

Article

## Topic Diversity in Social Media Campaigning – A Study of the 2022 Australian Federal Election

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### Abstract

This study explores the diversity of topics in political campaign communication on social media during the 2022 Australian Federal Election. While political campaigns on social media are often associated with both persuasive and mobilising appeals, this research focuses on understanding the differences in persuasive content comparing organic (non-targeted) and paid (targeted) political communication. Analysing the Australian context, which follows a Westminster system, with compulsory voting, we utilise data from the federal election 2022 to

investigate how political actors employ persuasive communication strategies. Through topic modelling, we examine whether distinct themes vary in content and prevalence between organic and paid social media content disseminated by political parties and candidates. Our analysis revealed that the differences in topic diversity between paid and organic content do not seem to be substantial, despite popular concerns about higher personalisation due to advertising targeting which could lead to information fragmentation of the electorate. Both types of content predominantly focus on core political topics, aligning with party ideologies and include overall campaign information (e.g., on election procedures). However, government critique emerges as a distinct topic in both organic and paid content signalling the usage of negative campaigning to weaken opposing parties. In conclusion, this study suggests that the strategic manipulation of the electorate through social media during the Australian federal election in 2022 was limited. However, the prevalence of negative appeals towards the government and opposing parties raises questions about the potential impact on citizens' trust in democracy and institutions.

### **Keywords**

Australian federal election; persuasive communication; political advertising; social media campaigning; topic modelling

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## **1. Introduction**

Political social media campaigns are often assumed to influence the electorate's decision-making through somewhat questionable, yet legitimate measures: for instance, emotionalising issues, attacking opponents, or personalisation of messages. Thus, a manipulative appeal of those actors using social media for political campaigning is commonly implied (Lewandowsky et al., 2020). In contrast, empirical findings underline a mobilising appeal, in the sense that the usage of online media and social media is associated with higher political engagement and turnout (Bakker & de Vreese, 2011; Benoit et al., 2007). Hence, democratic societies could profit from social media communication when aiming to activate citizens to participate in politics. Given this ambivalence associated with social media's potential for political campaigns, new technological developments that employ data-based strategies to persuade users need critical examination. Persuasion, the process by which attitudes, beliefs, or behaviours are influenced through communication, is one goal of election campaigns. In most democracies, another one is to mobilise potential voters to get out the vote. Hence, mobilisation is about getting existing supporters to take action while persuasion is about winning over new supporters.

When researching election campaigns, understanding what techniques and strategies political actors implement to persuade citizens remains a pressing question. While research showed that data from social media can potentially be used to predict highly personal information, like political or sexual orientation and even personality traits (Kosinski et al., 2013), the effects of using those predictions to personalise messages on political attitudes or even voting decisions, so far, were only confirmed in addition to existing political

preferences (Zarouali et al., 2020). However, knowledge of the potential of social media to hide specific messages from a broader audience to, for instance, spread misinformation (Wischnewski, 2022) or negative campaigning (Auter & Fine, 2016), led to the assumption that social media could polarise and thus fragment democratic societies. Thus, understanding how political actors implement social media in their communication is of relevance within democracies (Esau et al., 2023).

This becomes most prevalent during election campaigns, when parties and candidates aim to mobilise their voters and persuade undecided or opposing voters. Psychological theories on persuasive communication, like for instance advertising, ascribe a crucial role in reasoning processes to existing beliefs or attitudes (e.g., Lodge & Taber, 2013) and personal relevance of topics (e.g., Petty & Cacioppo, 1986). Motivated reasoning theory even gives a direction of how existing positions towards certain issues might interfere with an unbiased, rational evaluation of information (Kunda, 1990). The motivation to defend prior beliefs on, for instance on political topics, hence, shapes the following reasoning process. Therefore, using targeting on social media to address potential voters with messages that reflect their views and are of personal relevance might be an effective strategy. When it comes to researching online political microtargeting, a focus lies often on the assumption that personality trait matching could be a persuasion technique swaying voters' opinions or even decisions (Simchon et al., 2024; Tappin et al., 2023; Zarouali et al., 2020). When assuming that political advertising on social media is using personal data to match audience and messages and thus increase persuasion, based on the theoretical relevance of existing attitudes on persuasive outcomes, this matching could also be done by targeting individuals' opinions or topics of personal relevance.

Therefore, this study aims to analyse how diverse topics in social media campaign communication are by addressing differences between organic (non-targeted) and paid (targeted) political content. When assuming that targeted communication could address individuals' attitudes, the topics of targeted advertising should differ from posts that parties or candidates make for a broader audience. The Australian context offers an environment where mobilisation is largely irrelevant, due to a compulsory voting system, thus, it fits the aim of analysing political persuasive communication. Therefore, we draw on data surrounding the 2022 Australian federal election campaign to analyse whether distinctive themes vary across the organic and paid social media posts of political parties and candidates.

## **2. Social Media Campaigning and Persuasion**

With the growing popularity and usage of social media for political communication, concerns about how that might affect democratic societies expanded. Rackaway (2023) describes this *new world of campaigning* on social media that, especially since the Obama campaign in 2008 in the US, used vast amounts of data with the aim to increase persuasiveness. To better differentiate types of communication in political campaigns, a closer look at the goals of political campaigns is needed. Within political campaigns, persuasion, meaning influencing people's attitudes or beliefs about issues or candidates, is one goal political actors can pursue (Brady et al., 2006). Mobilisation, on the other hand, describes the aim of getting people motivated or involved to act in a certain

way. Thus, mobilisation strategies try to encourage supporters to act, such as voting in support of a political candidate or cause. Research on the mobilising effects of political social media campaigning showed that targeting information can positively affect citizens' intention and turn-out to vote (Dobber et al., 2022; Haenschen & Jennings, 2019). However, empirical findings regarding persuasive outcomes of targeted political content are still vague. With reports about the marketing firm Cambridge Analytica's alleged use of microtargeting, a highly personalised form of communication, to persuade voters, concerns about the impact of political social media usage grew further (Heawood, 2018). As of now, psychological research on the effectiveness of personalised political messages underlines that higher persuasiveness can be achieved when confirming party preferences (Zarouali et al., 2020), which is more in line with a mobilising effect. However, persuasive effects could be increased by targeting people's existing attitude positions (Decker & Krämer, 2023). Thus, concerns about political targeting focus more on political actors' increased "willingness to press wedge issues that would be highly divisive in a more public forum" (Barocas, 2012, p. 33). Confirmation biases that interfere with rational evaluation of arguments based on people's existing opinions have been focused in various theories (Kunda, 1990; Nickerson, 1998; Taber et al., 2009). Based on this, within social media campaigns, targeting people with messages reflecting positions they already agree with, could lead to them being less sensitive towards potentially false or misleading claims existing. To come to an overall consistent evaluation and avoid dissonance (Festinger, 1957; Kunda, 1990) the attitude towards the topic could impact the evaluation towards the sender of the message. Hence, issue-based targeting could lead to a fragmentation of issue salience in society and exclude people who disagree with questionable positions, that would potentially counterargue and thus open a more balanced public discourse on polarising issues.

However, especially in multi-party democracies, where issue positions are further spread among different parties, using citizens' individual positions to target messages on political issues would be more complex for political communicators. Also, it is more common that different parties stress different key topics rather than just underlining opposing positions on the same issues, compared to two-party-systems. Studies on recent elections showed that social media campaigns seem to be more focused on mobilising communication (Bene et al., 2021). In line with this, Kefford and colleagues (2023) conclude that, as of now, "many aspects of parties' data collection and analysis are long-standing and largely mundane" (p.9), which puts the application of advanced data-based persuasion strategies in question. Nevertheless, there are good reasons why parties might start to adapt more advanced campaigning techniques, like microtargeting. Data-based targeting in political campaigns within multi-party democracies could give smaller parties a chance to effectively communicate with potential voters despite lower financial opportunities (Haller & Kruschinski, 2020).

In summary, the actual application of personalisation through targeting in political campaigns on social media, no matter if based on personal predispositions like personality traits or political issues, remains unclear. Therefore, we propose an analysis of topic diversity by comparing paid and organic political social media content of the Australian federal election campaign 2022. Through this, we aim to better understand similarities or differences in campaign messages depending on (potential) usage of targeting.

### 3. Topics for Persuasion: Issues, People, or Attacks?

Political actors can draw from a myriad of communication strategies to sway opinions of potential voters. One notable approach in the realm of political persuasion on social media is microtargeting, which involves tailoring messages to specific, smaller target groups that, for instance, share a particular interest, private traits, or align with a party's position on an issue (Papakyriakopoulos et al., 2018). This would allow political parties to address critical issues that resonate with specific demographics or other predispositions within their voter base. However, it is essential to acknowledge the potential consequences of such targeting strategies: "issue-based microtargeting might contribute to a fragmentation of the public sphere" (Dobber et al., 2022, p. 38). Hence, by focusing on narrow subsets of the population, there is a risk of losing a common ground and reinforcing existing biases (Witzleb & Paterson, 2021). Research analysing political social media advertising during the General election 2019 in Spain sheds light on the prevailing trends in political campaigning. Sánchez-Junqueras (2022) found a greater emphasis on candidates than political issues. This observation suggests that, despite the potential to employ more profound strategies that target citizens' interests and positions on various issues, within political advertising the promotion of candidates is still the main priority.

While persuasive communication content could, as mentioned above, include specific issues, candidates, or parties, the salience of the message can also be adjusted. Some politicians might try to underline their own abilities or ideas, others use negative descriptions of competitors. Haselmayer (2019) expects a higher usage of negative campaigning on social media due to their direct and ungated nature. While the effectiveness of negative appeals in campaigns is disputed, a relation to overall decreases of trust in government is a larger concern for democracies (Lau et al., 2007). Research on the effects of political microtargeting found that addressing emotions can impact persuasion (Zarouali et al., 2020). Further research underlines a trend towards more negativity in political campaigns (Klinger et al., 2023). While overall, in the complex arena of election campaigns, the approach to persuasive messaging varies, targeting potentially allows parties to connect with specific groups on pertinent issues, that might be emotionally charged. Hence, the usage of targeting carries the risk of further fragmenting the public sphere not only on issues but also affective arousal. Additionally, the emphasis on candidates over issues, as observed in recent political advertising, raises questions about the depth of engagement with substantive policy matters during election campaigns. Understanding the usage of political issues within election campaigns is thus crucial within the ever-evolving landscape of political communication. The balance between personalised, probably more engaging content, and a healthy public discourse remains a central challenge in modern democracy.

This study contributes to the understanding of political actors' use of issues and other topics on social media during an election campaign by comparing organic and paid content. While organic content is openly addressed to followers who potentially are already in favour of the sending party, and a broader audience, more critical issues might be spread through paid content to smaller target groups that put relevance on these specific issues and agree with the party's position on it. Hence, we seek to answer the following question: Which topics will be raised on social media in the 2022 Australian federal election campaign?

More precisely we will analyse how the variety of topics differs between (RQ1) type of content (organic vs. paid), (RQ2) type of sender (party pages vs. candidate pages), and (RQ3) different parties (considering organic vs. paid content, party vs. candidate pages). Hence, two distinct topic models are used to analyse whether topic variety is larger in potentially (micro-)targeted campaign communication than non-targeted organic content.

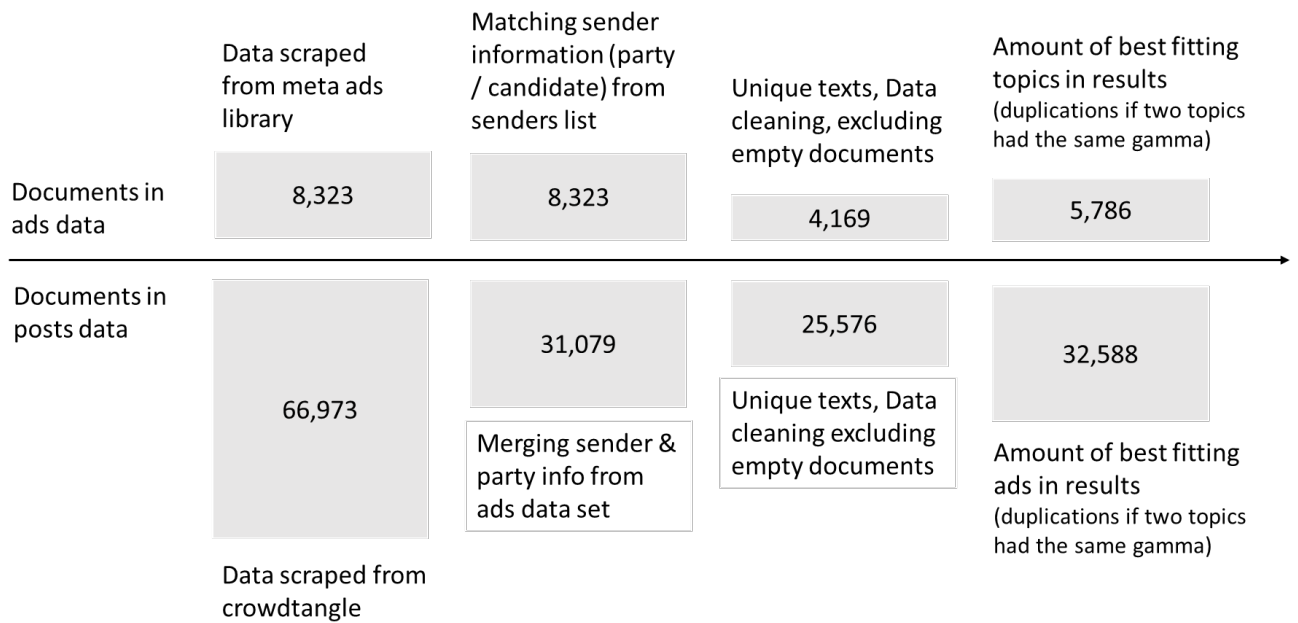
#### **4. Method**

The following section describes the methods we applied, which were approved by the Human Research Ethics Committee at Queensland University of Technology.

##### *2.1 Data*

We gathered content from Facebook and Instagram that was published between April 10<sup>th</sup> (election announcement) and May 20<sup>th</sup> 2022 (day before election). Data collection was based on a comprehensive list of relevant political Facebook and Instagram pages from Australia. The list is informed by the Australian Electoral Commission (AEC) database of registered political candidates. Using the AEC data, our team manually located all associated Meta pages and accounts for these candidates and parties, coding pages into two categories describing declared party affiliation (party) and whether the page was for an individual candidate, a party, or another political/lobby/issue organisation (candidate). In addition, we collected all political ad documents from the Meta Ad Transparency Library that were published during the campaign period in Australia, and also manually sorted and coded relevant senders of paid content (parties, candidates, and other political organisations or campaign pages).

The final list for data scrapping incorporated 1,392 pages. Paid content ( $n_{ads} = 8,323$ ) was collected from the Meta Ad Transparency Library. Organic content ( $n_{posts} = 66,973$ ) was collected using Meta's official data gathering tool, CrowdTangle. All fields of data containing text were converted into a single field, duplicates were deleted, and the manually coded party and candidate information were matched with the original list. HTML codes, URLs, special characters, numbers, and stopwords were removed and rows with less than three words were excluded. We performed the same process on the post data (see figure 1), the full process of data collection and preparation is described in the supplemental material.



**Figure 1.** Amount of ad and post documents throughout the data cleaning process.

## 2.2 Topic Modelling

We conducted LDA topic modelling using RStudio (version 2023.06.1) for our data analysis. The analysis was done separately for each data set (paid and unpaid) to enlighten the assumed broader topic variety due to potential targeting within the paid data set. Our first aim was to find the optimal number of topics for each data set. Hence, we created a document term matrix (stemming, unigrams), excluding terms that occurred less than twice, and plotted metrics indicating the optimal number of topics (k) for up to 50 topics. Through analysing peaks, we found optimal values for the ads data for 16, 20, 24, and 28 topics. We repeated this procedure for the post data set, indicating possible numbers of topics at 21, 26, 36, 45, or 48 (for further information see supplementary files). We ran LDA models for the proposed number of topics and used the topic diagnostic metrics (see supplementary files), and the top 20 terms per topic to interpret and name each topic and evaluate the quality of each model. Due to overlaps between topics or semantic irrelevance of top terms the LDA model with 16 topics matched our ads data best (table 1). For the posts data, the 26-topic-model had the best semantic fit (table 2).

**Table 1.** Topic, manual description, and top terms for the 16 topic-model of campaign ads.

Topic	Description	Top 20 terms
1	Health care	care, health, medicar, access, ag, make, peopl, mental, deserv, system, cheaper, urgent, australian, healthcar, child, time, clinic, easier, hospit, doctor

Topic	Description	Top 20 terms
2	Community work	commun, local, work, im, continu, support, hard, canberra, feder, proud, repres, parliament, ensur, advoc, part, iv, voic, help, strong, run
3	Small businesses and finances	busi, back, year, tax, small, time, put, dont, worker, econom, industri, monei, record, rate, made, budget, pai, polici, low, gener
4	Campaign events	great, today, campaign, join, volunt, dai, issu, meet, minist, resid, safe, sign, week, event, share, chat, love, talk, serv, morn
5	Government change (anti-government)	morrison, candid, scott, fight, sydney, peopl, north, integr, parramatta, stand, thing, elector, auspol, restor, matter, time, win, deserv, leadership, show
6	Investments / infrastructure	upgrad, million, road, fund, park, project, reelect, commit, facil, govern, club, announc, deliv, sport, includ, centr, reserv, citi, light, safeti
7	Job security & Future (renewable energy)	plan, futur, job, strong, economi, stronger, build, secur, local, creat, invest, manufactur, energi, renew, boost, opportun, emiss, part, reduc, bring
8	Small party issues	peopl, anim, parti, polit, protect, queensland, voic, senat, live, justic, flood, environ, stop, chang, end, brisban, parliament, right, take, bill
9	Family and education	famili, make, work, school, educ, place, ensur, life, women, childcar, rais, live, children, learn, young, kid, student, start, tafe, high
10	(Anti-) corruption,	labor, govern, albanes, south, risk, commiss, wa, anthoni, divis, elector, corrupt, establish, invest, northern, mcgowan, bank, thousand, toni, anticorrupt, follow
11	Local issues (Crime, infrastructure, veterans)	local, support, region, servic, invest, provid, million, infrastructur, import, fund, coast, area, veteran, central, program, improv, announc, includ, defenc, connect
12	Local infrastructure	deliv, liber, feder, govern, member, mp, support, team, lnp, new, minist, water, macquari, pat, blue, hawkesburi, help, bradfield, releas, wilson
13	Nation, freedom, UAP	australia, nation, parti, liber, australian, unit, candid, choic, countri, freedom, good, major, polici, clear, world, face, level, let, democrat, real
14	Election procedure	vote, elect, independ, dai, pm, open, make, visit, find, st, earli, prepol, saturdai, enrol, number, centr, call, poll, cast, chanc



Topic	Description	Top 20 terms
15	Green policies	green, vote, nsw, climat, chang, action, power, real, authoris, free, dental, crisi, give, suit, broadwai, glebe, david, hayden, big, coal
16	Housing & cost of living (health and social services)	home, australiam, cost, live, year, hous, afford, save, mean, increas, card, govern, bui, price, cut, pension, medic, benefit, pressur, scheme

*Notes:* The description of the topics was manually assigned based on the top terms; top terms are shown in the cleaned version, meaning endings were simplified to improve the analysis; the numbers of the topics are the ones originally assigned in the analysis and will be used continuously throughout the paper.

**Table 2.** Topic, manual description, and top terms for the 26 topic-model of campaign posts.

Topic	Description	Top 20 terms
1	Climate action & change	green, chang, climat, nsw, action, power, real, make, polici, big, free, futur, authoris, elect, put, vote, ga, let, kick, balanc
2	Equal rights (people / women)	peopl, work, women, nation, support, fight, art, countri, worker, stand, stori, violenc, year, heart, full, equal, parliament, issu, achiev, advoc
3	Government critique (anticorruption, integrity)	morrison, govern, scott, nation, labor, minist, risk, commiss, prime, year, promis, feder, trust, dont, coalit, integr, anticorrupt, scomo, mackellar, back
4	Campaign events / meetings	great, morn, local, chat, talk, good, stop, lot, today, afternoon, meet, catch, team, station, market, love, drop, shop, coffe, beauti
5	Community work	commun, support, local, work, great, member, organis, group, visit, grant, proud, continu, part, import, wonder, melbourn, assist, recent, help, centr
6	Community spaces, sports	club, park, commun, sport, local, facil, upgrad, plai, footbal, commit, beach, game, hill, light, team, activ, includ, room, particip, netbal
7	Energy and emissions	australia, energi, industri, renew, world, fuel, mine, environ, electr, emiss, product, power, coal, creat, develop, job, protect, farmer, reduc, carbon

Topic	Description	Top 20 terms
8	Health care	health, medicar, australian, access, make, mental, care, hospit, medic, cut, urgent, mean, govern, strengthen, doctor, servic, gp, clinic, year, healthcar
9	Education and families	work, support, school, make, young, famili, educ, children, student, kid, train, place, hard, life, learn, univers, opportun, back, import, peopl
10	Jobs and economy	busi, job, futur, economi, plan, strong, local, stronger, small, creat, secur, australia, deliv, build, back, invest, manufactur, support, econom, grow
11	Representation	vote, elect, independ, parti, make, canberra, number, dont, im, repres, major, candid, voter, run, prefer, seat, parliament, voic, put, thing
12	MP, politicians work and meetings	mp, todai, senat, join, great, minist, member, david, andrew, yesterdai, fantast, hunter, mark, leader, colleagu, newcastl, peter, state, citi, mayor
13	Prepoll, election process	vote, pm, prepol, earli, open, centr, st, todai, poll, dai, elect, enrol, start, detail, booth, locat, mondai, street, hall, check
14	Regional/ local/ small parties	liber, parti, feder, senat, australia, candid, democrat, elect, wa, countri, back, john, perth, freedom, unit, northern, stand, choic, territori, ryan
15	Labor campaign issues	labor, care, albanes, ag, plan, futur, anthoni, deserv, fix, nurs, govern, cheaper, child, worker, famili, australian, resid, secur, crisi, tasmania
16	Holidays	dai, time, love, famili, happi, todai, easter, celebr, mum, friend, mother, weekend, hope, wonder, long, beauti, special, year, enjoj, spend
17	Investments, Infrastructure	million, govern, fund, invest, announc, region, deliv, commit, provid, project, program, improv, upgrad, infrastructur, build, connect, reelect, addit, feder, support
18	Housing (prices)	home, hous, australian, peopl, make, afford, year, govern, bui, price, build, scheme, save, market, plan, time, help, super, thousand, increas
19	Campaign team	campaign, volunt, week, team, sign, elect, im, time, hand, messag, big, launch, door, call, readi, offic, amaz, put, dai, weve

Topic	Description	Top 20 terms
20	Protection, law, justice	protect, anim, end, law, justic, media, made, peopl, australia, live, social, australian, covid, safe, onlin, state, report, stop, human, countri
21	Income and taxes	live, cost, tax, pai, year, australian, wage, rate, monei, rise, increas, cut, econom, govern, pension, ndi, disabl, interest, real, lower
22	Anzac & veterans	servic, dai, todai, anzac, veteran, australian, honour, rememb, forget, serv, rsl, nation, war, defenc, year, attend, memori, countri, move, forc
23	Floods, roads, weather	road, local, council, region, flood, area, town, bai, river, shire, creek, resid, highwai, citi, weather, water, work, disast, recoveri, drive
24	Australian politics (general, government, election)	auspol, polit, polici, parti, australia, fusion, peopl, govern, public, ausvot, elect, democraci, donat, account, integr, feder, time, inform, page, fair
25	Candidates at events, speaking, discussions	candid, event, night, meet, issu, hear, discuss, question, post, tonight, join, forum, listen, host, ill, forward, speak, link, invit, reshar
26	States, cities	queensland, new, sydney, australia, north, lnp, coast, brisban, south, time, central, west, australian, fight, qld, authoris, start, im, major, win

*Notes:* The description of the topics was manually assigned based on the top terms; top terms are shown in the cleaned version, meaning endings were simplified to improve the analysis; the numbers of the topics are the ones originally assigned in the analysis and will be used continuously throughout the paper.

### 5. Topic diversity: paid vs. organic

To evaluate the diversity of topics in comparison of ads and posts (RQ1), we first calculated the share of topics per document. Although our data cleaning and possible limitations of Meta (availability of ad data) might have influenced the amount of data we could gather, we still tried to get an idea of the proportion of topics per document ( $k/n$ ) for paid (0.38%) and organic (0.10%) campaign content. This indicates a wider diversity of topics per document within paid content, which could also benefit from better targeting of audiences (e.g., through microtargeting) that are more receptive to certain topics. However, since completeness of the data cannot be ensured in this study, we mainly focus on the semantic content of our topics when evaluating the diversity of the different topics in the organic and paid data. We therefore manually categorised the topics that were automatically analysed using the distinct topic models and sorted those according to similarity and difference (table 3).

**Table 3.** Results of semantic topic comparison depicting similar and different topics in ads and posts data.

Similarities		Differences	
Topic ads	Topic posts	Topics ads	Topics posts
1 Health care	8 Health care	10 (Anti-) corruption	2 Equal rights
14 Election procedure	13 Pre poll, election process	13 Nation / freedom / UAP	6 Community spaces, sports
16 Housing & cost of living (medicine)	18 Housing (prices)	3 Small businesses and finances	11 Representation
2 Community work	5 Community work		12 MP, politicians work
4 Campaign events	4 Campaign events / meetings		15 Labor campaign issues
5 Government change (anti-government)	3 Government critique, 24 Australian politics (government)		16 Holidays
6 Investments, infrastructure	17 Investments, Infrastructure		19 Campaign team
9 Family and education	9 Education and families		21 Income and taxes
11 Local issues (Crime, infrastructure, veterans?)	22 Anzac & veterans, 20 Protection, law, justice		23 Floods, roads, weather
12 Local infrastructure	14 Regional/Local/small parties		25 Candidates at events, speaking, discussions
7 Job security & Future (energy)	10 Jobs and economy, 7 Energy and emissions		26 States, cities
8 Small party issues (animal justice, Queensland)	14 Regional/Local/small parties		
15 Green policies	1 Climate action		

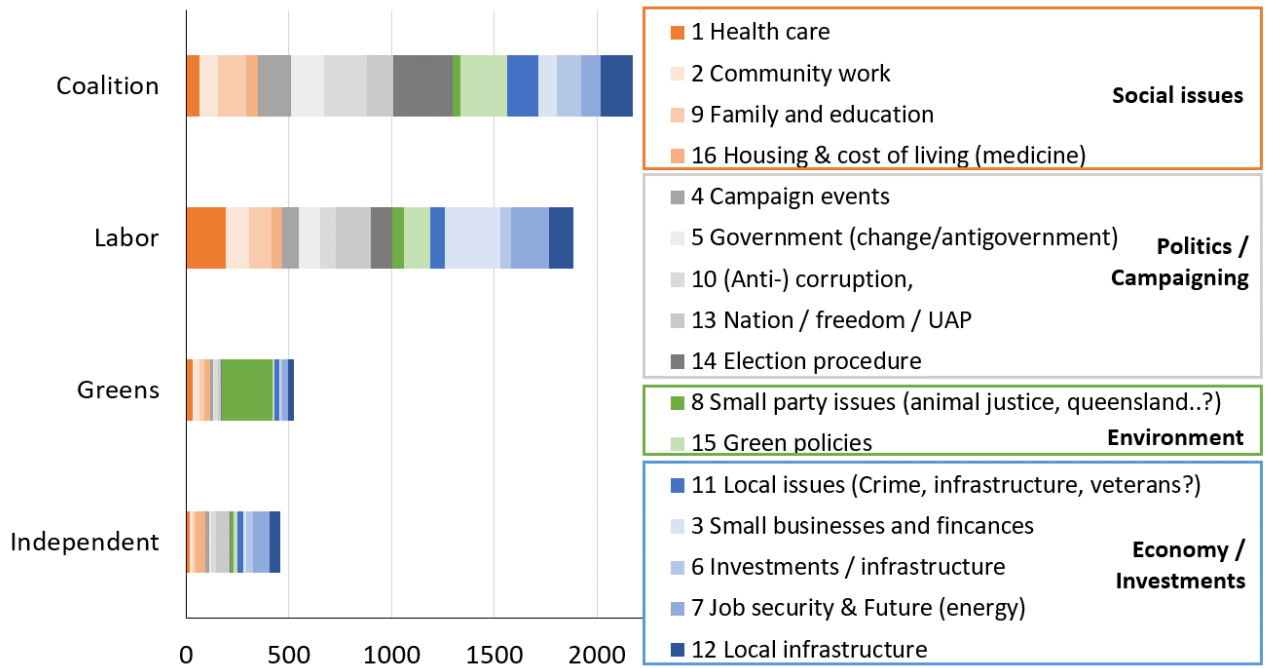
*Notes:* The similarities and differences of the analysed topics were manually derived based on the overall topic descriptions and the keywords of the original topic; topic numbers are the same as presented in tables 1 and 2.

With 13 ad topics that were either closely ( $n = 8$ ) or at least similarly ( $n = 5$ ) matched across the content of organic and paid posts, differences in content between paid and organic social media communication do not appear to be systematically driven. The three ad topics that were different from the post content all reflected political or ideological issues. In contrast, distinct topics in the organic posts ( $n = 11$ ) contained mostly neutral campaign information, meaning a broader variety of overall campaign information in unpaid content. However, four of the 26 post topics that differed from the ad topics focused on political issues (2 *Equal rights*, 6 *Community spaces, sports*, 21 *Income and taxes*, 15 *Labor campaign issues*). Hence, it seems that overall ads content was more issue driven than the organic campaign content.

All in all, the topics that were found in our models using both ads and posts reflect the main policy issues voters reported after the election in the Australian Election Study (AES; Cameron & McAllister, 2022). Hence, considering our first research question, we did not find systematic differences in political social media content within paid and unpaid messages. However, a small tendency towards more issue driven communication in the advertising content compared to unpaid content was found.

### 5.1 Paid Topics by Party

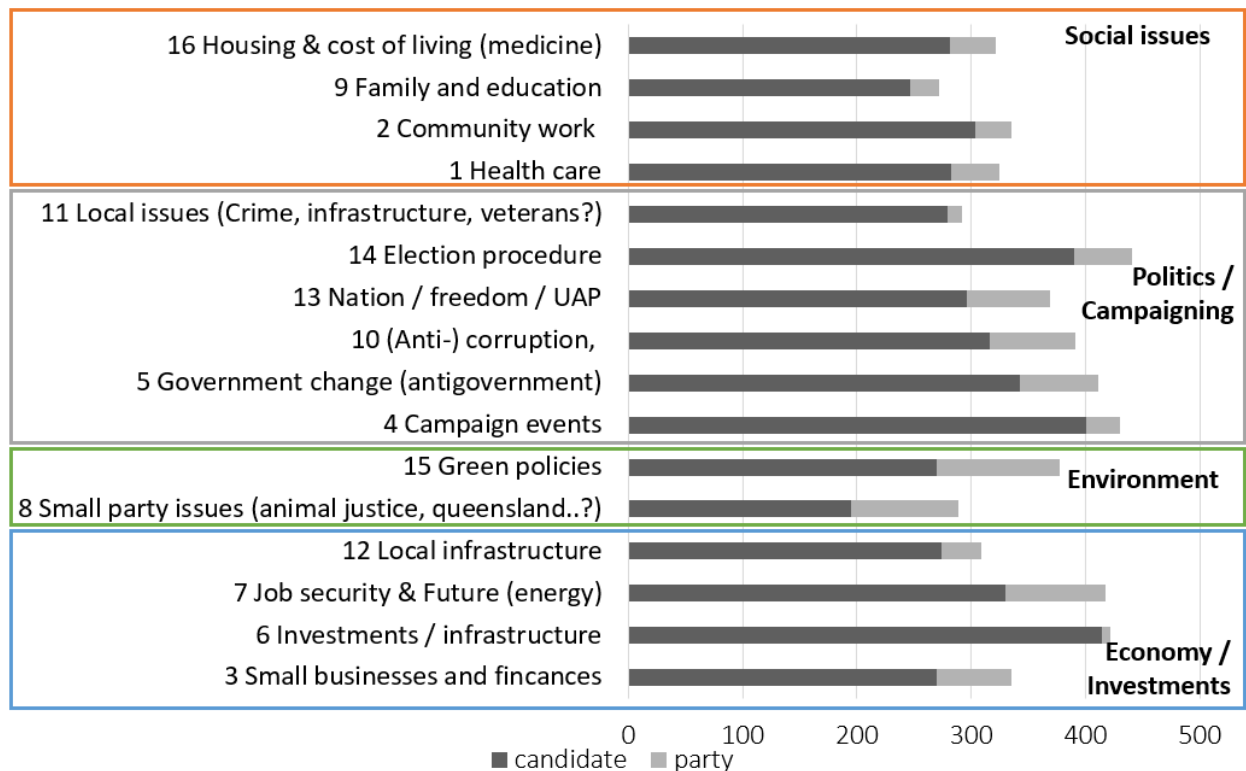
We then focused on the distribution of topics for each party's campaign advertising communication, to answer research questions two and three. To better describe the topics, similarities, and differences in comparison, we coded topic clusters that reflect the broader political or ideological content of the topics. Those clusters were: *social issues* (orange), *politics/campaigning in general* (grey), *green/environmental issues* (green), and *economic/conservative issues* (blue; see figure 2). The Labor party had the highest social media campaign budget (Arya, 2022) and thus posted most ads in our dataset. Second were the coalition parties, which again reflects the reported ad spendings on social media campaigns. Third and fourth were the Greens and independents, while minor parties posted considerably fewer ads in total. We concentrated on the top four parties based on the number of ads in our dataset for further inspection of the topic distribution (figure 2).



**Figure 2.** Share of ads topics and topic clusters of the four largest political groups: Coalition, Labor, Greens, and Independents

A detailed analysis of the use of different topics between the larger parties shows that social media ads by the conservative Coalition parties and Labor are almost equally distributed across topics from social issues to the economy. However, the Coalition seems to advertise more neutral campaign topics the *election procedure*. Labor's main social policy topic in advertising is *health care*, which was also found to be one of the most important issues for voters (see AES; Cameron & McAllister, 2022). On more politically conservative topics, Labor's ads were mainly centred on the topic *small businesses and finances*, while the Coalition focused on *local issues* including crime prevention and security or *infrastructure investments*. Quite surprising was the amount of *green policy* ads from the Coalition parties. However, additional manual screening revealed mainly negative campaigning about the Greens. The Greens strongly advertised *small party issues*, which were driven by animal and environmental protection issues without using the keyword "green"; in other words, they focused more on core green issues without actually calling them green. Lastly, independents, who also included teals: "a loosely aligned group stressing action on climate change, gender equity, and improved standards of political integrity", (McAllister, 2023, p. 4), used a broader variety of topics for advertising, with a slight tendency towards more economically focused issues, like *job security and future energy*. With a substantial number of independent teal candidates that supported policies between green and blue (liberal) issues, a focus on new technology to produce energy is not surprising.

Finally, we looked at the differences between candidate and party profiles and examined whether the candidates' personal pages emphasised different issues than the general party pages (figure 3).

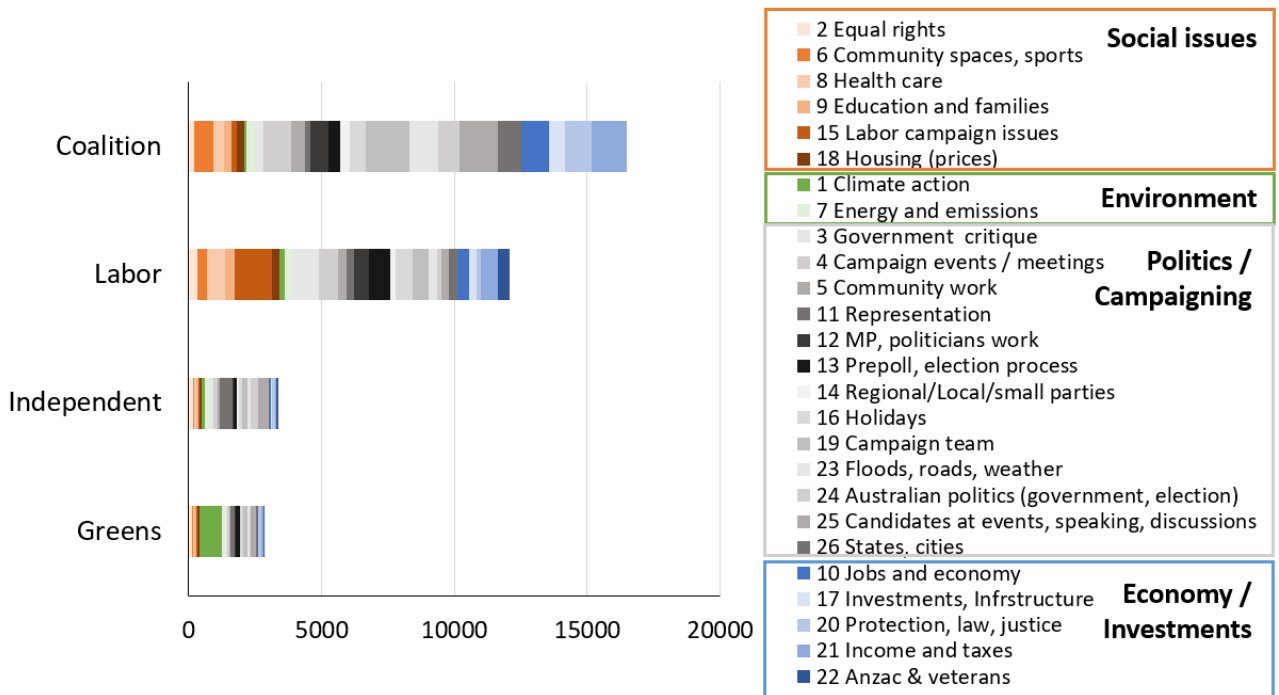


**Figure 3.** Number of ads documents by topics and sender comparing party or candidates.

In sum, the differentiation of ad topics by sending account shows that some topics are used slightly more by party than candidate accounts, even though in general the greater number of ads came from candidate profiles (RQ2). Interestingly, especially *green policies* and *small party issues* are more often advertised by parties (RQ3). One reason could be that smaller parties like the Greens or the Animal Justice Party focused their smaller campaign budget on advertising of the party accounts, or that candidate pages of these parties are not operated by campaign headquarters. While this could be seen as contradicting the idea that smaller parties could profit from targeting using more efficient personalised communication strategies (Haller & Kruschinski, 2020), the more limited capacities of smaller parties also result in less advanced advertising strategies (Kefford et al., 2023).

### 5.2 Organic Topics by Party

We then examined the distribution of topics in organic content. Again, we did this for each party's campaign organic communication first. Regarding the amount of documents, again we see that the Labor, Liberal, Green party, and independents had the largest share of organic postings. Thus, for further inspection of the topic distribution we concentrated on these senders (see figure 4).

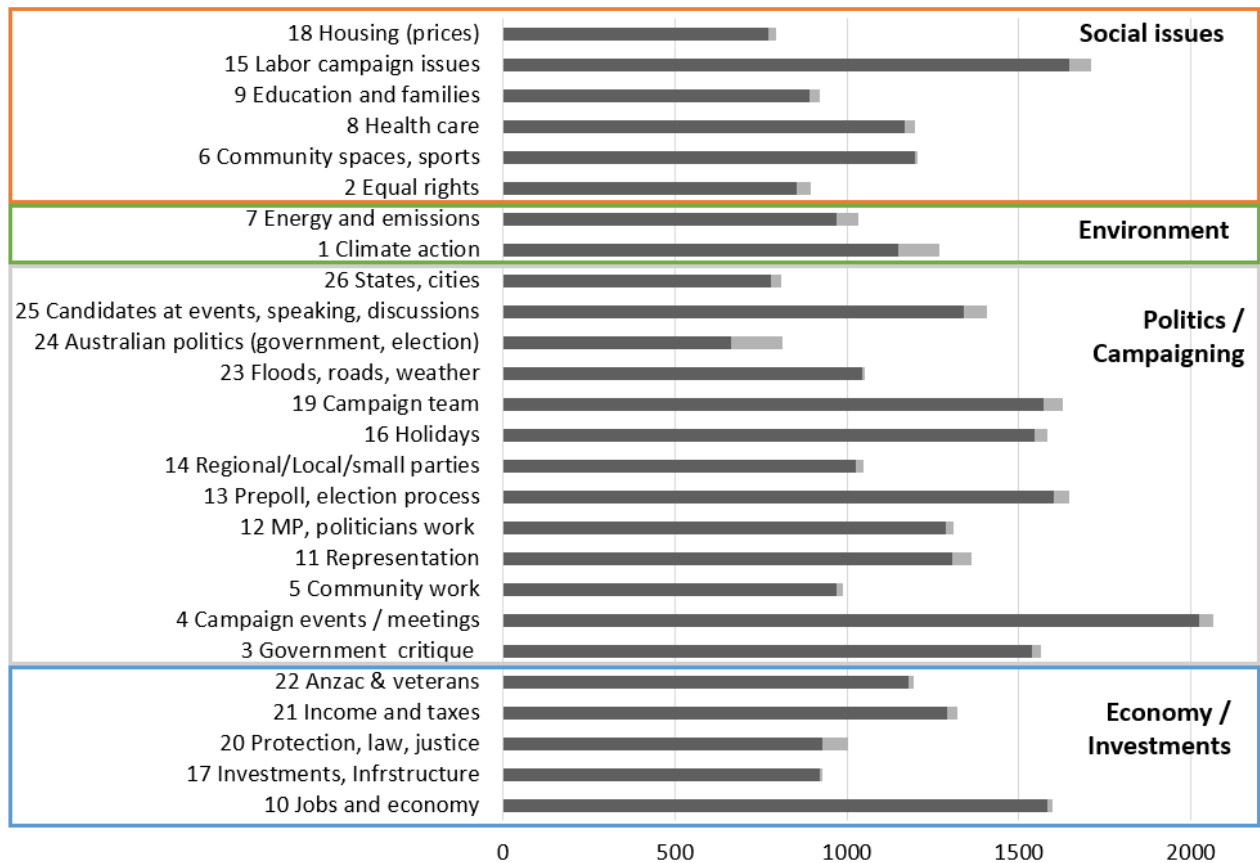


**Figure 4.** Share of posts topics and topic clusters of the four largest political groups: Coalition, Labor, Greens, and Independents.

Overall, the more issue-neutral politics and campaign topics were more frequently used in organic postings of the political actors. The Coalition strongly focuses on their campaign events and team. Their most mentioned issue-related topic is *income & taxes*. In comparison to their paid content, however, *green politics or issues* are not central to their organic campaigning. With a generally broad societal support for more climate protection and green policies, this lack of negative mentions of the Greens and their policies in organic, untargeted messages underlines the idea that personalisation through targeting could have led to spreading more niche positions (Barocas, 2012). Hence, within ads content the political opponent (here: the green party) was attacked using more negative messages, while those are not visible in more public posts (organic content). Labor again almost equally shares social and economically focused posts, representing a rather issue-based approach. Their campaign issues even form a distinct topic including, for instance, workers' rights and payment, elderly care, and similar issues, always with a focus on the party itself. Independent candidates also seem generally more focused on spreading campaign information and events. The Greens, however, stick to their main topic, *climate action*, in organic communication. While their main ads topic, *small party issues*, included *animal and environmental protection issues*, in addition to other smaller party issues, the organic topic *climate action* seems even more precisely aimed at behaviour (action).

We then also analysed the distribution of organic topics across party and candidate posts (figure 5).



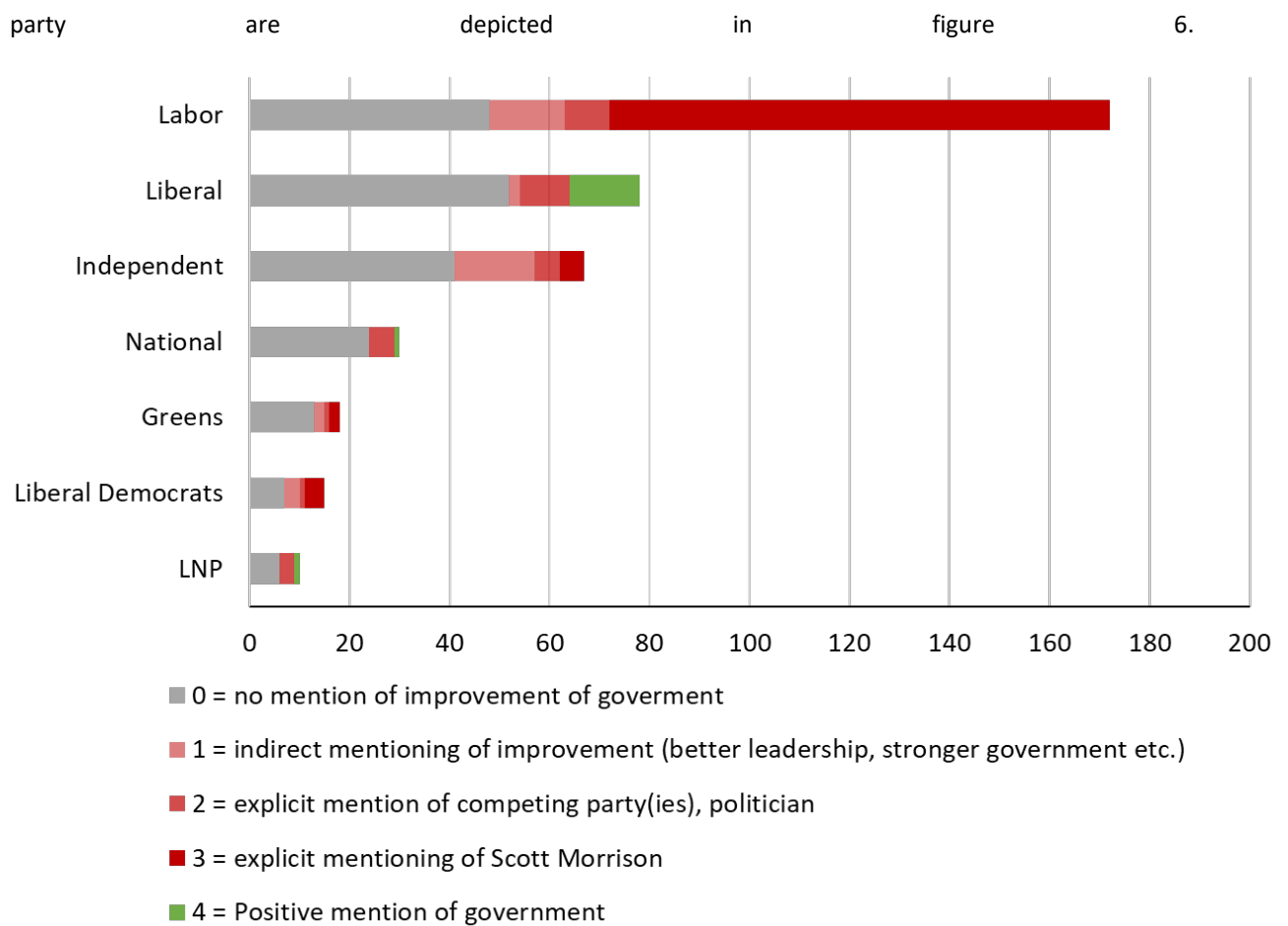


**Figure 5.** Number of posts documents by topics and sender comparing party or candidates.

Regarding our second research question, we found that organic posts during the 2022 election campaign were mainly driven by individual candidate pages. Topics that were used slightly more often by party accounts were *climate action* ( $n_{\text{Greens}} = 94$ ) and *Australian politics* ( $n_{\text{Fusion}} = 127$ ). While the key topic of the Greens was also dominated by their candidates ( $n_{\text{Greens}} = 714$ ), the Australian politics topic was mainly used by independent candidates ( $n_{\text{Independents}} = 306$ ). All in all, it becomes clearer that candidate profiles, independent of paid or organic content, are the main campaign outlet. Even if personalisation or targeting based on detailed issue-based communication almost invisible, this might entail a more citizen-centric form of personalisation. By actively following a candidate's social media account, people customise their social media feeds in favour of this candidate (Dylko, 2016). Larger parties could hence use the different audiences of their candidates for more individualised content distribution. However, based on this study, a strategic implementation as such is currently rather unlikely.

### 5.3 Exploratory analysis: Government critique

As derived above, some scholars argue that social media might drive more negative campaigning (Auter & Fine, 2016; Haselmayer, 2019; Lau et al., 2007). To further evaluate negative appeals in our data set, we turn the content of the topic *government critique* we manually coded the negativity of the messages using the qualitative content analysis approach of Mayring (2020). Five types of government critique were identified. The results per



**Figure 6.** Number of documents per type of negative appeal in the topic government critique per party.

Labor posts mentioned the Prime Minister at that time, Scott Morrison, most frequently in their attack ads. As expected, the topic also contained positive mentions of the current government by the Coalition parties. Independents mainly mentioned improvements without naming the opponent or government actors. The Greens, just like the National and Liberal parties (as government parties) have the smallest share of negative campaign content. The fringe Liberal Democrats party, just like Labor, used actual attacks more frequently, also naming Scott Morrison and other parties (mainly Labor and Green). Finally, the LNP used negative appeals for the same opposition parties (Labor and Green), stressing the risks their government would bring, often focusing on economic losses. Overall, our manual analysis of the negativity in the government critique topic contrasts assumptions from a meta-analysis of Lau and colleagues (2007), that negative campaigning is a more right-wing, smaller party strategy. However, with Labor driving *government critiques* as the largest opponent, negative appeals (at least in social media) might not be such a niche communication strategy anymore. This is in line with Haselmayer’s (2019) more recent review on negative campaigning, stating that negative appeals in social media might underly different principles.

## 6. Conclusion

Using a systematic, computational analysis of political social media content, this study investigated the question whether potentially targeted ads content would differ in variety from presumably less personalised content in organic campaign content. Theoretical assumptions stress confirmation biases, meaning that message persuasiveness increases when issues of relevance for the receivers or positions in line with their views are presented (Kunda, 1990; Nickerson, 1998). Based on that, a higher diversity of topics was expected within potentially targeted ad content than the unpaid postings. Acknowledging the potential consequences of such targeting strategies by directing attention towards specific issues or positions, there exists a looming threat of eroding a shared societal foundation and fragmenting the public sphere (Dobber et al., 2022; Witzleb & Paterson, 2021). Therefore, this study asked how the variety of topics differs between organic and paid content by also addressing the type of sender and different parties to analyse whether topic variety is larger in potentially (micro-)targeted campaign communication than non-targeted organic content.

We compared the content strategies of the different parties contesting the 2022 Australian federal election, with particular attention to the larger parties and manual topic clustering of the more left/social, neutral, environmental, and right/economic topics. This revealed that most parties' social media communication was mainly concentrated on the core topics that aligned with their political agenda. However, we found that no matter if paid or organic, government critique was a distinct topic on social media during the campaign. This clearly reflects the public mood in Australia in May 2022, with a conservative government and Prime Minister that had overstayed their welcome and were by now widely disliked. Moreover, as people following parties or candidates on social media might already be in favour of their policies, negative appeals towards opposing parties are thus spread to a supportive audience. We also find that such negative campaigning activities (government critique and green policies) were stronger in the dataset of paid content. Thus, it could be possible that parties employ more polarising issues and styles of communication when the potential audience is better known through targeting. Also, these smaller audiences might be chosen because they are likely to agree with the specific positions, and unlikely to start critical discussions.

However, as our research was based on a selection of online data and included only an analysis of the text content of organic posts and paid ads in a single Australian federal election, we cannot make broader, normative conclusions. While the large-scale automated analysis of distinct topics helped to evaluate the similarities and differences in paid and organic political content, future studies should extend our findings by adding, for instance, more guided approaches to topic definition, to identify the use of negative campaigning more precisely and perhaps also to describe communication on specific policy issues in more detail. Also, future work should aim to include audiovisual campaign content to develop a more comprehensive picture of campaign strategies.

All in all, then, this study supports the assumption that the strategic manipulation of the electorate by parties and political candidates, based on personalised targeting, was hardly an issue in the 2022 Australian federal election. However, it does find substantial evidence of political communicators emphasising negative messaging

towards the government and other parties or candidates. Using social media communication to persuade voters by focusing less on their own contributions, ideas, and policy issues than on the failures of others could have the side effect of decreasing citizens' trust in democracy and its institutions overall.

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### **Conflict of Interests**

The authors declare no conflict of interests.

### **Data Availability**

Research data is not publicly available.

### **Supplementary Material**

Supplementary material for this article is available online in the format provided by the authors (unedited).

### **References**

- Arya, P. (2022). *Political advertising on social media platforms during the 2022 federal election*. <https://australiainstitute.org.au/wp-content/uploads/2022/06/Political-advertising-on-social-media-platforms-WEB.pdf>
- Auter, Z. J., & Fine, J. A. (2016). Negative Campaigning in the Social Media Age: Attack Advertising on Facebook. *Political Behavior*, 38(4), 999–1020. <https://doi.org/10.1007/s11109-016-9346-8>
- Bakker, T. P., & de Vreese, C. H. (2011). Good news for the future? young people, internet use, and political participation. *Communication Research*, 38(4), 451–470. <https://doi.org/10.1177/0093650210381738>
- Barocas, S. (2012). The Price of Precision: Voter Microtargeting and Its Potential Harms to the Democratic Process. *Proceedings of the First Edition Workshop on Politics, Elections, and Data (PLEAD)*. <https://doi.org/10.1145/2389661.2389671>

- Bene, M., Farkas, X., & Burai, K. (2021). Same Strategy, but Different Content. Hungarian Parties' Facebook Campaign During the 2019 EP Election. In *Campaigning on Facebook in the 2019 European Parliament Election, Political Campaigning and Communication* (pp. 119–134).  
[https://doi.org/https://doi.org/10.1007/978-3-030-73851-8\\_8](https://doi.org/https://doi.org/10.1007/978-3-030-73851-8_8) 119
- Benoit, W. L., Leshner, G. M., & Chattopadhyay, S. (2007). A Meta-Analysis of Political Advertising. *Human Communication, 10*(4), 507–522.
- Brady, H. E., Johnston, R., & Sides, J. (2006). The study of political campaigns. In H. E. Brady & R. Johnston (Eds.), *Capturing Campaign Effects* (pp. 1–26). University of Michigan Press.
- Cameron, S., & McAllister, I. (2022). The 2022 Australian federal election: Results from the Australian election study. *Australian National University, 1*, 1–476. <https://australianelectionstudy.org>
- Decker, H., & Krämer, N. (2023). Is personality key? Persuasive effects of prior attitudes and personality in political microtargeting. *Media and Communication, 11*(3), 250–261.  
<https://doi.org/10.17645/mac.v11i3.6627>
- Dobber, T., Trilling, D., Helberger, N., & de Vreese, C. (2022). Effects of an issue-based microtargeting campaign: A small-scale field experiment in a multi-party setting. *The Information Society, 39*(1), 1–10.  
<https://doi.org/10.1080/01972243.2022.2134240>
- Dylko, I. B. (2016). How technology encourages political selective exposure. *Communication Theory, 26*(4), 389–409. <https://doi.org/10.1111/comt.12089>
- Esau, K., Choucair, T., Vilkins, S., Svegaard, S., Bruns, A., Connor, O., & Lubicz, C. (2023). Destructive Political Polarization in the Context of Digital Communication – A Critical Literature Review and Conceptual Framework. *73rd Annual ICA Conference Toronto*, 1–22.
- Festinger, L. (1957). *A theory of cognitive dissonance* (2nd ed.). Stanford University Press.
- Haenschen, K., & Jennings, J. (2019). Mobilizing Millennial Voters with Targeted Internet Advertisements: A Field Experiment. *Political Communication, 36*(3), 357–375.  
<https://doi.org/10.1080/10584609.2018.1548530>
- Haller, A., & Kruschinski, S. (2020). Politisches Microtargeting. Eine normative Analyse von datenbasierten Strategien gezielter Wähler\_innenansprache. *Communicatio Socialis, 53*(4), 519–530.  
<https://doi.org/10.5771/0010-3497-2020-4-519>
- Haselmayer, M. (2019). Negative campaigning and its consequences: a review and a look ahead. *French Politics, 17*(3), 355–372. <https://doi.org/10.1057/s41253-019-00084-8>

- Heawood, J. (2018). Pseudo-public political speech: Democratic implications of the Cambridge Analytica scandal. *Information Polity*, 23(4), 429–434. <https://doi.org/10.3233/IP-180009>
- Kefford, G., Dommett, K., Baldwin-Philippi, J., Bannerman, S., Dobber, T., Kruschinski, S., & Rzepecki, E. (2023). Data-driven campaigning and democratic disruption: Evidence from six advanced democracies. *Party Politics*, 29(3), 448–462. <https://doi.org/10.1177/13540688221084039>
- Klinger, U., Koc-Michalska, K., & Russmann, U. (2023). Are Campaigns Getting Uglier, and Who Is to Blame? Negativity, Dramatization and Populism on Facebook in the 2014 and 2019 EP Election Campaigns. *Political Communication*, 40(3), 263–282. <https://doi.org/10.1080/10584609.2022.2133198>
- Kosinski, M., Stillwell, D., & Graepel, T. (2013). Private traits and attributes are predictable from digital records of human behavior. *Proceedings of the National Academy of Sciences*, 110(15), 5802–5805. <https://doi.org/10.1073/pnas.1218772110>
- Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, 108(3), 480–498. <https://doi.org/10.1037/0033-2909.108.3.480>
- Lau, R. R., Sigelman, L., & Rovner, I. B. (2007). The effects of negative political campaigns: A meta-analytic reassessment. *Journal of Politics*, 69(4), 1176–1209. <https://doi.org/10.1111/j.1468-2508.2007.00618.x>
- Lewandowsky, S., Smillie, L., Garcia, D., Hertwig, R., Weatherall, J., Egidy, S., Robertson, R. E., O'Connor, C., Kozyreva, A., Lorenz-Spreen, P., Blaschke, Y., & Leiser, M. (2020). *Technology and democracy: Understanding the influence of online technologies on political behaviour and decision-making*. <https://doi.org/10.2760/709177>
- Lodge, M., & Taber, C. S. (2013). *The rationalizing voter*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139032490>
- McAllister, I. (2023). Party explanations for the 2022 Australian election result\*. *Australian Journal of Political Science*, 1–17. <https://doi.org/10.1080/10361146.2023.2257611>
- Nickerson, R. S. (1998). Confirmation Bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, 2(2), 175–220. <https://doi.org/10.1037/1089-2680.2.2.175>
- Papakyriakopoulos, O., Hegelich, S., Shahrezaye, M., & Medina Serrano, J. C. (2018). Social media and microtargeting: Political data processing and the consequences for Germany. *Big Data and Society*, 5(2). <https://doi.org/10.1177/2053951718811844>
- Petty, R. E., & Cacioppo, J. T. (1986). The Elaboration Likelihood Model of Persuasion. In *Advances in Experimental Psychology* (Vol. 19, pp. 123–205). Springer. [22](https://doi.org/10.1016/S0065-</a></p></div><div data-bbox=)

[2601\(08\)60214-2](#)

- Rackaway, C. (2023). A New World of Campaigning. In *Communicating Politics Online* (pp. 71–84). Springer Nature. [https://doi.org/https://doi.org/10.1007/978-3-031-24056-0\\_6](https://doi.org/https://doi.org/10.1007/978-3-031-24056-0_6)
- Sánchez-Junqueras, J. (2022). Political advertising on social media: Issues sponsored on Facebook ads during the 2019 General Elections in Spain. *Communication & Society*, 35(3), 33–49. <https://doi.org/10.15581/003.35.3.33-49>
- Simchon, A., Edwards, M., & Lewandowsky, S. (2024). The persuasive effects of political microtargeting in the age of generative artificial intelligence. *PNAS Nexus*, 3(2), 1–5. <https://doi.org/10.1093/pnasnexus/pgae035>
- Taber, C. S., Cann, D., & Kucsova, S. (2009). The motivated processing of political arguments. *Political Behavior*, 31(2), 137–155. <https://doi.org/10.1007/s11109-008-9075-8>
- Tappin, B. M., Wittenberg, C., Hewitt, L. B., Berinsky, A. J., & Rand, D. G. (2023). Quantifying the potential persuasive returns to political microtargeting. *Political Sciences*, 120(25), 1–10. <https://doi.org/10.1073/pnas.2216261120>
- Wischnewski, M. (2022). *Misinformation on social media: Investigating motivated reasoning through an identity-protection model* [Universität Duisburg-Essen]. <https://doi.org/10.17185/duerpublico/75400>
- Witzleb, N., & Paterson, M. (2021). Data-Driven Personalisation in Markets, Politics and Law. In U. Kohl & J. Eisler (Eds.), *Data-Driven Personalisation in Markets, Politics and Law*. Cambridge University Press. <https://doi.org/10.1017/9781108891325>
- Zarouali, B., Dobber, T., De Pauw, G., & de Vreese, C. (2020). Using a Personality-Profiling Algorithm to Investigate Political Microtargeting: Assessing the Persuasion Effects of Personality-Tailored Ads on Social Media. *Communication Research*, 49(8), 1066–1091. <https://doi.org/10.1177/0093650220961965>

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