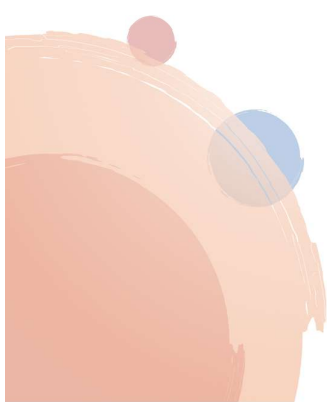




Event Report - WP2

**Project: DIGIVOTE - Digital Democracy: Trust,
Transparency and Engagement in Voting
Systems**



Event Dissemination Report - WP2

Project: DIGIVOTE - Digital Democracy: Trust, Transparency and Engagement in Voting Systems

Programme: CERV

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Introduction

This report presents findings from the DIGIVOTE citizen survey “Voting Reimagined: Starting the Digital Conversation,” conducted across seven European partner countries (Bulgaria, Greece, Poland, Italy, Slovenia, Germany, and Estonia) as part of Work Package 2. A total of 207 respondents participated, providing insights into public attitudes toward digital voting, trust levels, security concerns, and preferred voting models.

The survey reveals a critical trust-willingness gap: while average trust in digital voting stands at a moderate 3.06 out of 5, willingness to use it reaches 3.96 out of 5. Citizens want digital voting but require stronger guarantees before fully trusting it. An overwhelming 71% of respondents prefer a combination model offering voter choice between paper, electronic, and online methods. Security against breaches is the top-ranked priority, and 76% of respondents would participate in a pilot test of digital voting.

Correlation analysis reveals that willingness is most strongly associated with the belief that digital voting would increase turnout ($r = +0.372$, $p < 0.001$) and negatively associated with overall concern levels ($r = -0.283$, $p < 0.001$). Trust correlates weakly with education ($r = +0.156$, $p = 0.025$) and negatively with mean concern ($r = -0.139$, $p = 0.046$). A notable two-cluster structure emerges among concern dimensions: technical concerns (security, integrity, privacy, transparency, secrecy) form one cluster, while social concerns (accessibility, inequality) form a distinct, very tightly correlated cluster ($r = 0.828$).

Demographic analysis shows that most standard predictors — gender, age, employment status, and living environment — do not significantly predict trust or willingness. The strongest demographic finding is a gender gap in open-source code preference ($\chi^2 = 15.99$, $p = 0.001$): men are significantly more likely to favour full code transparency (55% vs 32%), while women more frequently report uncertainty. Age significantly predicts concern levels ($H = 15.45$, $p = 0.009$) with a non-linear U-shaped pattern: the 25–34 and 55–64 groups express the highest concerns, while the 45–54 group is least concerned. Rural residents report significantly lower digital competence than urban and suburban residents ($p < 0.001$). Overall, attitudinal variables (democratic benefit, concern levels, competence) explain far more variation in digital voting attitudes than demographic characteristics do.

Methodology

The survey instrument consisted of 41 variables covering socio-demographic characteristics, voting behaviour and experience, trust in digital voting, willingness to use digital voting, seven dimensions of perceived concern (security, integrity, privacy, transparency, secrecy, accessibility, and inequality), priority rankings, preferred voting models, perceptions of the impact of digital voting on electoral turnout, attitudes towards open-source voting systems, responses to hypothetical security breaches, and willingness to participate in digital voting pilot projects.

Data collection was conducted between 2025 and 2026 through the seven DIGIVOTE partner organisations: EMUNI University (Slovenia), FECE (Bulgaria), Estonian Human Rights Centre (Estonia), Odyssea (Greece), Pro Rights (Italy), Culture Goes Europe (Germany), and Nicolaus Copernicus University in Toruń (Poland). The questionnaire was disseminated through partner websites, social media channels, mailing lists, and direct stakeholder outreach activities.

The final dataset comprised 207 valid responses. The survey employed a non-probability, self-selection sampling approach and therefore does not constitute a representative sample of the populations of the participating countries. The respondent profile is characterised by comparatively high levels of education, digital engagement, and civic participation: approximately 75% of respondents were under the age of 45, 84% resided in urban areas, more than 85% held a university degree, and 87% reported possessing a digital identity. Consequently, the findings should be interpreted as reflecting the views of digitally engaged and civically active citizens rather than the general population.

Data analysis combined descriptive and inferential statistical techniques. Descriptive statistics were used to summarise distributions, frequencies, percentages, and mean values. Associations between ordinal variables were examined using Spearman's rank-order correlation coefficient (ρ). Differences between two independent groups were assessed using Mann–Whitney U tests, while comparisons across multiple groups were conducted using Kruskal–Wallis H tests. Associations between categorical variables were evaluated using Pearson's chi-square (χ^2) tests, with effect sizes reported using Cramér's V. For

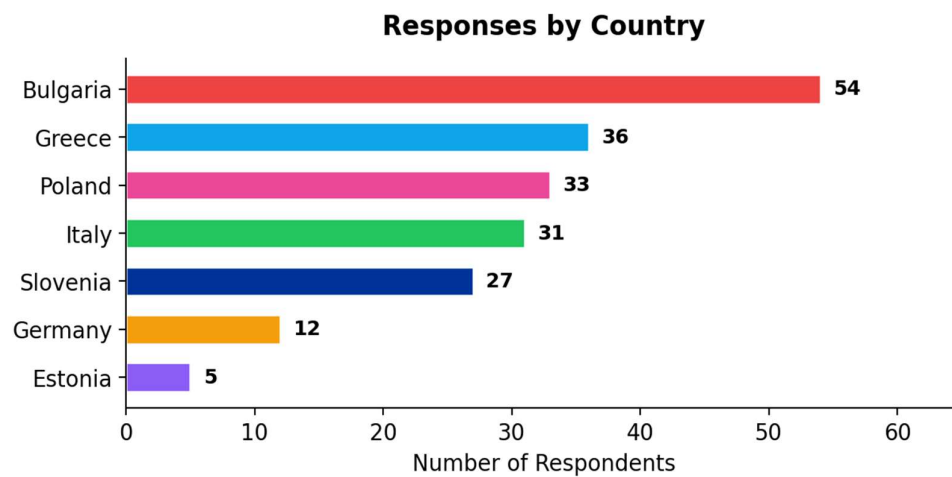
Mann–Whitney analyses, effect sizes were calculated using $r = Z/\sqrt{N}$. All statistical tests were two-tailed and evaluated at a significance level of $\alpha = 0.05$.

Given the unequal distribution of respondents across participating countries, country-level findings should be interpreted with caution, particularly in the case of Estonia ($n = 5$) and Germany ($n = 12$), where small sample sizes limit the reliability and generalisability of statistical comparisons.

Respondent Profile

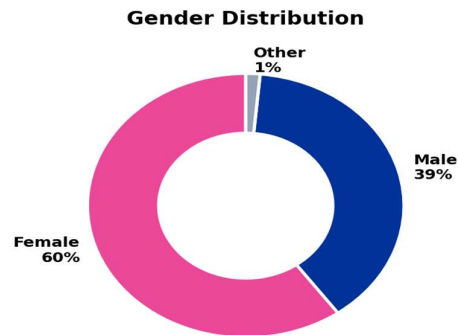
This section describes the demographic composition of the survey sample.

Responses by Country



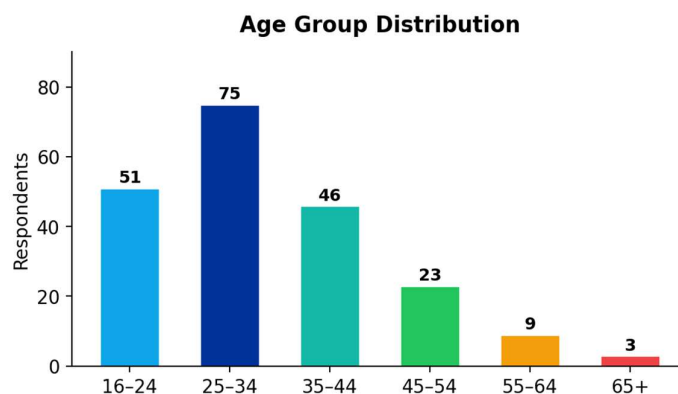
Country-level participation was uneven. Bulgaria recorded the highest number of responses ($n = 54$; 26% of all valid responses), followed by Greece ($n = 36$), Poland ($n = 33$), Italy ($n = 31$), and Slovenia ($n = 27$). Smaller samples were obtained from Germany ($n = 12$) and Estonia ($n = 5$). In addition, nine responses originated from non-partner countries. While these responses are included in the aggregate analysis, they were excluded from country-level comparisons due to insufficient sample size and the absence of a dedicated national category. Consequently, country-specific findings should be interpreted with caution, particularly in cases where the number of respondents was limited.

Gender Distribution



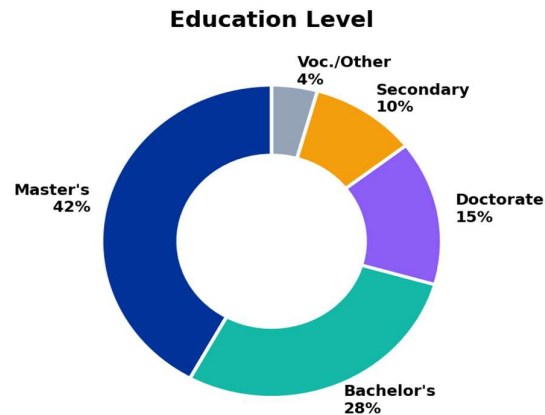
The respondent sample was predominantly female, with women representing 60% and men 39% of participants (other participants marked options “other” and “prefer not to say”). Poland recorded the highest share of female respondents (70%). Given these differences in gender composition, findings relating to attitudes, perceptions, or behavioural preferences should be interpreted with due consideration of the sample structure, particularly in cross-country comparisons.

Age Distribution



The respondent sample was relatively young, with approximately three-quarters of participants aged under 45. The largest age cohort was the 25–34 age group, accounting for 36% of all respondents. By contrast, participants aged 55 and above represented only 6% of the sample. Age distribution also varied across countries. Greece exhibited the most concentrated age profile, with 72% of respondents belonging to the 25–34 age group, whereas Italy demonstrated the greatest age diversity, including the only respondents aged 65 and above. These differences should be considered when interpreting country-level findings, as age composition may influence attitudes towards digital technologies and digital voting.

Education Level



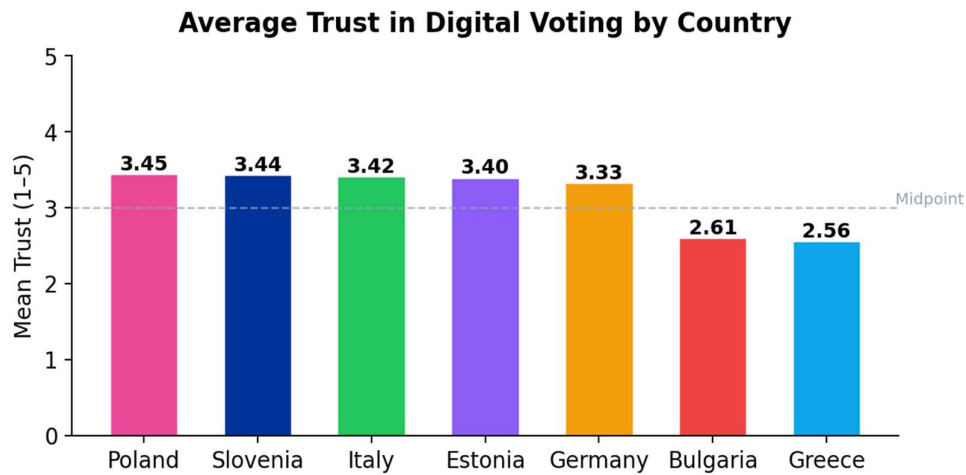
The respondent sample was characterised by comparatively high levels of education and digital readiness. More than 85% of participants held a university degree, including 42% with a Master's degree, 28% with a Bachelor's degree, and 15% with a Doctoral qualification. This educational profile should be considered when interpreting the findings, as it is not fully representative of the broader population and may be associated with higher levels of digital literacy and engagement.

In addition, 84% of respondents resided in urban areas, 83% were employed or self-employed, and 87% reported possessing a digital identity. These characteristics suggest that the sample was composed predominantly of socially and digitally connected individuals. Consequently, the results may not fully capture the perspectives of rural populations, economically inactive groups, or citizens with lower levels of digital access and experience.

Trust in Digital Voting

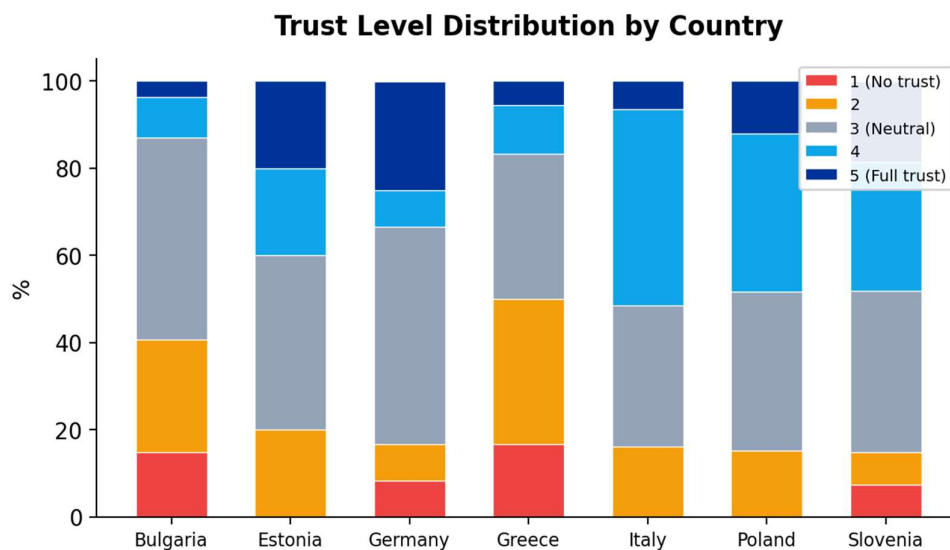
Trust was measured on a 1–5 scale (1 = no trust, 5 = full trust).

Average Trust by Country



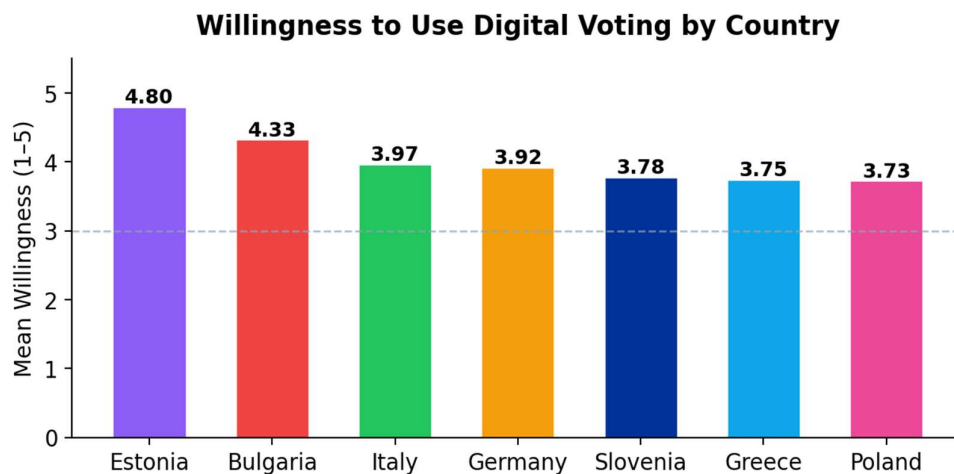
The overall level of trust in digital voting was moderate, with a mean score of 3.06 on the applied measurement scale. Notable differences emerged across participating countries. Respondents from Poland (mean = 3.45), Slovenia (mean = 3.44), and Italy (mean = 3.42) reported the highest levels of trust in digital voting, whereas respondents from Greece (mean = 2.56) and Bulgaria (mean = 2.61) expressed comparatively lower levels of trust. These findings suggest that perceptions of digital voting vary across national contexts and may be influenced by differences in institutional trust, digitalisation experiences, and broader socio-political factors. Given the unequal national sample sizes, however, these country-level differences should be interpreted with appropriate caution.

Trust Distribution by Country



Country-level distributions reveal important differences in the intensity of trust towards digital voting. Italy stands out as the most consistently positive case, with 45% of respondents reporting a trust level of 4 on the applied scale. In contrast, Greece exhibited the lowest levels of trust, with 50% of respondents selecting trust levels 1 or 2, indicating low or very low confidence in digital voting systems. Similar, although less pronounced, patterns were observed in Bulgaria. The distribution of responses in Greece and Bulgaria suggests a degree of scepticism and polarisation that may warrant targeted confidence-building measures, including enhanced public communication, transparency initiatives, digital literacy efforts, and opportunities for citizen engagement in discussions on digital voting. Nevertheless, these findings should be interpreted with caution given the relatively small national subsamples and their limited representativeness.

Willingness to Use Digital Voting



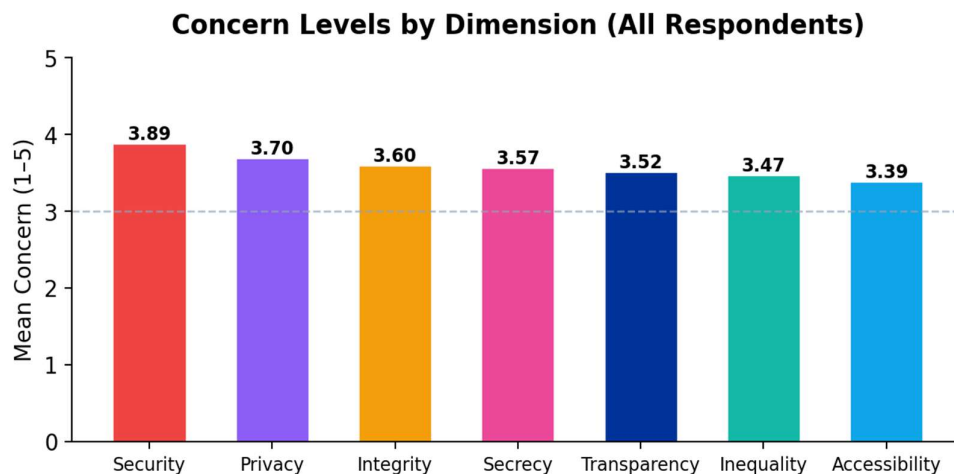
A notable finding of the survey is that respondents' willingness to use digital voting consistently exceeds their reported level of trust in existing digital voting systems across all participating countries. Estonia recorded the highest willingness score (mean = 4.80 out of 5), followed by Bulgaria (mean = 4.33), indicating strong openness towards digital voting despite varying levels of trust. This pattern suggests that citizens are generally receptive to the idea and potential benefits of digital voting, even where concerns regarding security, transparency, reliability, or institutional safeguards remain.

The gap between trust and willingness emerges as one of the central findings of the survey. Across all seven participating countries, respondents expressed greater readiness to use digital voting than confidence in its current implementation. This indicates that public attitudes are characterised less by resistance to digital voting itself than by reservations regarding the conditions under which it is deployed. From a policy perspective, the findings suggest that increasing trust through robust security measures,

transparency, effective oversight, and public communication may be more important than generating demand for digital voting, as willingness to adopt such systems already appears relatively high.

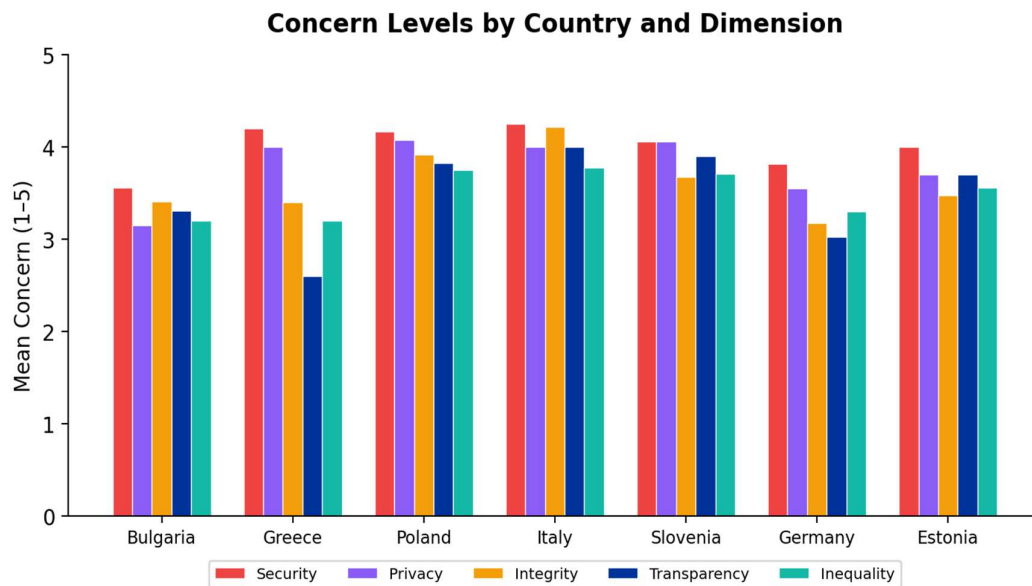
Security Concerns

Concern Levels by Dimension



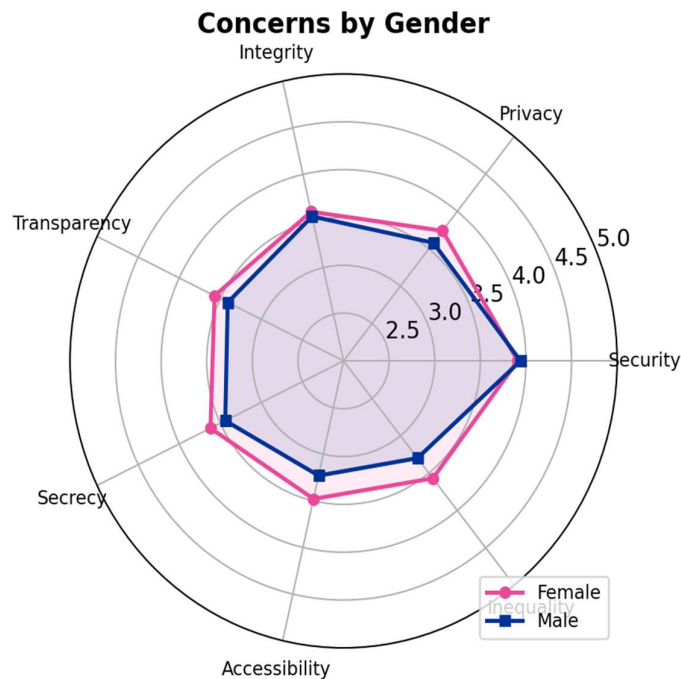
Respondents expressed concerns across all assessed dimensions of digital voting, indicating that perceived challenges are both broad and multidimensional. Security emerged as the most significant concern (mean = 3.89), followed by privacy and data protection (mean = 3.70). Importantly, none of the evaluated dimensions received a mean score below 3.0, suggesting that participants do not perceive digital voting risks as limited to a single issue. Rather, concerns extend across technical, legal, institutional, and societal aspects of implementation. This finding underscores the need for a comprehensive policy approach that addresses multiple dimensions simultaneously, rather than focusing exclusively on cybersecurity or technical safeguards.

Concerns by Country



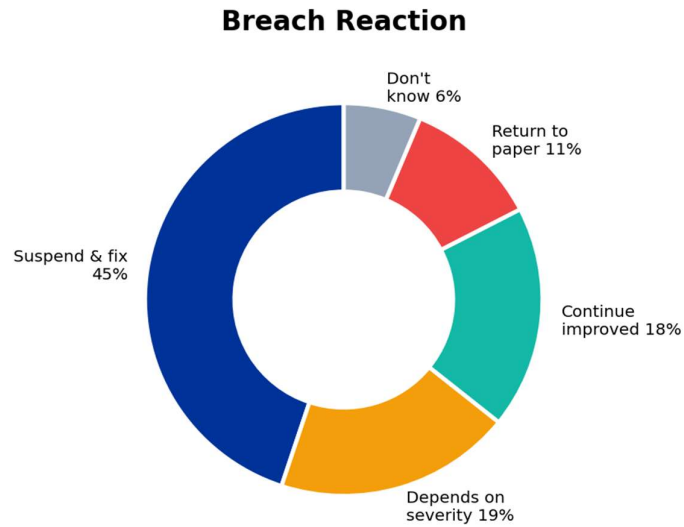
Country-level patterns reveal notable differences in the nature and intensity of concerns associated with digital voting. Respondents from Greece reported the highest levels of concern across nearly all assessed dimensions, suggesting a comparatively cautious outlook towards the implementation of digital voting systems. Germany and Italy displayed particularly elevated concerns regarding privacy and data protection, indicating that the handling of personal information represents a key consideration in these national contexts. Estonia presents a distinct profile: while respondents expressed relatively high levels of concern regarding security risks, concerns related to transparency were comparatively lower. This may reflect greater familiarity with digital governance systems and confidence in institutional transparency mechanisms, despite continued awareness of cybersecurity challenges. Overall, these findings suggest that concerns surrounding digital voting are shaped by national contexts and experiences, highlighting the importance of tailoring communication, engagement, and policy measures to specific public priorities and perceptions.

Concerns by Gender



Gender-based differences in perceptions of digital voting challenges were generally limited across all assessed dimensions. While women reported slightly higher levels of concern than men in several categories, the observed differences were modest. The largest gap was recorded for concerns related to inequality and exclusion, with women reporting a mean score of 3.57 compared to 3.30 among men. However, Mann-Whitney U testing indicated that this difference did not reach conventional levels of statistical significance ($p = 0.159$). Overall, the findings suggest that attitudes towards the challenges associated with digital voting are broadly similar across genders within the surveyed sample. A more detailed examination of gender-related patterns is presented in Section 8.

Breach Reaction

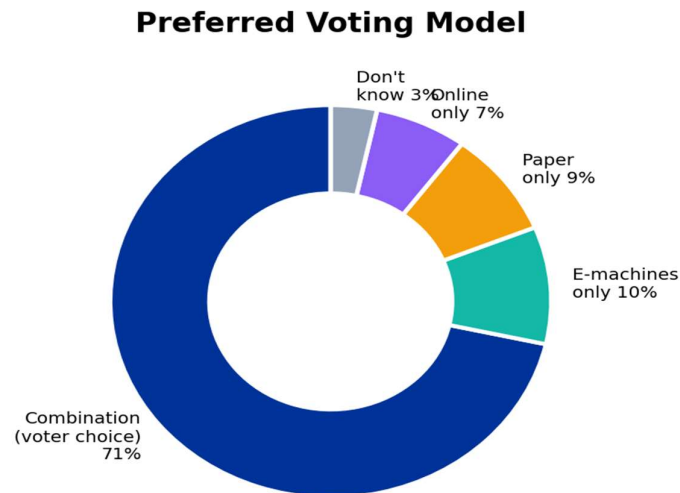


Responses to a hypothetical security breach indicate that participants generally favour corrective measures over abandoning digital voting altogether. The most frequently selected option, chosen by 45% of respondents, was the temporary suspension of the digital voting system, followed by the remediation of identified vulnerabilities and the subsequent restoration of the system once appropriate safeguards had been implemented. By contrast, only 11% of respondents supported a permanent return to paper-based voting. These findings suggest that concerns regarding security do not necessarily translate into opposition to digital voting itself; rather, respondents appear to expect effective institutional responses capable of restoring trust and system integrity following a breach.

At the country level, Slovenia constitutes a notable exception. Approximately 30% of Slovenian respondents favoured a permanent return to paper-based voting in the event of a security breach, indicating comparatively lower levels of tolerance for maintaining or reintroducing digital voting after a significant system failure. This result may reflect stronger risk perceptions or lower confidence in the capacity of institutions to address and recover from security incidents.

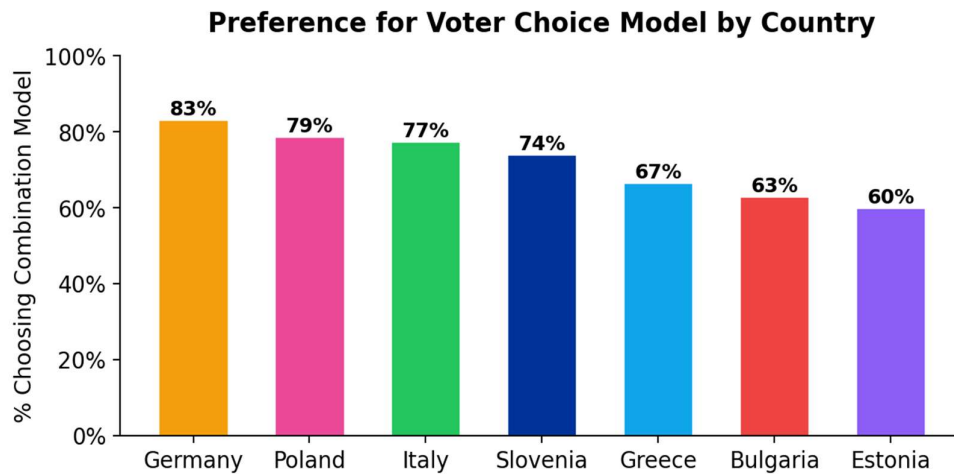
Preferred Voting Model

Overall Model Preference



Respondents showed a strong preference for maintaining voter choice in the organisation of electoral processes. A clear majority (71%) favoured a combined model combining digital and paper-based voting options, allowing citizens to select their preferred voting method. In contrast, only 9% supported an exclusively paper-based system, while 7% preferred a fully online voting model. These findings suggest that public acceptance of digital voting is highest when it complements rather than replaces traditional voting channels. The results indicate a preference for gradual integration and flexibility, enabling the benefits of digital voting to be realised while preserving accessibility, inclusiveness, and voter confidence through the continued availability of established voting methods.

Combination Model by Country

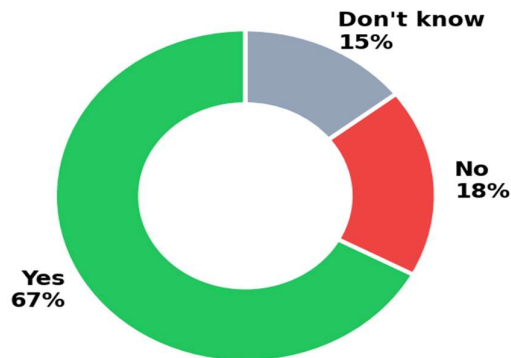


Support for a combined voting model was particularly strong in Germany, where 83% of respondents favoured maintaining both digital and paper-based voting options. This suggests a clear preference for voter choice and a gradual approach to electoral digitalisation. By comparison, support for the combined model was lower in Bulgaria (63%). This difference appears to be associated with a comparatively stronger preference among Bulgarian respondents for dedicated electronic voting solutions, such as e-voting machines, rather than a model centred on parallel paper and online voting channels. These findings indicate that preferences regarding the future organisation of voting systems may vary across national contexts, reflecting different experiences, expectations, and perceptions of digital electoral technologies.

Impact on Voter Turnout

Would Digital Voting Increase Turnout?

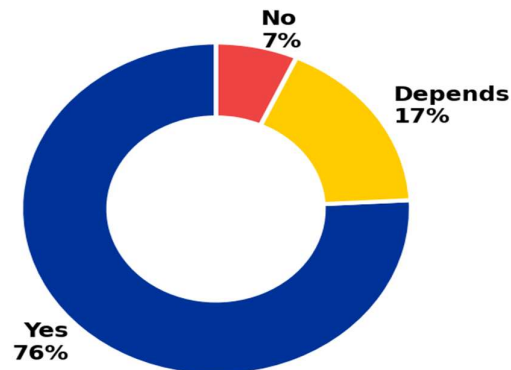
Would Digital Voting Increase Turnout?



A majority of respondents (67%) believe that digital voting has the potential to increase electoral turnout. This finding suggests that participants generally perceive digital voting as a tool that could reduce participation barriers and facilitate greater citizen engagement in democratic processes. However, important national differences emerge. Estonia, despite being the most established European example of internet voting, exhibited the highest level of scepticism regarding turnout effects: only 20% of Estonian respondents believed that digital voting would increase participation, while 60% disagreed. This pattern may indicate that direct experience with digital voting systems leads to more cautious expectations regarding their impact on electoral participation. Rather than viewing digital voting as a mechanism that automatically boosts turnout, respondents in Estonia may perceive it primarily as a convenience-enhancing tool that changes how citizens vote rather than substantially increasing the number of citizens who participate.

Willingness to Participate in a Pilot Test

Willingness to Participate in Pilot Test

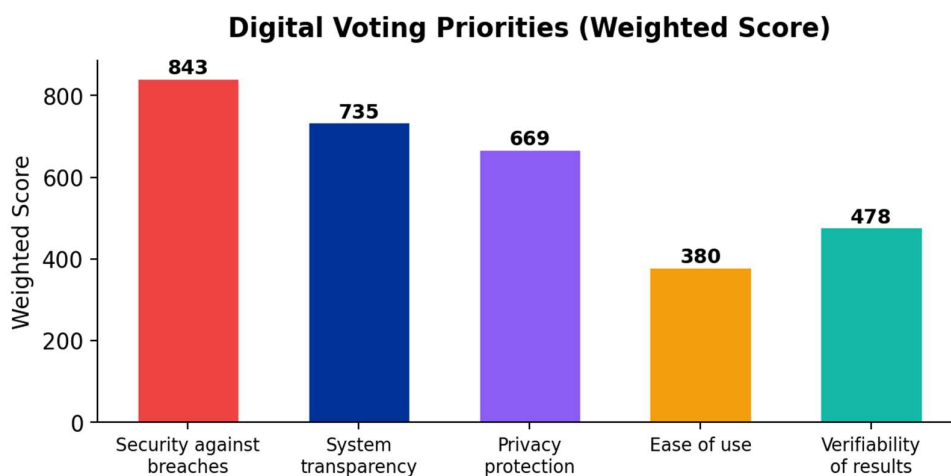


The findings indicate a high overall willingness to participate in digital voting. More than three-quarters of respondents (76%) stated that they would participate unconditionally if digital voting were available, while this proportion rises to 93% when conditional acceptance is taken into account. These results suggest that resistance to digital voting is relatively limited and that most citizens could envisage using such systems provided that appropriate safeguards and implementation conditions are met.

Country-level results reveal particularly strong acceptance in Poland and Estonia. In Poland, 91% of respondents expressed willingness to participate in digital voting, while Estonia recorded universal acceptance, with 100% of respondents indicating either unconditional or conditional willingness to use digital voting. These findings suggest that, despite differences in trust levels and perceptions of risk, openness to digital voting remains consistently high across national contexts. They further reinforce the broader survey finding that willingness to adopt digital voting often exceeds confidence in its current implementation, highlighting the importance of addressing trust-related concerns rather than generating demand for digital voting itself.

Priority Ranking for Digital Voting

Weighted scores: 1st = 5 points, 2nd = 4, 3rd = 3, 4th = 2, 5th = 1.

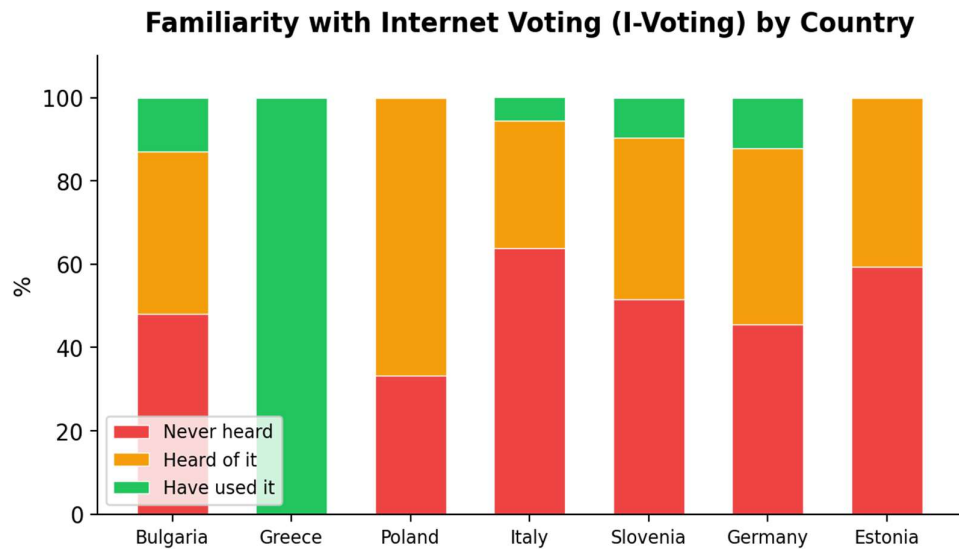


Security emerged as the dominant priority among respondents, receiving the highest cumulative score (834 points) and being ranked as the most important factor by 42% of participants. System transparency (631 points) and privacy and data protection (604 points) were identified as the next most important considerations. Together, these findings indicate that public acceptance of digital voting is driven primarily by concerns related to trust, integrity, and accountability rather than convenience or efficiency.

By contrast, ease of use received the lowest overall ranking among the assessed factors. This suggests that respondents are willing to accept a degree of complexity in exchange for stronger safeguards and greater confidence in the voting process. From a policy perspective, the results indicate that efforts to promote digital voting should prioritise security, transparency, and privacy protections, as improvements in convenience alone are unlikely to address the principal concerns expressed by citizens.

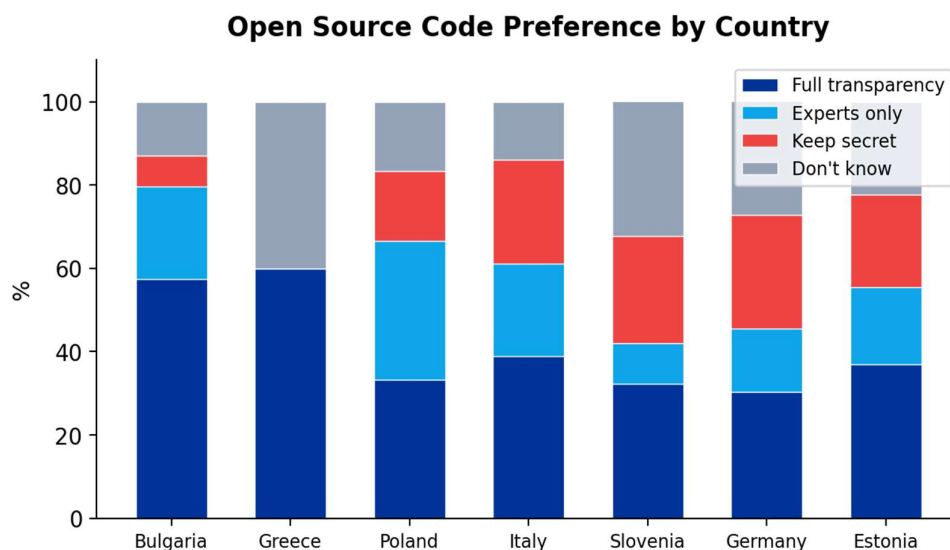
Experience and Familiarity

Familiarity with Internet Voting



Awareness of existing digital voting practices varied substantially across countries. As expected, Estonia stood apart, with 100% of respondents reporting prior experience with internet voting. In contrast, between 48% and 64% of respondents in all other participating countries indicated that they had never heard of, or were unfamiliar with, internet voting systems. These findings reveal a significant knowledge gap regarding existing digital voting solutions and suggest that public attitudes are often formed in the absence of direct experience or detailed information. From a policy perspective, the results underscore the importance of citizen education, public awareness campaigns, and transparent communication strategies as essential components of any future digital voting initiative. Improving familiarity with how digital voting systems operate may contribute to more informed public debate and support the development of trust in such technologies.

Open Source Code Preference



Preferences regarding transparency and access to the source code of digital voting systems were divided. The largest group of respondents (41%) favoured full public transparency, supporting unrestricted access to the system's source code and technical documentation. By contrast, 19% preferred limiting access to qualified experts and independent auditors, while a further 19% favoured maintaining a higher degree of secrecy regarding the system's technical design. These findings suggest that, although transparency is widely valued, there is no consensus on the most appropriate balance between openness, security, and technical oversight.

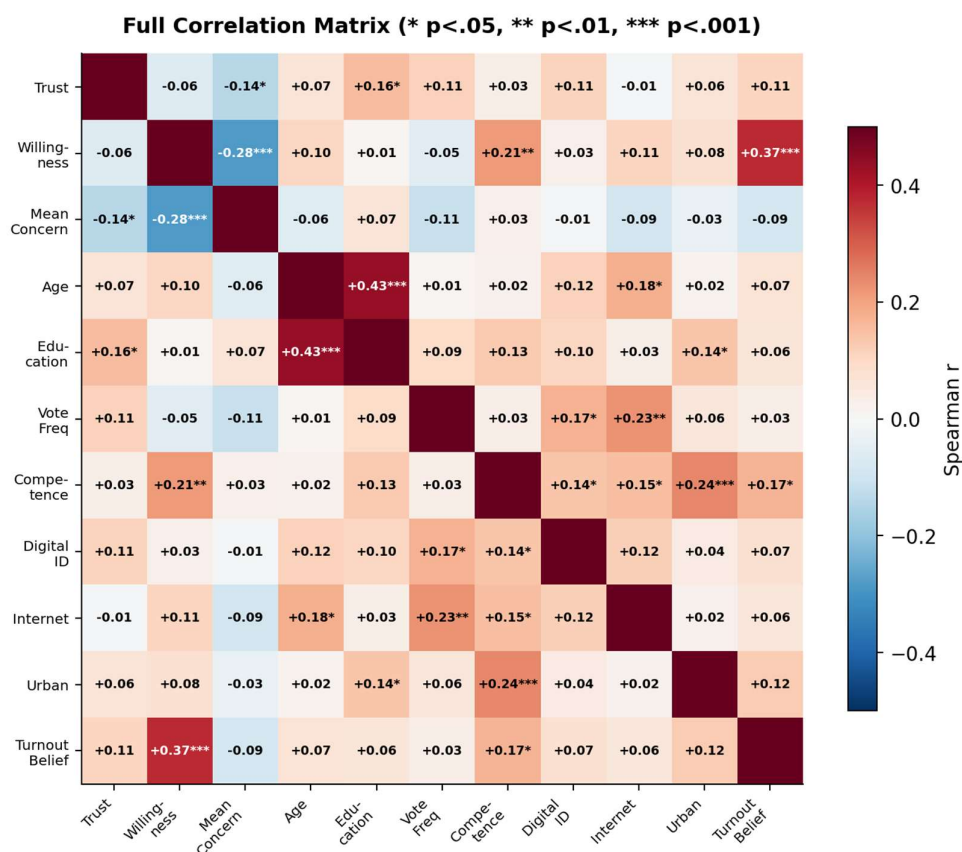
The results also reveal a statistically meaningful gender difference in attitudes towards transparency and access to system information. Given the relevance of this finding for understanding public expectations regarding accountability and trust, a more detailed analysis is provided in Section 8.5.

Correlation Analysis

This section presents Spearman rank-order correlations (ρ) and non-parametric group comparisons (Mann-Whitney U, Kruskal-Wallis H, χ^2) for key survey variables. Spearman's coefficient is appropriate for ordinal data. Statistical significance: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All tests are two-tailed ($n = 207$).

Full Correlation Matrix

The matrix below shows Spearman correlations among all key continuous/ordinal variables. Significant correlations are highlighted.

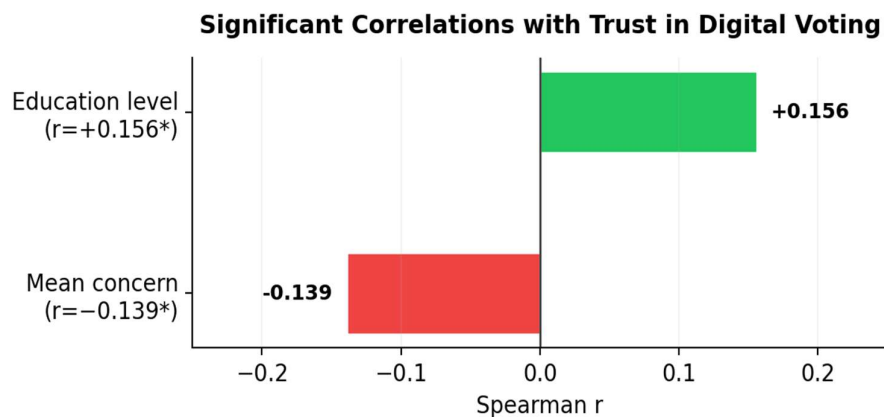


The correlation analysis reveals a relatively sparse pattern of relationships, indicating that most demographic characteristics are only weakly associated with the key attitudinal variables examined in the survey, namely trust in digital voting, willingness to use digital voting, and perceived concerns regarding its implementation. The strongest relationships are observed among attitudinal variables themselves. Willingness to use digital voting is positively associated with the belief that digital voting can increase electoral turnout ($r = +0.372$, $p < .001$) and with respondents' perceived digital competence ($r = +0.213$, $p < .01$), while it is negatively associated with the overall level of concern regarding digital voting ($r = -0.283$, $p < .001$). These findings suggest that perceptions and expectations regarding digital voting are more influential predictors of acceptance than socio-demographic characteristics.

Among the demographic variables, only the relationship between educational attainment and trust in digital voting reached statistical significance ($r = +0.156$, $p < .05$), indicating a modest tendency for more highly educated respondents to express greater trust in digital voting systems. Although age and education are moderately correlated with one another ($r = +0.435$, $p < .001$), neither variable appears to be a strong independent predictor of attitudes towards digital voting.

The analysis also points to the emergence of a broader “digital readiness” cluster. Perceived digital competence, quality of internet access, urban residence, and possession of a digital identity exhibit weak but consistent positive intercorrelations, suggesting that these characteristics reflect a common underlying dimension of digital integration. However, the relatively modest magnitude of these relationships indicates that digital readiness alone does not fully explain variation in trust or willingness to adopt digital voting. Overall, the results suggest that attitudes towards digital voting are shaped primarily by perceptions of its benefits, risks, and democratic implications rather than by respondents’ demographic characteristics.

Predictors of Trust



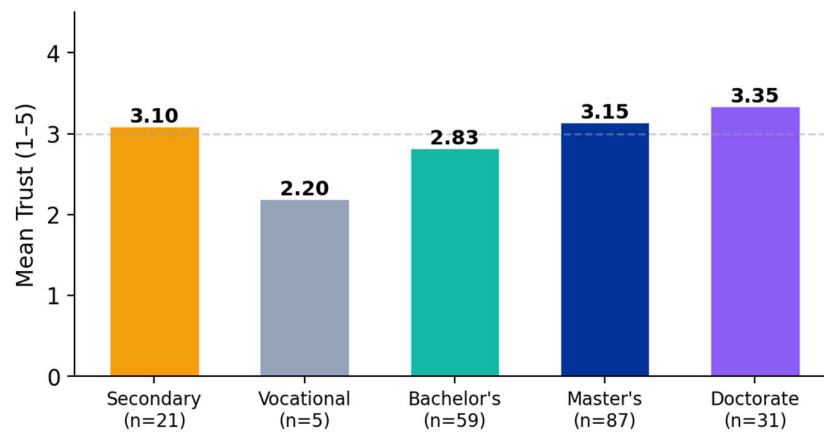
Variable 1	Variable 2	r_s	p-value	Sig.	Effect
Trust	Education	+0.156	0.025	*	Small
Trust	Mean concern	-0.139	0.046	*	Small
Trust	Voting frequency	+0.114	0.103		—
Trust	Digital ID	+0.113	0.106		—

Trust	Turnout belief	+0.107	0.127		—
Trust	Age	+0.065	0.355		—
Trust	Gender (female)	+0.036	0.611		—
Trust	Internet access	−0.007	0.923		—

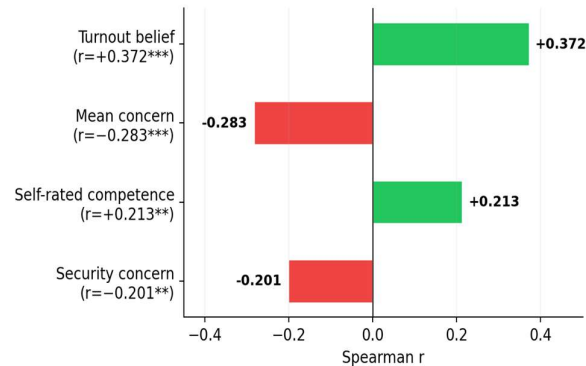
Trust in digital voting exhibits relatively few statistically significant associations with the demographic and behavioural variables included in the analysis. The only demographic factor significantly related to trust is educational attainment ($r = +0.156$, $p < .05$), with trust levels increasing gradually across educational categories, from a mean score of 2.20 among respondents with vocational education to 3.35 among those holding a doctoral degree. In contrast, higher levels of overall concern regarding digital voting are associated with lower levels of trust ($r = -0.139$, $p < .05$), indicating that perceptions of risk and potential challenges contribute to reduced confidence in digital voting systems.

Although voting frequency and possession of a digital identity display relationships with trust that approach statistical significance, neither reaches conventional significance thresholds. Similarly, no meaningful associations are observed for age, gender, or quality of internet access. These findings suggest that trust in digital voting is only weakly influenced by individual demographic characteristics or levels of digital connectivity.

Overall, the results indicate that trust is shaped primarily by system-level perceptions—such as concerns regarding security, transparency, privacy, and institutional reliability—rather than by respondents' socio-demographic backgrounds. This finding reinforces the broader conclusion that efforts to strengthen public trust should focus on improving the perceived integrity and governance of digital voting systems rather than targeting specific demographic groups.

Trust in Digital Voting by Education Level ($r = +0.156^*$)

Predictors of Willingness

Significant Correlations with Willingness to Use Digital Voting

Variable 1	Variable 2	r_s	p-value	Sig.	Effect
Willingness	Turnout belief	+0.372	<0.001	***	Medium
Willingness	Mean concern	-0.283	<0.001	***	Small-med
Willingness	Competence	+0.213	0.002	**	Small
Willingness	Security concern	-0.201	0.004	**	Small
Willingness	Trust	-0.063	0.369		—
Willingness	Age	+0.103	0.140		—
Willingness	Gender (female)	-0.060	0.394		—

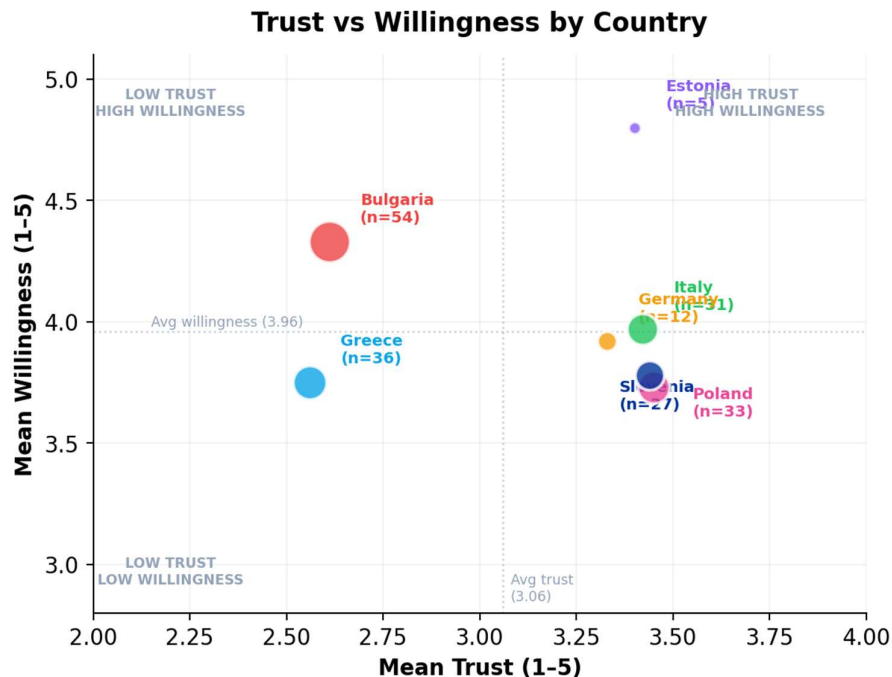
Willingness	Education	+0.008	0.912		—
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The analysis indicates that willingness to use digital voting is influenced primarily by attitudinal rather than demographic factors. The strongest predictor of willingness is the belief that digital voting can increase electoral participation ($r = +0.372$, $p < .001$), suggesting that respondents who perceive a clear democratic benefit are significantly more inclined to support and adopt digital voting. Conversely, higher levels of concern are associated with lower willingness, both in terms of overall concern regarding digital voting ($r = -0.283$, $p < .001$) and concerns specifically related to security ($r = -0.201$, $p < .01$). Self-assessed digital competence also exhibits a positive relationship with willingness ($r = +0.213$, $p < .01$), indicating that confidence in one's own digital abilities contributes to greater openness towards digital voting.

A particularly noteworthy finding is the absence of a statistically significant relationship between trust in digital voting and willingness to use it ($r = -0.063$, n.s.). Despite being conceptually related, the two constructs appear empirically distinct and are driven by different underlying factors. While willingness is associated with perceived democratic benefits, digital competence, and concerns about implementation, trust is influenced primarily by educational attainment and perceptions of risk.

Key Statistical Insight. The findings demonstrate that trust and willingness should not be treated as interchangeable concepts. Citizens may be willing to use digital voting even when they do not fully trust existing systems, provided they perceive meaningful democratic advantages. Consequently, different policy approaches may be required: increasing willingness may depend on communicating the democratic value and practical benefits of digital voting, whereas strengthening trust is more likely to require improvements in security, transparency, accountability, and institutional credibility.

Trust-Willingness Relationship by Country



The relationship between trust in digital voting and willingness to use it varies considerably across countries, yet a common pattern emerges. Bulgaria occupies a distinct “low trust, high willingness” position, indicating that respondents are generally open to adopting digital voting despite expressing comparatively limited confidence in current systems. Estonia presents a similar, though less pronounced, pattern: respondents report the highest willingness to use digital voting among all participating countries (mean = 4.80), while levels of trust remain only moderate. In contrast, Greece is positioned closest to the “low trust, lower willingness” quadrant, reflecting both comparatively limited confidence in digital voting and lower readiness to adopt it.

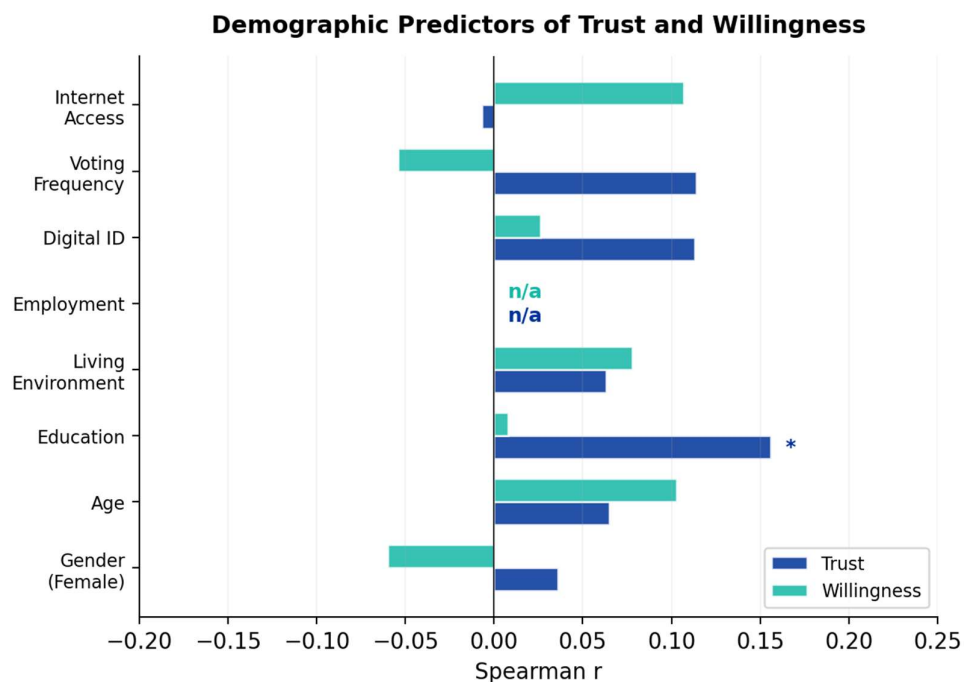
Importantly, correlation analyses conducted at the national level reveal no statistically significant relationship between trust and willingness in any of the seven participating countries (all $p > 0.05$). This finding confirms that the observed decoupling between trust and willingness is not merely an aggregate-level phenomenon but is also present within individual national samples. Citizens’ readiness to use digital voting therefore appears to be influenced by factors other than trust alone, including perceptions of democratic benefits, convenience, accessibility, and personal digital competence. The results reinforce the conclusion that willingness and trust constitute distinct dimensions of public

attitudes towards digital voting and should be addressed through different policy and communication strategies.

Gender Differences

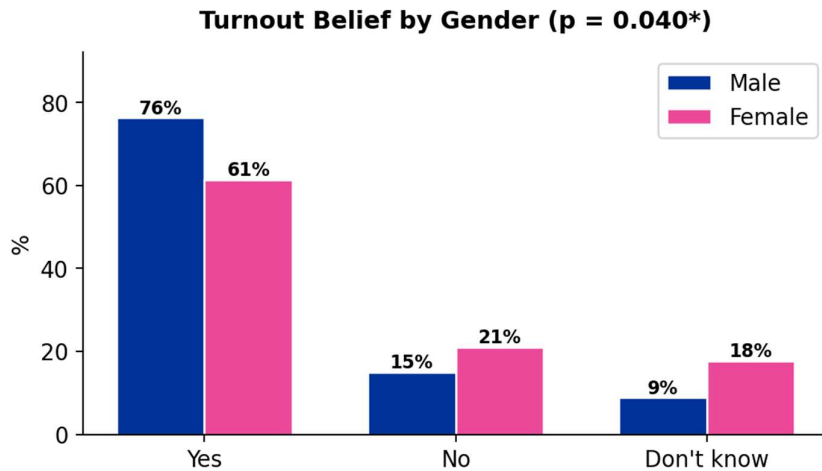
To assess potential gender differences in attitudes towards digital voting, Mann-Whitney U tests were conducted for all key ordinal variables, comparing male ($n = 80$) and female ($n = 124$) respondents. Chi-square tests were applied to categorical variables. Of the 18 comparisons performed, only two yielded statistically significant differences, indicating that attitudes towards digital voting are broadly similar across genders.

One significant difference concerns perception of the impact of digital voting on electoral participation. Male respondents were significantly more likely than female respondents to believe that digital voting would increase voter turnout (76% versus 61% selecting “yes”; Mann-Whitney $U = 5661$, $p = 0.040$, $r = 0.144$).



Although the effect size is small, the finding suggests that men are somewhat more optimistic about the potential democratic benefits of digital voting. Female respondents, by contrast, expressed greater uncertainty, with 18% selecting “don’t know” compared to 9% of men. This pattern may indicate a more cautious assessment of the potential effects of digital voting on electoral participation

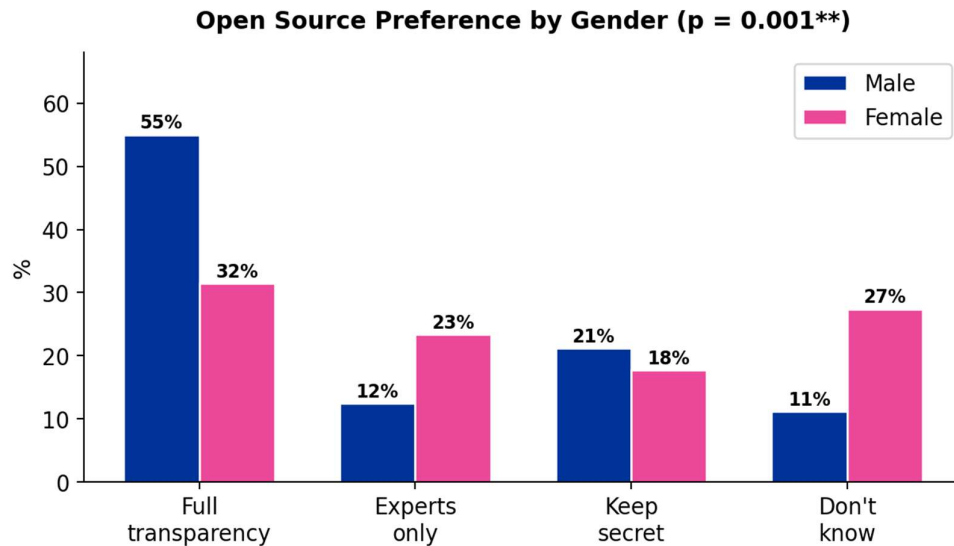
rather than a fundamentally different attitude towards digital voting itself.



The most pronounced gender difference identified in the survey relates to preferences regarding access to the source code of digital voting systems. The association between gender and transparency preferences is statistically significant and of moderate magnitude ($\chi^2 = 15.99$, $p = 0.001$, Cramér's $V = 0.280$), making it the strongest gender-related finding observed across all analysed variables.

Male respondents were substantially more likely to support full public access to the source code, with 55% favouring complete transparency compared to 32% of female respondents. In contrast, women were considerably more likely to express uncertainty, with 27% selecting “don't know” compared to 11% of men. Differences between men and women regarding preferences for restricting access to experts or maintaining code secrecy were comparatively smaller.

These findings may reflect differing levels of familiarity, confidence, or engagement with technical aspects of digital systems rather than fundamentally different attitudes towards transparency itself. The results suggest that public discussions concerning the technical governance of digital voting systems may be understood and interpreted differently across demographic groups, highlighting the importance of presenting transparency and accountability mechanisms in ways that are accessible and meaningful to diverse audiences.



The gender-based analyses suggest that attitudes towards digital voting are largely gender-neutral. The most substantial difference concerns preferences regarding access to the source code of digital voting systems. The moderate effect size observed for this relationship indicates that the gap is not only statistically significant but also substantively meaningful. However, the pattern is likely to reflect differences in familiarity with technical concepts such as open-source software rather than fundamentally different views on transparency, accountability, or democratic oversight. The higher proportion of female respondents selecting “don’t know” further supports this interpretation. From a policy perspective, these findings suggest that communication strategies related to digital voting should place particular emphasis on explaining open-source principles, auditing procedures, and technical safeguards in accessible and non-technical language tailored to diverse audiences.

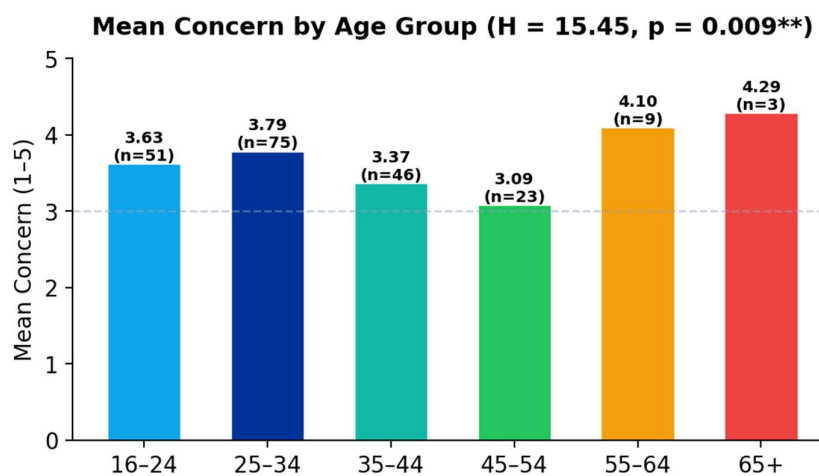
The observed gender difference regarding beliefs about the impact of digital voting on voter turnout should be interpreted more cautiously. Although statistically significant, the effect size is small ($r = 0.144$), indicating a relatively modest practical difference between men and women. This finding may reflect broader differences in political expectations or optimism regarding institutional innovation rather than attitudes towards digital voting specifically.

Most importantly, no statistically significant gender differences were identified for trust in digital voting ($p = 0.649$), willingness to use digital voting ($p = 0.495$), or any of the seven dimensions of perceived concern (all $p > 0.10$). Taken together, these results indicate that support for digital voting, confidence in its implementation,

and perceptions of associated risks are remarkably similar across genders. Consequently, gender does not appear to be a major explanatory factor in shaping public attitudes towards digital voting within the surveyed sample.

Age Effects

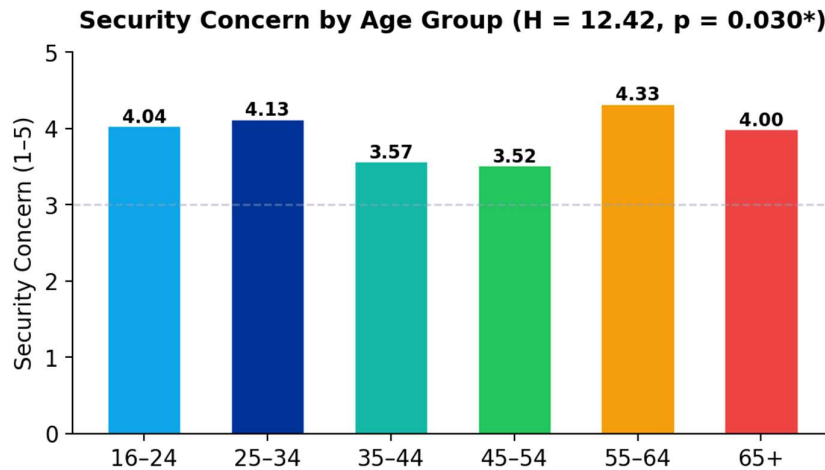
Age-related differences were examined using Kruskal–Wallis H tests across six age groups, while Spearman rank correlations were used to assess potential linear age trends. The analysis identified a statistically significant difference in overall concern regarding digital voting across age groups ($H = 15.45$, $p = 0.009$), indicating that perceptions of risk and challenge vary according to age.



However, the observed pattern is not linear. Rather than displaying a simple increase or decrease in concern with age, the results reveal a curvilinear, U-shaped distribution. Respondents aged 45–54 reported the lowest average level of concern (mean = 3.09), whereas the 25–34 age group (mean = 3.79) and the 55–64 age group (mean = 4.10) expressed the highest levels of concern. This suggests that both younger and older respondents perceive greater challenges associated with digital voting, albeit potentially for different reasons, while middle-aged respondents appear comparatively less concerned.

The non-linear nature of this relationship explains why the corresponding Spearman correlation between age and concern is not statistically significant ($r = -0.061$, $p = 0.379$). Because Spearman's rho measures monotonic relationships, it does not capture U-shaped patterns effectively. Consequently, the absence of a significant correlation should not be interpreted as evidence that age is unrelated to concern. Rather, the findings indicate that age influences perceptions of digital

voting in a more complex and non-linear manner than a simple generational divide would suggest.



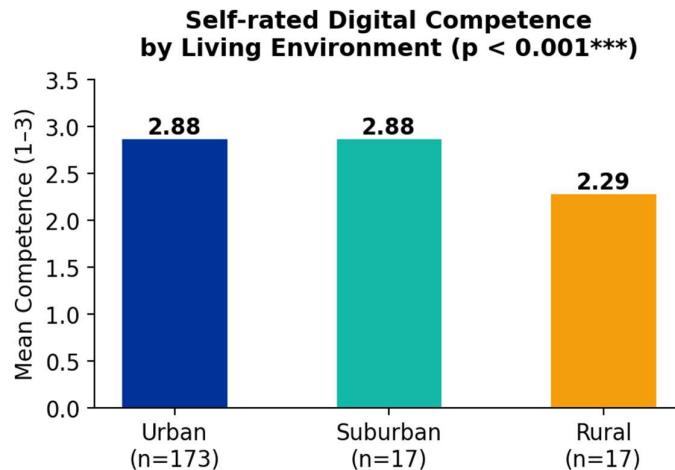
Age-related differences are also evident in perceptions of security risks associated with digital voting. A Kruskal–Wallis test identified statistically significant variation across age groups ($H = 12.42$, $p = 0.030$), indicating that concerns about security are not distributed evenly throughout the sample. Similar to the pattern observed for overall concern, the relationship follows a non-linear, U-shaped trajectory rather than a straightforward generational divide. Respondents aged 55–64 expressed the highest level of security concern (mean = 4.33), while those aged 45–54 reported the lowest level (mean = 3.52). The corresponding Spearman correlation is weak but statistically significant ($r = -0.141$, $p = 0.042$), suggesting a slight overall linear trend that only partially captures the more complex underlying relationship.

The U-shaped pattern is substantively noteworthy. Younger adults (25–34) may express elevated concern because they are sufficiently digitally literate to recognise potential cybersecurity vulnerabilities and privacy risks associated with digital voting systems. By contrast, respondents aged 45–54 appear comparatively less concerned, potentially reflecting a more pragmatic assessment of technological risks and benefits. Concern levels increase again among respondents aged 55–64, which may reflect broader scepticism towards digital technologies or greater sensitivity to issues of security and reliability.

Importantly, age does not significantly influence either trust in digital voting ($H = 7.96$, $p = 0.159$) or willingness to use digital voting ($H = 5.55$, $p = 0.352$). This finding challenges the frequently assumed narrative that younger citizens are inherently

more supportive of digital voting than older generations. While age appears to shape the nature and intensity of concerns surrounding digital voting, it does not translate into meaningful differences in overall trust or willingness to adopt such systems.

Education, Living Environment, and Digital Readiness



The demographic analyses indicate that socio-demographic characteristics have only a limited influence on attitudes towards digital voting. Educational attainment is the only demographic variable significantly associated with trust in digital voting ($r = +0.156$, $p = 0.025$), suggesting that respondents with higher levels of education tend to express slightly greater confidence in digital voting systems. However, education is not significantly related to willingness to use digital voting ($r = +0.008$, n.s.), overall concern levels ($r = +0.065$, n.s.), or beliefs about its potential to increase voter turnout ($r = +0.062$, n.s.). Education also approaches statistical significance in relation to self-assessed digital competence ($r = +0.129$, $p = 0.064$), indicating a modest tendency for more highly educated respondents to feel more digitally capable. Taken together, these findings suggest that education contributes to analytical confidence in digital voting without necessarily increasing enthusiasm for its adoption.

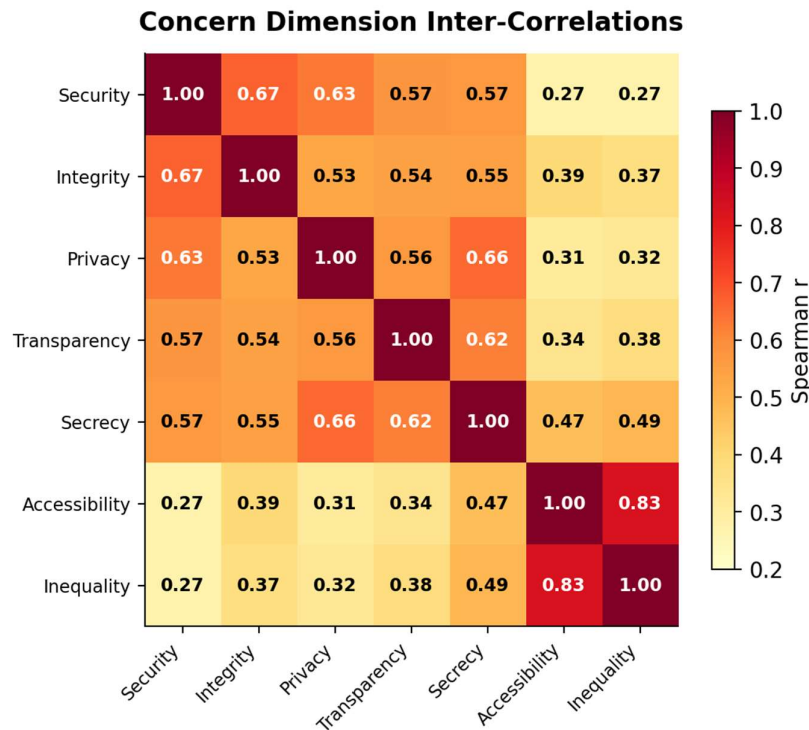
Similarly, living environment does not significantly affect trust ($H = 0.96$, $p = 0.620$), willingness ($H = 2.39$, $p = 0.303$), or overall concern ($H = 0.31$, $p = 0.857$). However, place of residence is strongly associated with self-rated digital competence ($H = 20.16$, $p < 0.001$). Respondents living in rural areas report substantially lower levels of digital competence (mean = 2.29 on a 3-point scale) than those living in urban (2.88) or suburban areas (2.88). Given that digital competence is itself

positively associated with willingness to use digital voting ($r = +0.213$, $p < 0.01$), this finding suggests the existence of an indirect pathway through which territorial differences may affect readiness for digital voting.

Other demographic and behavioural variables display limited explanatory power. Employment status is unrelated to trust ($H = 0.49$, $p = 0.921$), willingness ($H = 0.20$, $p = 0.978$), and concern ($H = 4.49$, $p = 0.213$). Possession of a digital identity does not significantly predict trust ($H = 3.98$, $p = 0.137$) or willingness ($H = 0.21$, $p = 0.899$), although it is weakly associated with higher levels of perceived digital competence ($H = 6.23$, $p = 0.044$). Likewise, voting frequency does not exhibit a statistically significant relationship with any of the principal outcome variables.

Overall, the findings lead to a clear conclusion: attitudes towards digital voting are shaped primarily by perceptions of the technology itself—including perceived democratic benefits, levels of concern, and self-assessed digital competence—rather than by socio-demographic characteristics such as gender, age, education, employment status, or place of residence. The principal exception is the rural digital competence gap, which may constitute a potential barrier to equitable participation in digital voting systems. This finding highlights the importance of targeted digital literacy and digital inclusion initiatives aimed at ensuring that all citizens possess the skills and confidence necessary to engage effectively with future digital democratic processes.

Structure of Voter Concerns

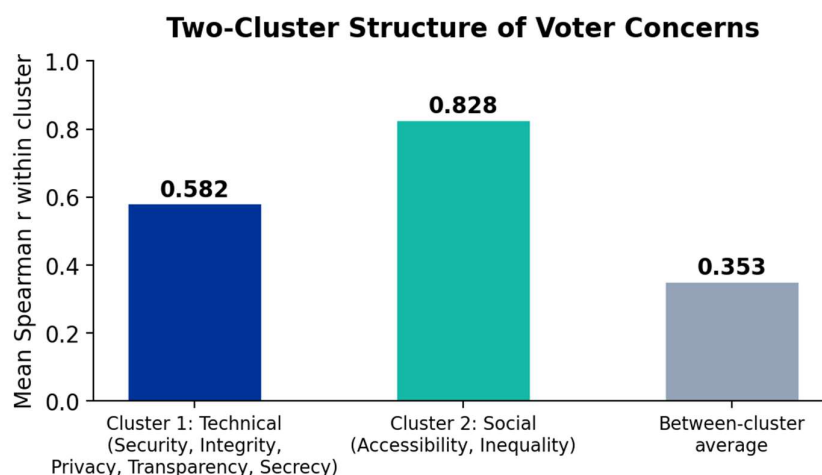


The correlation structure of perceived challenges associated with digital voting suggests the existence of two distinct but related dimensions of concern. The first cluster, which may be characterised as “technical concerns,” comprises security, system integrity, privacy, transparency, and ballot secrecy. Correlations within this cluster are consistently strong ($r = 0.530$ – 0.668), indicating that respondents tend to view these issues as interconnected aspects of the technical reliability and trustworthiness of digital voting systems.

The second cluster, which may be described as “social concerns,” consists primarily of accessibility and inequality. These dimensions exhibit a particularly strong association with one another ($r = 0.828$), suggesting that respondents perceive barriers to access and risks of unequal participation as closely linked challenges. The average correlation between the two clusters is more moderate (mean $r = 0.353$), indicating that while technical and social concerns are related, they are conceptually distinguishable in the minds of respondents.

This distinction has important implications for policy and system design. Technical concerns are likely to be addressed through measures such as cybersecurity safeguards, robust verification mechanisms, privacy protections, transparent auditing procedures, and secure system architecture. Social concerns, by contrast,

require a different set of interventions focused on accessibility, digital inclusion, user-centred design, and digital literacy. The findings therefore suggest that building public confidence in digital voting requires a dual strategy that addresses both the technical integrity of the system and the equitable participation of all citizens. Failure to address either dimension may limit public acceptance, even where progress is achieved in the other.



Key Findings and Policy Implications

Finding 1: Public Readiness Exceeds Institutional Trust

Across the sample, respondents expressed substantially higher willingness to use digital voting (mean = 3.96/5) than trust in existing digital voting systems (mean = 3.06/5). Furthermore, trust and willingness were not significantly correlated ($r = -0.063$, n.s.), indicating that these represent distinct dimensions of public attitudes. While citizens appear broadly open to the adoption of digital voting, confidence in its current implementation remains more limited.

Policy implication: Future initiatives should combine technological development with measures aimed at strengthening public trust, including transparency, accountability, independent oversight, and clear communication regarding system safeguards.

Finding 2: Citizens Prefer Choice Rather Than Replacement

A strong majority of respondents (71%) favoured a combined voting model that combines digital and traditional voting methods and allows citizens to choose

their preferred channel. Support for exclusively paper-based (9%) or exclusively digital (7%) systems was limited.

Policy implication: Public acceptance appears highest when digital voting is introduced as an additional option rather than a replacement for existing voting channels. Preserving voter choice may facilitate a gradual and inclusive transition towards digital electoral processes.

Finding 3: Security and Transparency Are Foundational Requirements

Security emerged as the most important consideration in respondents' evaluation of digital voting, receiving the highest overall ranking and being selected as the top priority by 42% of participants. Concerns regarding security were negatively associated with willingness to use digital voting ($r = -0.201$, $p < .01$), while security, privacy, transparency, integrity, and secrecy formed a tightly connected cluster of technical concerns.

Policy implication: Security and transparency should be treated as foundational requirements rather than supplementary features. Public acceptance is likely to depend on visible, independently verifiable safeguards and robust accountability mechanisms.

Finding 4: Perceived Democratic Benefits Drive Acceptance

The strongest predictor of willingness to use digital voting was the belief that it could increase electoral participation ($r = +0.372$, $p < .001$). Respondents who perceived digital voting as contributing to democratic engagement were significantly more likely to support its adoption.

Policy implication: Public communication strategies should emphasise the democratic value of digital voting, including its potential contribution to accessibility, participation, and inclusion, alongside technical aspects of implementation.

Finding 5: Attitudes Are Shaped Primarily by Perceptions Rather Than Demographics

Most socio-demographic characteristics, including gender, age, employment status, and place of residence, were not significantly associated with trust or willingness to use digital voting. By contrast, attitudinal variables—particularly

concern levels, perceived democratic benefits, and self-assessed digital competence—were consistently associated with acceptance.

Policy implication: Efforts to strengthen public support should focus on addressing perceptions, concerns, and knowledge gaps rather than targeting demographic groups as such.

Finding 6: Technical Knowledge Gaps Matter More Than Gender Differences

Gender differences in trust, willingness, and concern levels were negligible. However, the survey identified a significant gender difference regarding preferences for open-source voting systems, with men substantially more likely to support full source-code transparency and women more likely to express uncertainty. The findings suggest differences in familiarity with technical governance concepts rather than differences in underlying democratic values.

Policy implication: Communication regarding digital voting systems should be designed in accessible and understandable ways, ensuring that technical concepts such as transparency, auditing, and open-source governance can be meaningfully understood by diverse audiences.

Finding 7: Digital Competence Remains a Potential Inclusion Challenge

Respondents living in rural areas reported significantly lower levels of digital competence than those living in urban and suburban environments. Although place of residence did not directly affect trust or willingness, digital competence was positively associated with willingness to use digital voting ($r = +0.213$, $p < .01$).

Policy implication: Digital inclusion measures, including targeted digital literacy initiatives, may be necessary to ensure that future digital voting systems remain accessible and equitable across different territorial and social contexts.

Finding 8: Citizens Distinguish Between Technical and Social Risks

The analysis identified two distinct clusters of concerns. Technical concerns—including security, integrity, privacy, transparency, and ballot secrecy—formed one strongly interconnected dimension. Accessibility and inequality formed a separate social concern dimension. This suggests that citizens perceive the challenges of digital voting as extending beyond technology alone.

Policy implication: Effective policy responses should address both dimensions simultaneously. Technical safeguards can mitigate security-related concerns,

while accessibility measures, user-centred design, and digital literacy initiatives are required to address risks of exclusion and inequality.

Project Consortium

The DIGIVOTE consortium brings together academic, civil society, and human rights expertise from across Europe:

EMUNI University (Slovenia) - Project Coordinator



FECE (Bulgaria)



Estonian Human Rights Centre (Estonia)



Odyssea (Greece)



PRO RIGHTS (Italy)



Culture Goes Europe (Germany)



Nicolaus Copernicus University (Poland)



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