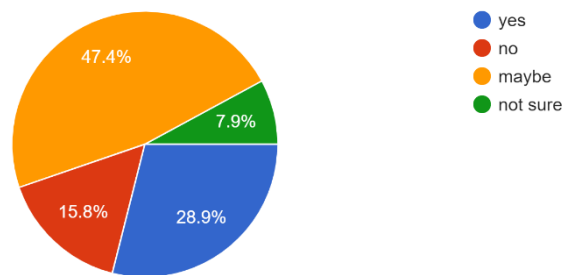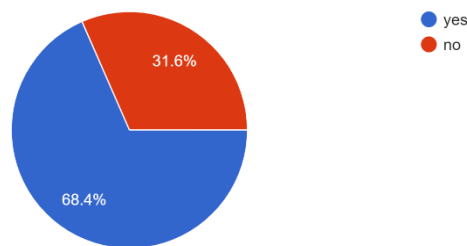

When asked do you think that the vote goes only to those whom you vote for? The observed response pie chart is as follows:
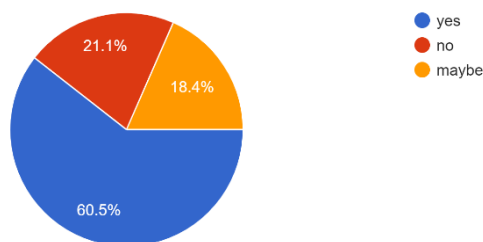
When asked do you think there could be a scam in the EVM machine?The observed response pie chart is as follows:

When asked would you like to cast your vote on mobile or from any location? Then 68.4% peoples were said yes and rest said no.

When asked do you want a different voting system than EVM? 60.5% people said yes.

IX. FINDINGS

- Electronic Voting is fast and convenient but we cannot completely rely on it.
- Very less people think e-voting is secured and confidential.
- Very few people think there could be no scam in EVM.
- Maximum people want to cast their vote from mobile and from any location.
- People want different voting system than EVM.
- EVM has also some loopholes.
- Definitely election system has high security but there could be scam.

X. CONCLUSION

Electronic voting has many advantages and disadvantages. The counting of votes has become simpler and faster. EVM speeds up the election process. But very few people rely on EVM. People are skeptical that their vote will not go to the candidate. Some people want a different voting system than e-voting. All systems

have somewhere and something loopholes EVM also has loopholes. The electoral system has very high security but there is a chance of cheating on EVM. We cannot be completely reliable on EVM.

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