**Estonia's Digital Democracy: Unraveling the Power of E-Voting and Media Representation in a Cross-Cultural Lens**

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# ABSTRACT

*This thesis explores a variety of media articles to gain a deeper understanding of how electronic voting (e-voting) is represented in media outlets. E-voting was implemented in Estonia back in 2005 as a revolutionary initiative for digital democracy. However, worries about the security and reliability of e-voting have remained, emphasizing the requirement for a thorough examination of media coverage and its influence on public opinion. The study specifically attempts to investigate how the media environments in Estonian and English-published media differ and approach e-voting. The research looks for patterns, biases, and underlying factors affecting public views by examining articles from various historical periods. A structure based on theory is used to give a conceptual lens for the study in order to answer the question at hand. Insights into the adoption and acceptance of e-voting within a social system are analyzed in relation to the Technology Acceptance Model (TAM) provided by Davis (1989) together with other scholars researching the phenomena of e-voting. Multiple other aspects of e-voting are being examined, for instance, transparency and security matters, such as questioning the vulnerability of electronic voting. Moreover, different framing theories are being linked to the analysis. In publications written in the Estonian language, a pattern of hostility and techno-pessimism, especially around 2017 and 2023, develops. During that period time, in an effort to criticize the use of electronic voting, authors frequently highlight its drawbacks and issues. However, the analysis also provides interesting findings regarding the popularity of e-voting not only in terms of voter turnout but also in the way other countries view Estonia's e-voting. The approach also emphasizes how language and cultural environment affect the way technology is perceived. Estonian publications have a more hostile position toward e-voting than the English press does in general. The difference highlights the need of taking into account the influence of linguistic and cultural aspects in forming public opinion and trust in electronic voting. The study also touches on the crucial subject of e-voting security and confidence. The analysis shows that both English and Estonian periodicals frequently discuss security and privacy issues related to e-voting. In order to increase transparency and foster confidence, interviews with IT professionals, cybersecurity professionals, and government officials were done. This strategy is consistent with Magaloni's (2006) research, which found a link between fair elections and increased public confidence in the government. By placing a high priority on transparency in media coverage, the nation not only allays worries about e-voting but also promotes a favorable perception of the elections, e-voting, and general justice. The thesis comes to the conclusion that a variety of elements, including language, cultural background, perceived advantages and disadvantages, and transparency in media coverage, affect public opinion and trust in e-voting. Policymakers and electoral authorities can better grasp the elements that influence public views and faith in e-voting systems due to the research's helpful findings. Governments may promote more*

*confidence in the election process and support the effective introduction of e-voting by addressing concerns and implementing transparent policies.*

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# 1. Introduction

E-democracy, the application of digital technologies to strengthen democratic processes, has gained popularity recently. The use of technology to facilitate and improve democratic processes, such as voting, decision-making, and public involvement, is referred to as e-democracy, also known as digital democracy (Kneuer, 2016). E-democracy strives to boost public engagement, expand accessibility and transparency in government, and raise the standard of decision-making.

Additionally, the usage of electronic voting systems has increased recently in an effort to enhance voting's effectiveness, accuracy, and accessibility. Simple electronic voting devices and more sophisticated systems that allow for remote voting over the Internet are both examples of e-voting systems (Ronchi, 2019). Compared to conventional paper-based voting procedures, the advantages of electronic voting include a rise in voter turnout and a decrease in the possibility of fraud and human mistakes. Certain demographic groups may be discouraged from voting by the need to physically travel to specified polling locations required by traditional paper-based voting. People may choose not to vote as a result of issues like distance, long queues, or inconvenient work schedules. Contrarily, remote participation is made possible through electronic voting, allowing people to participate from the comfort of their homes or any other location with an internet connection. Therefore, the use of electronic voting has the potential to greatly boost overall voter turnout (Spirakis et al., 2010). However, it is important to mention that the use of technology in the electoral process can raise questions about the technology's security and dependability, which means that electronic voting must be transparent to avoid hesitation from voters. (Spirakis et al., 2010).

With systems like e-voting and e-residency in place, Estonia is seen as a forerunner in e-democracy (Anthes, 2015). The first e-voting pilot test was held in Estonia in 2005, which is when the system was officially implemented (Delfi, 2004). This study seeks to understand the portrayal of Estonia's e-voting in media publishments written in two languages. The choice of studying media items in two languages, English and Estonian, is motivated by the goal of thoroughly understanding news media depictions connected to e-voting in Estonia and its acceptance. This study attempts to collect a wider range of opinions and guarantee a more inclusive analysis by examining media coverage in both languages. Due to its broad use as a

universal language in academic, governmental, and media contexts, English was selected as one of the languages. Using English-language media sources, the study can obtain a wider international viewpoint on e-voting in Estonia. This is crucial since English-language sources may offer opinions from specialists, researchers, or journalists from various nations who may view e-voting and its ramifications from varied angles. On the other hand, it is crucial to include Estonian-language media sources in order to comprehend the local context and how e-voting is portrayed inside the nation. Studying media coverage in Estonia's official language enables a more in-depth investigation of domestic discourses, public perceptions, and policy talks surrounding e-voting. It allows for a more complex understanding of how e-voting is viewed and discussed locally while considering Estonia-specific cultural, political, and historical aspects. Therefore, this research aims to understand: "How is e-voting represented in Estonian media compared to media articles published in English?"

## 1.1 E-voting and I-voting

Before proceeding, it is important to make a distinction between e-voting and i-voting. E-voting and i-voting are two words that are frequently used in Estonia to describe the electronic voting procedure. There is a difference between these terms, although they are frequently used synonymously.

Voting online in a safe, encrypted manner is referred to as "e-voting," which stands for electronic voting. It enables voters to cast their ballots online via a computer or mobile device. Since 2005, Estonia has allowed electronic voting in all national elections (Madise & Martens, 2006). A secure digital ID card that is provided to every resident serves as the foundation for Estonia's electronic voting system. This card has a chip that safeguards the confidentiality and legitimacy of the vote by storing the voter's personal data and digital signature. E-voting in Estonia normally occurs during a predetermined window before the regular election day, giving voters the freedom to cast their ballots whenever it is most convenient for them.

I-voting, which stands for internet voting, is a larger notion that includes numerous online modes of participation in the political process. Along with electronic voting, it also encompasses various digital tools and platforms that encourage and facilitate civic engagement. I-voting in Estonia entails activities including online participatory budgeting, citizen engagement platforms,

and digital consultations at the local level in addition to traditional voting (E-Estonia, 2022). These programs seek to increase accessibility, transparency, and citizen participation in decision-making.

Despite the fact that e-voting is a particular type of i-voting, the two concepts differ in their scope and purpose. E-voting, which ensures a safe and effective voting procedure, generally refers to the electronic casting of ballots. I-voting, on the other hand, includes a wider selection of digital tools and platforms that encourage public involvement and participation in democratic processes beyond voting alone (E-Estonia, 2022).

## 1.2 Social Relevance

For a number of reasons, researching how Estonian e-voting has been portrayed in the media has major social significance. First of all, Estonia has established itself as a key player in this industry attributable to its innovations and competence in e-voting. Investigating how this picture is presented and created in regional and global news media might reveal social views, stories, and discourses about e-voting. The study can help to better understand the influence of media narratives on public opinion and the formation of public debate on electronic voting by looking at media representations of Estonia's e-voting. Information distribution, as well as public understanding, public trust, and confidence in electoral processes, are all significantly influenced by the media (Gibson et al., 2003). Examining how Estonia's e-voting is portrayed in the media can reveal any biases, misunderstandings, or coverage gaps that might influence how the public perceives and decides to use e-voting in other settings. Studying how Estonia's electronic voting is portrayed in the media might also further broaden debates on the political and social impacts of technological advancements in democracy. E-voting brings up challenging concerns about security, transparency, inclusion, and confidence in election processes. The societal arguments and concerns around the implementation of e-voting technologies can be better understood by examining how these topics are presented and framed in media coverage. In general, analyzing how Estonia's e-voting is portrayed in regional and global news media can provide insightful information on the social dynamics, difficulties, and opportunities related to the use of technology into democratic processes. It can help the public, scholars, and politicians better understand and negotiate the complexity of electronic voting, ultimately leading to more

inclusive and informed decision-making processes in the digital age. Moreover, the results of this study can help guide policy decisions and enhancements to Estonia's e-democracy systems and offer guidance to other nations interested in developing e-democracy systems.

## 1.3 Academic Relevance

The academic value of examining how Estonia's e-voting is portrayed in the news media comes from bridging the knowledge gap between how e-democracy is portrayed and how Estonian individuals participate in it. There is a limited understanding of how e-democracy is represented in the news media and how citizens perceive and interact with these democratic innovations, despite the fact that the field of e-democracy research has primarily focused on the technical aspects of these systems, such as the design and implementation of digital platforms. This study contributes to the academic discourse by addressing the understudied topic of media representation and its impact on public perceptions and participation in e-democracy by looking at how Estonia is portrayed in the media as a pioneer in e-democracy as well as e-voting. Examining how Estonia's electronic voting system is portrayed and discussed in the news media can offer important insights into how the nation's reputation as a leader in democratic innovation is created. It enables academics to evaluate how closely media narratives reflect Estonia's actual e-democracy experiences and practices and if they help to create a favorable or unfavorable image of the nation's initiatives. A fuller knowledge of the social ramifications and difficulties of putting into practice digital democratic procedures can be gained by investigating citizens' interactions with e-democracy as impacted by media depictions (Bokslag & Vries, 2016). Researchers can identify potential obstacles, worries, or favorable impressions that influence individuals' attitudes with regard to e-democracy by looking at how e-voting is reported and framed in the news media. This knowledge can assist practitioners and policymakers in developing and implementing e-democracy programs that meet citizens' expectations and handle any potential points of resistance or doubt.

In conclusion, addressing the research gap on how e-democracy is portrayed in the news media and comprehending citizens' participation in e-voting are the two main goals of

investigating Estonia's media depiction as a leading figure in e-democracy. This study adds to the academic discussion on e-democracy by focusing on Estonia's context, investigating media narratives and their impact on the public's perceptions, and offering insights into the opportunities and challenges related to the implementation of digital democratic processes.

# 2. Theoretical Framework

## 2.1 E-government

Governments all over the world are utilizing information and communication technology (ICT) more and more to change how they engage with citizens and provide public services in the digital age (Dawes, 2002). E-government, a paradigm shift that embraces digital technologies to boost administrative effectiveness, uphold transparency, and encourage citizen engagement, is modernizing the public sector (Ibid.).

E-government refers to a broad range of projects, such as digitizing government processes, integrating disjointed systems, and offering online platforms and services to the public. Governments can use technology to improve service delivery, expedite bureaucratic procedures, and provide citizens with more access to information and participation in decision-making (Dawes, 2002). In the following paragraphs, different systems of e-government will be discussed. Additionally, previous research on media representation of those e-government types will be covered, together with the case of Estonia and the adaption of e-voting.

## 2.2 E-democracy

E-democracy, the use of digital technologies to enhance democratic processes, has been increasingly adopted in recent years. Estonia is one of the key players in e-democracy, with various e-democracy systems in place, such as e-voting and e-residency (Tsahkna, 2013). However, little is known about how these systems are represented in the news media and how they are experienced by citizens.

A study by Päivärinta and Sæbø (2006), examined different theories and actual implementations of e-democracy to simplify the per se "chaos" caused by misinformation and secrecy around the topic that was happening in the past. However, the study was published almost a decade ago, demonstrating the necessity of current research on this continuously changing subject. The e-democracy landscape has significantly changed and advanced. The dynamics of public debate and media representation have changed as a result of the introduction of new technologies, the increasing number of social media platforms, and the growing

significance of online communication. Nevertheless, the authors argued that the biggest problem of adapting to e-residency and other e-tools is the digital divide and uncertainty due to low research and publications. Moreover, the authors emphasize the models of e-democracy not being specific enough to reassure the population of the benefits of combining democracy with "The Internet". The infrastructure of "The Internet" and democracy cannot align without human-initiated policies, leaving room for questions and transparency. Nevertheless, it has been 17 years since the study was published and, in the meantime, Estonia had already introduced its first e-voting system in 2005. Therefore, this study fills the temporal gap in prior research and offers current insights into the condition of e-democracy discourse by undertaking a contemporary evaluation of Estonia's e-voting representations in the media. It considers the evolution of socioeconomic and political environments in which e-democracy operates, as well as technological improvements, shifts in media consumption habits, and these factors.

Regarding citizens' experiences with e-democracy, a study by Ernsdorff and Berbec (2006), found that Estonian citizens had high levels of trust in regular voting, e-voting, and e-services provided by the government, but also identified concerns about security and privacy. This suggests that while citizens may appreciate the convenience of e-democracy systems, they also have important concerns that must be addressed. However, the authors did not focus on understanding what those concerns may be, which can restrict the thorough understanding of citizens' e-voting experiences. As a result, this study intends to close this research gap by investigating how e-voting is represented in Estonian and English-spoken media and how public discourse on citizens' concerns and impressions is conducted.

When looking at the grand scale of e-democracy, an example can be brought up by looking at the United States. It's worth mentioning that the implementation of e-democracy systems is not as advanced as in Estonia. Estonia's adoption of electronic democracy, including its well-known electronic voting system, is based on the country's particular past and social environment. In terms of digital innovation, Estonia has been at the forefront and has embraced technology as a way to strengthen democratic procedures (Kattel & Mergel, 2019). In order to successfully implement e-democracy efforts, the nation has made large expenditures in digital infrastructure, cybersecurity defenses, and citizen interaction platforms. On the other hand, the United States has experienced various difficulties and objectives in the adoption of e-democracy systems due

to its greater population and complicated political structure (Cropf, 2017). Although the United States has advanced in some aspects of digital democracy, such as online petition systems and electronic communication with elected officials, it has not made as much progress as Estonia in the adoption of comprehensive e-voting systems at the national level (Ibid.). The study's investigation of media depiction of e-voting gains depth and perspective by addressing the differences in e-democracy adoption between the United States and Estonia. It highlights the relevance and importance of evaluating media discourse within the particular context of Estonia's e-voting developments, assisting in the discovery of the distinctive drivers and difficulties that have contributed to Estonia's position.

Alvarez et al. (2008) discovered that despite the introduction of online voter registration and various forms of e-voting in several states, the United States has only seen a limited acceptance of e-democracy technologies, including e-voting. The authors concluded that important obstacles to the widespread adoption of e-democracy systems in the United States included security worries and accessibility challenges. When compared to the United States, it's clear that Estonia has made more progress in implementing e-democracy systems. However, it's important to note again, that the United States has a larger and more diverse population, which may present different challenges in terms of accessibility and security of e-democracy systems. Moreover, there are cultural and political differences between the two countries that may affect the implementation and acceptance of e-democracy systems.

Furthermore, it's important to consider the limitations of the previous studies that have been discussed. For example, the studies on the representation of e-democracy in the news media have primarily focused on e-voting and have not examined other e-democracy systems such as online participatory budgeting or citizen engagement platforms. Additionally, the studies on citizens' experiences with e-democracy have primarily relied on survey data and have not included in-depth qualitative data analysis. Moreover, most of the studies are relatively recent and focused on the European context, thus it would be important to conduct more studies on other regions and with longer time spans to have a more complete understanding of the topic. While previous studies have provided valuable insights into the representation of e-democracy in the news media and the experiences of citizens with e-democracy in Estonia, there are important gaps in

knowledge that need to be addressed. Further paragraphs will focus on e-voting as it is ultimately a very important area of this study.

## 2.3 E-voting

E-voting, the use of electronic systems to cast and count votes, has been increasingly adopted in recent years as a way to enhance democratic processes. Estonia, in particular, has been at the forefront of e-voting adoption, with e-voting available for all national elections since 2005 (Madise & Martens, 2006). However not much is known about how voters truly utilize electronic voting in terms of participation and acceptance, or how it is represented in the news media. Fewer states have implemented e-voting systems in the United States, where adoption of the technology has been slower. According to a Brennan Center for Justice inquiry from 2019, there have been only a few states in the US that have adopted limited versions of computerized voting and online voter registration. The report also identified accessibility problems and security difficulties as obstacles to the implementation of electronic voting systems in the United States.

Despite the potential advantages of electronic voting, such as improved accessibility and convenience, there are also significant privacy, security, and equity issues that need to be taken care of. For instance, Li et al.'s (2015) study discovered that electronic voting systems can be vulnerable to hacking. Furthermore, voter legitimacy as a result of gadget technology is where the trouble starts. In other words, it becomes crucial to consider whether the voter is legitimate, that is, whether they are an eligible voter. To avoid fraud and preserve the electoral system's integrity, it is crucial to ensure the identification and verification of voters' identities during the electronic voting process. When one takes into account the dangers of identity theft and unauthorized access to voting systems, this becomes particularly challenging.

Mercuri (2008) saw another problem with e-voting, specifically the US e-voting systems, which were inaccessible to those with disabilities. Additionally, there are issues with the accountability and transparency of e-voting systems. In the United States, electronic voting methods are opaque, making it difficult for voters to confirm that their votes have been correctly tallied, according to research by Halderman et al. (2011).

Looking at Europe, research by Neumann (2010) discovered that Europe's electronic voting systems lacked sufficient safeguards for auditing and recounting ballots, causing uncertainty about the electoral process's accountability and openness. This finding emphasizes the necessity for strong auditing methods and transparency controls in electronic voting systems to guarantee that election results can be independently confirmed and trusted by all relevant parties. The research by Neumann (2010) contributes to the continuing discussions and improvements in e-democracy research by addressing the flaws in Europe's electronic voting systems. In order to address potential vulnerabilities and strengthen the integrity and trustworthiness of the electoral process, it emphasizes the necessity of ongoing examination and improvement of electronic voting systems.

Overall, it is evident that electronic voting has the potential to strengthen democratic procedures, but it's critical to solve the security, privacy, and equality issues related to voting electronically. The accessibility, accountability, and transparency of e-voting systems for all citizens must also be ensured. To allow readers to properly grasp the phenomenon it is crucial to look at how e-voting adaptation in Estonia is portrayed in both Estonian and English-speaking media. The media's portrayal of Estonia's electronic voting procedures affects the public's view and comprehension of e-voting as a whole in addition to offering insights into the nation's democratic accomplishments. One can examine the myths, prejudices, and discourses surrounding this innovative democratic practice by looking at how Estonia's e-voting is portrayed in local and global media. The manner in which e-voting is represented in the media has an impact on public opinion, policy discussions, and the implementation of comparable systems in other nations.

## 2.4 Media Representation of E-government

Public perceptions and attitudes toward many social and political issues are significantly shaped by the media. The way the media portrays e-voting can have a big impact on people's perceptions, level of trust, and the decision to use these systems. This paradigm for analysis tries to look at how e-voting and e-government in general are portrayed in the media, concentrating on important factors including framing, prejudice, and effects on public discourse. A critical method that offers useful insights into the construction and formation of public opinion is to examine

how e-voting and e-government are portrayed in the media via the prism of framing, prejudice, and their effects on public discourse. This paradigm acknowledges the media's significant role in influencing narratives, emphasizing some elements while underplaying others, and potentially introducing biases. One can find hidden intentions, spot potential prejudices or biases in reporting, and comprehend how these things affect public dialogue by critically assessing media depictions. Through this method, it is possible to gain a clearer knowledge of the power dynamics at play in media representation and the potential effects they may have on the way the public perceives issues, the direction of policy debates, and democratic processes.

Research on the representation of e-democracy in the news media has primarily focused on the coverage of e-voting. First, the term 'media representation' must be understood, as it is building the base for this research. Oostveen and van den Besselaar (2003) found that internet articles, magazines, and online newspapers can skew the overall election process through the way they write about the elections and electorates, as the decision of adapting e-voting was only in development. The way media represents the campaigns, or the voting process, has been more effective on younger voters as the technology was only developing, since the article was published two decades ago, yet, the perceptions may have changed, and the media has become more powerful than ever. When looking into more recent studies, a study by van Spanje and de Vreese (2014) found that news media coverage of voting in Europe was generally positive, highlighting the benefits of e-voting such as increased voter turnout and convenience. The positive media representation can be assumed due to rapid technological development and ease for citizens to vote whenever or wherever.

Comprehending how the media conveys and shapes the discourse around e-voting depends on recognizing the idea of framing, as defined by Strömbäck and Esser (2014). In the context of e-voting representation, many frames might affect how the general public views and accepts e-voting systems. It is possible to gain important insights into how e-voting is portrayed in Estonian and English-speaking media as well as its potential implications by examining the prevalent frames used by the media. It is important to break them down.

One prominent perspective is **technological development**, where media outlets may highlight the novel features of electronic voting and highlight its potential to increase the

effectiveness and accuracy of elections. In this context, electronic voting is portrayed as a progressive and advantageous development in democratic procedures.

The frame that focuses on the **security and privacy concerns** related to electronic voting is another major element. Potential risks and weaknesses of electronic voting systems may be highlighted in media coverage, boosting awareness of potential hacking, manipulation, or data breaches. This perspective may cause people to doubt the validity and integrity of electronic voting procedures.

Additionally, media framing could also highlight the importance of **voter access and inclusion**. This viewpoint emphasizes how electronic voting can improve accessibility for underrepresented groups or enable remote voting. The media can contribute to conversations about encouraging democratic participation and providing fair access to the voting booth by focusing on this framing.

Analyzing the framing strategies used by media sources in different languages is critical in relation to the research's goal. It enables us to assess how well the prevalent frames fit Estonia's unique environment and e-voting methods. It also helps to comprehend how these frameworks might affect the way the general public perceives certain issues, how the general public speaks, and how e-voting systems in Estonia could ultimately be adopted and accepted. Besides framing, DellaVigna and Kaplan (2007) pointed out that the systematic favoring or prejudice in coverage by the media is commonly referred to as media bias also known as "The Fox News effect". For assessing the accuracy and impartiality of media reporting, it is essential to recognize the presence of bias in the portrayal of electronic voting. Two different types of biases could be seen in the articles and those are:

**Technology optimism bias:** Some media may have an overly optimistic bias in favor of electronic voting. This bias has a tendency to minimize any challenges or risks that could result from the implementation of electronic voting systems. This predisposition may cause news publications to overemphasize the possible advantages and advancements of e-voting while underplaying any drawbacks or dangers.

On the other hand, some media outlets may adopt a more pessimistic perspective, highlighting the potential defects or shortcomings in e-voting systems. This tendency is known

as "**Techno-pessimism bias**." This bias tends to stress the dangers and weaknesses of electronic voting, which could result in a less positive or supportive view of its use.

The research gets important insights into how various media outlets affect their coverage of e-voting in Estonia by rigorously assessing these biases. The media's tendency toward techno-optimism or techno-pessimism might be identified in order to make a more accurate assessment of how e-voting is portrayed to the general public. It aids in spotting any inconsistencies between Estonia's actual e-voting situation and how it is portrayed in the media.

Lastly, Valkenburg et al., (2016) analyzed media effects and concluded that public opinion and sentiments regarding certain topics can be strongly influenced by media portrayal. Regarding this research, electronic voting systems are no exception, as it is a relatively new phenomenon that causes uncertainty in different aspects (Bannister & Connolly, 2007). Therefore, because of influencing public perceptions, media coverage may change the beliefs of electronic voting, whether favorable or unfavorable, as well as affect their confidence in and participation in elections (Valkenburg et al., 2016). The importance however rises from the core, and to understand the full phenomena, the following section will look into the case study of Estonia.

## 2.5 The Case of Estonia

Estonia has implemented a wide range of e-democracy systems at the national and local levels. One of the most notable examples is the Estonian e-voting system, which allows citizens to vote online in national and local elections (E-Estonia, 2022). The goal of this method, which has been in place since 2005, is to improve voter participation and make voting more accessible (Madise & Martens, 2006). Estonia has benefited from an e-residency program that enables non-citizens to apply for a digital ID card that offers them access to a variety of online services, including company registration and banking (Hartleb, 2020). Estonia has also adopted a number of e-democracy initiatives at the local level, including online participatory budgeting, public interaction platforms, and digital consultations, in addition to these systems. With these measures, the public will be more involved in decision-making and will find it simpler to offer their local government feedback and suggestions.

The e-democracy projects in Estonia are also notable for their digital identity system, which is well known in its own right. Citizens can access a variety of online services and use digital signatures on papers thanks to the digital ID card system. As it enables citizens to vote conveniently and securely online, this technology has also been crucial in the introduction of e-voting (Jesaar et al., 2018). It's crucial to remember that despite Estonia's e-democracy systems' success, there are still issues and links that this research hopes to solve, such trust in the media and government.

## 2.6 Trust in the Government

Any society's ability to function depends on trust, particularly in areas like voting and government. It entails the conviction that one may trust the motives and deeds of another. According to Hibbing and Theiss-Morse (2002), trust in government is the opinion of the populace that government institutions can act in their best interests. For the government to be able to make choices, provide public goods and services, and enforce laws, this trust must exist. Consequently, an overview of voting, e-voting, and trust in government will be given in the following paragraphs.

According to a 1997 study by Knack and Keefer, trust in other people and institutions, such the media and business, is positively connected with trust in the government. Another study by Putnam (1993) discovered a positive relationship between social capital, or the networks and norms of cooperation within a society, and confidence in the government. Moreover, a study by Evans and Chzhen (2015) found that those who trust the government are more likely to vote, which supports the idea that political engagement as it is positively correlated with trust in the government. Magaloni (2006) saw that people's opinions of electoral fairness are positively correlated with their level of trust in the government, as they are more inclined to think that the election was handled fairly. Based on those studies, it can be expected that trust in the Estonian government will be reflected in the articles that feature electronic voting.

On the other hand, trust in government can also be negatively impacted by events such as corruption scandals and political polarization where the media is involved. In the US 2020 elections, Fox News was accused of spreading false claims to the audience to rigger the elections, which is a sign of disinformation (Folkenflik, 2023). Disinformation can be understood

as "deliberately misleading or biased information" (Oxford Learner's Dictionary, 2023). Whereas 68% of survey takers in Estonia trusted the media, with a main factor being reliable information in the media ensures a functioning democracy (ERR, 2022). When looking at the trust of e-voting one of the key issues is the potential for technology-related security breaches and hacking. E-voting systems are vulnerable to cyberattacks that can alter or manipulate the results of an election. This has raised questions about the confidentiality, integrity, and accuracy of e-voting systems, leading to concerns about the validity of election results (Anderson & Stavrou, 2015). Nevertheless, this study will explore the phenomena of e-voting in Estonia to uncover the relationship between citizens' trust in the government and the adaption of e-voting systems.

When analyzing the adoption and acceptability of e-voting systems, the level of public trust in the government is a key consideration. A useful foundation for analyzing the connection between voters' reliance on the government and their willingness to use electronic voting is provided by trust theories. The Trust-Distrust Theory is one important theory that argues that perceptions of the competence, honesty, and fairness of governing institutions are key to fostering trust (Lewicki et al., 1998). Citizens' perceptions of the government's capability to implement safe and dependable e-voting systems, the fairness of the electoral process, and the government's generosity in protecting citizens' privacy and guaranteeing the accuracy of election results all have an impact on how much trust they have in it. The Institutional Trust Theory (Mishler & Rose, 2001) is another theory that can be used that focuses on the public's trust in particular government institutions. Citizens' perceptions of the reliability and openness of the organizations in charge of creating and executing e-voting systems, such as electoral commissions or cybersecurity authorities, may have an impact on how trusted they are when it comes to e-voting. Citizens' perceptions and trust regarding the security and dependability of electronic voting can be influenced by the degree of faith they have in these organizations. The Technology Acceptance Model (TAM) can also be useful in determining how much confidence citizens have in e-voting systems. According to TAM, perceived benefit, and simplicity of use impact people's acceptance of and use of technological advances (Davis, 1989). Citizens' perceptions of the value of e-voting systems in advancing the political process, as well as their perceived convenience and knowledge of the technology, may have an impact on how trustworthy they are in the context of e-voting.

# 3. Methodology
## 3.1 Research Design

To comprehensively investigate the portrayal of e-voting in Estonia a qualitative research design was used to thoroughly examine how e-voting in Estonia is portrayed in local, national, and worldwide news media. Exploring complicated events and developing a thorough grasp of people's experiences, viewpoints, and the social and cultural circumstances in which they occur are both made possible by qualitative approaches. Though individual or subjective experiences are not the primary focus of this research, media portrayal is, and qualitative approaches are still valuable in this situation. Researchers can examine media content, spot trends, and understand the underlying meanings and discourses in stories, interviews, and other media sources using qualitative methodologies (Agarwal & Sandiford, 2021). The study can examine how e-voting is represented, framed, and addressed in the media using qualitative methodologies, revealing the narratives, biases, and discursive techniques used by media outlets. It offers a chance to examine how e-voting is portrayed to various audiences and how it is socially constructed in the public realm (Creswell & Poth, 2018). This research will employ an inductive approach, specifically utilizing exploratory content analysis. Exploratory content analysis is a method for analyzing textual data, such as news articles, to identify patterns and themes within the data that will later aid in formulating hypotheses for the second part of the research (Bell & Bryman, 2007).

The primary method of data collection for the exploratory analysis will involve gathering a diverse assemblage of 40 online published news articles or any relevant publications that cover information about e-voting in Estonia, with the additional requirement of each article containing more than 300 words. The data will be collected from news media outlets and general articles available online that meet the specified criteria regarding word count. Analyzing news articles is deemed effective because news media coverage can shape perceptions of government performance, influence public opinion on policy issues, and even impact voter choices (Druckman, 2001). Moreover, news media plays a crucial role in shaping public opinion and understanding of political issues, and exposure to news media can significantly influence individuals' perceptions of political reality (Delli Carpini & Keeter, 1996).

Therefore, this research approach recognizes the value of media analysis and contextual specificity, which arise due to social interaction. It also adopts an investigative stance, seeking to explore rather than merely verify issues in the representation of e-democracy in Estonia. By employing this research design, the study aims to gain a comprehensive understanding of how e-voting systems in Estonia are portrayed in news media and its potential implications on public perception and understanding of e-democracy in the country.

## 3.2 Data Collection

The chosen method for this research is qualitative content analysis, which will provide valuable insights into the portrayal of e-democracy and e-voting in Estonia. To ensure a comprehensive and nuanced understanding of media representation, data will be collected from a variety of sources, including news articles from Estonian news media outlets as well as international news media outlets. The data collection will focus on the articles published from 2014 to 2023, encompassing a span of over a decade to capture long-term trends and changes in media coverage. Moreover, the withing that the stated time frame, Estonia gained the most media recognition in terms of e-voting.

The data collection process will involve conducting thorough keyword searches in the online databases of news media outlets. The selected keywords will be carefully chosen to align with the research objectives and capture relevant articles related to e-democracy and e-voting in Estonia. Examples of keywords that will be used in the search include "e-democracy," "e-voting," "e-residency," "e-voting in Estonia," "Estonian elections," and "valimised Eestis," and many more. These keyword searches will be conducted in both Estonian and English languages to capture articles published in both local and international news media outlets. By including international news media outlets, the research aims to analyze how Estonia is portrayed on a global scale and understand any differences or similarities in media representation between domestic and international sources. Accessing and obtaining news articles from various online publications and other applicable online platforms would be part of the data collection process. To ensure the inclusion of diverse sources reflecting various perspectives and viewpoints, a thorough search will be carried out. The veracity and legitimacy of the chosen news sources will be thoroughly examined, with information cross-referenced and the reputation and subject matter

expertise of the media outlets and authors taken into account. The study seeks to increase the quality and reliability of the data gathered by applying a strict source selection methodology. In order to give a thorough picture of how e-voting is represented in the media, attempts will also be taken to record a variety of time periods and events. By employing a systematic and comprehensive approach to data collection, this research aims to gather a substantial dataset of news articles that cover the topics of e-democracy and e-voting in Estonia. This dataset will provide a rich foundation for the subsequent analysis, allowing for a thorough exploration of media representation, themes, patterns, and potential biases in the portrayal of e-democracy in Estonia over the selected timeframe. The inclusion of both domestic and international sources will provide a holistic perspective on how Estonia is depicted in the global media landscape, enhancing the overall validity and robustness of the research findings.

## 3.3 Data Analysis

The collected data from the exploratory stage will undergo a qualitative content analysis to extract meaningful insights and identify trends or patterns within the articles (Stemler, 2001). The content analysis offers a valuable approach to analyzing text-based data and allows for the empirical examination of public opinion and its potential shifts (Ibid.). The initial phase of data analysis will involve a careful reading of the collected articles. During this process, a word count will be conducted to determine the frequency of specific words used throughout the articles. This quantitative analysis of word frequency will help identify words that hold potential interest and relevance to the research topic. It will provide an initial overview of the prevalent themes and concepts present in the media representation of e-democracy in Estonia.

Subsequently, a coding process will be employed to delve deeper into the articles. Each article will be read again, and relevant excerpts will be coded according to themes and subthemes related to the representation of e-democracy in Estonia within the news media. The identification of themes and subthemes will be conducted through an inductive process, allowing for the emergence of categories directly from the data itself. Potential themes that may arise can be centered around various aspects of e-voting, such as its perceived benefits, drawbacks, or the level of trust placed in the technology. Other themes could include discussions on the impact of e-democracy on citizen engagement, the role of e-voting in democratic processes, or debates on

the security and integrity of electronic voting systems. The coding process will capture these themes, enabling a comprehensive analysis of the media's portrayal of e-democracy in Estonia.

Once the coding process is complete, the data will be organized into categories based on the identified themes. The frequency of each theme will be calculated to quantify the prevalence of certain representations and highlight patterns and trends in the media coverage of e-voting in both Estonian and international news outlets. By employing this qualitative content analysis approach, this research aims to uncover and interpret the underlying themes and patterns in the media representation of e-democracy in Estonia. The analysis will provide a deeper understanding of how e-voting is framed, discussed, and evaluated by the news media, shedding light on the dominant narratives, public perception, and potential biases surrounding this topic.

## 3.4 Operationalization

The operationalization of the research question "How is e-voting represented in Estonian media compared to media articles published in English?" will be performed through a series of carefully planned processes to assure the validity and rigor of this study.

In order to speed up the coding and pattern generation processes, content analysis will be done first using the software Atlas, as was already described. The objective is to examine how language and media influence the portrayal of e-voting implemented in Estonia, with a complementary case study focusing on the most recent elections held in March 2023. Thus, these codes will serve as crucial tools for describing and contextualizing the meaning embedded within the data (Schreier, 2014).

Secondly, the analysis of the coded data will serve as the means to identify patterns and themes across different media articles. This analysis will involve exploring similarities, differences, and the general tone of the articles, whether it leans towards a positive or negative perspective, as well as the level of transparency within the articles.

Thirdly, the findings and interpretations of the data will be presented about the research question, leading to the formulation of conclusions regarding how e-voting is represented in Estonian-speaking media compared to English-speaking media. To fully comprehend the process

of drawing these conclusions, a detailed explanation of the coding process will be provided in the following paragraphs.

The coding process will consist of four stages. The first stage involves retrieving publicly available articles and implementing a selection process to identify the relevant sources for analysis. Subsequently, the process moves to open coding, which entails identifying and labeling relevant words, phrases, and concepts using many codes to capture the main perspectives and ideas present in the data (Charmaz, 2006). The next stage is axial coding, where connections and relationships between the codes are identified and grouped together to reveal more comprehensive themes and subthemes related to the representation of e-voting in the media (Corbin & Strauss, 2008). This stage facilitates a deeper understanding of the relationships between different elements and provides a more holistic perspective on the data. Lastly, the selective coding stage involves focusing on the core categories that are most relevant to the phenomenon under study, streamlining the analysis by emphasizing the most significant themes and subthemes that emerge from the data (Boeije, 2010). By employing this systematic and rigorous coding process, this research ensures that the analysis is grounded in predefined theoretical concepts and frameworks, allowing for a comprehensive exploration of the representation of e-voting in Estonian-speaking media compared to English-speaking media. The process ensures the integrity and reliability of the research findings, contributing to the academic discourse on the topic.

## 3.5 Reliability

In order to ensure that the measures and processes employed in the study provide consistent results if the study were to be repeated, the consistency and stability of the research findings are referred to as reliability (Bryman, 2016). Several measures will be implemented in this study to increase the reliability of the results.

First, a precise and well-defined research design that outlined the precise procedures, methodologies, and standards for data collecting and analysis was devised. This guarantees a methodical and uniform study procedure, enabling replication and verification by other researchers. Second, an extensive and thorough data gathering method will be put in place, complete with precise instructions on how to choose news articles and code them. As a result,

data collecting will be transparent and consistent, potentially decreasing bias and inaccuracies. Using software like Atlas.ti for coding and analysis also improves dependability since it offers a disciplined and methodical approach to organizing and interpreting data. The software makes it simple to compare and verify codes, which lowers the possibility of mistakes or inconsistencies.

## 3.6 Validity

Validity refers to the extent to which a research study accurately measures what it intends to measure and draws valid inferences and conclusions (Bryman, 2016). In this research, several measures will be taken to ensure the validity of the findings.

Firstly, the research question and objectives will be clearly defined and aligned with the research design and data collection methods. This ensures that the study focuses on the intended phenomena of interest, namely the portrayal of e-voting in Estonian media compared to English media. To enhance construct validity, multiple sources of data will be used, including news articles from both domestic and international sources. This allows for the triangulation of findings, strengthening the overall validity of the interpretations. To ensure the internal validity of the coding process, a detailed codebook will be developed, providing clear definitions and guidelines for the application of codes. This minimizes the potential for subjective interpretation and increases the accuracy and consistency of the coding process.

External validity is provided by addressing a comprehensive description of the research methodology and data collection process in previous paragraphs. This allows for transparency and transferability of the findings, enabling other researchers to assess the applicability of the results to similar contexts. Furthermore, to enhance the validity of the interpretations, the research findings will be supported by direct quotations and examples from the analyzed articles. This helps to substantiate the claims made and provides a deeper understanding of the context and content of the media representation of e-voting in Estonia. By implementing these measures, this research aims to maximize both the reliability and validity of the findings, ensuring that the study accurately captures the intended phenomena and provides meaningful and trustworthy insights into the portrayal of e-voting in Estonian media compared to English media.

# 4. Results

E-voting has received different feedback, concerns, and praise from multiple scholars as well as from the media. When it comes to media, it often contributes to shaping public opinion and beliefs (Van Dijk, 1995). Some might argue that people are responsible for educating themselves to understand the truth of publishments. However, to fully understand, readers must know about the topic or company they are reading about. Additionally, access to multiple media outlets allows creating own understanding of a certain topic to later form an opinion about it. Equivalent to e-voting, different authors portray the topic the way they want people to see or understand it. The following section contains a description of the data analysis process and the result of the textual analysis that was conducted on 40 online articles in both Estonian and English. Those articles covered the research topic of the representation of e-voting. The main goal was to understand how articles talk about e-voting in Estonian compared to articles released in English in terms of transparency, addressing privacy issues, and how the articles were delivered to the reader, whether positive or negative.

After immersing into the study, the open coding was completed, and 362 codes emerged. The codes varied from general remarks about the given descriptions, facts, and evidence. Followed by the effect it gave on the reader. This entails the clarity of the text, the environment, and how convincing the author was. Lastly, the importance of the text. Was it creating a positive effect by being transparent and providing information that would support the text or a splurge of emotions that the author might have taken too personally? These are just small examples that were taken into consideration when performing open coding.

After collecting and regrouping the codes into 15 categories, the pattern started evolving. However, it was still unclear in which direction the articles were leaning. In the axial coding process, it was revealed that articles published in Estonian were more aggressive when talking about e-voting, however, it was too soon to jump to the conclusion.

The final step, selective coding revealed five categories that all 40 articles shared in common. In the further paragraph, I will be touching upon the differences between the published languages and how they differ from one another. First one needs to understand the general

picture of the whole topic of media representation when it comes to e-voting in Estonia. The following paragraphs will interpret step by step the research outcomes and the meaning behind them.

Through an in-depth examination of 40 papers on the topic of e-voting, three key themes have emerged, giving light on the different elements surrounding this issue. The coding process revealed these main themes as follows: technical and operational features, social and political perspectives, and security and trust. These themes provide a complete framework for comprehending the varied nature of e-voting, incorporating both technological considerations and wider societal and political ramifications. By exploring these themes, one can obtain useful insights into the complexity and ambiguities of e-voting methods and their impact on diverse stakeholders. *See full codebook in appendix A*

## 4.1 Technical and Operational Features

The analysis of the codes demonstrates that both Estonian-speaking and English-speaking media regularly emphasized the technical and operational aspects of e-voting and e-democracy systems in Estonia. The writers worked hard to ensure that readers have a thorough understanding of how the electronic voting system operates and the actions required to submit a valid ballot. This emphasis on system explanation might be considered as a regular practice in media portrayals of electronic voting, trying to give the readership broad knowledge. The media sources aim to acquaint readers with the procedure and foster trust in the effectiveness of the e-voting system by adding such information. According to this result, the media is extremely important in teaching the public about the technical nuances of electronic voting, allowing informed conversations, and increasing election process openness. *See the example below.*

*"The voting process is very simple: you'll need to sign in to the e-voting app referred to on the election website (using PIN1) and then you'll be offered the possibility to see the candidates. You don't need a voter card, and the online e-voting environment automatically provides you with your constituency candidates only. Candidates are grouped by political party on the screen – do not be afraid to click around to explore the possibilities. Don't be afraid that by accidentally pressing the "Elect" button you might send your vote to the wrong place: to vote, you'll need to re-confirm your selection in a separate*

*window and give your digital signature using the PIN2 code. As long as you have not entered PIN2, your vote has not been given to any candidate" (E-voting and e-elections 2023)*

Furthermore, the examination of the stories showed that Estonian and English media sources covered e-voting instructions in quite different ways. The majority of articles written in Estonian included comprehensive video instructions in an effort to streamline and improve the voting process. The step-by-step guidance, on the contrary, the instructions were only briefly covered in English articles which primarily appeared on government websites that were intended for foreigners living in Estonia who were eligible to vote but might not speak Estonian fluently. Another intriguing discovery was the frequent mention of the option to cast multiple ballots and the choice to view one's own electronic votes in publications written in both Estonian and English. The ability of people who voted electronically to amend their e-votes as much as desired up until the end of the e-voting session, which typically happens a few days before the elections are over, was emphasized. Furthermore, if a voter felt inclined, they might go to a real polling location and cast a paper ballot; in that case, the latest vote cast would be counted, and the earlier electronic vote would be invalidated. It was also underlined that voters had the benefit of online vote verification as proof of their participation. These specifics were frequently brought up in the research, highlighting how crucial they are to comprehend the choices offered to voters during the electronic voting process. The frequent discussion of the usability and advantages of e-voting became clear when looking more closely at the technical and operational aspects. The media frequently highlighted how e-voting offered greater accessibility and ease for residents living abroad as well as individuals with demanding work schedules that did not coincide with the opening hours of traditional voting booths. This element was frequently linked to voter access and inclusion. The media wanted to encourage increased involvement and engagement in the election process and ensure that all eligible individuals could utilize their right to cast a vote despite their circumstances by highlighting the accessibility and simplicity of e-voting.

These results are related to the idea of framing from the perspective of theory. Different framing tactics may have been used in each language, as seen by the Estonian media's emphasis on giving thorough video lessons and the English media's scant coverage of step-by-step instructions. The English media concentrates on providing instructions, especially for international individuals, whereas the Estonian media depicts e-voting as a routine procedure by

presenting thorough instructions. Additionally, the debate over the possibility for individuals to check their e-votes and cast multiple ballots is consistent with the introduction of electronic voting systems and the theory behind faith in government. The media seeks to allay worries about the legitimacy and transparency of e-voting by highlighting these qualities. Emphasizing the adaptability and verification options increases public confidence in the validity and reliability of electronic voting. Further, the frequent discussion of the usability and advantages of e-voting is consistent with the idea of inclusive and accessible voting. The media's focus on the accessibility and convenience of e-voting for residents with busy schedules or those who live overseas reflects efforts to enhance inclusivity and greater voter participation. This is consistent with the idea that e-voting can improve accessibility and remove obstacles for some population groups, promoting a more inclusive democratic system. *See the examples below.*

\* *"For example, one citizen can vote while being underneath the palm tree, whereas another citizen goes through snow and storm to a voting location." (Rull, 2023)*

*\* - Translated by the author from Estonian to English*

In terms of research, the statistic that 51% of votes were cast electronically in the most recent parliamentary elections in 2023 is used as empirical justification for Estonia's designation as a "digital milestone." This statistic, found in multiple news publications, highlights Estonia's significant e-voting adoption accomplishment and supports its standing as a pioneer in digital democracy. It shows how well e-voting has been received by Estonian voters and highlights how technology has fundamentally changed the electoral process. The empirical explanation offered by the acceptance rate of e-voting in Estonia supports the assumption that the nation has embraced digital democracy. The high percentage of electronically cast ballots demonstrates the acceptance and favorable response of e-voting among Estonian voters. This study accords with the Technology acceptability Model (TAM) described by Davis (1989), which posits that the perceived usefulness and ease of use of a technology influence its acceptability and adoption. The fact that a majority of Estonian voters opted to cast their votes electronically reflects a favorable assessment of e-voting's advantages and convenience.

*"One reason perhaps why e-voting has been so popular and successful in Estonia is that it introduced digital systems at a time when there was less thought given to systems security and integrity." (Dougall, 2023)*

The discoveries of Putnam's 1993 study, which looked at the connection between social norms of cooperation and confidence in the authorities, can be applied to the subject of e-voting and Estonia's adoption of it. Putnam contends that when a society has a high level of trust in the government, norms of cooperation and involvement in society, including active participation in democratic procedures like voting, are more likely to be fostered. The large percentage of voters in the 2023 elections, especially those who used e-voting, demonstrates a high degree of confidence in the government and its organizations. The high rate of e-voting participation in Estonia demonstrates that voters have faith in the electoral system and believe that their ballots will be accurately recorded and that they will be heard. A key element in Estonia's successful acceptance and implementation of e-voting is the public's confidence in the government's ability to maintain the system's integrity which can be linked to the Institutional Trust Theory by Mishler and Rose (2001). In light of Estonia's distinctive digital culture, it is possible to look further into the beneficial correlation between cooperative norms, confidence in the government, and the acceptance of e-voting. Estonia has made major investments in creating an effective and secure e-governance infrastructure, which has aided in increasing citizen trust. The nation's electronic voting system is a component of this more extensive digital transition, which aims to promote accessibility, transparency, and citizen engagement.

Estonia has also a long-term commitment to the progress of e-democracy as evidenced by its ongoing attempts to modernize its e-voting system, carry out external audits through organizations like KPMG, and develop future e-tools. The articles' tendency to "praise" Estonia for its innovative use of electronic voting from 2005 through 2023 is a factor in this. Publications in both Estonian and English excitedly emphasized how a small nation like Estonia turned digitalization into a strength, showing the accomplishments of its e-democracy projects. The accomplishments of Estonia in e-democracy are acknowledged, which highlights the importance of the research issue. While Estonia's achievements have received favorable publicity, it is crucial to note that journalists and politicians have also brought out issues, challenges, and misunderstandings which will be addressed in further paragraphs.

## 4.2 Social and Political Perspectives

It is clear that the situation is anything from simple when it comes to how society views e-voting. This section will be divided into two independent categories: "Echoes and Reverberations" and "Divergent Currents" observed in Estonian and English publications, in order to provide a more structured study. With the goal of highlighting the many viewpoints stated in both contexts, these categories seek to convey the nuanced and complex nature of public opinions on electronic voting. A more complete knowledge of the cultural dynamics around e-voting can be attained by looking at these convergent patterns and divergences.

### 4.2.1 Echoes and Reverberations

This category examines the echoes and parallels related to electronic voting that may be found in both English and Estonian sources. It explores recurring themes, stories, and viewpoints that appear in a variety of media and draws attention to how these elements influence social perceptions of electronic voting.

On the topic of social perception, the study showed that there was broad agreement that Estonia's electronic voting system is special and difficult for other nations to imitate because of different legal frameworks, demographic dynamics, and societal acceptance of technological improvements. There have been many comparisons made between Estonia and the US, however, it was clear that more severe restrictions and a slower rate of adoption prevented attempts to create similar systems in the US. The articles stressed the importance of public approval on the success of electronic voting, stating that the US would need a lot of time and work to implement such alternatives for its inhabitants and that for now, old stationary voting methods are still preferred.

It became evident through both English and Estonian articles, building on the findings of Alvarez et al. (2008), that the US has difficulties in gaining support for the use of electronic voting systems and addressing accessibility issues. These elements have been noted as major obstacles to a more widespread implementation of electronic voting in the US context. The fact that Estonia and its electronic voting system can serve as a model for other nations, establishing

it as a leader in the future of democratic norms for the global community, was nevertheless acknowledged in both languages. A detailed study of the coded data revealed additional insights in addition to those already mentioned, which are directly related to the research issue and give light on how Estonia's e-voting system is portrayed in the media. The data produced a noteworthy quote from a textual analysis that read as follows: *"I believe Estonia offers America an important example of how information sharing can be used to enhance the integrity of elections."* *(Herron, 2023)*

This quotation perfectly captures the understanding and admiration for Estonia's electronic voting system as a useful model for other nations, including the United States. It underlines the potential advantages of information sharing and Estonia's success in boosting election integrity through its use of electronic voting. This comment illustrates how Estonia's e-voting system is portrayed in the media and the effect it can have on how e-voting is seen in other countries, which is in line with the study topic. The results of the literature evaluation offer important new perspectives on the research issue, which examines the connection between citizens' trust in the government and the use of e-voting systems. The analysis emphasized the widespread agreement that Estonia's electronic voting system is special and difficult for other countries to imitate due to differences in legal frameworks, demographic dynamics, and public acceptance of technology improvements. This is consistent with the Trust-Distrust Theory, which highlights how perceptions of the competence, fairness, and dependability of governmental institutions are crucial in promoting trust. The recognition that Estonia's e-voting system is seen as unique and challenging to replicate indicates the public's favorable opinion of the government's capacity to put in place a safe and dependable e-voting system. The results of the evaluation provide empirical proof in favor of the already described theoretical frameworks. They show how e-voting systems' adoption and acceptance interact with citizen faith in the government, views of competence, and dependability. The media's presentation of Estonia's electronic voting system and the acknowledgment of it as a potential role model for other nations emphasize how crucial trust and confidence in political institutions are in influencing public perceptions about e-voting systems.

### 4.2.2 Divergent Currents

This category delves into the many opposing viewpoints that appear in publications in Estonian and English. To shed light on the complex nature of societal opinions on e-voting and the causes that lead to their divergence, it investigates the differences, inequalities, and distinctive attitudes that exist within each environment.

An obvious pattern of hostility and a predisposition toward techno-pessimism developed when the articles published in Estonian were analyzed, especially in 2017 and 2023. Some publications emphasized the problems and shortcomings of electronic voting in an effort to convince the public that it should be abolished. This discovery can be connected to a number of ideas that explain the underlying causes affecting people's perceptions of electronic voting. First, the Technology Acceptance Model (TAM) can be used to understand the techno-pessimism biased, displayed in these publications. According to TAM, the perceived advantages and simplicity of use of new technologies affect people's acceptance and adoption of them. Authors of the provocative articles may have emphasized e-voting's shortcomings and weaknesses to discourage its adoption because they were uncertain of the technology or worried about its alleged advantages creating the techno-pessimism bias.

A closer look at Estonian-language articles finds more violent tone, especially in the years 2017 and 2023. Multiple sources throughout this time period emphasized the need to eliminate computerized voting, demonstrating a bias toward technology pessimism. In order to express their unhappiness and speak to readers who were wary of technology, these authors concentrated on pointing out the drawbacks and shortcomings of electronic voting. Their main worries were privacy vulnerabilities (which will be discussed in more detail in this paper) and possible political or state intervention with the results of elections. Frequently used phrases in articles included "faking" the findings and "favoring" particular political parties. Additionally, one writer made a connection between e-voting and nations that have experienced genocide, implying a similarity with government control over societies. It is crucial to remember that there is evidence to support the transparency of electronic voting, which will be covered in the parts that follow. Notably, the English press maintained a largely neutral stance on e-voting while

stories from Estonia showed a hostile attitude. This contrast emphasizes the impact of language and cultural context on how technology is perceived.

*  *"E-elections should definitely be stopped. If the other argument does not help, then perhaps the fact that we have become the laughingstock of the world with them." (Väljataga, 2017)*

*"We do have political parties who are against i-voting, and we have a discussion happening now in Estonia about this. We have to be aware of concerns and share more information and be even more transparent to show how safe the system is." (Dougall, 2023)*

Particularly when it comes to complex subjects like e-voting, these kinds of claims made by authors can significantly shape public opinion. According to research by Valkenburg et al. (2016), media portrayal is a significant factor in how the general population views a variety of topics. The impact of media depiction is clearly seen in the specific example of electronic voting. The writers' statements in the assessed articles have the ability to negatively sway public opinion given that they highlight the drawbacks and issues with computerized voting. It's crucial to remember that, in a democracy, the right of citizens to voice their thoughts is a basic right. People have the right to express their opinions and participate in public debate on pressing topics in democracies. This covers the subject of electronic voting, where those who are better knowledgeable about the issue can assess the material supplied to them and draw their own opinions. Moreover, a well-informed populace is essential for e-voting decisions that impact the democratic process. Individuals can critically assess the arguments put forth in publications and media coverage as they get more knowledge about e-voting through access to a variety of information sources. Citizens may navigate through opposing points of view and make well-educated decisions about e-voting by engaging in deliberate and informed discourse. Nevertheless, in democratic nations, citizens have the power to apply their critical thinking abilities and do independent study and analysis, even though media portrayals can affect public opinion. Citizens can have a more sophisticated understanding of electronic voting and come to their own decisions based on facts and reasoned judgment by actively seeking out other viewpoints and trustworthy information sources.

The investigation identifies a further noteworthy discrepancy seen in the wake of the 2023 elections, notably in relation to the political party members' active participation in voicing their views on e-voting through the use of media outlets. Interestingly, this discrepancy was only

found in publications written in Estonian, highlighting the significance of language as a determining factor in the varied attitudes about e-voting. The following examples will act as guidelines to provide a deeper understanding of the issue.

* *"The chairman of the Estonian Conservative People's Party (EKRE), Martin Helme, in a speech to his party colleagues, promised to challenge the e-elections in court and said that EKRE does not recognize the current election result."* (Oja, 2023)

*"The RVT official said that vote counting procedures are public and that EKRE representatives can also verify the data for themselves if they'd like. He noted that electronic votes can be recounted just like paper ballots."* (Vahtla, 2023)

*"Conservative People's Party of Estonia (EKRE) chair Martin Helme announced that his party intends to challenge the election results, claiming that online voting distorted the results of the elections."* (Vahtla, 2023)

The aforementioned incidents shed light on yet another notable example where the chair of the Conservative People's Party of Estonia voiced dissatisfaction with the results of electronic voting and turned to legal action. This specific episode, along with several news stories about politicians' criticism of the system, highlights the importance of looking at how such actions might affect the public's trust in the government. This analysis explores the interactions between political allegations, public trust, and media neutrality in the setting of electronic voting. Going back to Knack and Keefer (1997) that argued that there is a positive relationship between trust in other people, institutions and trust in the government. This theoretical viewpoint provides a starting point for comprehending how trust is interconnected within a larger sociopolitical context. Given this, politicians' accusations that e-voting is fraudulent and poorly regulated risk undermining public confidence in the system. Politicians unintentionally undermine the foundation of confidence upon which the government and its organizations rely by raising concerns about the legality and integrity of the electronic voting process. When the research issue is taken into consideration, the effect of allegations made by politicians on public trust becomes a special significance. The purpose of the study topic is to investigate societal perceptions of electronic voting, the factors influencing these perceptions, and any potential ramifications for democratic processes. We learn a lot about the complex dynamics affecting public opinion and confidence in the democratic process by looking at the impact that allegations

made by politicians played in this situation. Nevertheless, the media stayed neutral and tried to provide as much information regarding security and privacy concerns which will be discussed in the following paragraphs.

## 4.3 Security and Trust

Estonian residents and citizens of other nations expressed worries about security and confidence after the implementation of electronic voting across the country in 2005. These worries have remained over time, and in 2007, Estonia was the target of a significant security incident when Russia launched a cyberattack shortly after the elections. Despite the attack, Estonia opted to keep working on its e-voting programs as opposed to abandoning them. The results of the analysis will be broken up into two sections to address the security and trust issues, with an emphasis on the installation of strong security measures and the variables impacting public trust in e-voting systems. The analysis of these factors will help decision-makers better understand the problems encountered and increase the security and public trust in electronic voting as well as understand how those concerns are represented in media.

### 4.3.1 Commonalities of Estonian and English Publications

The safety of electronic voting and its potential consequences were given a lot of attention after the 2007 cyberattack, based on the examination of publications. Journalists questioned the effectiveness of the security controls in place in e-voting systems and looked into how such instances would affect the use of e-voting as a whole even when the cyberattack was not targeting e-voting. The classification procedure revealed that most articles either questioned security precautions or explained them. With the intention of helping the general reader comprehend the potential hazards involved, these articles addressed the main worries regarding security breaches and hacking. According to Strömbäck and Esser (2014), when the framing of the articles was examined, it was found that the publications integrated the two major areas of technological development and security and privacy concerns. Media outlets that promoted e-voting as a novel strategy to increase the effectiveness and accuracy of elections were included in technological development. In contrast to unfavorable factors, positive aspects of technical advancement were discovered during the coding process.

*"Even before 2013, Estonia knew its digital government was vulnerable. Both Estonia and the United States are exposed to possible cyberattacks from Russia. In 2007, Estonian banks, government sites, and media outlets were taken down by unprecedented traffic". (Fillon, 2020)*

*"Even if the events were a wake-up call for Estonia, she believes the risks of voting online are not greater than they are in person or by mail. She believes countries need to take a much holistic view of election tampering, and cyberattacks are only one of them. She uses Russia's tampering with the 2016 U.S. elections as an example, in which Russia's interference was not as much in the voting process but in influencing public opinions in general." (Fillon, 2020)*

However, the data demonstrated a startling resemblance in how Security and Privacy Concerns were covered by various media outlets. In this category, the emphasis was on exposing the potential risks, shortcomings, and transparency problems related to electronic voting. A common trend in many of the articles was an introduction to the subject of electronic voting, which gave background information on the nation's history with electronic voting or its broader history. The papers then posed important questions about the security of personal data, the susceptibility of systems, and the potential for vote tampering by uninvited parties. To ensure transparency, the pieces frequently offered expert commentary or provided available data as a conclusion. The coding frequently expressed criticism of electronic voting, often accompanied by justifications in the form of examples. Overall, the assessment of the articles revealed a strong emphasis on the issues of e-voting system security and privacy, particularly in the wake of the 2007 cyberattack. The beneficial effects of technological advancement as well as the pressing problems with security and transparency were both addressed in the media coverage. These results provide insight into the difficulties and complexity of the debates around e-voting and provide guidance for future research and decision-making in this area.

*\* "You need to be able to break into the RIA server, forge a digital signature, crack crypto, change your voice, and then erase your tracks. For something to change, repeat it hundreds of times, because changing one voice may not give an advantage. Doing all this without missing a beat requires a resource. It makes no economic sense." (Tanker, 2021)*

Interviews with IT professionals, cybersecurity experts, and elected officials were done in order to increase transparency and foster confidence among readers or voters. This strategy is consistent with the conclusions made by Magaloni (2006), who made a link between electoral

fairness and the public's confidence in the administration. People are more inclined to believe that the election was conducted fairly when the election process is seen as fair. Therefore, by placing a high priority on media openness, the nation not only allays worries about e-voting but also presents a favorable view of the elections, e-voting, and general justice. The goal of media interviews with experts is to offer a forum for candid and knowledgeable discourse. These conversations attempt to allay any potential worries or reservations that readers or voters may have in addition to providing insights into the technical aspects of e-voting systems. Such open communication and transparency are essential for allaying worries about the security of electronic voting and fostering confidence in the election process. The interviews also provide insight into the steps taken by the administration to guarantee the dependability and integrity of e-voting systems.

*"Research shows that most Estonians trust their e-governance systems, although there are skeptics. Some critiques focus on perceived security shortcomings" (Herron, 2023)*

*"Personal devices especially are prone to being infected with malware. This kind of distributed system calls for a method to check the integrity of not only every single part but the entire transaction chain. To ensure that it holds from one end, all the way to the other, it needs end-to-end verification." (Haarseim, 2022)*

The media has made an attempt to adopt a neutral yet informed posture in response to the substantial number of queries and worries expressed by the general population. This strategy is motivated by the realization that credibility and trust are essential components in the communication of information, particularly in the setting of electronic voting. In order to eliminate biases and the propagation of misinformation, the media strives to present accurate and trustworthy information. This was mostly found in US-published media. Due to the high number of questions from people, the media has been trying to take a neutral yet informative stand. As the 2020 US elections were related to the spread of disinformation caused by Fox News, it was clear that articles published after 2020 were very careful with what they were saying. The next section will take a deeper look into the differences in content when it came to trust and security.

### 4.3.2 Contrast of the Publications

In the performed textual analysis, it was noted that the English-published media pieces demonstrated a thorough approach in structuring their content. They focused on addressing and responding to areas of concern regarding e-voting in Estonia. A major approach utilized by the media was the frequent use of comparisons to other nations, particularly the United States and Russia, in order to create the idea that Estonia's e-voting system was performing well. The fundamental purpose of this comparative method and the availability of examples in the studied data was to persuade readers that e-voting is a positive practice. However, it was noted that the deployment of e-voting in other nations in the immediate future would be unlikely.

*"Especially as electronic voting machines have proven to be extremely vulnerable — others are hoping new technologies can make elections more secure. Blockchain technology, especially, is drawing a lot of interest on this front." (Blockchain e-voting is real: Where, how, when? 2019)*

*\* "Estonia's online voting system is ultimately designed to deliver a trustworthy election…This helps to educate the public on potentially malicious practices" (Geenius, 2023)*

The analysis also found that the representation of Estonia's e-voting system in Estonian and English-published media differed in terms of tone and focus. The English-published press releases demonstrated a techno-pessimistic bias, especially noting potential defects and shortcomings in e-voting systems. The key codes identified in the examination were transparency, questioning security, questioning trustworthiness, and skepticism. The data underscored the necessity for continued development and resolving residents' concerns to enable the successful adoption of e-democracy technologies. Trust was recognized as a critical aspect in the adoption of e-voting, and the roles of government agencies and media in building trust were stressed. However, due to the late adaption of e-tools in many nations, the full implementation of this trust-building process was seen as difficult.

The evaluation of the data provided in English discovered a rather unbiased media representation of security and trust in Estonia's e-voting system. The articles gave a balanced stance by presenting both examples and arguments to support the claims made. The presence of critical thinking and perspectives gave dimension to the discourse surrounding e-voting. It became evident that the media understood the tremendous challenges Estonia had surpassed to

develop faith in the security and safety of e-voting. Estonia's efforts in developing robust security measures and resolving potential vulnerabilities were acknowledged and highlighted in the articles. By emphasizing these achievements, the media anticipated promoting confidence in the e-voting system among readers. Moreover, the media research highlighted the necessity of trust in e-voting systems for their effective implementation. The articles communicated a sense that trust is not simply gained and necessitates thorough steps to safeguard the security and integrity of the voting process. By highlighting the obstacles that Estonia had experienced and overcome, the media attempted to create confidence in readers that the country's e-voting system was dependable and trustworthy. The inclusion of scenarios and evidence in the media stories greatly improved the picture of security and trust in e-voting. These examples likely featured situations where the e-voting system demonstrated its effectiveness, emphasizing successful elections and the absence of severe security breaches. The articles may have also covered the technical safeguards and processes employed by Estonia to ensure the integrity of the voting process. Overall, the study of English media articles indicated a generally balanced posture regarding the security and trustworthiness of Estonia's e-voting system. By offering examples, and acknowledging the challenges, the media tried to convey optimism regarding the system.

In contrast to the largely neutral image witnessed in English media, the data collected from Estonian newspapers suggested a more polarized stance on Estonia's e-voting system. Authors in Estonian publications often took explicit stances either in favor of or against e-voting, leading to a more contentious discussion. The media's focus switched to the voters themselves, analyzing their attitudes, fears, and experiences with e-voting. Given the importance of e-voting in Estonia, it was anticipated that access to information and studies on the safety of e-voting would be emphasized in the media. Previous research, for example, the study conducted by Päivärinta and Saebø in 2006, undoubtedly established a foundation for discussions and arguments around e-voting. This scholarly research, along with other studies, certainly impacted the viewpoints provided by authors in the Estonian publications. However, the analysis additionally showed the presence of an information divide within the Estonian population. This split occurred due to different degrees of access to information and different understandings of the information that was accessible, leading to conflicting perspectives on the security and dependability of e-voting. Recognizing the potential for uncertainty and misunderstanding, the media felt forced to strive for more openness in their reporting. By providing clear and thorough

information, the media anticipated overcoming this knowledge gap and encouraging a more educated public discussion on e-voting.

The necessity of transparent reporting was highlighted by a poll done by ERR in 2022, which found that 68% of the participants had high levels of trust in the media. This finding highlighted the crucial role of the media in creating public perception of e-voting and its safety. The study results demonstrated a considerable dependence on the media as a trustworthy source of information, stressing the role of journalists to report correctly and truthfully on e-voting-related concerns. In light of these results, the media in Estonia acknowledged the demand for transparent reporting to bridge the information divide and build a more informed public conversation. By providing thorough information and fostering openness, the media hoped to contribute to a greater awareness of e-voting and its safety among the general population.

*"E-voting is being organized in Estonia for the seventh time now, and so far there have been no security incidents that would have affected the election results," said President Ilves. "E-elections are now as self-evident to us as, for example, the fact that Estonia, which is one of the advocates of cyber security, operates an international NATO cyber defense center." (Delfi, 2014)*

The study of the data revealed a prevalent practice of incorporating authoritative persons in media pieces to boost credibility and persuade readers. This accords with prior study on media influence, as stated by Kostyuk (2022). By including reputable sources, journalists attempt to improve the legitimacy of their publications and strengthen their arguments. This approach, known as "appeal to authority," serves to convey proof, reasoning, or persuasion to the readers. Consequently, readers tend to be less objective and more open to influence while making conclusions. However, it was noted that many data sets did not provide a thorough explanation of the systematic features of e-voting security. While some articles pointed viewers to appropriate sources for additional information, news items that featured comments tended to take a more hostile and unfavorable tone toward the notion of safe e-voting. The findings imply that the media's portrayal of e-voting security was not uniformly provided across all sources. Some articles may have failed to offer in-depth information on the exact safeguards and processes in place to maintain the security of the e-voting system. This lack of full explanation could contribute to a feeling of ambiguity or doubt among readers.

Furthermore, papers that featured opinions were more likely to take a critical position against the idea of safe e-voting. The prevalence of harsh and diabolical language in such publications may alter readers' views and potentially lead to a heightened sense of mistrust or doubt regarding the security of e-voting. Relating to earlier study, these findings underline the significance of the media's role in forming public opinion and affecting decision-making processes. The involvement of authority individuals provides legitimacy to media reports, making readers more open to the views provided. However, the insufficient description of e-voting security procedures in certain stories and the unfavorable tone portrayed in opinion-based pieces highlight the possibility of prejudice and varying perspectives within the media ecosystem. To address these constraints and strengthen the public's understanding of e-voting security, it is necessary for journalists to provide full explanations of the systematics and protocols in place.

*"The election application software that makes up most of the e-voting process is completely secret."* *(Põder, 2023)*

* *"Whether e-elections can be falsified or not is at the level of conjecture, because anyone who wants to make sure of it is scared away from the e-voting system with an evil rottweiler and is simply told to believe, believe and believe again in its security." (Evestus, 2023)*

Given the average person's lack of previous expertise in cybersecurity and IT, operational information explaining the exact systematic components of the e-voting system might not significantly influence their understanding or decision-making process. In regard to this, it was found that a greater number of articles aimed to reassure voters of the safety of electronic voting, outweighing the quantity of negative opinionated articles. This shows that media sources have a major role in molding public attitudes and beliefs through the repetition of messages stressing the security of e-voting, often supported by specialist judgments. This tendency coincides with the concept of media control over public discourses, as described by Van Dijk (1995). By highlighting the safety of e-voting and adding expert comments, the media is able to influence and affect public opinions and views towards the matter. Through consistency, the media can successfully reinforce the perception of e-voting safety, so establishing it as a dominant narrative. This finding also underlines the significance of closely examining media coverage and recognizing any biases or effects on public discourse. Understanding the media's involvement in

shaping public views of e-voting security is crucial for researchers and politicians wanting to support informed decision-making and public trust in e-voting systems. By understanding the media's role and advocating honest and fair coverage, parties may collaborate towards a more equal and well-informed public conversation on e-voting security.

* *"The organization of Estonian elections is transparent…E-elections are part of our digital society. Their security and reliability have always been a priority, and security and reliability have been evaluated and confirmed by independent auditors and evaluators." (Sutt, 2023)*

* *"E-elections are thoroughly and thoroughly observed and audited. This has been done by international observers from the OSCE, volunteer observers, representatives of community organizations, journalists, and scandal-seeking conspiracy theorists. The procedure and technology have been audited by an auditing firm." (Geenius, 2023)*

Therefore, people's trust and the popularity of e-voting are on the rise, as it was also found that an appeal to authoritative opinion and constant publishing of moderately transparent news automatically increase the position of the author and the media company. The key to developing a friendly environment of e-voting is constant reassurance and persuasion.

In summary, the media depiction of e-voting in Estonia presented a spectrum of opinions. English outlets predominantly took a favorable and critical stance, pointing out the country's technological accomplishments and the benefits of e-voting. Estonian publications featured a blend of positive and aggressive attitudes, with journalists expressing distinct opinions. While the media continually reassured audience members, they did not fully dismiss transparency issues. Overall, the availability of both e-voting and physical voting choices allowed for broad public involvement, including individuals who held qualms about e-voting.

# 4 Concluding Remarks: Media Influence on E-Voting Perception

The continuous controversy around the safety, reliability, and openness of e-voting in Estonia has lasted for years. Multiple news organizations have taken part in this discussion, expressing their thoughts and evaluating the topic from different perspectives. The analysis found that articles in English tended to be more favorable and critical, noting Estonia's accomplishments in technology and the transformative impact of e-voting on residents' daily activities. When disputing the trustworthiness of e-voting, expert comments were sought to justify Estonia's technological ability to adapt, resulting in a generally positive portrayal in the English data analysis.

On the contrary, the analysis of Estonian publications indicated a mixed tone, leaning toward both positive and confrontational opinions. The media coverage of e-voting in Estonia frequently sought to soothe audiences while still addressing transparency issues. Notably, individual journalists stated their critical stance against e-voting, adding to the range of perspectives evident in the Estonian data. Despite these discrepancies, the public's engagement in e-voting remained high, and individuals who harbored misgivings about e-voting were afforded the option to physically vote at designated polling locations.

Interestingly, numerous important findings emerged from the examination of the technical and practical aspects of Estonia's e-voting and e-democracy systems. First, both English and Estonian periodicals provided thorough explanations of the voting procedure, highlighting its accessibility and simplicity. Video instructions in Estonian and English were frequently incorporated in Estonian articles to make voting easier, especially for foreign residents of Estonia who might not speak the language well. The system's adaptability and openness were also frequently emphasized by references to the capability of casting multiple ballots and checking individual e-votes.

The analysis's emphasis on the usability and advantages of e-voting is one noteworthy finding. The convenience of e-voting for residents with hectic schedules or those who live overseas was highlighted in media coverage. With 51% of votes cast electronically in the most recent parliamentary elections, Estonia has a high adoption rate of e-voting, which has been

hailed as a digital milestone. The widespread use of e-voting throughout the years and the confidence that residents have in their government can be credited for its accessibility and high participation rate.

However, journalists and politicians also voiced worries, issues, and misconceptions over e-voting. The tone of articles written in Estonian tended to be more combative; some of them expressed displeasure and demanded that electronic voting be scrapped. These publications raised a number of important issues, including privacy weaknesses and worries about political meddling. English publications, on the other hand, kept a more impartial attitude, emphasizing information presentation and addressing security and privacy issues.

The main concerns with electronic voting, both among Estonians and citizens of other nations, were security and confidence. The investigation identified parallels in the coverage of e-voting security issues and potential hazards and vulnerabilities between English and Estonian periodicals. However, media outlets also made an effort to increase transparency and confidence by disclosing details about security precautions, correcting issues, and emphasizing the knowledge of IT experts and government representatives.

English articles, which were more circumspect and meticulous in their messaging, differed in tone and content. They frequently made comparisons between Estonia's electronic voting system and those of other nations, particularly those of the US, praising Estonia's achievements and offering them as lessons to be learned. English periodicals exhibited a bias against technology, emphasizing the possible drawbacks and inadequacies of electronic voting systems while acknowledging the ongoing research and efforts to allay residents' worries.

Overall, the media's coverage of Estonia's e-voting demonstrated the nation's dedication to digitization and the effective execution of e-democracy programs. The report emphasized the significance of voter openness, political trust, and continuous initiatives to solve security and privacy issues. Both the English and Estonian pieces sought to educate the public and promote faith in the e-voting system, despite minor variances in tone and content.

## 5.1 Limitations

It is necessary to recognize the limitations of the research even though the analysis of media publications on e-voting and e-democracy in Estonia offers useful insights into the technological, operational, social, and political elements of these systems. These restrictions are a result of a number of things, including the breadth of the research, the data's accessibility, and potential reporting biases.

First of all, the analysis was limited to media articles published in Estonian and English, which may not have included all of the opinions and conversations on e-voting in Estonia. It's likely that the analysis left out important information from publications in specialized fields or other languages. Furthermore, the analysis was restricted to a narrow time frame, and it's possible that since then, the dynamics around e-voting and e-democracy have changed. As a result, the findings must be understood considering the particular historical period and languages studied.

Second, the outcomes of the analysis might have been impacted by the data's accessibility. Other stakeholders, including government reports, scholarly research, and public opinion surveys, could offer additional perspectives. Media articles are simply one source of information. The analysis's lack of these sources restricts how thorough its findings can be. The impact of social media and internet platforms, which are more crucial in influencing public debate and opinions, was also not taken into account in the analysis. Future studies that incorporate these platforms might provide us a more thorough knowledge of how society views e-voting and e-democracy.

The potential for prejudice in media coverage is another drawback. The narrative around electronic voting and e-democracy can be shaped by the editorial views that media outlets take. The choice and framing of the stories, as well as the editorial choices made by media organizations, may have had an impact on the analysis. Biases can appear in a variety of ways, such as techno-optimism or techno-pessimism when the media exaggerates the advantages or disadvantages of electronic voting. To get a comprehensive understanding of the subject, it is crucial to analyze media coverage and take into account various sources.

The investigation also concentrated on media reports rather than directly capturing the views and experiences of residents. While media can in some cases reflect public opinion, it is still important to supplement the analysis with empirical research that includes polls, interviews, and focus groups to fully understand the many viewpoints of the general public. E-voting users' experiences, worries, and motivations can be understood in order to get important insights into the obstacles and acceptance of these systems.

Finally, a technical investigation of e-voting and e-democracy systems was not conducted. A more thorough investigation of the underlying technology, security procedures, and potential vulnerabilities would offer a more nuanced view of the strengths and shortcomings of these systems, even though some technical elements were mentioned. The analysis is hampered by the lack of technical audits, expert opinions, and independent evaluations, which are essential for evaluating the reliability and integrity of e-voting systems.

In conclusion, the study of media reports on Estonia's e-voting and e-democracy provides important insights on a variety of these systems. It's crucial to understand the research's limitations, which include the study's linguistic and chronological breadth, data accessibility, potential biases in media coverage, and the requirement for supplementary methodologies. To provide a more thorough understanding of e-voting and e-democracy in Estonia and elsewhere, future studies should seek to solve these shortcomings.

## 5.2 Recommendation for future research

Several recommendations for additional research can be made based on the study of media reports on Estonia's e-voting and e-democracy in order to better understand these technologies and their influence on democratic processes. These suggestions center on broadening the area of study, taking into account many viewpoints, and performing in-depth empirical studies.

First of all, future research should think about extending the analysis's focus beyond media reports in Estonian and English. E-voting and e-democracy can be better understood by taking into account publications in other languages, as well as specialized publications and sources from different nations. The difficulties and opportunities connected with these systems

can be clarified by contrasting experiences and viewpoints from other contexts, allowing for cross-cultural insights and lessons gained.

Second, it is crucial to include many viewpoints and stakeholders in upcoming study. While media articles provide insightful information, they do not fully represent the diversity of viewpoints and experiences. The attitudes, motivations, and concerns relating to electronic voting and e-democracy can therefore be better understood by conducting surveys, interviews, and focus groups with voters, politicians, election officials, and experts. Researchers can more accurately evaluate the level of public acceptance, potential obstacles, and policy implications of these systems by consulting important stakeholders.

Future research should also look into how e-voting and e-democracy will affect society and politics in the long run. This may entail looking into how it affects participation in democratic processes, civic engagement, and voter turnout. Finding possible disparities and accessibility issues with e-voting systems can be aided by looking at the experiences of underrepresented groups, such as people with impairments or those from low-income backgrounds. Researchers can help the creation of inclusive and participatory e-democracy initiatives by comprehending the broader societal ramifications.

Further investigation should also center on technical aspects. Insights into the security, dependability, and resilience of e-voting systems can be gained by conducting independent audits and reviews. Understanding the underlying technologies, encryption procedures, and verification protocols can assist find weaknesses and suggest fixes to make these systems' integrity stronger. Research, election officials, and technology experts working together is essential to creating reliable and trustworthy e-voting systems.

Finally, future research should look into how e-voting and e-democracy affect the larger democratic ecology. Investigating how online and offline political involvement interact, the impact of social media on public opinion of these systems, and potential adjustments to electoral campaigns and strategies are all included. To guarantee the legitimacy and integrity of democratic processes, policymakers and stakeholders must have a thorough understanding of the changing dynamics of democracy in the digital age.

In conclusion, more research on e-voting and e-democracy should focus on broadening the analysis's scope, incorporating many viewpoints, and conducting in-depth empirical analyses. Researchers may improve our comprehension of the technological, operational, social, and political components of these systems by addressing these recommendations, which will result in more informed policy choices and the growth of inclusive and secure democratic practices.

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# Appendix

*Appendix A*

| Themes | Sub Themes | Codes |
|---|---|---|
| 1. Technical and operational features | Benefits and Advantages | Benefits of elections, trust in the system is rising, efficent |
| | Technology and Innovation | Digital milestone, digital society, a lot of digital services |
| | Implementation and Development | Been around for many years,woul be harder to introduce now |
| | Voting Process and Systems | Double votes are removed, election lists are confusing, older people vote on paper |
| | | |
| 2. Social and political perspectives | Election Participation | Younger people prefer e-voting, people are used to it, can vote from anywhere in the world |
| | Public Opinion and Perception | Specialist's opinion, foreigners are interested |
| | Political Factors | Manipulatition from party members, wants to stop e-voting |
| | Comparisons | comparing Estonia to genocide countries, Estonia is leading, jealous America |
| | International Perspective | USA should try it Estonian way, first country to implement e-voting, pioneer |
| | Historical Context | Hoistory of e-voting, well-developed country, learn from Estonia's success and fails |
| | Societal Impact and Adoption | Embracing technology, people have to think rationally, inspiring |
| | | |
| 3. Security and Trust | Transparency and Openness | A lot of effort in the security, aknowledge transparency, share more with people |
| | Safety | A lot of effort in the security, constant monitoring, constant upgrades, information open to public |
| | Trust in Technology | Importance of passwords, system can't be copied, cybersecurity and NATO |
| | Concerns and Criticism | Questioning the safety, scared of exposure, questioning the trust |