

Online versus offline: Exploring the link between how candidates campaign and how voters cast their ballot

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Abstract. The Internet is playing an increasingly important role in shaping citizens' political experience. We turn to it to consume political news and, in some countries, to even cast our ballots at parliamentary elections. Leading the way in embracing Internet voting (i-voting) is Estonia where nearly half of the ballots cast during the 2019 parliamentary election were submitted online. Using original data from the 2019 Estonian Candidate Study, this paper explores the relationship between how candidates campaign and their electoral performance. It finds greater use of both offline and online campaign tools to contribute to higher vote shares as candidates win more traditional and i-votes. These positive effects are similar in size, in terms of candidates' overall electoral performance as well as their ability to attract different types of votes. The results show not only that individual-level campaigns continue to matter, but that online campaigns have become as important as offline campaigns for candidates, and voters' political activity often transcends the medium through which they receive political communication.

Keywords: Internet voting; electoral campaigns; voting; political participation; candidate studies

Introduction

The Internet is becoming an increasingly important part of our political lives. It is essential for politicians to communicate their political preferences and engage with voters, with online campaigning no longer considered an afterthought but a necessity for anyone who is serious about gaining office. It is also the medium which is increasingly important in facilitating political activity among voters. The Internet allows voters to consume political news, lobby their elected representatives, set up and support petitions, and so on. In some countries, voters can even cast their ballot, arguably the pinnacle of democratic participation, online, adding a further dimension to the role that the Internet is playing in shaping our political lives and electoral dynamics.

Studies of electoral campaigns have a long history of exploring their effectiveness, and there is a fast-growing body of literature on Internet voting (i-voting).¹ These strands of literature, however, remain quite distinct. The existing literature on campaign effects distinguishes between the effects associated with online versus offline campaigning on candidates' overall vote share, but it does not look at how useful these campaign tools are in attracting different types of votes; that is, traditional votes and i-votes. At the same time, the growing literature on i-voting distinguishes between the different types of votes cast, but it does not look at the role of different campaign tools in influencing how voters cast their ballot. It is important to disentangle both how candidates campaign as well as what type of votes they receive in order to bring these important, yet so far separate, strands of literature together and develop a more nuanced understanding of the relationship between campaigning and voting at elections where i-voting is allowed.

This study uses original survey data from the 2019 Estonian Candidate Study to address this lacuna.² It examines the effects of online and offline campaigning on candidates' electoral

performance, both in terms of their overall vote share as well as their ability to attract different types of votes. In doing so, it also contributes to broader debates around campaign effects and the interplay between political activity and political communication. The analysis reveals interesting patterns. It finds both online and offline campaigns to have substantial positive effects on candidates' electoral performance. This is the case in terms of candidates' overall vote share as well as the per cent of traditional and i-votes won. Interestingly, the positive effects associated with online and offline campaigns are very similar in size across the board and not confined to voters who cast their ballot online or offline, respectively. These findings show that individual-level campaigns continue to influence candidates' electoral fortunes and that online campaigns have become as important as offline campaigns in helping candidates win more votes. In addition, the findings suggest that voters' political activity can, and often does, transcend the medium through which they receive political communication.

The article is organised as follows. In the next section, a brief account of i-voting and campaigning is given. I then outline my theoretical expectations, describe the data and operationalisation of variables. This is followed by the presentation of the empirical findings. Finally, the paper provides a discussion of the implications that emerge from the empirical evidence.

Internet voting

Internet voting has received a lot of attention in recent decades. In light of the declining voter turnout, with global turnout at legislative elections having dropped by more than 10 per cent over the last 25 years (IDEA 2016), several countries have looked to technology to counter this trend.³ Although i-voting is still rare at legislative elections, mainly due to concerns about electoral security, it is something that is being trialled or examined more and more widely.⁴

Leading the way in embracing i-voting is Estonia. The country introduced the option of voting via the Internet at its local elections in 2005, with i-voting rolled out also for national parliamentary elections shortly after in 2007.⁵ The possibility of casting one's ballot via the Internet does not replace the more traditional paper-based voting but provides an additional option for casting one's ballot. I-voting has gone from strength to strength in terms of its popularity since its introduction (Table 1). Although only 5.5 per cent of all votes cast at the 2007 parliamentary election were i-votes, this rose to 24.3 per cent in 2011 and 30.5 per cent in 2015, and to as high as 43.8 per cent in 2019. Voters in Estonia have truly embraced the ability to cast their ballot online and, if this trend continues, i-voting may even overtake traditional paper-based voting at the next parliamentary election.⁶

Campaigning and voting

The literature on campaigning is extensive and well-established. The conventional understanding here is that electoral campaigns influence voter behaviour. After all, we live in an era where party loyalties tend to be weakening, while the number of late deciders, floating voters and single-issue voters keeps rising in many countries (e.g., Dalton 2012; Lupu 2015; Mellon et al. 2018; Spoon & Klüver 2019). In other words, what happens in the run up to the election day has the potential to play an increasingly important role in determining whom voters ultimately cast their ballot for. It is, therefore, unsurprising that studies have found campaigns to influence electoral performance

Table 1. The rise of i-voting in Estonia

Year	I-votes (%)
2019 ^a	46.7
2019	43.8
2017 ^a	31.7
2015	30.5
2014 ^a	31.3
2013 ^a	21.2
2011	24.3
2009 ^a	15.8
2009 ^a	14.7
2007	5.5
2005 ^a	1.9

^aLocal or European Parliament election

under different electoral rules, in established and post-communist democracies, and in first- and second-order elections (e.g., Fisher et al. 2019; Jacobson 2015; Sudulich et al. 2013; Trumm 2018). At the same time, however, there is also a growing body of evidence that voters' political choices and preferences are increasingly framed through the lens of affective polarisation, emerging from identities linked to partisanship and social belonging (e.g., Hobolt et al. 2020; Iyengar & Westwood 2015; Kalla & Broockman 2018; Mason 2015, 2018), which would leave less room for campaigns to influence how voters behave. There does appear to be an emerging debate as to the extent campaigns continue to shape electoral outcomes.

Given the rapid rise of the Internet as a medium for political communication in recent years, there is also a fast-growing body of literature focusing on the role it has in shaping electoral campaigns and voting patterns. While previous research has suggested that voters often remain more receptive to traditional campaign activities than modern campaigning (Fisher & Denver 2009), it is increasingly transparent that online campaigns are now having a significant effect on electoral dynamics, including the electoral performance of candidates and parties (e.g., Gibson & McAllister 2011; Koc-Michalska et al. 2016; Vepsäläinen et al. 2017). The comparative evidence of the electoral benefits associated with intensive online and offline campaigning, however, is scarce as most studies of online campaigning do not look at it in conjunction with offline campaigning.⁷ There is room to extend our awareness of how relevant online campaigns tools are in shaping candidates' electoral fortunes relative to offline campaign tools.

On the voter side, scholars have compared the sociodemographic characteristics and policy positions of online and offline voters (Alvarez et al. 2009; Mellon et al. 2017; Mendez & Serdült 2017; Vassil et al. 2016), the extent to which Internet and paper-based voting are habit forming (Slovak & Vassil 2018), and explored the impact of i-voting on turnout (Germann & Serdült 2017; Goodman 2014) and residual vote rate (Germann 2020). There is also some, albeit limited, evidence that voters' likelihood of voting online might be influenced by news consumption and political activism (Treichsel et al. 2007; Vassil & Weber 2011). While we already have a good, even if not perfect, understanding of who i-voters are, we do not yet know how voters' likelihood of casting a traditional versus i-vote is influenced by candidates' campaign choices. The existing

literature on i-voting does not engage with how candidates campaign and the literature on campaign effects does not look at how voters cast their ballot. It is important to distinguish between the different types of campaign tools candidates use and the different types of votes they receive to extend our understanding of the electoral importance of individual-level campaigns, including the comparative electoral benefit of intense online and offline campaigns, and the interplay between how candidates campaign and how voters cast their ballot.

Election campaigns and electoral performance

Individual-level election campaigns allow candidates to put forward their case directly to voters. They help candidates raise their profile, by enhancing their general name recognition and highlighting their personal vote-earning attributes, and appeal to target voters through tailored campaign messages about their policy priorities and positions. Importantly, the campaign effort put in place in the immediate run up to the polling day allows candidates to reach voters at the time when the latter are most likely to be interested in, and pay attention to, political communications. It is true that there is an emerging body of literature that finds evidence of growing affective polarisation in the electorate whereby voters tend to have increasingly strong emotional attachments to their party and hostility towards others.⁸ This does suggest that the pool of voters who are open to persuasion and can be reached through campaigns may in fact be smaller than conventionally thought. It is highly unlikely, however, that any rise in affective polarisation negates the significant and meaningful positive campaign effects in Estonia. The open list proportional representation system used ensures that there are many parties with reasonable prospects of winning seats in all constituencies, eliminating the presence of dichotomous contests that are most likely to give rise to polarisation in political discourse and lead to strong us versus them attachments. Moreover, even if a voter has a strong affinity towards a particular party, candidates' individual-level campaigns can still potentially reach her as she must ultimately choose an individual candidate from her preferred party's constituency-level candidate list to cast her ballot for. Taken together, it is highly likely that the conventional understanding about positive campaign effects continues to hold across as well as within parties.

It is reasonable to expect that the adoption of stronger online and offline campaign presence both have a positive effect on candidates' electoral performance. They can embed drivers for positive campaign effects – for example, personal vote-earning attributes such as one's locality and political experience – into both types of campaign tools. Candidates can do so by engaging with individual voters online via web chats or social media messages, just as they can do so offline through canvassing or by calling up voters. In a similar vein, while ads depicting the candidate and her preferred campaign message(s) can be promoted via newspapers and television, candidates can also pay to have these displayed in online media channels. Both mediums – online and offline – can be used to reach potential voters. Moreover, while there are some voters who are not interested in politics even in the run up to elections, there are nonetheless many who are not only passive consumers of political communications when they happen to receive these, but who actively search for information about candidates online and/or offline ahead of the election.

H1: Candidates receive an electoral benefit in terms of their overall vote share, traditional vote share and Internet vote share from using a broader range of: (a) online campaign tools and (b) offline campaign tools.

There is likely to, however, be a degree of discrepancy in the comparative ability of offline and online campaigns to attract additional traditional votes and i-votes. Voters are simply not identical in the way they prefer to engage with and act upon political communication, including campaign communication. It is reasonable to expect that the medium voters choose for political action is also the medium where they are generally more active and, hence, a bit easier to reach for candidates. In other words, it is fair to assume that voters who cast their ballot online are generally more active online than those who cast a traditional paper-based ballot. In fact, there is emerging evidence to suggest that how people vote in Estonia is indeed linked to where they consume political information (Treichsel et al. 2007). What this implies is that campaign promotion distributed through an additional online campaign channel is more likely to be noticed by an i-voter than an offline voter, and the opposite holds for an additional offline campaign channel. Therefore, a more intense online campaign should be particularly useful for reaching – and potentially influencing – people who vote online, while more intense offline campaigns ought to be particularly effective for reaching those who cast paper-based ballots.

H2: The comparative electoral benefit that candidates receive from conducting more intensive online and offline campaigns is as follows: (a) offline campaigning has a stronger impact than online campaigning on candidates' traditional vote share, whereas (b) online campaigning has a stronger impact than offline campaigning on candidates' Internet vote share.

Data and methods

The analyses presented here rely on original survey data from the 2019 Estonian Candidate Study and official results of the 2019 Estonian parliamentary election. Taken together, they provide information on candidates' political profile, campaign behaviour and electoral performance.

The 2019 Estonian Candidate Study is a comprehensive post-election survey of candidates who stood at the 2019 parliamentary election. It includes questions on candidates' campaign choices – campaign tools used and campaign messaging – as well as their political background and profile. This survey was implemented immediately after the election in March–April 2019 to ensure that candidates have a fresh recollection of the campaign choices they made. The final sample includes 344 candidates (31.3 per cent response rate) who revealed their identity, allowing me to match their survey responses with official electoral results, and answered all questions of interest for this study. This sample is highly representative of the full population of candidates with regard to partisanship, constituency and electoral performance.⁹

The official election results are taken from the Estonian National Electoral Committee (2019b). These include the total number of votes received by each candidate, the number of traditional votes received by each candidate and the number of i-votes received by each candidate. Taken together, they capture candidates' overall performance as well as their success, or failure, of gaining different types of votes.

Dependent variables

Three separate dependent variables are used to examine the influence of candidates' campaign choices and political profile on how well (or badly) they fared at the 2019 election. First, *vote*

share describes candidates' overall electoral performance. It is operationalised as the natural logarithm of the per cent of constituency-level votes – that is, of any kind – a candidate received. Second, *traditional votes* is used to capture how well, or badly, candidates performed with voters who chose to cast a traditional paper-based ballot. The variable is operationalised as the natural logarithm of the per cent of constituency-level traditional votes a candidate won. Finally, *i-votes* captures candidates' popularity among voters who cast an i-vote. It is operationalised as the natural logarithm of the per cent of constituency-level i-votes a candidate won. Higher values for all three dependent variables correspond to stronger electoral performance.

Two aspects should be noted about this operationalisation. First, relative measures of candidates' vote share, traditional votes and i-votes are preferred over absolute number of votes because parliamentary constituencies in Estonia vary in electorate size. Second, a natural logarithm is used to prevent outliers from distorting the analysis and ensure that ordinary least squares regressions are appropriate.

Key explanatory variables

The key explanatory variables in this study relate to how candidates campaign. First, *campaign tools combined* captures the complexity of the candidate's overall campaign effort. It describes how many campaign activities, from the following options, candidates used as part of their campaign: (i) calling, (ii) canvassing, (iii) flyers, (iv) posters, (v) ads in traditional media, (vi) website, (vii) online blogs, (viii) social media, (ix) web chat and (x) ads in online media. Taken together, these 10 options capture a broad range of offline and online forms of campaign advertisement. This measure ranges from 0 to 10, with higher values indicating the use of more campaign tools.¹⁰

Second, two separate indicators are created to capture the range of offline and online campaign tools used by each candidate. *Campaign tools offline* describes how many offline campaign activities, from the following, a candidate used as part of her campaign: (i) calling, (ii) canvassing, (iii) flyers, (iv) posters and (v) ads in traditional media. In a similar vein, *campaign tools online* describes how many online campaign activities, from the following, a candidate used as part of her campaign: (i) website, (ii) online blogs, (iii) social media, (iv) web chat and (v) ads in online media. Both indexes range from 0 'none' to 5 'all', with higher values indicating the use of a wider range of offline and online campaign tools, respectively.¹¹

Control variables

The analyses also account for the potential effects associated with other individual-level variables that have been shown to influence candidates' electoral performance. First, I capture their political profile. Candidates who have an established profile as elected representatives are likely to enjoy incumbency advantage. *Political experience local* is a dichotomous measure that distinguishes between candidates who have been local councillors prior to the election (coded 1) and those who have not (coded 0), and *political experience national* differentiates between candidates who have served in Riigikogu prior to the election (coded 1) and those who have not (coded 0).¹²

Second, candidates' campaign focus is accounted for through a series of six variables. *Attention own background* describes the level of emphasis a candidate put on her personal background as part of her campaign messaging, while *attention own policies* and *attention party policies* describe, respectively, how much she focused on her own and on her party's policy positions

during campaigning. *Attention public services* captures the level of emphasis given to the delivery of public services, *attention socio-economic* the level of emphasis given to the advancement of constituents' socio-economic well-being, and *attention openness* the extent to which the candidate talked about transparency and openness with voters as part of her campaign. These variables range from 1 'no attention' to 5 'very much attention'.

Finally, I control for candidates' partisanship whereby distinct codes are given to the five parties who won representation and others grouped together under an 'other' category, as well as the constituency candidates stood for election in.

Empirical strategy

This study uses a combination of descriptive statistics and ordinary least squares regressions. I start by providing a brief descriptive account of candidates' electoral performance, using non-logged versions of the dependent variables, by the number of offline and online campaign tools they used. Next, I use ordinary least squares regressions to explain variation in candidates' overall vote share (Models 1 and 2) and the constituency-level traditional and i-votes they received (Models 3 and 4).¹³

Findings

I start by providing a brief descriptive overview of how candidates' electoral performance is linked to their campaign choices. Table 2 shows summary statistics for candidates' electoral performance – that is, mean overall vote share and mean per cent of traditional and i-votes won – by the range of online and offline campaign tools they used.

This evidence provides a first-cut indication that more intensive online and offline campaigns are both associated with stronger electoral performance. I observe a 1.31 per cent increase (from 0.46 per cent to 1.77 per cent) in the mean overall vote share when comparing candidates who did not use any online campaign tools to those who used all five. The respective increase is even bigger at 2.06 per cent (from 0.23 per cent to 2.29 per cent) when comparing the mean overall vote share of candidates who used none versus all five offline campaign tools. It does seem that candidates who used a broader range of online as well as offline campaign tools performed, on average, better.

The descriptive patterns also reveal, perhaps even more interestingly, that the positive effects of using more online and offline campaign tools are not confined to winning more i-votes or traditional votes, respectively. The data show increases of 1 per cent (from 0.42 per cent to 1.42 per cent) and 1.67 per cent (from 0.53 per cent to 2.2 per cent) in the mean per cent of traditional and i-votes won by candidates who used none versus all five online campaign tools. Similarly, candidates who used more offline campaign tools won, on average, a greater share of traditional as well as i-votes. The mean per cents of traditional and i-votes received are 1.79 per cent (1.99 per cent vs. 0.2 per cent) and 2.44 per cent (2.71 per cent vs. 0.27 per cent), respectively, higher for candidates who used all five offline campaign tools than those who did not use any of these. While it is important to not draw, as yet, overarching conclusions, the descriptive patterns do indicate that online and offline campaigning influence both candidates' overall vote share as well as their ability to attract additional traditional and i-votes.

I now turn to the multivariate regression models to examine whether the positive effects of online and offline campaigning on candidates' electoral performance remain present when

Table 2. Descriptive relationship between campaigning and electoral performance

	Vote share (%)		
	Overall	Traditional votes	I-votes
Campaign tools: online			
0	0.46	0.42	0.53
1	0.73	0.73	0.74
2	0.92	0.80	1.09
3	1.09	1.10	1.09
4	1.45	1.42	1.55
5	1.77	1.42	2.20
Δ	1.31	1.00	1.67
Campaign tools: offline			
0	0.23	0.20	0.27
1	0.37	0.33	0.41
2	0.79	0.81	0.78
3	1.36	1.31	1.43
4	1.85	1.64	2.18
5	2.29	1.99	2.71
Δ	2.06	1.79	2.44

additional explanatory factors are also accounted for. Table 3 presents the findings from models that use overall vote share as the dependent variable.

Focusing first on Model 1, the positive coefficient of 0.16 for campaign tools combined means that, as expected, candidates who use a broader range of campaign activities tend to fare better and win a higher vote share. In addition, candidates' political profile matters, as those with previous political experience at the national level – that is, having been a Member of Parliament – receive an electoral bonus, indicated by the positive and significant coefficient of 0.92. In terms of campaign focus, the effects associated with two explanatory variables stand out. The positive and significant coefficient of 0.14 for 'attention own background' implies that candidates who put more focus on their own personal profile tend to win more votes, while the negative and significant coefficient of -0.13 for 'attention party policies' suggests that focusing on one's party is associated with a lower vote share.

The picture that unfolds becomes more interesting, however, when separating the effects linked to the use of online and offline campaign tools. While previous research has suggested that voters remain more receptive to traditional campaign activities than modern campaigning (Fisher & Denver 2009), there is growing body of evidence that online campaigns have significant effect on electoral dynamics (e.g., Bode & Epstein 2015; Gibson & McAllister 2011; Vepsäläinen et al. 2017). The picture that emerges from Model 2 highlights the importance of online campaigning even further, suggesting that online campaigns have potentially become as influential as offline campaigns in shaping the electoral performance of present-day candidates. The positive and significant coefficients of 0.16 and 0.15 for online and offline campaign tools, respectively, confirm

Table 3. Effects of campaigning on overall vote share

	Vote share	
	Model 1	Model 2
Campaign tools: combined	0.16** (0.03)	
Campaign tools: online		0.16** (0.05)
Campaign tools: offline		0.15** (0.05)
Political experience: local	0.05 (0.13)	0.06 (0.13)
Political experience: national	0.92** (0.17)	0.92** (0.17)
Attention: own background	0.14* (0.06)	0.14* (0.06)
Attention: own policies	0.01 (0.05)	0.01 (0.05)
Attention: party policies	-0.13* (0.06)	-0.12* (0.06)
Attention: public services	0.04 (0.05)	0.04 (0.06)
Attention: socio-economic	0.01 (0.06)	0.01 (0.06)
Attention: openness	0.04 (0.06)	0.04 (0.06)
Party ^a		
Estonian Reform Party	1.48** (0.19)	1.48** (0.20)
Estonian Centre Party	1.18** (0.22)	1.19** (0.22)
Conservative People's Party of Estonia	1.51** (0.19)	1.51** (0.19)
Pro Patria	1.42** (0.19)	1.42** (0.20)
Social Democratic Party	0.86** (0.20)	0.86** (0.20)
Constant	-3.41** (0.30)	-3.41** (0.30)
Constituency fixed effects	Yes	Yes
Observations	344	344
R ²	0.59	0.59

Note: OLS regressions; standard errors in parentheses; * $p < 0.05$; ** $p < 0.01$.

^aReference category is 'other'.

that using more online and offline campaign tools increases candidates' constituency-level vote share. Interestingly, these two coefficients are very similar in size which, given the nature of the variables, suggest little difference in how relevant online and offline campaigns are in shaping candidates' overall vote share. In terms of the other explanatory factors, the effects in Model 2 are very robust to those in Model 1. Candidates fare better if they have previous national-level political experience, put more emphasis on their own personal background and less emphasis on their party's policies in their campaign messages.

To illustrate the real-world meaning of the findings and compare the effect sizes, Table 4 presents the predicted values for candidates' vote share.¹⁴ For each effect, the characteristic in question varies, while others are held constant.

Note, first, that the effects associated with conducting more extensive online and offline campaigns are very similar in size. The predicted vote share rises by 0.86 per cent (from 0.67 per cent to 1.53 per cent) when comparing candidates who did not use any online campaign tools as part of their electoral campaign to those who used all five online campaign tools, while it increases by 0.73 per cent (from 0.63 per cent to 1.36 per cent) when looking at the impact that going from

Table 4. Predicted values for overall vote share

	Vote share: All votes (%)		Δ
	Minimum	Maximum	
Campaign tools: online	0.67 (0.51–0.84)	1.53 (1.00–2.06)	0.86
Campaign tools: offline	0.63 (0.45–0.81)	1.36 (0.95–1.77)	0.73
Campaign tools: online and offline	0.46 (0.31–0.60)	2.24 (1.32–3.16)	1.78
Political experience: national	0.74 (0.62–0.87)	1.88 (1.30–2.46)	1.14
Attention: own background	0.61 (0.38–0.84)	1.05 (0.85–1.25)	0.44
Attention: party policies	1.37 (0.86–1.88)	0.83 (0.68–0.99)	0.54

Note: 95% confidence intervals in parentheses.

using no offline campaign tools to using all five offline campaign tools has. This lends further support to the idea that online campaigning should be thought of as a necessity by anyone who is serious about gaining office. Online campaigns do not just matter, but they matter a lot, and they matter as much as offline campaigns.

The predicted values presented in Table 4 also highlight the continuing importance of individual-level campaigns in influencing candidates' electoral performance. The combined effect associated with the use (or lack thereof) of online and offline campaign tools stands out as the largest of those observed in this analysis. The predicted vote share increases by 1.78 per cent (from 0.46 per cent to 2.24 per cent) when comparing candidates who did not use any online or offline campaign tools to those who used all campaign tools, online and offline, captured here.¹⁵ The next largest effect is associated with incumbency. Candidates who had served in the national legislature before the 2019 election have a 1.14 per cent higher predicted vote share than those without such experience (1.88 per cent vs. 0.74 per cent). The remaining effects are smaller in size. The predicted vote share increases by 0.44 per cent (from 0.61 per cent to 1.05 per cent) when candidates focus very much on their own background as part of their campaign, as opposed to not at all. The effect linked to attention given to party policies is slightly higher at 0.54 per cent, but this evidence is not sufficiently robust to draw clear conclusions as there is overlap in the 95 per cent confidence intervals. What is evident though is that individual-level campaigns are still playing a key part in shaping candidates' electoral fortunes.

Candidates' overall vote share is what ultimately gets them elected (or not), but it is composed of two distinct types of votes in Estonia: paper-based ballots and Internet votes. Table 5 shows the estimates from models that explain how many traditional votes (Model 3) and i-votes (Model 4) candidates won in their constituency.

Focusing first on the effects associated with the use of online and offline campaign tools, the narrative that emerges is rather intriguing. The positive and significant coefficients of 0.14 (Model 3) and 0.19 (Model 4) for online campaign tools mean that candidates who use broader range of online campaign tools enjoy an electoral boost in terms of their ability to attract both additional traditional and i-votes. Reaching out to voters online – through social media, a campaign website, web chat, and so on – carries an electoral value that is not restricted to the part of the electorate that undertakes political action online but transcends across the electorate at large. In a similar vein, the positive impact of offline campaigns is not confined to offline voters. The positive and significant

Table 5. Effects of campaigning on traditional and i-votes

	Traditional votes Model 3	I-votes Model 4
Campaign tools: online	0.14** (0.05)	0.19** (0.06)
Campaign tools: offline	0.15** (0.05)	0.15** (0.06)
Political experience: local	0.17 (0.13)	-0.05 (0.14)
Political experience: national	0.97** (0.17)	0.90** (0.18)
Attention: own background	0.12* (0.06)	0.15* (0.06)
Attention: own policies	0.02 (0.05)	0.00 (0.06)
Attention: party policies	-0.14* (0.06)	-0.13* (0.06)
Attention: public services	0.03 (0.06)	0.05 (0.06)
Attention: socio-economic	0.03 (0.06)	-0.00 (0.06)
Attention: openness	0.06 (0.07)	0.02 (0.07)
Party ^a		
Estonian Reform Party	1.25** (0.20)	1.71** (0.21)
Estonian Centre Party	1.52** (0.23)	0.64** (0.24)
Conservative People's Party of Estonia	1.79** (0.19)	1.18** (0.20)
Pro Patria	1.43** (0.20)	1.47** (0.21)
Social Democratic Party	0.72** (0.20)	1.00** (0.21)
Constant	-3.67** (0.31)	-3.28** (0.32)
Constituency fixed effects	Yes	Yes
Observations	344	344
R ²	0.60	0.57

Note: OLS regressions; standard errors in parentheses; * $p < 0.05$; ** $p < 0.01$.

^aReference category is 'other'.

coefficients of 0.15 in both Models 3 and 4 for offline campaign tools mean that candidates who utilise more offline campaign tools tend to win more constituency-level traditional and i-votes. The electoral benefit of running more extensive online and offline campaigns derives from their ability to attract both additional traditional and i-votes.

The effects associated with the other explanatory variables are also very consistent across the models. The positive and significant coefficients of 0.97 (Model 3) and 0.90 (Model 4) for 'political experience national' suggest that candidates who had served in Riigikogu prior to the election tended to win more of the constituency-level traditional and i-votes than their counterparts without such experience, while the positive coefficients for 'attention own background' in both models means that candidates won more of the constituency-level traditional and i-votes if they focused more on their own background as part of their campaign effort, and the negative coefficients for 'attention party policies' in both models means that greater focus on the policies of one's party is associated with a declining ability to attract additional traditional and i-votes. Again, the story that emerges is one of consistency. The patterns of effects that I observe are very similar when looking at how many traditional and i-votes different candidates win.

Table 5 also reveals some interesting patterns when comparing the effects of candidates' partisanship. It appears that the electoral bonus enjoyed by candidates of parties who won

Table 6. Predicted values for traditional and i-votes

	Traditional votes (%)		Δ
	Minimum	Maximum	
Campaign tools: online	0.65 (0.49–0.81)	1.34 (0.86–1.81)	0.69
Campaign tools: offline	0.58 (0.41–0.76)	1.27 (0.87–1.66)	0.69
Campaign tools: online and offline	0.44 (0.30–0.59)	1.97 (1.15–2.80)	1.53
Political experience: national	0.68 (0.57–0.79)	1.79 (1.23–2.35)	1.11
Attention: own background	0.58 (0.37–0.80)	0.96 (0.78–1.14)	0.38
Attention: party policies	1.34 (0.83–1.85)	0.76 (0.61–0.90)	0.58
	I-votes (%)		Δ
	Minimum	Maximum	
Campaign tools: online	0.75 (0.55–0.95)	1.94 (1.22–2.65)	1.19
Campaign tools: offline	0.75 (0.51–0.98)	1.58 (1.07–2.09)	0.83
Campaign tools: online and offline	0.51 (0.34–0.69)	2.80 (1.59–4.02)	2.29
Political experience: national	0.88 (0.72–1.04)	2.18 (1.46–2.89)	1.30
Attention: own background	0.68 (0.41–0.95)	1.26 (1.00–1.51)	0.58
Attention: party policies	1.64 (0.99–2.30)	0.98 (0.78–1.18)	0.66

Note: 95% confidence intervals in parentheses.

representation, relative to those who stood for parties that did not, varies in its scope and nature. The comparison of party effects in Model 3 shows that it is candidates running for the Conservative People's Party of Estonia who win most additional traditional votes in comparison to candidates running for other parties. The coefficient of 1.79 corresponds to 1.41 per cent higher predicted share of traditional votes. The picture is different when focusing on party effects in Model 4. It is candidates running for the Estonian Reform Party that stand out as winning most additional i-votes compared to candidates of other parties. The coefficient of 1.71 corresponds to 1.72 per cent higher predicted share of i-votes. The differences in party effects also extend to the nature of the electoral bonus that candidates of different successful parties enjoy. While candidates of the Conservative People's Party of Estonia and the Estonian Centre Party tend to win more additional traditional votes than i-votes relative to candidates of unsuccessful parties, the opposite holds for the Estonian Reform Party, Pro Patria and the Social Democratic Party candidates.¹⁶ The party effects are asymmetrical when it comes to candidates' ability to attract additional traditional and i-votes.

Table 6 presents the predicted values for candidates' shares of traditional and i-votes at different points of campaign tools, political experience and campaign focus to better illustrate the effect sizes that are associated with these explanatory variables.

Note first that the effects associated with carrying out more intensive online and offline campaigns are very similar in size, irrespective of whether one focuses on traditional or i-votes won. The increase in candidates' predicted shares of traditional votes is identical – 0.69 per cent – when comparing candidates who did not use any online campaign tools as part of their campaign

effort to those who used all five (from 0.65 per cent to 1.34 per cent) and when comparing candidates who did not use any offline campaign tools to those who used all five (from 0.58 per cent to 1.27 per cent). In terms of candidates' ability to win additional i-votes, the difference in the value of online and offline campaigning remains limited. The increase in predicted i-vote share is 1.19 per cent (from 0.75 per cent to 1.94 per cent) when comparing candidates who used no online campaign tools to those who used all five and 0.83 per cent (from 0.75 per cent to 1.58 per cent) when comparing candidates who did not use any offline campaign tools to those who utilised all five. Campaign effects can evidently transcend the medium through which campaign messages are being delivered. It is simply not the case that a more intensive online campaign effort drives up candidates' vote share through additional i-votes, while a more intensive offline campaign effort does so through additional traditional votes. Instead, the electoral benefits of developing a stronger online and offline campaign presence are highly comparable, whether focusing on candidates' overall vote share, their ability to win more traditional votes, or their ability to attract additional i-votes.

Moving on, the findings presented in Table 6 further highlight the continuing importance of campaign effects in shaping candidates' electoral performance. The predicted share of traditional votes increases by 1.53 per cent (from 0.44 per cent to 1.97 per cent), while the predicted share of i-votes rises by 2.29 per cent (from 0.51 per cent to 2.8 per cent) when comparing candidates who did not use any online or offline campaign tools to those who used all the campaign tools, online and offline, captured here. As with candidates' overall vote share, the next largest effect is associated with previous political experience. Candidates who have served in the national legislature prior to the election are predicted to enjoy a 1.11 per cent advantage over those who have not in traditional vote share (1.79 per cent vs. 0.68 per cent) and 1.3 per cent advantage in i-vote share (2.18 per cent vs. 0.88 per cent). The effects associated with campaign focus are much smaller in size and, in some cases, have an overlap in 95 per cent confidence intervals. Taken together, this evidence lends further support to the idea that individual-level campaigns continue to influence how people vote.

Conclusions

The Internet is playing an increasingly important role in our political lives. It is the medium, which parties and politicians are turning to more and more in their efforts to communicate with voters. It is also the medium, which voters are turning to in growing numbers and greater frequency for political news and political activism. They can create and sign petitions online, develop online campaigns for causes that are important to them, lobby their elected representatives, use social media to promote candidates and parties and, in some countries, they can even cast their general election ballot online. Given that more and more countries seem to be considering the introduction of i-voting, it is important to extend our understanding of the impact that having this option has on all aspects of electoral dynamics.

This study uses original survey data from the 2019 Estonian Candidate Study to build a more nuanced understanding of the interplay between campaigning and voting at elections where i-voting is allowed. It explores the effects of online and offline campaigning on candidates' electoral performance, both in terms of their overall vote share as well as their ability to attract traditional and i-votes specifically. In doing so, this paper also contributes to broader debates about the comparative electoral value of using online and offline campaign tools, the importance of

individual-level campaigns and the relevance of the medium in linking political communication with political activity. The findings reveal interesting patterns. It transpires that both online and offline campaigns have strong positive effects on candidates' electoral performance. Candidates who use a broader range of online and offline campaign tools as part of their campaign tend to enjoy significant electoral benefits in terms of their overall vote share as well as both the per cent of traditional and i-votes won. Interestingly, these positive effects associated with greater use of online and offline campaign tools are not just ever present, but also similar in size, irrespective of which aspect of candidates' electoral performance one focuses on.

There are three broader points arising from this study and its findings. First, the evidence suggests that online campaigns have become effectively as relevant as offline campaigns in influencing present-day candidates' electoral fortunes. Undertaking more extensive online and offline campaigns brings about significant electoral benefits for candidates as they are likely to win more votes, both traditional and i-votes, and these positive effects are similar in size. While it is by now widely accepted that online campaigns matter and can influence how people vote (e.g., Bode & Epstein 2015; Gibson & McAllister 2011; Koc-Michalska et al. 2016), the findings presented here highlight the value of online campaigning even further. It does not just matter, but it matters as much as offline campaigning. Even when focusing solely on voters who cast traditional paper-based ballots, online campaigns can reach and win over these voters as well as offline campaigns. Candidates should no longer be tempted to think about offline campaign tools first and online campaign tools second but treat both with equal respect. A strong online campaign presence is as valuable as a strong offline campaign presence when it comes to winning votes.

Second, the findings suggest that political activity can, and often does, transcend the medium through which political communication that informs and aims to influence said activity is delivered. Voters do not appear to be confined to a particular medium, online or offline, in their political activity. The fact that more intensive online campaigns boost the share of traditional and i-votes that candidates receive, and that more intensive offline campaigns also boost the share of both traditional and i-votes, suggests that there are voters who consume electoral promotions through offline campaign channels but act on these online by casting an i-vote as well as voters who receive electoral material via the Internet but cast a conventional paper-based ballot.¹⁷ From the perspective of candidates, and parties, it means that they should not think about producing targeted online and offline campaign materials for online and offline voters, respectively, but that they should produce online and offline campaign materials for all voters. The medium through which a candidate distributes her campaign advertisement is not necessarily the same through which the voters she reaches ultimately cast their ballot.

Finally, the empirical evidence shown here lends further support to the claim that personal campaigns by individual candidates are relevant. The broad consensus in the election literature is that individual-level campaigns matter (e.g., Green & Gerber 2008; Fisher et al. 2016; Jacobson 2015), but there is also some emerging evidence that the effect of such campaigns on voters' choice of candidates may in fact be declining due to growing levels of affective polarisation (Kalla & Broockman 2018; Mason 2015) or that individual-level campaigns may simply not be quite as important in influencing electoral outcomes as traditionally thought (Enns & Richman 2013). The evidence presented here aligns more closely with the former, more widely accepted belief that individual-level campaigns continue to play an important, albeit certainly not the sole, role in influencing how people vote. Candidates receive an electoral bonus, in terms of their overall

vote share as well as the share of traditional and i-votes won, from conducting more intensive individual-level campaigns.

Online Appendix

Additional supporting information may be found in the Online Appendix section at the end of the article:

Appendix A: 2019 Estonian Candidate Study

Appendix B: Additional information on variables

Appendix C: Robustness checks

Notes

1. The term ‘e-voting’ is also often used. I prefer ‘i-voting’ because there are many types of electronic voting that do not involve casting one’s ballot remotely via the Internet, such as punch cards and optical scans. These are not used in Estonia where electronic voting entails casting one’s ballot via the Internet.
2. Candidates are at the heart of parliamentary elections in Estonia. These elections are carried out using open list proportional representation, whereby the country is divided into 12 constituencies and candidates can stand either as independents or on a party list in a specific constituency. Voters must cast their ballot for an individual candidate. There is no option to vote for a party or for multiple candidates. The allocation of mandates occurs in three stages. First, all candidates who gain more votes than a simple quota in their constituency are awarded a seat. Second, parties that win at least 5 per cent of the nationwide vote receive an allocation of constituency seats based on their candidates’ cumulative electoral performance in the constituency. These are awarded to candidates based on their intra-party ranking of vote share. Finally, the remaining seats are distributed to parties nationally, using the D’Hondt method, and awarded to candidates based on their position on the national party list. What this means is that it is candidates’ personal vote share which determines, to a very large degree, whether they get elected or not.
3. The existing evidence on whether the option of Internet voting boosts voter turnout or not is somewhat mixed. While some studies find no or minor positive effects (e.g., Germann & Serdült 2017; Goodman 2014; Seggaard et al. 2013), others show a considerable, up to 10 percentage points, increase in turnout when i-voting is available to voters (e.g., Goodman & Stokes 2020; Solop 2002; Spada et al. 2016).
4. Examples of countries that have recently trialled, or are currently trialling, i-voting include Australia, Canada, France and Switzerland.
5. i-Votes in Estonia are cast using a voter application software that voters can download during elections. Voters must authenticate themselves using an ID-card that is attached to a computer with an Internet connection or by activating their mobile ID in a mobile phone with an Internet connection. Once voters have completed this step, they can cast an i-vote using the said voter application software.
6. The appeal of i-voting in Estonia derives from its simplicity and convenience as voters simply need a computer with an Internet connection and an ID-card – 91.6% of adults use the Internet regularly in Estonia and 98% have an ID-card (E-Estonia 2019) – or a mobile ID to cast an i-vote. For further information about i-voting in Estonia, please see the Estonian National Electoral Committee website (2019a).
7. Notable exceptions are Aldrich et al. (2016), Gibson and McAllister (2015) and Koc-Michalska et al. (2014).
8. It is important to note that most of the existing evidence of affective polarisation comes from the United States (e.g., Iyengar & Westwood 2015; Kalla & Broockman 2018; Mason 2015, 2018).
9. Further information about the sample is provided in Online Appendix A.
10. The range of campaign tools used is also seen as an indicator of campaign effort (Sudulich & Trumm 2019), capturing its complexity and richness.
11. Additional descriptive information about the extent to which candidates used each of the 10 campaign tools is provided in Online Appendix B.
12. Riigikogu is the national parliament of Estonia.

13. Additional robustness checks of the multivariate regression models are presented in Online Appendix C.
14. The predicted values are obtained based on models fitted using Stata's `gsem` command (Online Appendix C). Please see Huber (2019) for discussion regarding the benefits of this approach.
15. To provide context for the effect, note that it is (i) higher than the vote share of one-in-ten candidates who won a regional mandate, (ii) bigger than the difference in vote shares for candidates who won regional mandates and their runner ups in approximately half of instances and (iii) sufficiently large to ensure that candidates who carry out extensive campaigns are all eligible for compensation mandates.
16. This pattern is present when comparing the coefficients associated with different parties in Models 3 and 4, as well as when comparing the increases in the predicted share of traditional and i-votes that candidates of different successful parties are expected to win relative to candidates of unsuccessful parties.
17. This also lends further support to the belief that Internet voting, despite having been first used only in 2005, is now crossing almost all layers of the society in Estonia (Vassil et al. 2016).

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