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Article:

Barclay, A., Dommett, K. orcid.org/0000-0003-0624-6610 and Russmann, U. (2024) Data driven-campaign infrastructures in Europe: evidence from Austria and the UK. Journal of Political Marketing. ISSN 1537-7857

https://doi.org/10.1080/15377857.2024.2347833

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Data Driven-Campaign Infrastructures in Europe: Evidence from Austria and the UK

Data-driven campaigning is often depicted as the latest iteration of modern campaign practice. This term captures the idea that political parties now routinely gather data from online and offline sources to inform decision making in regard to a range of campaign actions. Within existing scholarship, however, comparative studies of campaign practice are lacking, meaning that we lack understanding of how and why data-driven campaigns vary across different contexts. In this paper we offer an in-depth analysis of data-driven campaigning in two European countries; Austria and the UK. Using elite interviews with party officials and campaigners in nine parties, we conduct a qualitative thematic analysis to explore data-driven campaigning practices and perceptions. Through this research we highlight hitherto unappreciated cross-national variations in data-driven campaigning and suggest that differences can be attributed to structural and agential factors.

Keywords: Political Parties, election campaigns, data, digital, Austria, United Kingdom (UK)

Introduction

Data-driven campaigning has been defined as the process of 'accessing and analyzing voter and/or campaign data to generate insights into the campaign's target audience(s) and/or to optimize campaign interventions, with data 'used to inform decision making in either a formative and/or evaluative capacity', and 'employed to engage in campaigning efforts around either voter communication, resource generation and/or internal organization' (redacted for peer review). For many scholars, data-driven campaigning captures the latest iteration of campaign practice (Römmele and Gibson, 2020), describing how parties in the United States (US) and other American and North European contexts conduct election campaigns (Bennett, 2016; Kefford, 2021; Kruschinski and Haller, 2017; Margetts, 2017; Munroe and Munroe, 2018). These accounts often focus on the availability of (new) data and analytics techniques, spotlighting campaigners' interest in utilising targeting capabilities found in the commercial realm.

Whilst data-driven campaigning has become a widely cited phenomenon of contemporary politics, relatively few descriptive accounts have emerged of how exactly campaigners, and particularly political parties, use and perceive data. Although some exceptions detail practice in the US (Hersh, 2015) and Australia (Kefford, 2021), in most countries there have not been accounts of the day-to-day activity of data-driven campaigning, and almost no analysis has offered comparative descriptive insight (c.f. Kefford et al., 2022). Relatedly, even fewer studies have attempted to understand how stakeholders within political parties understand the role of data, particularly in terms of its importance in how they campaign or the benefits and pitfalls that arise when using data.

We address this gap by providing a rich empirical investigation of the practice of nine parties in two different countries: Austria and the United Kingdom (UK). In doing so we are guided by two questions:

- 1. What data practices can be observed in regard to the collection, analysis and storage of data in different country and party contexts?
- 2. How is data perceived in different country and party contexts?

Presenting data from interviews with campaign professionals working on data-driven campaigning, we offer unprecedented insight into the perceptions and practices of data-driven campaigning amongst major and minor parties. Our analysis contributes new understanding of the explanatory factors driving variation in country and party-level practice, revealing that in addition to structural factors such as the regulatory or electoral system, agential factors such as ethical concerns play a hitherto unacknowledged role in shaping this form of campaign activity. This paper accordingly provides a more detailed understanding of the practice of data-driven campaigning, contributing a new explanation for variation that can guide future research.

Literature review

Whilst data has long been used to facilitate election campaigning (Kusche, 2020; Lees-Marshment, 2001; Philips et al., 2010, p. 311; Webber, 2005), over the last decade the notion of data-driven campaigning has increasingly been used to capture modern campaign practice. Noting campaigns' investment in data-infrastructure and expertise, it has been widely claimed that parties now routinely collect and analyse data in efforts to advance their electoral fortunes (Bennett, 2015, p.373; McKelvey and Piebiak, 2019, p.16; Munroe and Munroe, 2017). Although many scholars do not specify exactly what separates data-driven campaigning from previous campaign practices, it is common to encounter the notion that '[t]he "big data" revolution is underway, and political campaigns are investing resources in individual-level, targeted appeals' (Hersh and Schaffner, 2013, p. 520). Much scholarship has concentrated on the availability of new data and analytics techniques, mapping how

commercial insights and practices such as modelling, A/B testing and experimentation are being deployed in the realm of politics to optimise campaigns (Bartlett et al., 2018; Chester and Montgomery, 2019; Gorton, 2016; Jamieson, 2013, p.433; Kerr-Morrison, Naik and Hankey, 2018, p.12; McKelvey and Piebiak, 2019; Nadler, Crain and Donovan, 2018, p.16; Pons, 2016; Walker and Nowlin, 2021). Work has also pointed to the significance of social media platforms in providing 'strategists and campaign managers with tools to gather resources; better understand and segment the electorate, and target audiences' (Ali et al., 2019; Bennett and Bayley, 2018; Cotter et al., 2021; Giasson, Le Bars & Dubois, 2019, p.4; Turow et al., 2012).

For the most part research has tended to concentrate on the US context (Hersh, 2015; Kreiss, 2017; McKelvey and Piebiak, 2019; Pons, 2016). Both within this context, and a small number of other cases, some questions have been raised about the sophistication of data-driven campaign practices. Baldwin-Philippi has particularly problematised this idea, arguing that coverage of data campaigning 'draws on and reproduces the data imaginary' and that 'despite the great amount of journalistic attention paid to the Trump campaign's novel use of data and analytics, their email campaign was significantly underpowered' (2019, p.10). Highlighting the tendency for much work to document potential rather than actual practices, Kefford (2021) also provides a detailed account of data-driven campaigning in Australia, revealing that parties often fail to gather highly personal information and rarely use complex analytic techniques. Further scholarship focused on voter targeting has shown that campaigns often don't use complex analysis, but rely on 'simple regression techniques' (Nickerson and Rogers, 2014, p. 59). Elsewhere, a recent comparative study in six countries found 'that most political parties lack the capacity to execute the hyper-intensive practices often associated with data-driven campaigning' (Kefford et al., 2022, p. 454). On this basis it appears that data-driven campaigning is not being enacted in uniform ways (Dommett et al., 2024), or to the same extent, around the globe.

Whilst there appears to be contestation about the nature and extent of data-driven campaigning, detailed empirical analysis remains sparse. Whilst it is possible to identify studies looking at Australia (Kefford, 2021; Onselen & Errington, 2004), Austria (Magin et al., 2017; Russmann, 2020), Canada (Bennett and Bayley, 2018; Munroe and Munroe, 2017), Germany (Kruschinski & Haller, 2017), the Netherlands (Dobber et al, 2017; Zarouali et al, 2020) and United Kingdom (Anstead, 2017; Dommett et al., 2024), the existing literature often does not provide rich descriptive studies able to fully capture and tease apart the ways in which data is used in campaigns. Neither are their many comparative studies, with only a few analyses of this type in existence (Dommett et al., 2024; Howard and Kreiss, 2010; Kefford et al., 2022).

Within this paper we address this gap by engaging in depth with practices in two countries and nine parties. Specifically, we seek to cast new light on two questions:

- 1. What data practices can be observed in regard to the collection, analysis and storage of data in different country and party contexts?
- 2. How is data perceived in different country and party contexts?

In posing these questions, we build upon existing literature seeking to account for varied data-driven practices. Previous work has pointed to the significance of structural factors such as regulatory (Kruschinski and Haller, 2017), and electoral systems (Dobber et al, 2017, p.6), or to party resources (Hersh, 2015, p.170) and ideology (Kefford et al., 2022) as important in explaining the uptake of data-driven campaigning. In this article we explore the resonance of these ideas and seek to identify other potential factors. To do so we begin by cataloguing variation in how parties collect and use different categories of data, using the classification (Table 1) developed

by (redacted for peer review). This aids us in identifying areas of commonality and divergence in how data is being used within different national and party contexts.

Table 1: Classification of 'types' of data

We then present new data on perceptions of data-driven campaigning, revealing the extent to which this activity is viewed in uniform terms, and the significance of such ideas for varied practices. In this way our analysis reveals structural and agential influences, offering rich new insight into the practice of data-driven campaigning, whilst building understanding of why this activity varies.

Research design: Sample, method(s) and data collection

Within this paper we adopt a descriptive case study approach to generate more detailed, comparative insight into the practice of data-driven campaigning. This form of comparative analysis has been severely lacking from current scholarship, which has focused instead on single case studies (Bennett, 2016; Kefford, 2021; Kruschinski and Haller, 2017; Margetts, 2017; Munroe and Munroe, 2018; Webber, 2005), theoretical analysis (Römmele and Gibson, 2020), or high-level comparative analysis (Kefford et al., 2022). Within this paper we take an alternative approach by examining practices within parties in two countries: Austria and the UK. A comparative design enables us to identify influences of country and party factors on data-driven campaigning.

Our use of case studies is designed to offer 'intensive' - in our case qualitative - 'analysis of a single or a small number of units (the cases), where the researcher's goal is to understand a larger class of similar units (a population of cases)' (Seawright and Gerring 2008, p. 295). As our objective is both to provide descriptive analysis and to reveal possible causal insights, we selected cases that have been subject to limited existing analysis, and that exhibit 'diverse' characteristics that we expect may produce different manifestations of data-driven campaigning (Ibid., p. 300). Regarding existing studies, we found a small extant literature on existing practices in Austria and the UK. In Austria we find some evidence of targeting practices by political parties (Russmann, 2020), but no existing analyses of data-driven campaigning as an organisational practice. In the UK, we found a wider body of work, and a particularly relevant study by Anstead that documented parties' (2017, p. 307) and that less data is available than in the US. We also note a longer standing body of work in this case outlining processes of segmentation and data analytics (Webber, 2005), and noting party investment in databases (Baines, 2005; Margetts, 2006). In neither case, however, did we identify extensive and recent analysis of data-driven campaigning, making these cases ideal for our purposes.

In identifying our cases, we also selected two European countries which differ in their electoral and party systems, as well as their campaigning traditions, which in turn impact upon our expectations on how datadriven campaigns should be shaped in each context. In particular, the proportional multiparty system of Austria lessens the incentives for identifying and targeting those voters which are most likely to make the difference in crucial swing districts (Kruschinski & Haller 2017) compared to a majoritarian, first-past-the-post system like the United Kingdom. Moreover, focusing upon two European countries allowed us to hold factors such as the availability of media channels and technologies largely constant, but we note that GDPR is being implemented slightly differently within these two countries in accordance with local jurisdiction. Within these countries we are also interested in examining between party variation, recognising that party-level factors such as resources (financial and human), ideology or attitudes to data-driven campaigning may also affect practice. For this reason, we selected five parties from Austria and four from the UK, which varied in terms of resource, longevity and electoral success (Table 2). Reflecting existing insight into the differences between minor and major parties we ensured that our sample reflected instances of both. We also included ideologically similar parties across our two cases to enable a degree of comparability. We were able to recruit a larger number of interviewees in the UK compared to Austria due to the greater number of party staff in the former context, which means that we generated an unequal amount of data between our two cases. Although our Austrian respondents meet the threshold of coverage of all the main parties, and of direct comparability with their UK counterparts, we nevertheless acknowledge that this imbalance is a limitation of our study.

To generate data we conducted semi-structured interviews (Brinkmann, 2014) with officials in charge of parties' data driven campaigns. It was not always possible – particularly in Austria – to identify an official with such a specific role, and in such cases we identified a nearest equivalent, such as their Head of Digital Communication From these initial contacts, we used snowball sampling to gain referrals to others with relevant expertise or with those who otherwise had internal insight into important aspects of the party's data strategy. These included hired consultants, officials with responsibility for setting and/or implementing electoral strategy and data analysts. Our sample therefore includes a blend of senior figures with insight into where data is situated in the overall strategy of a campaign, as well as other actors who have insight into more specific functions of data in particular campaign activities.

The advantage of using interviews over interrogating other, publicly available sources is that political parties as institutions rarely make information on their campaign practices (especially surrounding data) public. Interviews therefore represent the best way of capturing information which is difficult to source systematically elsewhere, and follows the example of much existing research on this topic (e.g. Dobber et al. 2017; Dommett et al 2024; Kruschinski & Haller 2017). Given the potentially sensitive nature of the interviews, we informed respondents of the topics under discussion and obtained their consent prior to our conversation. They were then given full editorial control over the interview transcript to ensure that they were satisfied with its content and that they were not personally identifiable from it.

Our interview guide asked respondents to discuss their perceptions of data as well as parties' practices of collecting, analysing and storing data. The interviews themselves were semi-structured and were tailored to the technical specialism or organisational role of the interviewee, however we asked a core selection of questions to each respondent and examples of these are detailed in Table 3. Although we are cognisant that our data comes from the testimony of political actors, and that it is often not possible to verify their claims (although we attempt to validate through external sources where possible), these core questions ensured a high level of consistency between our interviews, thereby maximising the 'reliability'¹ of our data. Interviews occurred between May 2021 and November 2022 in the UK, and between July 2022 and February 2023 in Austria. Interviews lasted about an hour and were conducted both online and face-to-face.

Table 2: Overview of case study parties

Table 3: Example Questions

¹ Here we refer to reliability in its broader sense as it is used in qualitative research (Leung, 2015)

To identify and conceptualise the relevant content of the interviews, we followed a qualitative structural approach (cf., Schreier, 2014), following the stepwise approach detailed by Lester et al. (2020). Having generated automated verbatim transcripts, we first deductively coded the whole corpus using the 'macro' categories that structured the questions in the topic guide, collating passages which related to 'perceptions of data' and 'data practices'. Having done so, we then inductively developed a wider set of sub codes within these two macro-categories, which are detailed in Table 4. This allowed us to branch out from collating passages relating to either perceptions or practices in a broad sense, into grouping more specific references relating to, for example, the reasons why certain types of data are considered valuable, and the different variations of analysis that parties undertake. Subsequently, the category system was tested, accompanied by ongoing discussions to resolve ambiguities, and, if necessary, modified. In the last step, the revised category system was used to code the entire material (cf., Schreier, 2014). The authors translated all quotes from the Austrian interviews from German to English.

Bringing these together, we then developed broader themes which spoke to the key differences between our two cases, and crucially what might explain these differences. Drawing from the existing literature, one of these themes are the structural factors (e.g. party system, electoral system, regulation) which shape the incentives and practicalities of adopting data-driven practices in both contexts. Another – which is discussed less in extant research – is the importance of agential factors – i.e. how the views of actors within parties as regards, for example, the ethics of using personal data can shape campaigning outcomes. We discuss these thoroughly in the below section.

Findings

Data Practices

To interrogate differences between our chosen countries and parties we first explore how data is collected and utilised within campaigns. To structure our analysis, we draw on the classification of 'types' of data developed by (redacted for peer review), which differentiates between voter and campaign data,² and then specifies different types of each (Table 1).

Voter data

Looking first at voter data, we can see many similarities between our parties, but also differences in what parties are *able* to collect, and what they *choose* to collect.

Public data

In both Austria and the UK, parties can access individual level data on voters from their electoral roll. In Austria, the voter register (*Wählerevidenz*) includes the following data: Name, academic degrees, date of birth and their main address. The voter register therefore provides contact details of the citizens who are eligible to vote. In the UK, this information is subtly different. The British electoral register also contains the names, addresses and age of maturation (i.e. when people are old enough to vote) of people registered in different

² According to (Redacted for Peer Review) voter data essentially refers to the characteristics that parties hold on voters which are used to understand their preferences and target them with campaign interventions. Campaign data on the other hand is data used to monitor the success and efficiency of the campaign itself.

properties. Crucially however, UK parties also have access to the marked register; a list that indicates if an individual has voted in previous elections (Interview 6). As one interviewee from the Labour party described, '[w]ithin a year after a general election, we have nine to ten million individual level records of whether or not an individual voted or not at that specific general election because that's massively powerful in predicting [if] they'll vote ... and in targeting future activity' (Interview 6).

Other forms of public data accessible to parties include national statistics and academic datasets such as national election surveys. These data can be used to establish relationships between socio-demographic characteristics and attitudes with voting patterns amongst specific groups. In Austria, one interviewee from the ÖVP therefore reflected:

"To create advertising campaigns, you can only work with data. (...) of course you can put something together, but I'm a fan of backing it up with data. And that works with an incredible number of statistics that are publicly available. I really like working with Statista and Statistik Austria, because there are a lot of numbers there. You just have to search for them, and it's a lot of work. But it's there. And I think you just have to build these groups from that" (Interview 1).

Public data is also often used in the UK to provide an overview of the attitudes of different groups of voters. To illustrate, one interviewee from the Labour Party detailed how they would use British Election Study data, noting "[t]here are lots of questions in there, there's all kind of information, as you know, on voter intention, things like left-right and authoritarian-libertarian dimensions and then using data such as that to produce model data for individuals." (Interview 7).

Canvassing data

Parties in both countries reported collecting data on voter preferences, and especially information on vote history or current voting preferences. However, the scale and methods of collection of these data varied between the two cases, with parties in Austria collecting much less individual-level data. Here, there was less emphasis on door-to-door canvassing (which is common in the British context) and more on public events and awareness raising campaigns via posters and street stalls. Austrian parties therefore spoke about gathering data from voters by maintaining a presence at public events. As the FPÖ explained:

"During the COVID-19 pandemic everything was closed and we noticed again how little databased we actually are, because our people are outside all the time. At every festival, they are out and about as communicators. When that didn't exist [during the COVID-19 pandemic], you noticed that in the party. That is not really data-related, but perhaps it is data-related, because when you're at a folk festival, I know which people I'll meet there. That is also data that you have. If you go there. If you go to a jazz evening in downtown Vienna, you won't find us [the FPÖ] there, but that's also data that you collect" (Interview 2).

In this way, the collection of information about voter preferences was often unsystematic and arose instead from voters deciding to 'opt-in' to party activities and sign petitions at public events. In essence this means that Austrian parties tend to collect data predominantly from those already more likely to be existing supporters, leading to a focus on salient issues amongst parties' pre-existing support base.

A very different approach was evident in the UK. British parties conduct more structured data gathering activities, using the information within the electoral roll and marked register to target data collection activity.

Whilst the precise data collection activities conducted by UK parties varies subtly by party, it is common to see doorstep and telephone canvassing, street stalls and the use of petitions and leaflets to gather data on vote intention. Importantly, and in contrast to Austria, this information about how individual voters intend to (or have previously) voted is recorded alongside their electoral roll data, allowing parties to build up databases of information about not only whether individuals are registered to vote and have cast their ballot in previous elections, but also to note which party they say they supported. This information is then used closer to the election to identify which voters to target with mobilisation messaging and Get Out the Vote (GOTV) canvassing activity (i.e. reminding someone to vote on election day). It also reveals who to avoid contacting (because of support for an opposing candidate). One interviewee from Labour illustratively described how "almost all canvassing sessions are primarily data driven" (Interview 7), whilst a respondent from the Liberal Democrats explained how their party has "decades of data of canvassing people for their voting intention" (Interview 15, see also Interviews 6, 7, 9, 12, 13, 15, 17). Elsewhere a respondent from the Conservative party described the range of data collection tools used in the UK, noting that:

"[D]oorstep data was important, but it was only I would have thought 5% to 10% of the data that we acquired. We acquired a lot more voter data from direct mail surveys and responses to emails, self-completed by voters, than we did from asking them questions. Telephone as well. We had a call centre which phoned people with these scripts" (Interview 12).

Social media data

Much coverage of data-driven campaigning has been associated with the use of digital media and particularly social media platforms to communicate with voters in more direct and targeted ways (Baldwin-Philippi, 2020). Across the parties in our two countries, we found numerous references to the use of social media data, and a particular focus on the power of Facebook as a medium for communicating with voters through paid advertising and organic social media posts. This is despite the fact that, as one interviewee from the Austrian FPÖ noted, activity on these platforms is "getting more and more restricted" (Interview 2) as social media platforms have imposed restrictions on the way in which parties can use platforms to target and communicate with voters. Unlike other forms of data, social media data is not gathered or held by parties themselves, rather platforms own data about their users and sell access to specific target audiences for advertising. As one interviewee from the UK Green Party described: "the data has been Facebook's data and then we've selected the features, locations and the types of demographics that we're looking for... Their operation exceeds ours in terms of being data driven" (Interview 18).

Across all parties in both our countries, we heard examples of parties using paid Facebook advertising. As one interviewee from the Austrian SPÖ noted:

"Targeting and retargeting in the online sector, especially in social media, has developed at an insanely rapid pace. The big companies like Meta advertise their products very, very intensively, with the aim that political customers really leave a lot of money there. And in my experience, this has worked well and they've earned good money through insertions and special regulations for political advertising" (Interview 3).

Another interviewee from the British Conservative party described the importance of Facebook and other platforms in saying that "Facebook and Twitter have replaced the Daily Telegraph and billboards." (Interview 12). We also heard about parties using organic social media posts and monitoring the metrics provided by social media platforms (i.e. likes, shares, comments) to monitor the impact of different posts. As one interviewee from

the FPÖ outlined, "[b]asically, everything is monitored, today, actually down to the lower structures" (Interview 2). Such practices suggest that social media platforms are being used to facilitate both targeting and testing - practices which Baldwin-Philippi (2019, p.3) describes as essential to data-driven campaigning.

Purchased data

We also saw differences in the ways in which parties bought data on voters from commercial sources. The use of polling companies to gather data on voter preferences is commonplace in both countries, and even small parties expend resources on acquiring this form of insight. In Austria, for example, one individual from the Green Party described how:

"[s]everal times a year, we conduct external data collection with surveys of potential voters and non-voters. In other words, opinion research in the broadest sense. We then integrate this data with other data. So, in line with the data that we collect externally, we hope to draw the right conclusions in order to address the right people both in terms of content and in social media to know exactly the target group" (Interview 4).

Similar activities were conducted in the UK, but the scale varied substantially between parties. The interviewee from the Green Party for example described how: "[w]e then, obviously, used polling data. The questions we included in that depended, really, on how much budget we had and what we were interested in asking at that particular time. But often, that would be voter intention and past vote was quite key" (Interview 7). As well as this, other parties commissioned "specific constituency polling" (Interview 16), which provided a measure of competitiveness within a given electoral district. Our interviews revealed that parties also used polling data made publicly available, particularly to get a sense of changes in voter attitudes over time. For example, one strategist from the Liberal Democrats reported that "during my time there, [we] would use a lot of publicly available polling data. Just the stuff that YouGov puts out there in order to track certain opinions over time" (Interview 16).

Alongside polling data, our interviews revealed other types of data that were purchased by parties. This was less common in Austria, but we did find evidence of the SPÖ purchasing political preference data from the Austrian postal service (Interview 3). Other parties opt not to buy these data due to the public scandal surrounding its collection, and the SPÖ explained that they also found this data to be unreliable, saying that "We [the SPÖ] were not guilty per se. But judged in terms of content, it was also pointless. We purchased the data that the post office had falsely collected, okay, but what we did with it was also not purposeful. It all sounded great on paper, and they did a great job of targeting, but the truth is that the postman evaluated whether you voted red, green, blue, or whatever, based on how many Amazon packages you got" (Interview 3).

In the UK, other sources of data are more commonly purchased. For example, our interviews showed that the three largest parties were able to purchase individual-level demographic and lifestyle data from data brokers, most notably MOSAIC data from the company Experian, which aggregated numerous different characteristics into a single classification measure (Interviewees 6, 12, 15). One respondent from the Labour party, for example, described MOSAIC as "probably the single most powerful variable that we would use, partly because it's effectively a compound variable of all the other variables [that we would use]" (Interview 6). Beyond these parties, we heard about how the UK Greens "commission[ed] research to gather information about which demographic groups ... are a little bit more likely to vote Green or are open to voting Green" (Interview 18). In other words, they commissioned survey research that could be used to better understand the characteristics of their potential supporters. The purchasing of personal data in the UK is governed by data protection law

and hence parties need to ensure that the individual whose data is being purchased has consented to such use (ICO, 2023), a provision that has led to some fines being levelled against companies for selling data to parties without necessary consent (ICO, 2018, p.60).

Digital trace data

In comparison to the other forms of data highlighted by (redacted for peer review), within our interviews we uncovered far less evidence of digital trace data. Whilst parties often spoke about their use of social media, discussion of tracking data was less common. Indeed, in Austria interviewees did not make any reference whatsoever to this, although some UK parties described how they used Facebook Pixel on their websites to track user browsing behaviour (Interview 10). We also heard of some efforts to monitor the open rates of different emails. In comparison to our other forms of data, however, this type of data was less commonly encountered and did not appear to inform parties' other data collection activities.

Modelled data

Finally, we found evidence of parties using modelled data, although this was much less prevalent in Austria. Indeed, most Austrian parties do not conduct any in-house modelling whatsoever, and those that do describe their initial attempts as "a bit of a coffee brew reading" (Interview 3) due to their not having the same integrated individual level data as the larger British parties do. We did, however, find some exceptions, with one interviewee within NEOS explaining how they are "working with personas. That means getting a picture of what a relatively broad crowd might look like and adapting our messaging accordingly" (Interview 5). For the most part, however, Austrian parties focused on using simple segmentation techniques. As one interviewee from the FPÖ described they "kind of segment people and then customise content" (Interview 2), and as the Greens reflected: "it's really more a matter of looking at what kind of topic could be interesting for whom, and, for example, to whom do we want to show what successes we've achieved in government work? Be it with the climate ticket or something" (Interview 4). Austrian parties routinely used three segmentation criteria: "personal characteristics", "personal interests" and lastly "issues", which as the FPÖ noted, were essential for developing campaign communications for target groups (Interview 2).

In recent UK elections, both Labour and the Conservatives have conducted detailed segmentation (Interviews 6, 7, 12, 14) which are directly linked to specific campaign messages based on voters' reported preferences. As one interviewe from the Conservatives noted, "in 2015 I think we had... initially eight, eventually fifteen different types of voters who were, we thought, the key types of voters that needed to be moved." (Interview 12). We also found parties using 'personas' to identify different types of voters. However, unlike in Austria, in the UK parties use predictive modelling to identify specific target constituencies and/or target voters and voter types. This is either conducted internally or purchased via external companies and polling organisations. In terms of identifying target seats, our interviews revealed how Labour, the Conservatives and Liberal Democrats all use their voter data to conduct MRP³ models (Interviews 6, 7, 16) as their primary method to identify target districts. As one interviewe from the Labour Party described, they "would routinely, in the run up to the two general elections, for instance, produce predictive work using MRP modelling to estimate what we think was likely to happen" (Interview 7). These parties also reported modelling the effect of individual level characteristics to discern the types of voters who were most strategically important for them to target. One respondent summarised this process as "taking the voter file, asking a number of different questions and

³ MRP stands for Multilevel Modelling with Post Stratification (Lauderdale et al., 2020).

applying a score of both support (likely to vote), probably a number of different other scores that sort of gave us information in ways that we could classify voters." (Interview 13). Parties described how they "can do largescale-modelling of the entire UK populous" (Interview 10) which they then use "to predict ... the entire electorate" (Interview 7). Whilst modelling was commonly used in the UK, it was not apparent to equal degrees in all parties. The Green party, like parties in Austria, they did not engage in any meaningful modelling of either target voters or constituencies, given that they lack the data-infrastructure to do so in-house and relying on external agencies was described as "quite pricey" (Interview 18).

Campaign Data

Supporter Data

Across our two countries we saw 'campaign data' gathered in both contexts, with a particular focus on supporter data. All parties in Austria and the UK spoke about their membership databases which contained information about the names and contact details of members and, for some parties, supporters (Scarrow, 2014). For Austrian parties, this form of data is the primary source of individual level data that they collect, with almost all parties describing it as their 'core' data (Interviews 1, 2, 3, 5). As one interviewee reflected on their data collection activity, "the biggest part is of course our member data" (Interview 1). In the UK, we found that (some) parties relied upon their members and supporters for most of their income, and so they collected and analysed their data to understand how to maximise their resources. As one interviewee from the Liberal Democrats reported, members are "where virtually all our money comes from. And so, they are extraordinarily influential people and one of the things that we use data for is like, 'olkay, what are the demographics, what do the kind of people that join our party look like in terms of their habits, demographics? How can we find more of them?"" (Interview 17). Other parties discussed how they collect data on their supporters to maximise donations, although larger parties describe how membership data is not recognised as a priority during elections. One former employee of the Conservative Party discussed how "[l]ess important, though, was the membership and the donations. Everyone in the target seats were like, "No, we don't care about membership records during an election, we'll do that after" (Interview 14).

Evaluation data

Parties in both locales use data to measure the performance of their campaign. However, the ways in which they do so converge and diverge according to the types of data they use. For example, all parties who campaign on social media platforms use the performance metrics provided on campaign performance. In Austria, one interviewee from NEOS explained how they "use analysis tools to see how our ads are performing, how our postings are performing", and yet they went on to note caution towards this data, explaining "you have to be aware that any social media channel can be an incredible bubble" (Interview 5). Elsewhere, the SPÖ described how "the feedback and response rates, interaction rates in social media are relevant. We always put them in perspective. Particularly when I know that I can achieve higher interaction with a conflict-ridden post, then of course I try to put that in perspective and also evaluate the content" (Interview 3). Similarly, British parties used engagement metrics from social media platforms to judge the effectiveness of an ad, although there was some scepticism about how well these metrics aligned with the goals of political parties. To illustrate, one interviewee from the Liberal Democrats described how:

"the algorithm itself is geared towards engagement, but also geared towards keeping people on Facebook. And so that's not necessarily the same goal as political parties which might be persuasion, it might be mobilisation, it might be just awareness of the fact, I mean for the Lib Dems, that they're competitive in their place. And so when you're judging the effectiveness of a digital ad based on the metrics from Facebook, you actually don't know what you're getting" (Interview 16).

Parties from both settings also used tools from social media platforms to conduct A/B testing, although the scale of this activity varied between parties. In Austria, the SPÖ detailed how they "are testing many things, particularly when launching a new campaign. For example, we test multiple subjects, advertising subjects. It's just important, and I always say this to the top [management], to put things in perspective: Why does something work better and why is something else not well performing." (Interview 3). Other parties in Austria however, such as the ÖVP, engage less in this form of testing, who reported that that they:

"do less with A/B. I conducted it a lot in the private sector when working in an agency. I think it's a valid way to test what works better. But in politics, I think, we don't have enough time for it. (...). That's something probably done more often in the private sector. What I definitely do is lookalike audiences and custom audiences, because the goal is to not only address our own people, but to expand the circle of followers and people who are interested in us" (Interview 1).

In the UK, the larger parties all conduct *some* A/B testing of their digital content. One interviewee from Labour describe A/B tests on digital platforms as "the standard thing" when discussing methods of measuring campaign performance, describing how "Facebook internally has tools, Google will let you do this with their website or to your website using one of their tools that ... [means] you can just basically measure whether the content is achieving the goal you have set for it, versus other content." (Interview 8). Smaller parties in Britain did less of this form of testing. An interviewee from the Liberal Democrats reported how they "did a fair amount of digital testing, but not at the scale [as Labour or the Conservatives]" (Interview 16). The Green party used the "dashboards" (Interview 18) provided by social media companies to measure levels of engagement with particular ads but did not conduct A/B testing.

Perceptions of Data

The above discussion reveals important variations in the data-driven practices of parties in Austria and the UK. Whilst to date efforts to explain these differences have focused on structural factors (an approach we discuss further below), within this article we also sought to consider perceptions of data to examine the agential factors that may explain differences. Accordingly, we also asked our interviewees how central data was to their campaigns and about the perceived value of data in advancing specific objectives. Whilst finding much common ground in general attitudes in terms of the perceived value of data and to an extent the ethical challenges posed by data-driven practices, some differences in attitudes emerged.

Looking at our two countries, we found that all parties viewed data as increasingly central to modern campaigns. In Austria, for example, interviewees described how in terms of digital communication, data is "the currency" of campaigns (Interviews 1, 5). As one interviewee explained: "[e]verything that enriches a dataset, everything that we can find out, makes us a lot more targeted in our communication [is valuable]" (Interview 1). Similarly, in the UK, one interviewee described how "anyone who's not looking at data now is just stone age and will not last if there's any kind of good management" (Interview 17). Another respondent reflected that "you should apply data and analytics to every decision that you are making" (Interview 13). Across each of the parties in both countries we therefore found significant support for the idea of a data driven campaign.

A key reason as to why data is seen as so valuable to parties in both countries is that it allows them to optimise efficiency when campaigning, particularly when it comes to understanding the views of certain types of voters. One interviewee in the FPÖ in Austria mentioned that data allowed them to "communicate efficiently" (Interview 2) whilst a UK interview noted:

"There's no point in moving voters that are already going to vote for you, voters that never vote for you. If you've got a very, very clear picture of the types of voters you need to matter, then the integration of our polling and research with your voter database will enable you to finetune your national messaging, as well obviously then giving you clear messages that you can use to target voters" (Interview 12).

Despite this commonality, when going on to ask about parties' own practices we found some variation in parties' willingness to describe themselves as 'data-driven'. Indeed, in Austria, none of the parties described their activities and communication as purely data-driven, but rather as 'data-based.' One interviewee in the SPÖ suggested that the party did not call itself data-driven but emphasised that they had 'a data background' which informed '*political* decision making' (Interview 3). Similarly, an interviewee from the FPÖ outlined how "[c]ertainly, it [campaigning] will increasingly be more data-based, that's logical. But you really must not lose focus of what you are actually there for. Data-based communication is actually just a tool for simply passing on information, in other words, it's supportive. But for a political party, this should not be the first, the only thing" (Interview 2). These descriptions were echoed by the UK Green Party who asserted that they were "more data informed, if that makes sense. We're aware that tactically we're not using data well enough. So we'd like to be data driven. We feel that we're data informed in terms of campaigning." (Interview 18). Yet, for the majority of parties in the UK, the idea of being data-driven was embraced, and most parties were happy to describe their activity in these terms (Interviews 6, 7, 8, 12, 13, 16). In this way we saw evidence of country and party-level variation.

Digging further into perceptions of data-driven campaigning, our analysis uncovered other differences between the two countries. In particular, we found evidence that parties in each country understood the value of this activity in different terms. For Austrian parties, data-driven campaigning was seen to be valuable because it provided insight into voters' issue preferences, allowing parties to better understand the issues to raise with voters. The SPÖ, for example, said they used data to find out "with which topics can we personally address people? With which topics can we start a conversation? How can we start a dialogue? Where do we find the common denominator?" (Interview 3). Similarly, the ÖVP described how:

"It's even nicer when I see certain interactions, when there are certain interaction levels, where I know people are interested in the topic. That means I can give voters more information about a topic of interest, instead of working with a watering can and saying 'You just get everything, whether you want it or not.' I think that's connecting data with a service idea" (Interview 1).

These examples demonstrate that, in Austria, the value of data was often perceived to be its ability to make interactions with voters easier through understanding the issues most salient to them. In contrast, whilst interviewees from British parties also noted the value of understanding the issues which voters care about, they focused more readily on the capacity of data to identify the *distribution* of their support. Our interviews accordingly showed UK party campaigners to primarily view the value of data in terms of the British electoral system (Anstead, 2017), outlining how data helped them to understand the geographical distribution of their likely voters within key marginal constituencies. As one respondent from the Labour Party described, data-

driven campaigning made it easier to make strategic decisions about "which seats are targeted" (Interview 8). Similarly, a strategist from the Liberal Democrats reflected that they found data on the geographic location of voters to be "the most important, definitely, and there's an obvious reason behind that, which is that the Westminster geography is segmented by seat" (Interview 8). Even the smaller, less resourced Green Party argued that data was valuable for navigating the electoral system, with one interviewee explaining how they would commission surveys to get data on "[which voters] are open to voting Green or willing to vote Green. ... Where do some of these people live? Where are they distributed around the country? So we might be able to target certain constituencies or target wards" (Interview 18). These insights demonstrate the significance of the electoral system for attitudes towards data-driven campaigning, suggesting that simple plurality systems such as that evident in the UK leads data to be viewed to have different value to in proportional systems such as that found in Austria (redacted for peer review).

In addition to differences regarding the perceived value of data, we uncovered evidence of different attitudes towards the ethics of data-driven campaigning. Across all our interviews with Austrian parties the ethical use of data was cited as a significant concern. Interviewees in the liberal NEOS and the Social Democrats noted that their campaign was in constant exchange with their "data protection team" (Interview 5) and their "data protection officer" (Interview 3). As one interviewee explained "[i]n any digital strategy and in any digital project we are implementing, the data protection officer is consulted - he's a very central person within the party" (Interview 5). Within other parties we also found interviewees noting that it is important that "politics does not harass people's privacy" (Interviews 1, 2), explaining that they accordingly tried to address people "in a way that is appropriate for the target group" (Interview 2). This preoccupation with the ethics of data and privacy was particularly apparent in the Green Party, where one interviewee explained that the ethical use of data and transparency was central to their campaign practices. They explained how, for example, ethical issues had been "a topic of discussion within their federal executive board" (Bundesvorstand) and all "their political bodies... It is not obstructing our work. It is more a form of becoming aware of [what we are] doing. We regularly talk about it and we always think about what we are actually doing? Are we allowed to do this? Are we doing it right? Even when it comes to image material, music that we are using for videos, copyrights - that's all part of it" (Interview 4). This awareness of ethical issues had noticeable implications for the Green Party's data collection practices, as this party was the most reluctant to collect and store voter data.

Turning to the UK, we found similar awareness of the potential for data-driven targeting to present ethical challenges, with several interviewees citing an awareness of concerns around privacy (Interviews 8, 16) and untransparent campaigning (Interviews 6, 12). However, in the UK these issues were raised less as a direct concern to campaigners themselves, and more as a topic of compliance that they had to be aware of. Interviewees in this context regularly talked about regulatory constraints and oversight, explaining how this shaped their practice (as opposed to more ideological factors). As illustrated by one quote from a Liberal Democrat strategist reflecting on differences between Britain and the US, "GDPR just really changes the game in that, where you don't have to make the same type of ethics calls, it's just like what's legal" (Interview 16). Elsewhere we found interviewees pushing back at the idea that the use of data should be concerning. Indeed, one Conservative strategist noted that "[t]he dark and sinister stuff I think comes from a complete misunderstanding. A complete paranoia about the Cambridge Analytica story... there is a sort of, I think a legitimate concern that political parties are saying very, very different things to different people. But they've sort of, as I said, they've sort of always done that" (Interview 12). In this way, UK parties were less concerned with promoting ethical practice and saw data as an acceptable part of democratic politics. This comparison is particularly interesting in revealing the divergence between ideologically similar parties in our two countries, as the Greens in the UK and Austria did not promote ethical data practices to the same degree (with the Austrian

Green party more vocal in this regard) suggesting that systemic differences may override party-level, ideological influences in accounting for data-driven practices.

Discussion and Implications

The above analysis demonstrates how parties in Austria and the UK use data in similar ways when conducting their election campaigns, but it also reveals differences in both the practices and perceptions of data. Table 5 summarises these findings by showing the commonalities and differences between the two countries. Practices are most similar when campaigning digitally over social media, where the tools used to target voters and measure the engagement of content are essentially the same. We observe more differences in terms of offline data, where unlike their Austrian counterparts, British parties collect and integrate individual level data on all registered voters from public and commercial sources, as well from canvassing. This leads British parties to adopt more individualised voter contact, although our data suggests that personalised targeted messages which are often discussed as being a product of data-driven campaigns (e.g. Hersh & Schaffner 2013) are far from commonplace in both countries, echoing the findings of Baldwin-Philippi (2019). Finally, we detect significant attitudinal differences between the two locales. Whereas data is deemed universally valuable as a means of optimising the efficiency of campaigns, parties in Austria are both less likely to view their campaigns as 'driven' by data and are much more concerned about the ethical implications of using personal data when campaigning.

Table 5: Commonalities and differences in data-driven campaigning in Austria and the UK

Beyond these national differences, our findings reveal some party-level variation (Table 6), suggesting that parties in the same context do not employ data-driven campaign techniques in identical ways. However, we detected less systematic variation between parties in Austria than we do within the British context. We find for instance that the capacity of the data infrastructures is broadly very similar for all Austrian parties, although the Greens are especially cautious in employing data on ethical grounds. This is not the case within the UK, where the larger, more electorally successful and highly resourced parties place greater emphasis on data – amassing a more diverse array of data sources and investing in data analytics. Parties adopt broadly similar practices when it comes to targeting online and integrating public records with their canvassing, but we find that larger parties are more likely to purchase data to facilitate predictive modelling at the individual level. We also find that the perceived value of data can vary in subtle ways depending on a party's position within their party system. The UK Greens for example lack the resources to be data 'driven'. However, the Liberal Democrats view data as crucial to understanding their more volatile and geographically concentrated supporter base, and to offset the disadvantage that they face as the third party in a two-party system.

Table 6: Commonalities and differences in data-driven campaigning for parties of government and minor parties

When it comes to explaining these differences, our findings corroborate what has been found by existing research. Current scholarship has pointed to a range of structural factors as significant, with particular attention having been directed to regulation, the electoral system and party resources. Our analysis supports these diagnoses as we found evidence that many of these factors had a consequential impact on party behaviour. For example, our interviewees discussed the significance of the EU's General Data Protection Regulation (GDPR) as a constraint on data-driven practices. As one interviewee in Austria reflected: "Before the General Data Protection Regulation it was much easier. But these are now the general conditions we have to adhere to" (Interview 2). Differences in the enforcement of GDPR in Austria and the UK accordingly led to different

practices, but we also saw parties in the same country interpreting this regulation in more or less stringent ways, resulting in different campaign practices.

In addition to regulation, we found that the electoral system was influential. Looking at differences between Austria and the UK's collection of data, we observed how incentives created by the UK's electoral system led parties in this context to be more concerned with identifying the geographical distribution of their support at the individual and district level, whereas Austrian parties are more concerned with knowing the issues that are most likely to mobilise voters. Finally, in terms of resources, we found evidence of this being an important constraint on data use. Interviewees, especially from smaller parties, often emphasised that "resources are very tight" (Interview 12; similarly the Austrian liberal NEOS, Interview 5), meaning that parties with less money were often able to invest less in purchased data or data modelling compared to their wealthier counterparts. These findings contribute to the growing evidence that data-driven campaigning is shaped by structural factors.

Within the public discussion surrounding data-driven campaigning, our findings have useful implications for regulators to consider. Our analysis shows that data-driven campaigning can vary in important ways – both at a national and party level – and hence should not be considered as a homogenous practice (Dommett et al., 2024). We have seen, for example, the use of different types of data for subtly different purposes. This suggests that any effort to pursue reform needs to concentrate on the particular contextual factors and resulting practices found in different nations – it should not be presumed that US-style practices will be found elsewhere in the world. With a review to any requirement for regulation, this indicates the need for a more nuanced and tailored discussion of the shape and implications of data-driven campaigning.

In thinking about where regulation may be required, our findings suggest that data-driven campaigning can create new forms of inequality. Building on Anstead's (2017) work, our findings show that parties' capacity to run a data-driven campaign is often a function of resources, with the capacity to purchase and analyse data by no means equal across all parties. Campaign spending limits which are in place in many democracies can partially address this imbalance insofar as they limit the ability to spend above a certain threshold when purchasing data infrastructure, hiring specialists and buying advertising space on digital platforms during a campaign (Power, 2020). However, these limits often only apply to spending within an official campaign period and hence are unable to regulate spending made outside these periods - when richer parties may, for example, invest in databases or purchase commercial data. Such regulations are also unable to counter the impact of data inequalities resulting from the different degree of access parties have to volunteers who can be deployed to collect more voter data through door-to-door canvassing. Whilst noting these challenges with existing regulation our findings do suggest there has been success in shaping campaign practice via data and privacy regulation. Indeed, in both cases we found evidence that GDPR acted as a constraint on parties' data collection practices, although access to data via social media companies did provide some means of circumventing national constraints (although new rules in the Digital Services Act are likely to curtail some practices). Our findings therefore show that regulatory solutions can prove effective, but that there remain consequential inequalities that future regulation could fruitfully address.

Beyond corroborating existing work, our study goes further in showing the importance of agential factors in shaping how parties use data when campaigning,. As summarised in Tables 4 and 5, we saw differences in how our interviewees viewed data and in turn these were significant in driving different practices. We observed the impact of differential ethical standards for data practices, with Austrian parties being more preoccupied with not undermining voter privacy than parties in the UK. This accounted not only for between country variation, but also party-level differences, with the Greens most acutely concerned about this within Austria. We also

found different views about the importance of data to campaigns, with alternative views of the need to be datadriven or data-informed - differences that may again inform alternative degrees of investment in data-driven campaigning. Cumulatively, these findings suggest the need to consider agent-centred explanations for variation in data-driven campaigning in future study. Whilst it was not the aim of this paper to show how structural and agential factors can interact, the examples highlighted above suggest how these variables may relate. For example, looking at differences in the degree to which Austrian and UK parties gather and deploy individual level data from public sources, our findings suggest that practices may not only reflect the availability of and regulatory constraints on data use, but also perceptions of acceptable and valuable data practices. In this sense an absence of homogeneity is likely the product of structural and agential considerations.

Thinking through the implications of this finding for political parties, our analysis suggests that campaigners have significant capacity to shape the way data-driven campaigning is practiced. Rather than being synonymous with a certain set of pre-determined practices, parties have the ability to choose which data they amass and how that is analysed and stored (acknowledging structural constraints). As our examples from Austria attest, there is potential for parties to overtly pursue an ethical approach to the use of data, whilst examples from the UK show that data can be viewed as a means of democratic engagement or as a tool for navigating electoral realities. In the context of debates around problematic data practices, this indicates that campaign professionals have the ability to define the nature of their data-driven campaign and hence should not view this practice as a deterministic set of activities that need to be imported wholesale from other jurisdictions.

Conclusion

Summarising the contribution of this article, our analysis accordingly adds to a growing body of work showing diversity in data-driven campaigns (Dobber et al. 2017; Kruschinski & Haller 2017; Kefford et al. 2022), offering a rare comparative in-depth analysis of data practices and perceptions in two countries and nine parties. Importantly for attempts to explain variation, we suggest that in addition to structural factors, agential considerations such as attitudes towards campaigning and ethical considerations can account for alternative practices. This offers an important new perspective and suggests the need to consider not only where data-driven campaigning occurs, but also who is responsible for designing and delivering these campaigns.

Whilst our study represents an advance by offering comparative insight, we nevertheless recognise that more such research is needed, and this is especially the case outside of Europe and North America. Whilst our chosen cases (Austria and the UK) are sufficiently different to reveal variations in how parties campaign using data, they also share many similarities. For example, the legal frameworks which govern how parties can use data are for all intents and purposes identical across the UK and EU member states. This is not the case in much of the democratic world, and it would be beneficial for future research to examine how data-data driven campaigns take form in contexts with very different legal contexts.

Moreover, this article also demonstrates the importance of agential factors as a consideration for future research. Norms surrounding data and its ethical usage has been important in shaping practices between our two cases, and so it is reasonable to expect this to be the case in other democratic settings too. However, such factors are rarely considered in studies of data-driven campaigning, so we therefore recommend that future research consider their importance alongside the structural factors that are presently given more prominence.

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Tables & Figures

Category	Data Type	Description
Voter Data	Public Data	Data on voters held by public bodies which are made available to campaigns (e.g. voter registration data)
	Canvassing Data	Data gathered through direct contact with voters, typically face-to- face or via phone conversations. Typically voting intention or other political attitudes.
	Purchased Data	Data bought from a third party. Examples include data from 'data- brokers,' such as lifestyle, purchase history or demographic data, or opinion polls.
	Social Media Data	Data on voters held by social media platforms, who campaigns can target by providing either a list of individual voters, or other targeting criteria
	Digital Trace Data	Data observed about voters from their online activity (e.g. browsing activity)
	Modelled Data	Data based upon predictions made about voter preferences and/or characteristics from the data that campaigns already possess about them
Campaign Data	Supporter Data	Data held collected about the characteristics and activity of campaign activists/donors which allows them to efficiently mobilise them
	Evaluation Data	Data which is collected to evaluate the effectiveness of the campaign and specific campaign interventions (e.g. message testing)

Table 1: Classification of 'types' of data as outlined by (redacted for peer review)

Country	Party	Ideology	Date party created	Number of interviews	Interview codes
	Social Democratic Party of Austria (SPÖ)	Social Democratic	1889	1	3
	Austrian People's Party (ÖVP)	Conservative	1945	1	1
	Freedom Party of Austria (FPÖ)	Right wing populist	1956	1	2
	The Greens—The Green Alternative ⁴	Environmentalist	1993	1 (2 people)	4
Austria	New Austria and Liberal Forum (NEOS)	Liberal	2021	1	5
	Labour Party	Social Democratic	1900	7	6, 7, 8, 9, 10, 11
	Conservative Party	Conservative	1834	3	12, 13, 14
	The Green Party of England and Wales	Environmentalist	1990	1	18
UK	Liberal Democrats	Liberal/ Social Democratic	19885	3	15, 16, 17

Table 2: Overview of case study parties

 ⁴ In 1986 there was a merger of Vereinte Grüne Österreichs and Alternative Liste Österreichs to form this party.
 ⁵ The Liberal Democrats were founded through the merging of the Liberal Party and Social Democratic Party.

Table 3: Example Questions

Category	Example Questions	
Data Practices	 Within your party, what kind of activity is data used to inform? (strategy, policy development, communication, member management)? What are the sources of data used in your campaign? What insights are you trying to collect about voters? What information is most valuable for you? 	
	 What kind of data analysis do you perform? Do you use data to create models? For example, voter targeting models, models about the likelihood of an individual being a supporter or being persuadable? 	
Perceptions of Data	• When you think of the word data, what do you understand this term to mean in the party context?	
	 What motivates the use of data in your political party? Would you describe your party/ campaigns in the UK as data-driven? If not, Why? 	

Table 4: Coding Schema

Main Code	Sub Code (First Phase)	Sub Code (Second Phase)
Data Practices	What are the Types of Analysis/Activities?	 Modelling Segmentation Targeting Testing
	What are the Sources of Data	
	What is Data Used For?	
	What Data is Valuable?	
Perceptions of Data	Is Party Data-Driven?	
	How is Data Understood?	
	What are the Motivations for Using Data?	
	What is the History of Data within [Party]	

	Commonalities	Differences
Voter data	- Targeting data held by social media platforms	 UK campaigns collect individual level data on all registered electors from public sources UK parties append build individual level records with canvassing data, and purchased demographic data UK parties model individual level characteristics Austrian parties collect less individual level voter data in an unsystematic fashion.
Campaign data	 Engagement metrics provided by social media platforms A/B testing Membership data 	 UK campaigns measure performance during the campaign Austrian parties rather measure a campaign's success after the election
Perceptions of data	 Data deemed valuable. Data seen to optimise efficiency of electoral outcomes. 	 Greater concerns about ethics in Austria Austrian campaigns data-informed, UK campaigns data-driven

Table 5: Commonalities and differences in data-driven campaigning in Austria and the UK

	Commonalities	Differences	
Voter data	 All parties target on social media All (UK) parties integrate public and canvassing data 	 Larger parties purchase more individual level data Larger parties use predictive modelling 	
Campaign data	 Engagement metrics provided by social media platforms Membership data 	- Larger parties are able to test digital content at scale	
Perceptions of data	 Data deemed valuable. Data seen to optimise efficiency of electoral outcomes. 	- Resources impacts campaigns' ability to be data 'driven', but also creates an incentive to campaign efficiently	

Table 6: Commonalities and differences in data-driven campaigning for parties of government and minor parties