



Literature Review

EVMs have been in use for several decades, hence bringing a smooth alternative to paper ballots. Despite its advantages, the traditional EVM has not been free from controversy. Many studies cited security vulnerabilities and tampering of such systems and highlighted some fraud cases. From using manual or local electronic counting methods, it simply was impossible to deliver transparent verification of election results in real-time.

One of the recent developments that has focused on these shortcomings is the integration of using IoT technology in voting systems. The voting system alone stands to be revolutionized using this technology with features such as real-time count of votes, biometric authentication, and cloud-based data storage. Its latest success story can be seen in the adoption of fingerprint authentication in ensuring the eligibility of the voters. A voter authentication system, which recognizes fingerprints to authenticate the identity of voters, can limit the occurrence of voter impersonation and multiple voting-an activity that occurs less frequently in most electoral systems.

It has another important advantage- that actual votes can be safely transmitted and stored off-site in real-time through cloud-based data storage. Consequently, the vote records cannot be tampered with and election officers keep track of the voting process without necessarily showing up in the location. So many studies have established that electoral integrity is well maintained through cloud-based systems, especially when paired with encryption protocols for secure transmission of data during elections.

The challenges with the deployment of IoT-based voting systems have also been marked within literature. The first concern is cybersecurity because most such devices are network-dependent and susceptible to hacking and data breaches, among other denial-of-service attacks. This is resolved through robust encryption, strong authentication procedures, and regular system updates in place to prevent exploits. Despite these difficulties, IoT-based voting systems seem to bring a promising solution to the problems traditional EVMs are facing and are expected to become increasingly important in future elections.