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台灣政治中的臉書廣告：

2024 年區域立委候選人的內容策略與受眾規模分析

Meta Ads in Taiwanese Politics: An Analysis of Content
Strategies and Audience Targeting in the 2024 Regional
Legislative Election

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謝辭



「只要努力寫，天天寫，總會等到可以寫謝誌的那一天。」現在這一天總算在 36 度的酷暑中來臨了。沒有抵達馬拉松終點般的喜悅；比較像是一列火車，翻山越嶺，終於抵達了下一站，暫時停靠後，還要前往下個目的地。

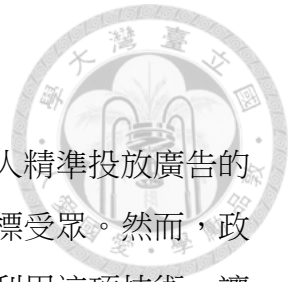
在就讀新聞所以及撰寫論文的過程中，受過許多人的幫助。謝謝曾經接受我們採訪的受訪者、在報導及寫作上給予我許多啟發的新聞所老師，還有在報導之外也不時傳來加油打氣的同學們。謝謝在大綱審查、論文口試都給予我許多建議的詩嫻老師與吉隆老師，還有在撰寫論文過程中一直很信任學生的好迪老師。最後，也要謝謝從小到大一路栽培我的爸爸媽媽，以及在台大的這八年始終一起奮鬥、互相砥礪的柔妤。有你們，我才能順利完成學業，也才能更有信心面對前方的挑戰。

現在二十六歲。邁入人生下個階段之際，希望自己帶著這三年獲得的經驗與體悟，勇敢前行。

陳浩瑋

2024.7.27

中文摘要



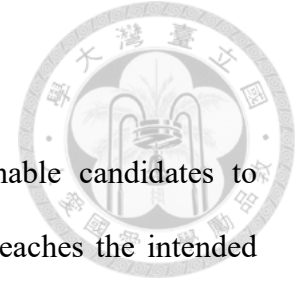
有別於電視廣告或是大型廣告看板，臉書廣告提供了候選人精準投放廣告的功能。候選人得使用低廉的價格，精準地將廣告內容投放給目標受眾。然而，政治廣告技術的進步不僅帶來便利，也帶來了隱憂。候選人可以利用這項技術，讓假訊息或是不利於對手的資訊僅存在於少數選民的動態牆（newsfeed）上。臉書廣告有可能成為不實資訊的溫床，或降低公眾討論的可能性。在這樣的背景下，研究自 Meta 廣告資料庫（Meta Ad Library）下載了 2024 年區域立委候選人的廣告資料，從候選人臉書廣告中的主題、風格、功能，以及這些廣告的花費、曝光次數及預估受眾規模，了解台灣競選政治廣告的面貌，以及分析「隱藏貼文（dark posts）」的可能性。

研究分成三部分。第一部分採用迴歸分析，了解候選人之年紀、政黨、選區、執政狀態、選情對於投入廣告預算的關係。同時，也會帶入平等化與均值化假設之辯論。第二部分先採用內容分析法，將廣告編碼。再從議題所有權理論的角度，使用迴歸分析了解不同的候選人型態是否投放了不同的廣告內容。第三部分專注於討論廣告的「預估受眾規模（estimated audience size）」，嘗試歸納候選人投放的策略為何，以及隱藏貼文是否存在。

研究發現，作為挑戰者以及處在激烈選區的候選人顯著花費較多廣告預算。且臉書廣告給予小黨更有效觸及選民的機會。在內容方面，大部分的廣告內容以正面的個人資訊為主；負面攻擊廣告、談論議題或政策的廣告皆為少數。另外，負面廣告及議題相關討論少，加上國民黨、民進黨投放的內容與政黨呈現高度連結，顯示大黨傾向於使用臉書廣告動員群眾，而非透過議題倡議吸引中間選民。在廣告功能方面，逾半數的廣告以傳遞資訊為目標，而僅有以動員為目標的廣告呈現明顯時間趨勢，隨選舉接近而增加。最後，大多數廣告以較為廣泛的大眾為目標受眾，預估受眾規模的數值在本研究中也僅能以策略差異作結，隱藏貼文的疑慮在本次選舉並不明顯。

關鍵字：台灣選舉、立法委員選舉、政治廣告、臉書廣告、Meta 廣告資料庫、精準投放、隱藏貼文

Abstract



Unlike television ads or large billboards, Facebook ads enable candidates to microtarget their advertisements cheaply and ensure that content reaches the intended audience. However, this advancement in political ad technology raises concerns about disseminating misinformation and reducing public discourse opportunities. This study examines the 2024 regional legislative candidates' ad data from the Meta Ad Library, analyzing the topics, styles, functions, spending, exposure, and estimated audience size of candidates' Facebook ads to understand the landscape of political campaign advertising in Taiwan and the potential for dark posts.

The research is divided into three parts. The first part uses regression analysis to explore the relationship between candidates' parties, ages, constituencies, incumbency status, election competitiveness, and advertising budgets, addressing the debate on normalization and equalization hypotheses. The second part employs content analysis and regression analysis from the perspective of issue ownership theory to determine if different types of candidates are associated with different ad content. The third part focuses on the "estimated audience size" of the ads to deduce the candidates' targeting strategies and the presence of dark posts.

The study finds that challengers and candidates in highly competitive constituencies spend significantly more on advertising. Also, Meta ads provide small parties with compelling opportunities to reach voters. Regarding the contents, most ads focus on positive personal information, with fewer negative attack ads and issue-based ads. Additionally, the scarcity of negative advertisements and issue-centered discussions, combined with the highly partisan content from KMT and DPP, indicates that significant parties use Facebook advertisements to mobilize their base rather than attract swing voters

with issue advocacies. In terms of advertising functions, more than half of the advertisements aim to convey information. Only ads targeting mobilization show a clear temporal trend, increasing as the election approaches. Lastly, most ads target a relatively wide range of voters, and differences in estimated audience size indicate strategic variations rather than a prominent concern for dark posts in this election.

Keywords: Taiwanese election, legislative election, political advertisement, Facebook advertisement, Meta Ad Library, microtargeting, dark post

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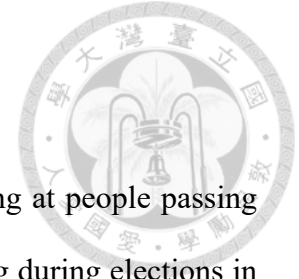


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I. Introduction



Vehicle advertising, street corner rallies, and candidates waving at people passing by at major intersections have long been a repertoire of campaigning during elections in Taiwan. The two major parties, the Kuomintang (KMT) and the Democratic Progressive Party (DPP), respectively visited veterans' communities, markets, parks, and activity centers to campaign and consolidate their stronghold supporters. However, with the continuous development of information technology, political campaigning on the Internet and social media has gained significant importance in modern elections. It is now considered as vital as the traditional "street war" in consolidating supporters and securing votes.

Alongside the traditional media (TV, newspapers), the internet, especially Web 2.0, and social media and networking services (SNS) provide an array of possibilities for political campaigning and communication (Lilleker, Tenscher, & Štětka, 2015). By leveraging social media platforms, candidates can convey their messages and platforms to the public, interact with voters, increase engagement, and ultimately secure more votes at the ballot box.

Social media and Social Networking Services (SNS) play a significant role in examining the election strategies of various candidates. Whether it is incumbents seeking re-election, challengers attempting to reshape the political landscape, smaller parties, or independent candidates with less media exposure, their presence can be observed on social media. Whether using Facebook's live streaming function to broadcast campaign events, share daily life updates on Instagram, or utilize Facebook's sponsoring system to convey specific messages to targeted audiences, candidates have left their marks on social

media. In the past 15 years, through platforms like Facebook, Twitter, Instagram, YouTube, LINE, and other social media and video platforms, candidates, political parties, and political groups can communicate directly with the public without relying on media coverage or spending large sums on TV advertisements. According to statistics, as of 2023, the overall usage rate of social media in Taiwan is 71.12%, with LINE and Facebook remaining the most widely used platforms (財團法人台灣網路資訊中心, 2023). It has become commonplace for voters to read news and learn about candidates through Facebook and for candidates to interact with voters through the platform.

In the 2024 regional legislative elections, 99% of candidates from major political parties, the Kuomintang (KMT), Democratic Progressive Party (DPP), Taiwan People's Party, New Power Party, and Taiwan Statebuilding Party have Facebook fan pages. As mentioned in previous literature, social media has proven to be a valuable tool for political figures in elections, serving various purposes such as increasing visibility, engaging with voters, providing services, promoting ideologies and policy positions, and mobilizing voters (Christenson, Smidt, & Panagopoulos, 2014).

The presence of political advertisements in traditional media is a phenomenon that has been around for a while. However, with the rise of social media in the 21st century, a new stage has been set for political advertising, giving it a fresh appearance (林照真, 2022). Before the advent of social platforms, candidates primarily engaged with voters through email, phone calls, letters, text messages, web-based advertisements, and door-to-door visits (Barocas, 2012). As large tech platforms emerged and campaigning gradually shifted to the online realm, nearly every user left a digital footprint online. Tech companies such as Google, Meta, and others began collecting personal data to deliver ads tailored to individual interests (Gillespie, 2014, p.172). Data analytics firms, like

Cambridge Analytica, rose to prominence for precise product advertising and for precisely targeting political advertisements to voters. With the ability to target precisely, advertisements have become a new "weapon" in the era of social media, as they have become more efficient, versatile, precise, and cost-effective (Hughes, 2018).

The trend of social networking ads started in the early 2000s in the United States and has spread to Europe. In recent years, Taiwanese politicians have also begun advertising on platforms like Facebook and Google. As my research shows, in the 2024 regional legislative elections, 120 (77%) out of 156 candidates utilized the Facebook Ad Manager to place dozens to hundreds of sponsored posts and advertisements on Facebook and Instagram during campaign¹. These ads included widely targeted content and specific ads tailored to particular demographics, such as males aged 45 to 49.

After the impact of Cambridge Analytica on the 2016 U.S. presidential election and the 2017 UK Brexit referendum, concerns have been raised in academia about the potential influence of targeted advertising on political communication, elections, and democracy (Baldwin-Philippi, 2017; Zuiderveen Borgesiuse et al., 2018; Ortega, 2021). However, some scholars argue that this is merely an emerging form of political communication and does not necessarily lead to voter polarization or significantly impact elections (Bodó, B., Helberger, N. & de Vreese, C. H., 2017).

¹ In this election, 126 candidates (81%) placed campaign-related advertisements. However, only 120 candidates ran ads within the timeframe discussed in this study (one month before the election). The remaining six candidates who placed ads outside of this period are excluded.

In Taiwanese elections, what is the current situation of political microtargeting?

This research focuses on candidates' campaign strategies in the era of hybridization and specialization and examines whether and how microtargeting advertisements on social media affect communication between candidates and voters. **The study investigates sponsored posts and ads placed on Facebook by candidates in the 2024 regional legislative elections. It explores how Taiwanese politicians use microtargeting tools—sponsored posts and ads on Facebook—to communicate with voters.** It examines the characteristics of the ads regarding content, budget allocation, and time trends. Also, discuss whether different types of candidates employ different strategies.

In-depth research on Taiwanese candidates' Facebook ads is essential for several reasons. Firstly, campaigning on social media has been prevalent in Taiwan for years. High proportions of voters and candidates use Facebook. However, microtargeting on Facebook is a relatively new phenomenon. This year's regional legislative elections indicate a growing trend that many lawmakers (77%) have already utilized Facebook's sponsored posts and ads. This study provides preliminary insights for future research in this area.

Secondly, the research not only aims to gain a deeper understanding of the landscape of online political communication in the era of microtargeting but also offers empirical evidence on the debates surrounding microtargeting in recent years. It can highlight other potential uses of microtargeting techniques in different cultural contexts, election scenarios, and political contexts, providing comparisons across legal systems and cultures.

Thirdly, existing research on microtargeting ads often focuses on regulations and

privacy-related norms (e.g., Dobber, Fathaigh, and Zuiderveen Borgesius, 2019; Zuiderveen Borgesius et al., 2018; Bennett & Lyon, 2019). Other studies examining message delivery strategies (e.g., Lilleker et al., 2015; Nai, 2020; Magin et al., 2017; Fowler et al., 2021; Ridout et al., 2021) have not fully answered questions about whether candidates or political parties using paid features on social media lead to social polarization or voter segmentation.

Fourthly, current research mainly focuses on the United States, Germany, Belgium, and other Western countries (e.g., Fowler et al., 2021; Magin et al., 2017). However, due to variations in privacy protection and campaign regulations across regions—such as the EU imposing more restrictions on cross-border tech companies like Facebook compared to the United States—studies from different countries lack comparability. There is a limited understanding of how politicians outside the mentioned countries respond to technological developments by adopting different campaign strategies.

The political environment in Taiwan also presents some unique characteristics that differentiate it from its European and American counterparts. Taiwanese elections are often fought more over personality than policy. Candidates tend to avoid extensive policy discussions and instead aim to position themselves as "all-encompassing figures who tell everyone what they want to hear." This focus on image and ambiguity over clear policy stances is more pronounced in Taiwan compared to the Western democracies typically studied (Cunningham, 2024). The regulatory environment surrounding political campaigns also differs significantly between Taiwan and Western countries. For example, the European Union has imposed more restrictions on cross-border tech companies like Facebook, while the United States has a more permissive approach (Fowler et al., 2021). These variations in privacy protection and campaign regulations can lead to a lack of

comparability between studies from different regions (Magin et al., 2017).

In addition, most studies (e.g., Fowler et al., 2021; Pierri, 2023) focus on advertisements placed by presidential candidates or political parties nationwide during national elections. In contrast, this study focuses on "regional legislator candidates" in the election, aiming not only to present the differences in advertising strategies between parties but also to provide a more micro-level analysis of the 73 electorates with different political, economic, and social environments across the country.

This study employs manual content analysis to understand candidates' sponsored posts and ads on Facebook. Additionally, it utilizes the document analysis method to download and analyze financial data related to sponsored posts and ads from the Meta Ad Library. The aim is to understand better which candidates in Taiwan's local elections use Facebook ads and promoted posts, what content candidates convey to voters, and whether the messages delivered through ads or sponsored content are predominantly negative. Therefore, the literature review will include two main parts. First, an exploration of how the Facebook advertising system enables precise message targeting and empirical research results from various countries. Second, a review of strategies and practices in social media campaigning, including candidates' issue framing and negative messaging strategies.

Finally, in addition to discussing the relationship between Taiwanese candidates and the Facebook advertising system, the discussion part will touch on the impact of emerging political communication methods on democracy. It will also briefly address how ordinary voters and regulatory bodies should respond to such changes.

Research Context: Microtargeting through Sponsored Posts and Ads on Facebook

On Facebook, politicians can create a "fan page" for free to post messages, promote their platforms and achievements, attack opponents, or engage with the public through events. This allows them to engage in political communication with a broader audience. To enhance the impressions of posts and increase a candidate's visibility on social media, candidates can pay for additional services on Facebook. These services primarily come in two forms: "sponsored posts," which boost the visibility of free posts on a Fanpage to a targeted audience, increasing the exposure of specific posts and content. Second, through the "advertising" function, candidates can create content that only the audience specified by the candidate can read. This content appears only on the news feeds of specific individuals and in the Meta Ad Library. Most people, including the subjects targeted or attacked in the post, are unlikely to come across it.

Candidates can operate both of these paid features through Meta Ads Manager (formerly Facebook Ads Manager) to reach specific target audiences. This includes selecting the target audience's age, gender, location, interests, and demographic data for more precise ad targeting or opting for a broader approach without specific selections. Regardless of the scope of the target audience, the posts generated through these two features are referred to in this paper as "sponsored posts and ads."

In 2018, former employee Christopher Wylie of Cambridge Analytica revealed to The Observer that the company had illegally collected personal and friends' data from 50 million Facebook users. In the 2016 Brexit referendum and the U.S. presidential election, Cambridge Analytica utilized this data to precisely target political ads tailored to users' preferences, attempting to predict and influence election outcomes. In an interview, Christopher Wylie stated, "We exploited Facebook to harvest millions of people's profiles.

And built models to exploit what we knew about them and target their inner demons. That was the basis the entire company was built on." (Cadwalladr & Graham-Harrison, 2018)

After the Cambridge Analytica scandal, social media platforms such as Twitter, Facebook, Google, and others addressed concerns about the lack of transparency in political advertising on their platforms. They established public ad databases to provide information about various ads, including details about the advertisers and funding amounts. Ads related to politics, elections, or social issues were separated into an independent category.

Despite Facebook's implementation of a more stringent review mechanism for political ads and placing them in a publicly accessible database, the question of whether this improves ad transparency and reduces the negative impact of political ads on elections is still a topic of discussion among scholars (Mehta & Erikson, 2022). Facebook's dominant position in social media, coupled with the ability to precisely target ads to specific audiences for political propaganda or negative ads criticizing opponents, creates a form of censorship (Tambini, 2018). As Barocas (2012) described, this can impact the normal functioning of elections and democracy. This is one of the motivations for this study—to explore how Taiwanese politicians use microtargeting and understand the underlying strategies in the context of these concerns.

II. Literature Review



In recent years, considerable academic interest has been in data-driven campaigns and online political advertisements. Many studies have focused on Facebook and Facebook political advertising: How politicians are using them, and what are the differences between TV ads, Facebook organic posts, and Facebook political ads (e.g., Fowler, Franz, Martin, Peskowitz & Ridout, 2021; Kruschinski, Haßler, Jost & Sülflow, 2022). Also, research discusses their potential threat to democracy following the Cambridge Analytica scandal that affected the 2016 US presidential election and the 2017 Brexit referendum (Kreiss & McGregor, 2018; Zuiderveen Borgesius et al., 2018). Other research has examined the differences in using Facebook microtargeting advertising between the US and European countries (Magin et al., 2017; Zuiderveen Borgesius et al., 2018) and the privacy issues associated with microtargeting (Barocas, 2012). In Taiwan, several studies have explored the role and effects of Facebook posts and advertisements in election campaigns and political communication, as well as how political figures, key opinion leaders, and online media utilize Facebook and Facebook ads to achieve their objectives. Also, how platform advertisers interfere with and influence political communication (王泰俐, 2013; 沈有忠、陳宥辰, 2020; 林照真, 2022).

2.1 Online Political Microtargeting

Candidates strive to deliver the correct messages to the right people at the right time. In the past, they might distribute flyers at specific locations, send emails to newsletter subscribers, or purchase TV ads during specific time slots to reach viewers likely to watch particular programs, conveying explicit content. Different candidates employ various strategies to achieve these goals. In the past, well-resourced political parties had rich supporter data that enabled them to mobilize voters to go out and vote effectively. Parties

with limited resources had to continue street campaigning, door-knocking, or contacting people via phone to engage with them. However, in the modern era of widespread social media usage, the landscape of political advertising has undergone significant changes.

The proliferation of social media has made online political advertising cheaper, simpler, and more accessible for microtargeting. Through the extensive user databases of social media and technology companies, political ads can be precisely targeted to appear on the news feeds of the intended audience (Fowler et al., 2021). The following chapters will investigate microtargeting further and address the research questions.

2.1.1 What are microtargeting and political microtargeting?

Many scholars have explored microtargeting from different perspectives, such as behavioral targeting, online profiling, or online behavioral advertising (OBA). Boerman, Kruikemeier, and Zuiderveen Borgesius (2017) organized relevant definitions and summarized two common characteristics of OBA. First, monitoring or tracking the online behavior of internet users. Second, delivering personalized ads based on collected data. OBA is "the practice of monitoring people's online behavior and using the collected information to show people individually targeted advertisements." Subsequent definitions of microtargeting and political microtargeting mostly revolve around the two characteristics organized by Boerman et al. Monitoring behavior can include collecting users' web cache, browsing history, search records, ad click records, and more. The purpose of OBA is to increase the "relevance" of ads to individual audiences, making people feel that the ad is relevant to them and thus enhancing the effectiveness of ads.

Where there are advertisements, there are political ads. As political campaigns gradually shift from offline to online, the demand for online political advertising has increased. Moreover, the emergence of social media provides an excellent opportunity

for microtargeting (Gillespie, 2014).

According to Ortega's (2021, p. 4) definition, OPM refers to using segmented online communication techniques based on personal data to achieve political results. Today, OPM has become a key election strategy in the United States and is gradually adopted by candidates in various countries. Candidates utilize various digital data to deliver specific ads to the right audience at the right time (Matthes et al., 2022). With the prevalence of social media, this technology is more convenient and widely used.

This study adopts Ortega's definition of microtargeting. And the “sponsored posts and ads” mentioned in this study are “segmented online communication techniques” on Meta.

In political campaigns, candidates can leverage personal data obtained online or use models and algorithms to deliver different content and advertisements to various voters. This aims to increase their support and voter turnout while reducing the support for opponents and achieving political objectives (Ortega, 2021; Matthes et al., 2022, p. 3). In practice, OPM mainly involves two execution steps. The first step is initial targeting: collecting and analyzing personal data, including demographic information (education, gender, marital status, etc.), consumption habits, and lifestyle. Then, select the target audience for messages. The second step is creating tailored messages. Based on the data collected in the first step, advertisers craft messages that suit the interests, positions, or political tendencies of the target audience and deliver them to the targeted audience (Matthes et al., 2022; Zuiderveen Borgesuis et al., 2018, p. 83).

Numerous scholars have explored the influence of OPM on democracy and elections. Some argue that OPM benefits democracy by allowing candidates with limited resources to influence voters efficiently, providing diverse perspectives, offering political

knowledge to voters, and helping them obtain political information in their limited attention span (Zuiderveen Borgesius et al., 2018).

According to Barocas (2012, pp. 32-33), research on microtargeting ads in the United States identifies several harms to democracy. Firstly, dividing communities. It allows candidates to send different messages or promises to different groups to stimulate voting behavior and support. Secondly, it may lead to the discrimination and marginalization of voters. Candidates tend to target swing states, swing voters, and those more likely to vote. That leaves other demographics with less political information and marginalized in multiple elections. Thirdly, it can induce political apathy when people know their data is being collected online for microtargeting, leading to reduced online information search. Lastly, it may result in an issue of homogenization. Effective messages that attract voters in the previous election may be repeatedly used for the same audience, limiting their exposure to other issues that may be unfavorable to the candidate.

In democratic elections where public debate is crucial, the fragmentation caused by OPM advertisements poses a significant threat to information dissemination. Potentially, it results in fractured public discourse, non-transparent democratic dialogue, and an exacerbation of the gap between candidates with different resources (Dubois, Arteau-Leclerc, and Giasson, 2021).

Matthes et al. (2022) studied voters' perceptions of OPM advertisements and whether OPM advertising influences voter trust in democracy and interest in political affairs. The research found that people's interest in political affairs increases when they know that political parties tailor advertisements based on personal data online or that digital traces left on the internet lead to personalized ad content. However, simultaneously, it decreases their trust in democracy (Matthes et al., 2022, p. 8). These suggest that OPM can have

both positive and negative effects on democracy.

In the United States, online political microtargeting is quite common. In recent years, European political parties such as the UK Conservative Party and the German Green Party have adopted similar campaign methods (Zuiderveen Borgesuis et al., 2018, p. 84). In recent Taiwanese elections, many politicians and public opinion leaders have similarly utilized Facebook fan pages to deliver microtargeted advertisements supporting specific candidates (林照真, 2022).

2.1.2 Political Microtargeting on Meta Ads System

In recent years, discussions about "sponsored posts and ads" have surged, particularly following significant events like the 2016 Brexit referendum in the UK and the U.S. presidential election. However, as early as 2004, during the Clinton administration in the United States, warnings were raised about the use of microtargeting in elections:

"In the future, every voter will receive customized messages based on personal data. Public discourse will become impoverished because real elections will only occur in everyone's email. Candidates will have an intimate knowledge of voters, but voters will know nothing about the full extent of the candidates." (Gertner, 2004)

On September 6, 2017, Facebook publicly disclosed that 470 Russian accounts had purchased a large number of ads opposing Hillary Clinton and microtargeted them to demographic groups less likely to discern political propaganda from accurate information. These ads, shown only to specific groups and appearing briefly on Facebook users' news feeds, were called "dark posts." Facebook termed these ads "unpublished page post ads." In contrast to traditional political ads subject to strict election regulations, these political

ads were not publicly accessible, and their expenditures and usage were not regulated by laws (Vaidhyanathan, 2017, September 6).

Take Facebook as an example. Meta (Facebook's parent company) defines political and issue ads as follows: (1) Ads published or represented by public office candidates, politicians, political parties, political action committees, or supporters of election outcomes or content related to the entities mentioned above; (2) Ads involving any election, referendum, or voting advocacy, including any ad related to "voter mobilization" or campaign activities; (3) Any ad related to social issues in the publishing region (regardless of where it is published); (4) Any ad subject to political advertising regulations (Meta, November 2, 2019). Advertisers publishing political ads undergo a more complex manual inspection process in Taiwan, including identity verification and authorization, confirmation of IP location in Taiwan, and authorization disclaimer requirements (Meta, November 2019).

Facebook further categorizes them in Taiwan into seven subtopics: Civil and Social Rights, Crime, Economy, Environmental Politics, Health Care, Political Philosophy and Governance Methods, and National Security and Foreign Policy (Meta, no date).

Any user with a Facebook account and a Facebook fan page can become an advertiser. Once an advertiser creates an advertising account on the Facebook Ad Manager, selects a target audience, and adjusts the bidding, Facebook will automatically display ads on the target audience's newsfeed. Anyone with a Facebook account can disseminate content related to products, ideas, malicious messages, and fake news (Silva, Santos de Oliveira, Andreou, Vaz de Melo, Goga & Benevenuto, 2020). On Facebook, any politically related advertisement falls into the realm of OPM advertising if the sponsor selects specific demographic data or personal interests of Facebook users when placing

the ad.

After the Cambridge Analytica scandal, more research has focused on ad strategies on social media, and the use of OPM technology in social media advertising has gained attention (Ortega, 2021). Facebook's political ads have been criticized as behind-the-scenes influencers affecting referendum and election results. Therefore, platforms like Facebook, Twitter, Google, etc., have established ad archives since 2018, aiming to dispel the stigma of ad "black boxes" and provide the public with a better understanding of how microtargeting works on their platforms (Mehta & Erickson, 2022, p. 1). The Meta Ad Library, for example, offers a wealth of information, including various ads within a specific period, sponsor details, sponsored amounts, and demographic distribution of users who viewed the ads. It addresses concerns about politicians manipulating voters through microtargeting.

The Meta Ad Library opens up more possibilities for research on microtargeted advertising, and many studies have utilized this database. For example, Pierri (2023) and Fowler et al. (2021) analyze data such as the geographical and user distribution of OPM ads in elections, and Kruschinski et al. (2022), Franz, Fowler, Ridout, and Wang (2020) compare OPM ads content with traditional TV ads and original Facebook posts.

Pierri (2023) examined 23,000 microtargeting ads published on Facebook and Instagram during the 2022 Italian general election by four main coalitions (Right, Centre-Left, M5S, and Third Pole). The study identified trends in ad placement over time, geographical distribution, and demographics. It found that political parties tended to choose issues aligned with their traditional strengths in their ads and preferred areas with a denser concentration of supporters. Ultimately, the top vote-getters were the two coalitions (Right and Centre-Left) that spent the most on microtargeting ads and received

the most views.

Kruschinski et al. (2022) explored how political parties use Facebook organic posts and microtargeting ads from a branding perspective. Their study revealed that parties employ different strategies for Facebook organic posts and microtargeting ads, indicating that parties view Facebook ads as a distinct branding channel. Additionally, due to the low cost of this channel, it has become an important medium for lesser-known parties or small parties to attract supporters. Franz et al. (2020) and Fowler et al. (2021) compared how U.S. parties use television ads versus Facebook ads. Franz et al. found that parties did not use different issue ads across different channels, such as broadcasting more neutral policy ads on TV to attract swing voters. In contrast, Fowler et al. argued that parties posted more partisan content on Facebook, making Facebook ads a powerful tool for party mobilization. These two studies present inconsistent findings.

Accordingly, the research raises the following question.

Research Question 1: In the 2024 Taiwanese regional legislative election, what spending and temporal distributions are present in candidates' advertisements?

2.1.3 Equalizing or Normalizing

The impact of new technologies, mainly social media platforms, on electoral competition is a subject of ongoing debate. On the one hand, proponents argue that these technologies help equalize electoral competition by providing a platform for poorly financed candidates to reach a wider audience and engage with voters without the need for extensive financial resources (Hansen and Kosiara-Pedersen, 2014; Gibson and McAllister, 2011). This perspective suggests that digital platforms can democratize the electoral process by lowering barriers to entry and enabling grassroots campaigns to gain

traction (Koc-Michalska et al., 2014).

However, there is also a counterargument that social media may reinforce existing resource inequities in electoral competition (e.g., Lilleker et al., 2011). Critics point out that while these technologies offer opportunities for candidates with limited resources to communicate their message, they also require significant investments in digital advertising, data analytics, and online campaigning strategies to reach and mobilize voters effectively. Wealthier candidates and political parties often have more substantial financial resources to allocate towards these efforts, giving them a competitive advantage in leveraging digital platforms for electoral gain (Lilleker et al., 2011).

Additionally, some studies suggest that the widespread adoption of new technologies within a country can influence whether political figures adopt that technology. The normalization hypothesis stands better when users have acclimatized over time to a existing technology. In the early stages, peripheral parties or politicians tend to be early adopters when a new technology appears. When the technology is commonly adapted, more parties start to make use of it. They rapidly scale up or professionalize the technology rather than smaller parties or less resourceful candidates (Lev-On and Haleva-Amir, 2018).

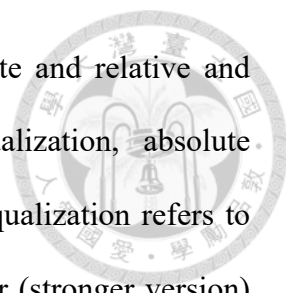
The study aims to continue the debate on the equalization and normalization theories, discussing the characteristics of users of Facebook advertisements. Meta's sponsored post and ads system allows candidates to use Meta's vast and complex user database and algorithms to accurately target advertisements to the dynamic news feed of their target audience at a low cost. This allows candidates with limited budgets to promote themselves through advertisements. Many studies have explored whether social media platforms such as Facebook and Twitter adhere to the equalization and normalization theories. However,

there is relatively less literature discussing Facebook advertisements or online advertisements.

Lev-on and Haleva-Amir (2018) compared the Facebook management patterns of all candidates in the 2015 Israeli parliamentary elections. The study used six indicators, including the number of fans, the number of posts, and the level of interaction, to compare the use of Facebook by dominant and peripheral parties' candidates. The study also compared the usage patterns of different candidates within the same party. It was found that both between parties and within parties, the findings align with the normalization theory. That is to say, candidates from parties with a higher likelihood of realistic electoral success have significantly higher numbers of fans, posts, and interactions.

Fowler et al. (2021) studied whether candidates for federal senators and representatives, governors, local officials, and state legislators used television or Facebook advertisements in the 2018 U.S. midterm elections. The research analyzed the characteristics of users of both types of advertisements and the differences in content between different media. Regarding users of both types of advertisements, the study found that among down-ballot elections, challengers, and candidates from less resourceful parties, 40% utilized Facebook advertisements, while only 10% utilized television advertisements. It indicates that the low-cost nature of Facebook advertisements attracted more candidates to use them. This result aligns with the equalization hypothesis.

Bene (2023) investigated the activities of candidates on Facebook during the 2019 European Parliament elections. The study provided empirical research data for the debate on the equalization and normalization hypotheses through the adoption, activity, number of followers, level of interaction, and advertising expenditure of candidates' Facebook

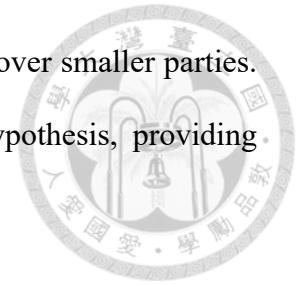


accounts. Additionally, the study proposed the concepts of absolute and relative and presented four hypotheses: absolute equalization, relative equalization, absolute normalization, and relative normalization. For example, absolute equalization refers to smaller parties performing similarly (weaker version) or even better (stronger version) than larger parties on various indicators of social media performance (adoption, activity, number of followers, level of interaction, and advertising expenditure). They are not at a disadvantage (weaker version) or even narrowing the gap with larger parties with the use of social media (stronger version). The study results showed that different aspects of the election aligned with different hypotheses.

Regarding Facebook advertisements of interest to this study, a total of 65,459 campaign advertisements were collected from 186 parties in 28 countries. Although larger parties invested more resources in Facebook advertisements, the effectiveness did not translate into votes. In other words, smaller parties were able to generate more votes with significantly fewer resources. Bene (2023) suggests that Facebook advertisements conform to the "absolute weaker equalization hypothesis."

However, even though Facebook and Google advertisements have low costs, both platforms operate on a real-time bidding model. Bidders with higher bids can secure better ad placements, increasing visibility. 林照真 (2022) compiled data on Facebook political advertisers, funding amounts, ad content, etc., during the 2020 Taiwan elections. The researcher also conducted in-depth interviews with advertisers, political party PR personnel, media agents, and individuals familiar with Facebook policies. Respondents stated, "The ad space goes to the highest bidder, with countless people bidding simultaneously" (林照真, 2022). Those with higher bids can secure better ad placements, suggesting that in the case of candidates with the same target audience (e.g., candidates

from the same constituency), major parties may have an advantage over smaller parties. If so, Facebook advertising may align with the normalization hypothesis, providing dominant parties with more opportunities to reach voters.



Research Question 2: What kinds of regional legislative candidates allocate more budget for Facebook ads?

Considering the low cost of advertising on Meta, the study suggests that candidates with limited resources can effectively utilize this platform to reach a wide audience. This equalizing potential of Meta ads allows smaller parties and less-funded candidates to compete more evenly with larger parties and incumbents. The study follows the perspectives of Bene (2023) and Fowler et al. (2021) regarding the equalization hypothesis in Facebook advertising. It proposes the following hypotheses: smaller parties with fewer resources, challengers without the advantage of incumbency, and challengers from non-urban areas have higher per capita advertising expenditure.

Hypothesis 1: Candidates from peripheral parties (i.e., TPP, NPP, TSP in this study) allocate higher budgets per candidate for FB ads.

Hypothesis 2: Challengers allocate higher budgets for FB ads than Incumbents.

Hypothesis 3: Candidates who ran for a constituency outside six metropolitans allocate higher budgets for FB ads.

2.2 Campaign strategies adoption on Facebook and sponsoring system

As election campaigns gradually shift to the Internet and social media, much research has discussed how political elites, candidates, or stakeholders communicate with voters. Discussing current social issues, promoting one's political views or personal traits, mobilizing supporters to campaign events, or interacting with voters through social media

live-streaming functions are common campaign tactics, each of which has been extensively studied. Steppat and Castro (2023) categorized 112 academic papers published after 2000 that primarily used content analysis as the primary research method and discussed political communication in election campaigns. They classified the main themes of these papers into four categories: Style, Topic, Feature, and Function. Papers classified under Feature discuss candidates' media choices, timing strategies, etc., which are less relevant to the discussion of candidates' Facebook advertising content in this chapter. Therefore, the discussion will focus on the other three aspects of the literature.

2.2.1 The style of the campaigns

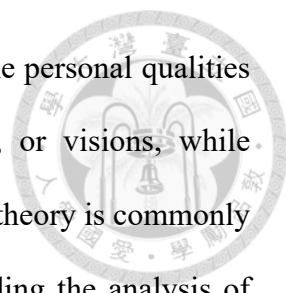
Functional theory in political discourse

Functional Theory in political discourse refers to the idea that candidates use specific messages to appear preferable to other candidates to win elections. This theory posits three types of messages that candidates use to appear preferable: acclaims, attacks, and defenses (Henson & Benoit, 2010; Benoit, 2017).

- (1) Acclaims: These are positive statements about the candidate or their accomplishments.
- (2) Attacks: These are negative statements about the opponent or their actions.
- (3) Defenses: These are statements that explain or justify the candidate's actions or decisions.

According to the literature, Functional Theory has been applied to various election campaign messages, including candidacy announcement speeches, nomination acceptance addresses, TV debates, direct mail brochures, just to name a few.

Political Campaign Discourse Function Theory also points out that candidates



discuss two main themes during the election process: policies and the personal qualities of the candidates. Policies include achievements, current events, or visions, while personal qualities refer to the candidate's character, values, etc. This theory is commonly used in various studies on election political communication, including the analysis of candidates' speeches, TV ads, debates, and debates at multiple levels, such as the U.S. Senate, governors, and mayors, effectively allowing the analysis and comparison of strategies and messages of candidates in different election activities and contexts (Benoit & Sheafer, 2006; Benoit, 2017).

Negative advertisements in elections

Negative campaigns are standard in cases and studies worldwide. Still, depending on each country's election culture, political and economic context, candidate characteristics, and popular issues, it is challenging to have consistent indicators to explain which candidates are more likely to disseminate negative content or be attacked in negative campaigns (Gerstlé & Nai, 2019). Based on studies of negative campaigns in various countries and election data, Nai (2020) summarizes four trends that may lead candidates to adopt negative attacks.

- (1) Incumbents primarily use positive campaigns but are prone to become targets of negative elections. Since challengers lack recent achievements or records for promotion, they are more likely to criticize incumbents for reducing opponent support.
- (2) Candidates tend to attack opponents with significant ideological differences. Regardless of the attacker's stance as conservative or liberal, candidates tend to criticize opponents at both ends of the ideological spectrum.

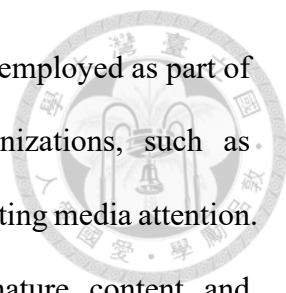
(3) Candidates tend to attack leading candidates with a more considerable margin. Whether in opposition or in power, candidates who lead in polls are more likely to receive negative messages, and the larger the gap in poll results, the more likely they are to be attacked.

(4) Counterattacks or retrospective attacks. Compared to unilateral attacks by candidates, the likelihood of mutual attacks between candidates is higher.

However, does this mean that Facebook's targeted advertising or content on Facebook is more harmful than traditional television advertisements? Or do channels that allow more microtargeting include more negative content? Past research has yet to yield consistent results.

Fowler et al. (2021) compared advertisements placed by candidates on Facebook and television during the 2018 national and local elections in the United States. They found that, compared to TV ads, candidates on Facebook placed fewer negative ads, had more self-recommendations, and emphasized their strengths. Bode, Lassen, Kim, Shah, Fowler, Ridout, and Franz (2016) found that during the 2010 U.S. Senate election, there were more negative TV ads than on Twitter. They found that negative ads still primarily used TV ads as the main broadcasting channel.

Conversely, Roberts (2013) studied videos released only on the internet during the 2004 and 2008 U.S. presidential elections and found that attacks on the internet were more numerous than on TV. Anstead et al. (2018) found during the 2017 UK election that negative ads mentioning the shortcomings of other parties were slightly more prevalent in Facebook ads than in TV and radio ads. Although the research subjects, countries, scopes, and media involved in past studies vary, there still needs to be a clear consensus on which medium is the primary channel for political parties to place negative ads.



In the United States, negative political advertisements are often employed as part of election strategies to contribute to the goals of political organizations, such as encouraging voter turnout, increasing distrust of competitors, or attracting media attention. Conversely, negative political advertisements in Taiwan differ in nature, content, and orientation from those in the United States. Their quantity is much lower than in the U.S. According to a study by 莊伯仲 (2006, p. 228), negative ads constituted approximately 65% of major elections in the United States between 1996 and 2004. In contrast, in the three presidential elections in Taiwan during the same period, negative political advertisements accounted for only about 37.1%. In the era of social media, 呂月琪 (2020) analyzed Instagram posts by Taipei City council candidates during local elections in 2020 (p. 63) and revealed that only 15 out of 543 posts were characterized as "negative." Only the KMT used negative political posts. 沈有忠 and 陳宥辰 (2020) studied negative campaign strategies in Facebook posts during the 2018 mayoral elections in the six municipalities. They discussed the quantity and proportion of negative criticism content by taking the race's closeness and the incumbent's status as independent variables. The study found that challengers were more likely to use critical posts, especially in competitive races (such as candidates like 丁守中, 盧秀彥, and 韓國瑜). In such races, the proportion of posts in the criticism category was 23%, higher than incumbents in competitive races (11%) and incumbents and challengers in non-competitive races (0.3%, 0.6%) (沈有忠 and 陳宥辰, 2020, p. 143). Research on local elections in Taiwan shows that negative advertisements are less common than in U.S. presidential elections.

Studies have focused on candidates using Facebook and Instagram posts targeting a general audience. Given that on Facebook, ads can be precisely targeted to specific audiences, reducing the risk of negative feedback, is negative campaigning more

prevalent than in the past? This is one of the questions that this study seeks to answer.

In Taiwan, where there are elections, there are negative advertisements. Mutual accusations at press conferences, large billboards along the roads, or criticism of opponents through Facebook posts inundate people's lives during elections. Campaign teams often consider disseminating harmful content about rival camps a necessary election strategy. From established democracies like the United States and the United Kingdom to more recently transitioned countries like South Korea and Taiwan, researchers in various countries have identified traces of negative campaigning. Competing candidates frequently adopt negative attacks against each other, criticizing their opponents' ideas, policies, records, or personal flaws. In modern elections, it is nearly impossible to have campaign activities without any harmful elements (Nai, 2020).

Negative campaigning carries risks and may lead to backlash. Nevertheless, depending on the candidate's competitive position and relationship in the election, they may still take the risk of adopting negative attacks. When a candidate is in an unfavorable situation, such as lagging in polls, the benefits of employing negative strategies may outweigh the risks or the relatively unimportant adverse feedback effects on the advertiser. Conversely, candidates with a larger winning margin are likelier to avoid negative campaign strategies that may damage their image and disrupt their advantageous position.

As television advertisements, billboards, and Facebook posts are less specific in targeting audiences, negative advertisements will simultaneously reach the advertiser's supporters, opponents, and swing voters. Therefore, these voters may reduce their evaluation of the advertiser or increase the likelihood of voting for the attacked candidate. The inability to precisely target negative messages to the target audience increases the degree and impact of negative feedback. However, the Facebook advertising system

provides microtargeting features, allowing advertisers to choose the audience's age, residence activity area, interests, etc., reducing the likelihood of negative feedback. (Fowler et al., 2021).



Based on past research on the information transmission by candidates during the campaign process, this study proposes the following research questions and hypotheses.

Research Question 3: What characteristics do candidates possess who tend to attack opponents through Facebook advertisements?

Hypothesis 4: Challengers are more inclined to broadcast negative advertisements during the campaign.

2.2.2 The topics of the campaigns

Bodó et al. (2017, pp. 4–5) argue that political microtargeting on the internet allows anyone in an election to reach individuals in person and groups with any message, presenting this technology's most significant opportunity and threat.

In the era of platformization, where platforms and their algorithms determine the flow of information, the opacity of these algorithms raises concerns about the lack of accountability of platforms (Mehta & Erikson, 2022, p. 2). As microtargeting technology advances, political actors gain more information, leading to accusations of a lack of transparency and accountability in platforms (Dubois, 2021, p. 5). Social media's lack of transparency and the shift of election campaigns to the online realm undermine the transparency principles of elections and democracy (Tambini, 2008, p. 288).

Technological advancements in recent years have led to controversies and discussions about elections, including data leaks, media manipulation, foreign interference, and the problems microtargeting may bring to democracy and elections

(Dubois, 2021, p. 5).

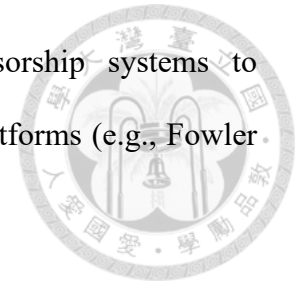
In an era where elections may occur only in everyone's email inbox or Facebook feed, the information disparity caused by online microtargeting significantly impacts the foundations of deliberation and civic discussion in the democratic process (Dubois, 2021). For example, in the 2016 U.S. presidential election, the Trump campaign continuously targeted messages about Hillary Clinton labeling African American communities “super predators” to areas predominantly inhabited by them. To erode trust in Hillary Clinton within this demographic. Similarly, ads related to immigration crimes were targeted in areas with prevalent conservative and anti-immigrant sentiments to increase or decrease voter support for specific parties. These "dark posts" were only visible to specific groups, with no opportunity for opposing campaigns or fact-checking organizations to clarify or verify the information (Zuiderveen Borgesius et al., 2018).

Political parties employing online microtargeting can hide their stance on specific issues by delivering tailored messages to specific regions. This can shape parties as single-issue entities, limiting discussions about candidates or parties. Microtargeting may contribute to voter polarization, trapping them in filter bubbles and echo chambers. Personalized political information diminishes the possibility of open and diverse debates, making misinformation or fake news more easily spread (Bayer, 2020, pp. 9-10). In order to better understand sponsored posts and ads that target smaller populations, the research raises the following question.

Research Question 4: What are the contents of the microtargeting ads in this election?

This section will discuss the content published by candidates on social media sponsorship and advertising systems: whether candidates focus more on social issues and policies, party ideologies, or personal traits and abilities. Many studies have already

discussed how politicians use Facebook and Facebook sponsorship systems to disseminate messages or compare differences between different platforms (e.g., Fowler et al., 2020; Kruschinski et al., 2022).



Many researchers use the issue ownership theory (Walgrave et al., 2015; Petrocik et al., 2003) to discuss candidates' topics on Facebook or sponsorship systems. This theory starts from the perspective of "issue ownership," which suggests that certain parties are perceived to be better at handling specific issues. It advocates that candidates' campaign strategies should align with voters' perceptions of issue ownership. For example, in the United States, the Democratic Party is considered better at handling issues like social welfare, environmental protection, and healthcare, while the Republican Party is seen as stronger on topics like national defense, taxation, and the economy (Petrocik et al., 2003). In Taiwan, according to 張卿卿(2010), based on two surveys conducted before the 2008 presidential election, voters believed that the Kuomintang (KMT) was relatively better at handling "cross-strait relations," while the Democratic Progressive Party (DPP) was seen as relatively stronger on issues related to "gender equality" and "social welfare."

Kruschinski et al. (2022) analyzed the strategies (including the timing and content) of all sponsored posts, organic posts, and ads posted by six German parties before one of the 2018 state elections in Germany. The results showed that parties utilize paid and organic media as different messaging strategies regarding functions, issues, and degrees of negativity. Furthermore, the results indicated that parties have different sponsored posts and ad strategies. Some parties included no policy issues at all, highlighted issues that were not coherent with their traditionally-owned topics or covered a very broad set of topics.

As argued by Bode et al. (2016), the single coherent message strategy posits that

campaigns are likely to emphasize a similar message across different media channels. It assumes that the audience across different media channels is similar and that the same message can be used to persuade them. However, given that sponsored posts and ads target specific audiences, would they align with the single coherent message strategy? Or would they exhibit trends different from specific issues, as shown in the study by Kruschinski et al. (2022)?

Hypothesis 5: Different political parties have different themes in their advertisements.

2.2.3 The functions of the campaigns

Based on past research discussing the functions of election campaigns, campaign activities or speeches can be divided into three main purposes. Political campaigns serve as a crucial aspect of the democratic process, aiming to inform, interact with, and mobilize voters. According to previous studies, information, interaction, and mobilization are the 3 main functions of a political campaign (Magin et al., 2017; Steppat and Castro, 2023).

1. Information. Providing information to voters is one of the primary functions of a political campaign. This involves conveying the candidate's platform, policies, and vision for the future to the electorate. Campaigns utilize various channels such as television ads, social media, debates, speeches, rallies, and direct mail to disseminate information to voters. The goal is to educate voters about candidates' positions on key issues, their qualifications, and how they differ from opponents. Information dissemination also involves fact-checking opponents' claims and clarifying any misinformation or misconceptions that may arise during the campaign.
2. Interaction. Interacting with voters on a personal level is another crucial function of

political campaigns and is widely examined in studies focusing at online communication (e.g., Graham et al., 2016; Keller and Kleinen-von Königslöw, 2018).

This involves direct engagement with individuals or communities through offline activities, rallies, or live-streaming on Facebook in the modern era. By engaging directly with voters, campaigns can understand their concerns, answer their questions, and address any doubts or reservations they may have about the candidate. Personal interactions humanize the candidate and allow them to connect with voters on a deeper level, fostering trust and support. Additionally, interaction allows campaigns to gather valuable feedback from voters, which can influence campaign strategies and messaging.

3. Mobilization. Mobilizing supporters and maximizing voter turnout is essential for the success of a political campaign. This involves motivating donations, volunteering for the campaign, and ultimately casting their ballots on Election Day. Mobilization efforts often intensify as Election Day approaches, with campaigns deploying resources to ensure supporters know polling locations, voting procedures, and important deadlines. Effective mobilization can impact election outcomes, as higher voter turnout tends to benefit the candidate with the most enthusiastic and engaged supporters.

In the past, candidates used different methods to achieve different functions. For example, they conveyed information through election brochures and TV debates, and interacted with supporters through rallies and temple visits to mobilize crowd support. In the era of Facebook popularity, Facebook can now fulfill many of these functions. As the most widely used Web 2.0 service, its infrastructure, multifaceted features, and capabilities are well suited for supporter-centered campaign activities (Fisher, Eileen, Jee,

and Sora, 2019). At the same time, it can also meet the needs of Information, Interaction, and Mobilization (Magin et al., 2017). According to several European studies that used content analysis, European parties tend to use the "Information" function and adopt a mass-centered, top-down approach, while interaction and mobilization through Facebook are less common (Lilleker, Koc-Michalska, Schweitzer, Jacunski, Jackson & Vedel, 2011; Magin et al., 2017).

In contrast, Facebook's sponsored posts and ads have the ability to target specific audiences, allowing campaign teams to advertise to supporters who are more likely to vote or attend party events. Research on Facebook advertising in the UK and the US using content analysis (Anstead et al., 2018; Fowler et al., 2021) indicates that a high proportion of sponsored posts and ads aim to solicit donations or encourage supporters to go out and vote.

This study focuses on Facebook ads targeting individuals or specific groups. In elections, how do candidates in Taiwan use Facebook ads for campaigning? Do they focus on top-down message delivery, with mobilizing supporters as the main axis, or do they present other approaches? This will also be included in the analysis.

Research Question 5: Among interaction, mobilization, and information, what kind of function do Taiwanese candidates mainly run on sponsored posts and ads?



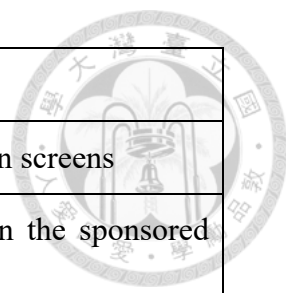
III. Data and Methodology



3.1 Research Data

The study collected all the Facebook advertisements for the 2024 Taiwanese regional legislative election, categorized under "Social Issues, Elections, and Politics," from the Meta Ad Library. The data compiled information on which candidates used Facebook advertisements and details such as the number of advertisements, overall budgets, and more. Each advertisement provided data such as the text content, images, video content, posting date, sponsor, budget, and demographic distribution of users who viewed the ad.

Data available from the Meta Ad Library	
Items	Discription
ad_archive_id	*not related to the research
page_id	*not related to the research
page_name	Fanpage name
ad_creation_time	The time when the sponsored post or ad was created
ad_delivery_start_time	The start time of the sponsored post or ad being displayed
ad_delivery_stop_time	The end time of the sponsored post or ad being displayed
byline	The sponsor of the sponsored post or ad
ad_creative_bodies	The content of the sponsored post or ad
ad_creative_link_titles	*not related to the research
ad_creative_link_captions	*not related to the research



ad_creative_link_descriptions	*not related to the research
impressions	Number of times the ad appeared on screens
spend	Amount spent by the advertiser on the sponsored post or ad
currency	*not related to the research
demographic_distribution	Age and gender distribution of Facebook users who viewed the ad
delivery_by_region	Location distribution of Facebook users who viewed the ad
publisher_platforms	The platforms where the ad appeared (including Facebook or Instagram)
estimated_audience_size	Number of Facebook accounts that met the targeting criteria set by the advertiser when creating the ad
languages	*not related to the research

Table 1: Data items available from the Meta Ad Library and the descriptions.

In the regional legislative elections, there were 73 constituencies and 305 candidates. The Democratic Progressive Party (DPP) nominated 69 candidates; the Kuomintang (KMT) nominated 64 candidates; the Taiwan People's Party nominated 10 candidates; the New Power Party nominated two candidates; the Taiwan Statebuilding Party nominated two candidates, and other party-recommended or independent candidates totaled 158. If any party and a candidate not affiliated with the party publicly expressed support for each other or cooperated, and the party did not nominate another candidate in the same constituency. It is considered a cooperative effort between the two. The DPP supported three candidates: 苗博雅 in Taipei City's 6th constituency, 趙正宇 in Taoyuan City's 6th

constituency, and 曾玟學 in Miaoli County's 2nd constituency. The KMT supported six candidates: 陳坤和 in Tainan City's 2nd constituency, 李全教 in Tainan City's 4th constituency, 林義迪 in Kaohsiung City's 1st constituency, 陳明通 in Miaoli County's 1st constituency, 林國慶 in Chiayi County's 2nd constituency, and 蘇孟淳 in Pingtung County's 2nd constituency. The Taiwan People's Party supported one candidate, 柯美蘭, in Hsinchu City. The New Power Party supported one candidate, 王醒之, in Keelung City.

Of the 156 candidates mentioned, 120 (77%) used Facebook to advertise campaigns in the 30 days before the election. The DPP had 58 candidates, the KMT had 56 candidates, the Taiwan People's Party had two candidates, the New Power Party had three candidates, and the Taiwan Statebuilding Party had one. These candidates ran 5,040 ads in the month leading up to the day before the election (12/14 – 1/12).

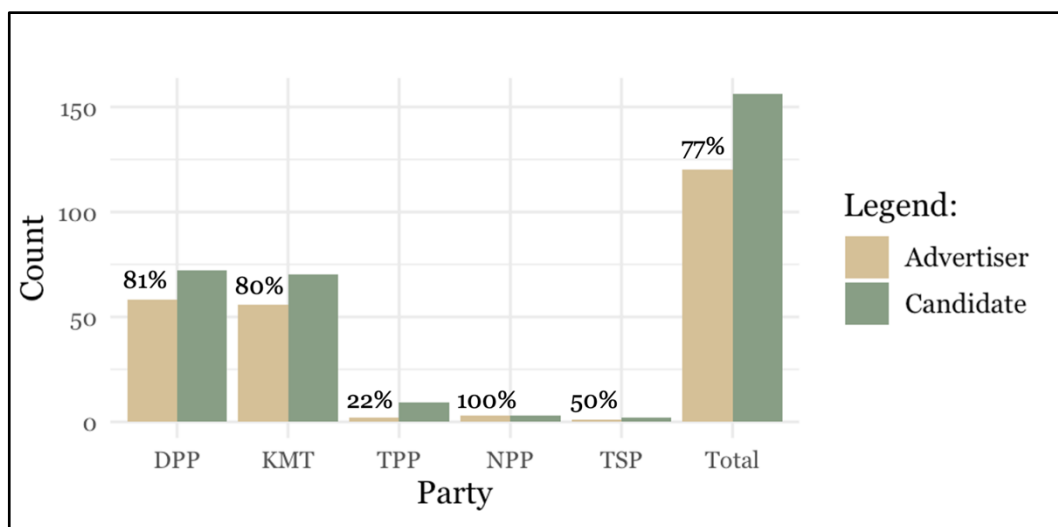


Figure 1: Number of candidates and advertisers for each party. The percentage shown is the ratio of the number of advertisers to candidates.

To address the research questions and hypotheses, the study will focus on the textual

content of advertisements, their posting times, budgets, and impressions. However, since data in the advertising database are presented in ranges, such as NT\$5,000 to NT\$6,000, NT\$50,000 to NT\$100,000, NT\$1,000,000 and above, the average of each range will be calculated. In cases with only a lower limit, that value will be used.

In addition, to answer research question 4, the study will also focus on the “estimated audience size.” According to the Meta Ad Library, the data indicates the number of Facebook accounts that met the targeting criteria set by the advertiser when creating the ad. Though advertisers’ targeting criteria are not disclosed to the public, we can use this data to identify the ads that intend to target smaller groups of audiences.

3.2 Research Design

The study is divided into three parts to explore how Taiwanese politicians use Facebook advertisements.

The first part categorizes the candidates based on constituency, political parties, incumbency, and election results (Table 2). The election result is measured by the vote-share difference in percentage between the winner and the runner-up of a constituency. The study believes that it could illustrate how competitive a constituency is and whether its competitiveness influences the spending pattern within the constituency. Candidates’ age and the followers count on Facebook Fan Pages are also considered predictors.

In the 2024 regional legislative elections, 32 parties nominated regional legislators and 65 independent candidates. The study will primarily focus on candidates nominated or recommended by political parties that held seats in the Legislative Yuan in the 2020 elections, namely the Kuomintang (KMT), Democratic Progressive Party (DPP), New Power Party (NPP), Taiwan Statebuilding Party (TSP), and Taiwan People's Party (TPP). Candidate electoral constituency, political parties, incumbent status, and election results

will be independent variables. Descriptive and regression analysis will be used to understand the correlation between these variables, whether candidates use Facebook ads, and the amount spent on these ads.



Independent Variables	Categories	→	Dependent Variable
Age	(Continuous data)		the amount spent on FB ads
Follower Count	(Continuous data)		
Constituency	Taipei City 1 st constituency		
	Taipei City 2 nd constituency		
	...(and other 71 constituencies)		
Party	DPP		
	KMT		
	TPP		
	NPP		
	TSP		
Incumbency	Incumbent		
	Successor		
	Challenger		
Vote-share difference	(Continuous data, e.g., 0.7%, 10.5%)		

Note: The “Vote-share difference” is the difference in vote-share rate between the winner and the runner-up in a constituency. For example, if the winner won 45% of the vote while the runner-up won 35%, the vote-share difference would be 10%. The

variable is to illustrate the competitiveness of a constituency. The less the difference is, the more competitive the constituency is.

Table 2: Independent variables and categories.

The second part will employ manual content analysis to analyze the content of candidates' Facebook ads. In the 2024 regional legislative elections, 126 candidates used Facebook ads, and a collection of 5040 ads and promoted content published between December 14th, 2023, and January 12th, 2024 will be analyzed.

Steppat and Castro (2023) synthesized the literature on political communication during elections from 2000 to 2020. They identified the most commonly used constructs: Style, Topic, Feature, and Function. Since this study primarily explores the text of candidates' Facebook posts and ads, the analysis will exclude the "Feature" category related to studying media characteristics and focus on Style, Topic, and Function.

Regarding political communication during campaigns, Benoit and Sheaffer (2006) proposed the Functional Theory of Political Campaign Discourse to analyze and understand the messages and strategies of political candidates during election campaigns. The theory suggests that candidates mainly use three types of messages: Acclaim, Attack, and Defence. "Acclaim" refers to candidates' positive statements about themselves, emphasizing their strengths, achievements, and qualifications to enhance their impression among voters. "Attack" involves candidates making negative statements about their opponents, focusing on their weaknesses, negative records, or controversies to decrease their favorability. "Defense" refers to candidates making statements to respond to or counterattack criticisms from opponents.

Regarding the topics mentioned by candidates in issue-based advertisements, this

study adopts the categorization of departments in the Executive Yuan, which includes 14 categories such as internal affairs, foreign affairs, national defense, and finance. Additionally, a "Government Affairs (GOV)" category was created based on the content of some candidates' advertisements, primarily concerning government budget allocation. Another category, "General (GNR)," was used for ads discussing three or more policies, issues, or political views. Each advertisement was assigned to only one primary political issue category.

Based on past research on local elections in Taiwan (Shen and Chen, 2020), Benoit and Sheaffer's Functional Theory of Political Campaign Discourse, and Magin et al.'s (2017) classification of campaign functions, this study will use the coding scheme presented in Table 3 to analyze candidates' Facebook ads and posts.

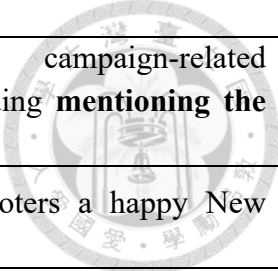
The unit of the analysis will be a single sponsored post or ad. Each piece of content will be labeled in a category based on the three concepts. For example, the sponsored post shown on the left side of Figure 1 will be labeled "Acclaim," "Endorsement," and "Information." The right side will be labeled as "Attack," "Characteristics," and "Mobilization."



Figure 2: Two sponsored posts published before the election.

Candidates' sponsoring post and ad content		
Concept	Categories	Information
Style	Neutral (NEU)	Providing pure information
	Acclaim (ACC)	Emphasizing personal activities, characteristics, achievements, strengths, or positive aspects
	Attack (ATT)	Emphasizing opponents' weaknesses or shortcomings to decrease their support
	Defence (DEF)	Responding to criticisms or attacks
	Comparison (COM)	Emphasizing the difference from their counterparts, mention both themselves and their counterparts with similar lengths of description

Topic	Policy (POL)	Interior Affairs (INT)	e.g., consumer protection, housing, social security, recreation
		Foreign Affairs (FRN)	e.g., cross-strait relations, international trade
		National Defence (NDF)	
		Fiscal (FSK)	e.g., tax reduction
		Education (EDU)	e.g., sports, school renewal
		Law (LAW)	e.g., penalty
		Economy (ECO)	e.g., infrastructure, tourism, wage
		Transportation (TRA)	e.g., transportation infrastructure, pedestrians' rights
		Labor (LBR)	e.g., working hours
		Agriculture (AGR)	
		Health and Welfare (HWF)	e.g., medical resources, vaccination, birth rate-related policy
		Environment (ENV)	e.g., pollution reduction
		Culture (CUL)	
		Digital Development (DGT)	
		Government (GOV)	e.g., annual budget
		General (GNR)	Mentioning more than two categories in similar lengths
	Personal (PER)	Characteristics (CRT)	Personal characteristics, such as integrity, hard-working, or honesty
		Ability (ABL)	Mentioning competence or showing what they've done in the previous term
		Ideology and value (VLU)	Personal values, such as democracy, faith, sovereignty, or family.
		Endorsement (END)	Mentioning support from well-known figures, voters, or one's support for other political figures
		Activity (ACT)	Mobilizing or seeking support by



			mentioning campaign-related activities, including mentioning the election
		Pure information (PIF)	e.g., Wishing voters a happy New Year
		Other (OTH)	Not enough content to categorize
Function	Information (INF)	Providing information relevant to voters, such as weather, policy changes, political views, or personal characteristics and ability	
	Mobilization (MOB)	Requesting supporters to attend events, vote, donate, etc.	
	Interaction (ITR)	Emphasizing voter feedback, interaction with the public, leaving a "people-friendly" impression, or engaging with voters through live sessions	
	Other (OTH)	Not enough content to categorize	

Table 3: Codebook and information.

Three coders are involved in the coding procedure to adjust the principles of categorization and to ensure the quality and reliability of the coding. The researcher checked the intercoder reliability with Krippendorff's alpha coefficients and pairwise agreement rate in R. Two hundred ads were randomly selected for the intercoder reliability tests, then each concept and sub-categories within the "topic" concept were checked separately. As Table 4 shows, the coding for "Style," "Topic," and "Subtopic" show reliable results with α being over 0.8. The coding for "Function" shows only moderate reliability, with α falling between 0.67 and 0.8. Overall, with the average agreement rate of 87.8% and α being over 0.8, the content analysis is reliable in this study.

(N = 200)	Style	Topic	Subtopic	Function	Average
Pairwise agreement	91.0%	94.0%	84.0%	82.0%	87.8%
Krippendorff's α	0.813	0.865	0.814	0.727	0.805

Table 4: Overview of the reliability coefficients.

The third part investigates the "estimated audience size" of Facebook ads. As highlighted in the literature review, targeting specific messages to small voter groups within a constituency could hinder public discourse before elections. This section analyzes whether different candidates, parties, and incumbencies employed different ad targeting strategies leading to varying "estimated audience sizes." Additionally, the study examines whether ads with smaller "estimated audience sizes" contain specific types of content, such as negative or misleading information, to understand their potential impact on the electoral process.

Figure 3 displays two screenshots of the Meta Ad Library, showing estimated audience size data for two different ads. The left ad has an estimated audience size of 5,000 - 10,000, while the right ad has an estimated audience size of over 1,000,000. Both ads are for Yangyao Yangyao and have a budget of NT\$1,500.0 - NT\$2,000.0.

Ad ID	Estimated Audience Size	Budget (TWD)	Impressions
684701827175180	5,000 - 10,000	NT\$1,500.0 - NT\$2,000.0	2,000 - 3,000
1009440034056260	> 1,000,000	NT\$2,000 - NT\$2,500.0	2,000 - 2,000

Figure 3: The estimated audience size data in the Meta Ad Library. Different ads have different estimated audience sizes and range from “over one million” to less than ten thousand.



IV. Result



4.1 The spending and temporal patterns of ads and advertisers

The study collected data on the number, impressions, and spending of all advertisements placed by candidates during the 2024 regional legislative elections in the thirty days leading up to the election. Out of 156 candidates, 120 candidates (77%) placed advertisements during this period, for a total of 5,040 ads. The overall budget spent on ads was 15,077,250 NTD, generating 162,843,500 impressions.

In terms of the time series, the study first presents the characteristics of overall advertising budgets and impressions over time, examining whether advertisements increased, decreased, or showed specific trends as the election approached (Figure 4). The number of advertisements reached the highest point one week before the election, with the highest number of 331 ads on the second day before the election (January 11). Advertising spending also showed a rapid upward trend the week before the election, it reached the highest point on January 10 (three days before the election) at approximately 1.35 million NTD. In contrast, while impressions increased as the election approached, their values soared on the seventh, ninth, and fifteenth days before the election. A more detailed analysis of the temporal trends in advertising will be discussed later in the study when examining the strategies of various political parties.

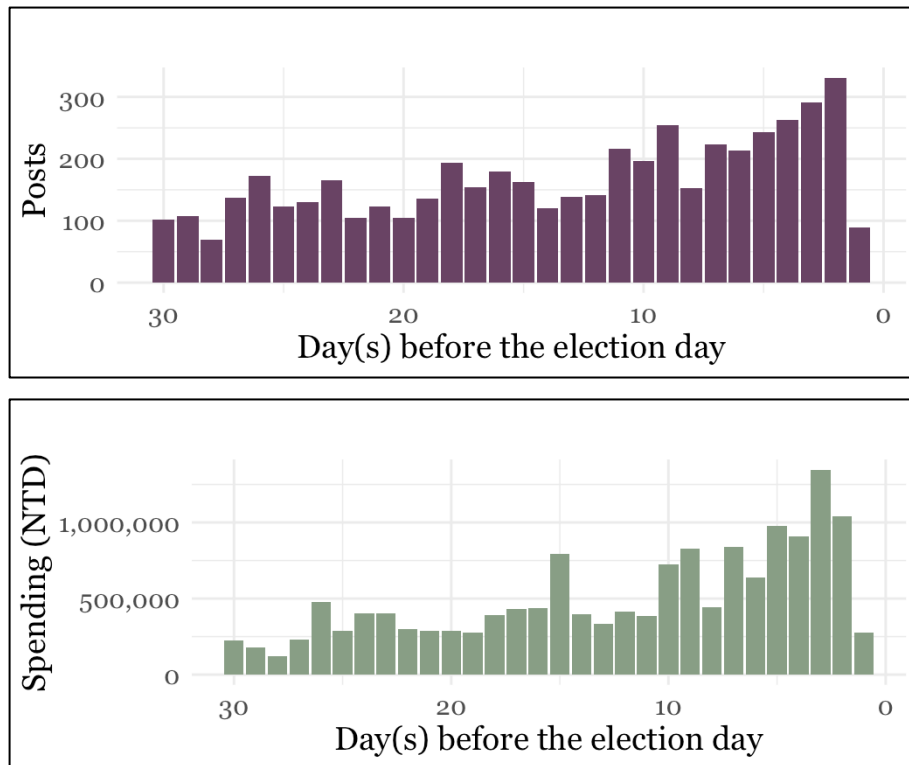


Figure 4: Time trends of advertisement quantity and expenditure.

Additionally, I applied the Mann-Kendall test to examine trends in our time series data. The Mann-Kendall test is a non-parametric statistical test used to identify trends in a time series data set. It is beneficial for detecting monotonic trends (consistently increasing or decreasing) in data that do not necessarily follow a specific distribution. This test is widely used in environmental science, climatology, hydrology, and other fields for trend analysis.

The test for the count for ads, impressions, and spending returned Kendall's tau values of 0.529 ($p < .001$), 0.549 ($p < .001$), and 0.562 ($p < .001$), respectively. The results indicate a moderate to strong upward trend that is highly statistically significant. These results provide robust evidence that the variable under study exhibits a significant increasing trend over time, highlighting the importance of temporal factors in

understanding its behavior.

4.1.1 General statistics of the ads and candidates: Spending and impression

From the statistical data on individual advertisements, each ad generated approximately 32,317 impressions ($Mdn = 12,500$, $SD = 65,821$). Notably, nine ads achieved over one million impressions. The average cost per advertisement was 2,992 NTD ($Mdn = 1,250$, $SD = 5,824$), with the highest expenditure being 112,500 NTD. Figure 5 shows the distributions of spending, impressions, and impressions per dollar of each ad. The plot presents the distribution of three key metrics for individual advertisements: the amount spent, the number of impressions, and the ratio of cost to impressions. The data showcases the variability in advertising expenditure and effectiveness, highlighting how different ads performed in terms of reach relative to their costs.

Furthermore, a Pearson correlation coefficient was computed to assess the linear relationship between the budget for a single advertisement and the number of impressions. There was a positive correlation between the two variables, $r(5038) = .77$, $p < .001$.

After calculating the ratio of impressions to spending, it was found that, on average, each NTD spent resulted in 13.3 impressions ($Mdn = 10$, $SD = 10.4$). Figure 5 illustrates the distribution of expenditure, impressions, and the ratio of cost to impressions for individual advertisements.



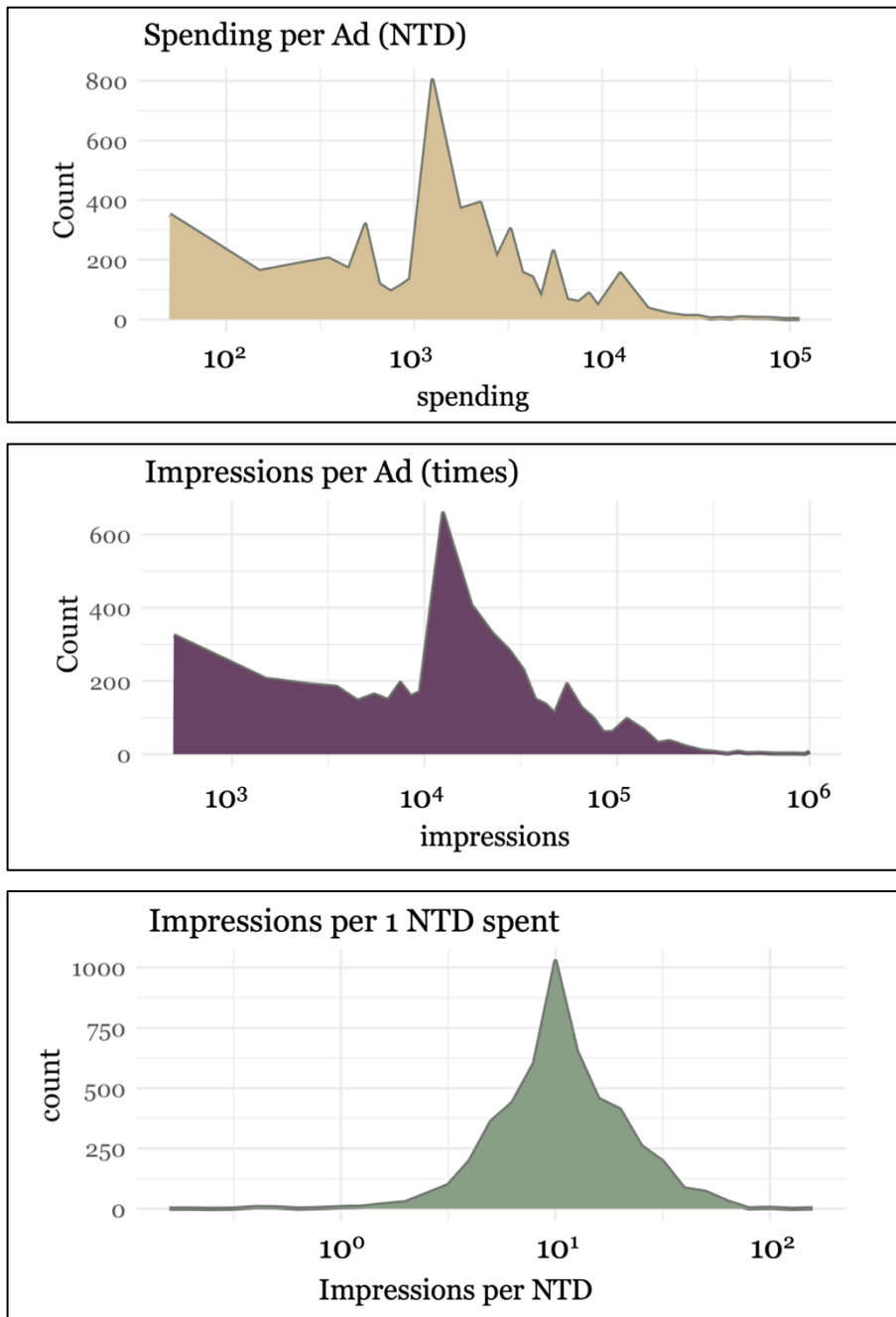


Figure 5: Distribution of individual advertisements' expenditure, impressions, and cost-to-impression ratio. X axe is in logarithmic scale.

Secondly, the study also explores the statistics related to individual candidates. In terms of the number of advertisements, the least amount was one ad, placed by 賴香伶 of the Taiwan People's Party in Taoyuan City's fifth constituency, 林宜瑾 of the

Democratic Progressive Party in Tainan City's fourth constituency, and 蘇治芬 of the Democratic Progressive Party in Yunlin County. The highest number was 363 ads placed by 邱顯智 of the New Power Party in Hsinchu City's constituency. On average, each advertiser placed 42 ads.

Regarding advertising budget and impressions, among all advertisers ($N = 120$), a single candidate's advertisements averaged 1,357,029 impressions ($Mdn = 866,750$, $SD = 1,686,330$) in the month before the election. The average budget per advertiser was 125,699 NTD ($Mdn = 73,125$ NTD, $SD = 154,170$). Figure 6 presents the distribution of impressions, expenditure, and cost ratio to impressions for individual candidates' advertisements.

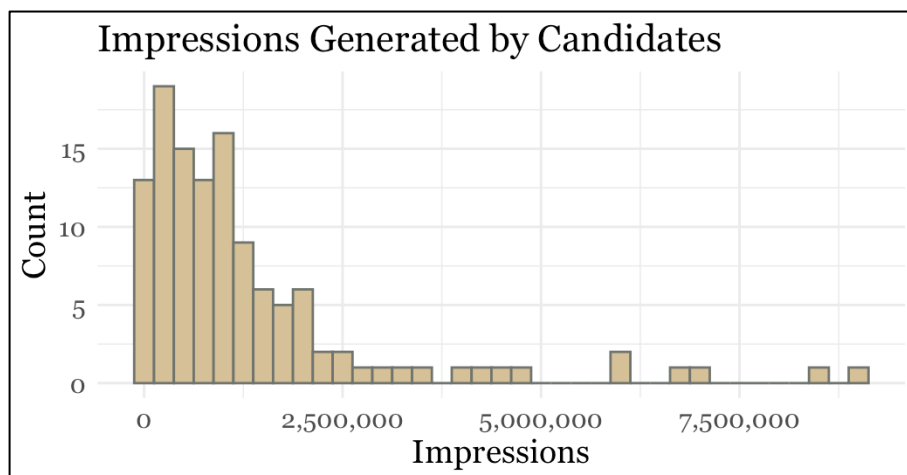
The highest figures were observed for 羅廷瑋 of the KMT in Taichung City's sixth district, with a total expenditure of 817,600 NTD, achieving 9,069,000 impressions. Among the top ten in the budget, four candidates are from the DPP, four from the KMT, and two from the NPP (as shown in Table 5). These candidates' constituencies were New Taipei City, Taoyuan City, Hsinchu City, Hsinchu County, Taichung City, and Kaohsiung City. The group included seven challengers, two incumbents, and one successor.

Candidate	Spending	Count	Impressions	Constituency	Party	Incumbency
羅廷瑋	817,600	140	9,069,000	Taichung 6 th	KMT	Challenger
李眉蓁	760,550	243	7,022,000	Kaohsiung 3 rd	KMT	Challenger
王婉諭	607,900	132	6,789,500	Hsinchu County 2 nd	NPP	Challenger
張宏陸	586,950	111	2,742,000	New Taipei 6 th	DPP	Incumbent
江肇國	487,300	86	4,192,500	Taichung 6 th	DPP	Successor

范綱祥	480,850	20	4,553,500	Taoyuan 4 th	DPP	Challenger
涂權吉	480,300	168	6,121,500	Taoyuan 2 nd	KMT	Challenger
邱顯智	455,500	363	6,088,000	Hsinchu City	NPP	Challenger
蘇巧慧	382,750	75	2,496,000	New Taipei 5 th	DPP	Incumbent
蔣欣璋	382,300	85	8,543,000	New Taipei 4 th	KMT	Challenger

Table 5: Information on the top ten candidates by advertising budget.

Based on the collected data on the number of advertisements, advertising budget, and impressions, it is evident that all three metrics are statistically correlated. Specifically, budget and impressions have a high positive correlation (Pearson $R = .89$, $P < .001$). The number of advertisements also shows a statistically significant positive correlation with impressions (Pearson $R = .68$, $P < .001$) and with the advertising budget (Pearson $R = .69$, $P < .001$).



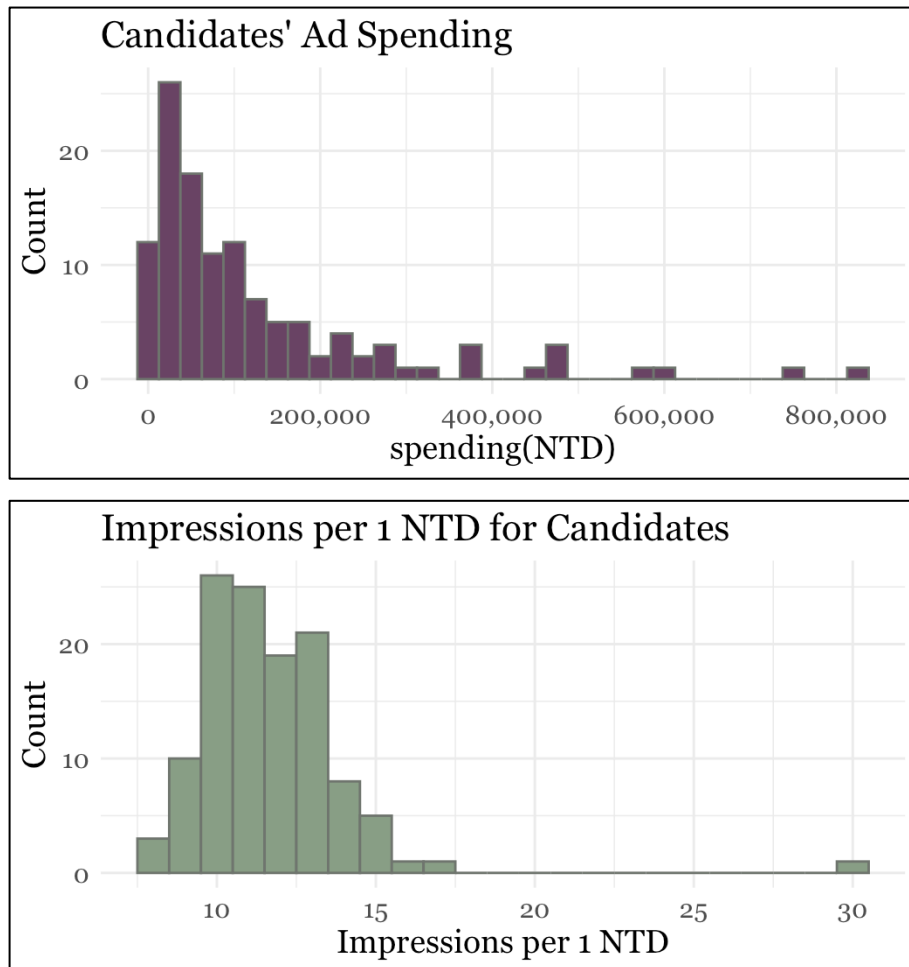


Figure 6: Distribution of impressions, expenditure, and cost-to-impression ratio for individual candidates' advertisements.

4.1.2 Spending patterns of the advertisers regarding their parties, incumbencies, constituencies, and election results

In sections 4.1.2 and 4.1.3, the study answers Research Question 2 and the related Hypotheses 1 to 3. It will first discuss the quantity and effectiveness of advertisements placed by candidates based on their political party affiliation. Next, it will examine the advertising strategies of different types of candidates based on their incumbency. Finally, there will be a cross-analysis of advertising strategies across various combinations of political parties and incumbency (e.g., KMT challengers).

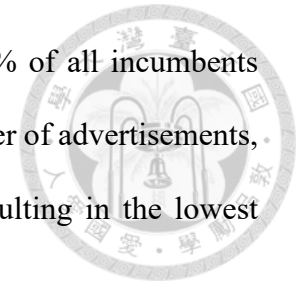
As shown in Table 6, KMT candidates had higher average numbers of advertisements, impressions, and expenditures among the two major parties than DPP candidates. Notably, KMT candidates generated 1.33 more impressions per New Taiwan Dollar spent than DPP candidates, indicating that DPP candidates were less efficient in their advertising efforts. On the other hand, the New Power Party (NPP) had fewer candidates in the regional legislative elections but, on average, invested more resources in Facebook advertisements. In terms of advertising efficiency, NPP outperformed both KMT and DPP.

Party	Advertiser count (of all candidates)	Ad count (per all candidates)	Impressions (per all candidates)	Spending (per all candidates)	Impressions per dollar
DPP	58 (72, 81%)	34.93	1,122,816	112,674	9.97
KMT	56 (70, 80%)	44.28	1,492,333	132,029	11.30
TPP	2 (9, 22%)	4.00	447,000	19,000	23.53
NPP	3 (3, 100%)	169.67	4,336,167	358,833	12.08
TSP	1 (2, 50%)	5.50	162,250	16,850	9.63
Average	-	42	1,357,029	125,699	10.8

Table 6: Average number of advertisements, impressions, expenditures, and impressions per dollar for candidates by political party.

Next, the study examines the differences in advertising strategies among different types of candidates based on their incumbency status (as shown in Table 7). Unlike the differences observed between political parties, candidates categorized by incumbency status do not show significant differences in advertising efficiency. However, incumbents

have the highest proportion of advertisement placements, with 80% of all incumbents placing ads. Despite this, incumbents have the lowest average number of advertisements, amounting to only 70% of the number placed by challengers, resulting in the lowest average number of impressions per candidate.



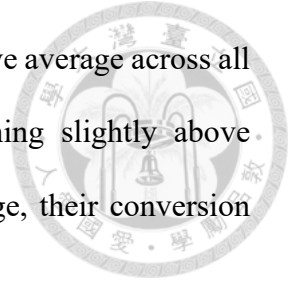
Incumbency	Advertiser count (of all candidates)	Ad count (per all candidates)	Impressions (per all candidates)	Spending (per all candidates)	Impressions per dollar
Incumbent	44 (55, 80%)	33.34	977,864	86,797	11.27
Successor	13 (18, 72%)	42.62	1,061,385	116,665	9.10
Challenger	63 (83, 76%)	47.90	1,682,849	154,628	10.88
Average	-	42	1,357,029	125,699	10.8

Table 7: Average number of advertisements, impressions, expenditures, and impressions per dollar for candidates by incumbency status. This table shows how incumbency status impacts advertising strategies and outcomes.

Finally, I further examine the advertising behaviors by combining incumbency status with political party affiliation to explore if candidates from different parties with different incumbency statuses exhibit varying advertising behaviors (see Table 8). The Democratic Progressive Party (DPP) and Kuomintang (KMT) show notably different trends.

KMT resources are concentrated on challengers, with the average budget per challenger being four and six times that of KMT incumbents and successors, respectively. In contrast, DPP resources are concentrated on successors, with the average budget per challenger being only about 54% of that for successors. This may be related to the competitive nature of the elections.

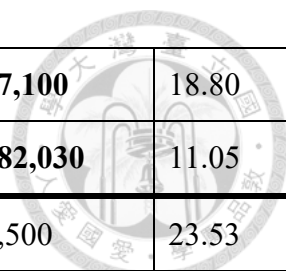
Regarding conversion efficiency, KMT candidates perform above average across all categories, while DPP candidates have only incumbents performing slightly above average. Despite successors investing the most resources on average, their conversion efficiency is lower than that of other candidates.



Including the other three parties in the discussion, the NPP is the most enthusiastic about placing Facebook advertisements, with all three regional legislator candidates doing so and having an average budget nearly double that of KMT challengers. However, candidates from the TPP and TSP have significantly lower average advertising budgets than the other three parties, indicating that Facebook ads did not equally attract the less resource-rich small parties.

Unfortunately, the TPP, TSP, and NPP had no incumbents in this election, making it impossible to compare their strategies with those of KMT and DPP candidates in similar incumbency statuses.

Party	Incumbency	Advertiser count (of all candidates)	Ad count (per all candidates)	Impressions (per all candidates)	Spending (per all candidates)	Impressions per dollar
DPP	ALL	58	34.93	1,122,816	112,674	9.97
	Incumbent	29	36.69	1,203,638	109,103	11.03
	Successor	8	55.88	1,406,313	172,644	8.15
	Challenger	21	24.00	892,225	93,863	9.51
KMT	ALL	56	44.28	1,492,333	132,029	11.30
	Incumbent	15	26.87	541,367	43,670	12.40



	Successor	5	21.40	509,500	27,100	18.80
	Challenger	36	54.43	2,010,676	182,030	11.05
TPP	Challenger	2	2.00	223,500	9,500	23.53
NPP	Challenger	3	169.67	4,336,167	358,833	12.08
TSP	Challenger	1	11.00	324,500	33,700	9.63
Candidate average	-	-	42	1,357,029	125,699	10.8

Table 8: Average number of advertisements, impressions, expenditures, and impressions per dollar for candidates by political party and incumbency status. This table highlights the differences in advertising strategies and efficiencies among candidates from various political parties and with different incumbency statuses.

Aside from the exploratory data analysis, the research here employs two multiple linear regression approaches to analyze the relationship between advertisement spending and several predictor variables. First, campaign spending for each candidate was the dependent variable. The independent variables included both continuous and categorical variables: (1) the candidate's age, (2) the candidate's Fanpage follower count before the election, (3) the candidate's party, (4) the candidate's incumbency, (5) vote share difference, a continuous variable representing the percentage difference in vote rates of the elected and the second highest vote-share candidate.

Second, campaign spending for each candidate was the dependent variable. The independent variables included both continuous and categorical variables: (1) age, (2) Fanpage follower count, (3) party and incumbency combination (shown as partyxinc in the table), a categorical variable representing the combination of the candidate's party affiliation and incumbency, coded using dummy variables, (4) Vote Rate Difference.

Categorical variables (“party,” “incumbency,” “party and incumbency combination”) were included in the regression model using dummy coding. One of the parties was chosen as the reference level, and the remaining categories were compared against this reference.

The first regression results (Table 9) show that the vote share difference significantly negatively affected campaign spending. The closer the result, the higher the overall budget. Also, NPP candidates spend statistically more budget per candidate than KMT and DPP candidates (the result is the same when the reference basis is DPP).

Dependent Variable: Ad budget for each candidate		
	Coefficient (SE)	t-test
(Intercept)	125954***(27127)	4.643
Party:		
DPP	-3119(23865)	-0.131
NPP	215362**(79483)	2.710
TPP	-107247*(48298)	-2.221
TSP	-123958(96398)	-1.286
age	-2004(1244)	-1.611
follower	-0.1026(0.0949)	-1.081
Incumbency	45964(23912)	1.922
(Challenger = 1)		
Vote-share difference	-396558***(116969)	-3.076
N	155	
R ²	0.1988	
adjusted R ²	0.1543	
F-statistics	4.467 (df = 8 on 144)	
p-value	<0.001	

*p<.05; **p<.01; ***p<.001

Table 9: Regression analysis with political party, incumbency status, and vote margin difference as dependent variables. KMT was selected as the reference basis for parties.

The second regression results (Table 10) also indicated that the vote share difference significantly negatively affected campaign spending. Meanwhile, NPP candidates (all 3 are challengers) spent statistically more than other candidates except for KMT challengers. In other words, NPP candidates and KMT challengers spent statistically more on advertisements, whereas the significance of KMT challengers is relatively mild. Both “age” and “follower (count before the election)” do not return significant result in the two regression analyses. The results indicate that a candidate's name recognition or the number of followers may not be a factor in the budget amount.

Dependent Variable: Ad budget for each candidate		
	Coefficient (SE)	t-test
(Intercept)	128975***(26711)	4.828
Party x Incumbency		
NPP Challenger	256104**(80177)	3.194
KMT Challenger	56066*(29475)	1.902
(other combinations)	(All $P > 0.1$)	
age	-2314(1292)	-1.791
follower	-0.0596(0.0982)	-0.607
Vote-share difference	-365881**(118561)	-3.086
N	155	
R ²	0.2216	
adjusted R ²	0.1609	
F-statistics	3.649 (df = 11 on 141)	
p-value	<0.001	

*p<.05; **p<.01; ***p<.001

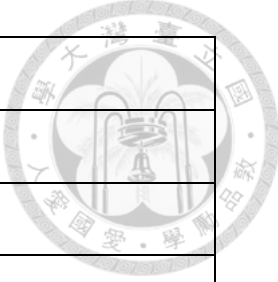
Table 10: Regression analysis with party-incumbency combination and vote margin difference as dependent variables. DPP incumbent was selected as the reference basis.

4.1.3 Ad expenditure of the constituencies regarding the location and election results

In this section, the study discusses the distribution of candidates' advertising expenditures by constituency. It also considers the election results in each district, including whether a challenger defeated the incumbent and the vote margin difference, to analyze potential reasons for the variations in advertising budgets.

There are a total of 73 single-member electoral constituencies in this election. The average advertising budget across all constituencies is 219,914 NTD ($Mdn = 122,150$, $SD = 272,932$). Nine constituencies (about 12%) had no candidates placing any advertisements: Taipei City's third and sixth constituencies, New Taipei City's ninth constituency, Tainan City's fifth constituency, Kaohsiung City's second, sixth, and eighth constituencies, Taitung County's constituency, and Kinmen County's constituency. The top ten constituencies in terms of advertising budget (see Table 11) are primarily located in Taichung City, Kaohsiung City, Hsinchu County/City, Taoyuan City, and New Taipei City. Notably, Taichung City's sixth, fifth, and fourth constituencies rank first, second, and ninth, respectively, making Taichung the city with the highest overall advertising budget. From the constituency with zero budget to those with the highest budgets, no clear pattern indicates that being located in one of the six major municipalities (referred to as "six capitals") influences the budget allocated.

Constituency	Spending	Difference in vote share
Taichung City 6 th	1,304,900	7.52%
Taichung City 5 th	1,228,350	10.47%
Kaohsiung City 3 rd	1,042,100	3.03%



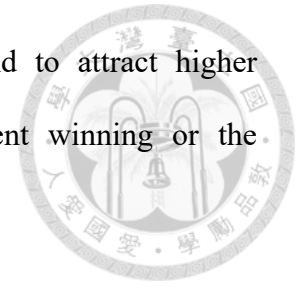
Hsinchu County 2 nd	810,550	7.63%
Hsinchu City	675,800	3.34%
Taoyuan City 2 nd	614,600	0.58%
New Taipei City 6 th	607,950	2.61%
Taoyuan City 4 th	526,750	16.83%
Taichung City 4 th	516,300	2.67%
New Taipei City 12 th	503,500	5.80%
Ave. (all constituency)	219,914	12.50%

Table 11: Top ten constituencies by total advertising budget and vote share difference between the winner and the runner-up.

The relationship between advertising budgets and constituencies can be more clearly understood through a linear regression model. In this model, the total advertising budget for each constituency is the dependent variable, while the independent variables include whether the incumbent won the election in that constituency (Remain), the vote-share difference between the winner and the runner-up (Vote-share difference), and whether the constituency is located in one of the six metropolitans (referred to as the "六都").

The results show that the vote-share difference is statistically significant and has a negative coefficient, indicating that the smaller the vote-share difference (i.e., the more competitive the election), the higher the advertising budget in that constituency. However, neither the election outcome (whether the incumbent won) nor the constituency's location in one of the six major municipalities is significant in the regression model. The adjusted R-squared value of the model is 0.124, indicating that the model has a moderate explanatory power.

This analysis highlights that competitive constituencies tend to attract higher advertising budgets, regardless of factors such as the incumbent winning or the constituency's location within major municipalities.



Dependent Variable: Ad budget in each constituency		
	Coefficient (SE)	t-test
Intercept	342342*** (81793)	4.1882
Remain (yes = 1)	-87558 (79460)	-1.1019
Vote-share difference	-874361** (331013)	-2.6415
6 Metropolitan (yes =1)	85868 (63729)	1.3474
N	73	
R ²	0.1606	
adjusted R ²	0.1241	
F-statistics	4.401 (df = 3 on 69)	
p-value	0.007	

*p<.05; **p<.01; ***p<.001

Table 12: Regression analysis of total advertising budget in constituencies with election results, vote-share difference, and location in six major municipalities

4.1.4 Temporal patterns in the advertising activity of advertisers and parties

At the beginning of this chapter, the study used the Mann-Kendall Test to calculate the overall advertising trend. The number of ads, budgets, and impressions increased as the election approached. In this section, the study will present the advertising patterns of various types of candidates in the month leading up to the election: whether they exhibit the same trends as the overall advertising and what unique advertising patterns each type of candidate has. Additionally, based on the study's results, since the number of ads and

advertising budgets are highly significantly correlated ($r(5038) = .77, p < .001$), this section will only discuss the distribution and trends of the number of ads.

Discussing by party (Figure 7), it can be observed that the trends of the KMT and DPP are very similar to the overall advertising trends ($r = .80, p < .001$). As the election nears, both the DPP (Mann-Kendall Test, $p < .01$) and KMT (Mann-Kendall Test, $p < .001$) show an increasing volume of ads, soaring just before the final weekend and two to three days before the election. The ads from both parties during the final weekend before the election mainly focused on mobilization for rallies, parades, and various activities in the last week and the weekend before the election.

In contrast, the NPP does not show this trend as strongly (Mann-Kendall Test, $p = .12$). Observing the ads placed by prominent NPP candidates like Legislator 邱顯智 and Legislator 王婉諭, it is noted that the NPP's advertisements are more concentrated on discussing social issues of concern to the party (such as children's rights, housing justice, labor rights, etc.) or legislator bills under review in the Legislative Yuan. For instance, on the eleventh and nineteenth days before the election, the ads were densely placed around events like press conferences on workers' rights and the review of a daycare center supervision bill in the Legislative Yuan. Unlike the DPP and KMT, the NPP did not show a large volume of event-based or support-seeking posts in the final week, and the volume of ads even showed a downward trend.

Additionally, the TPP and the TSP had very few ads, so their time trends are not significant and differ greatly from the advertising patterns of the other three parties.

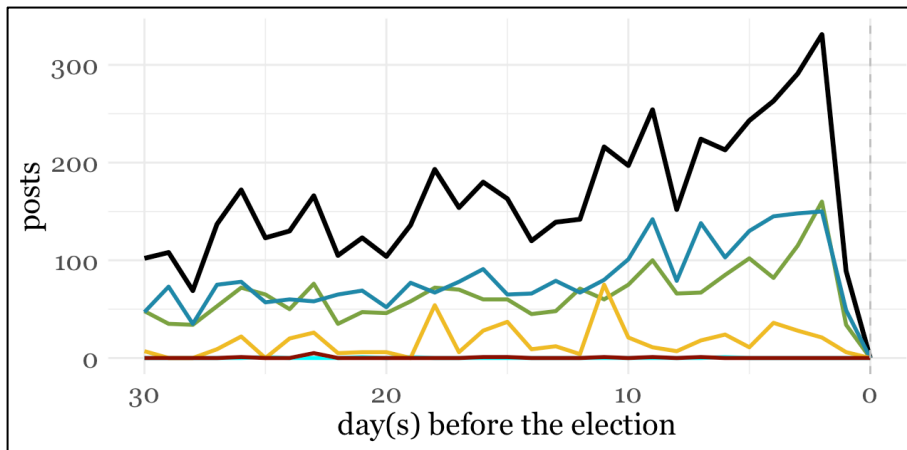


Figure 7: Advertising patterns of candidates by party. (black line: total ads; green line: DPP; blue line: KMT; cyan line: TPP; yellow line: NPP; dark red line: TSP)

When categorizing candidates as incumbents (including both incumbents and successors) or challengers (Figure 8), both groups exhibit similar and statistically significant trends ($r(5038) = .75; p < .001$). The graph does not reveal any particularly distinct trends. Overall, challengers tend to invest more resources in Facebook advertisements.

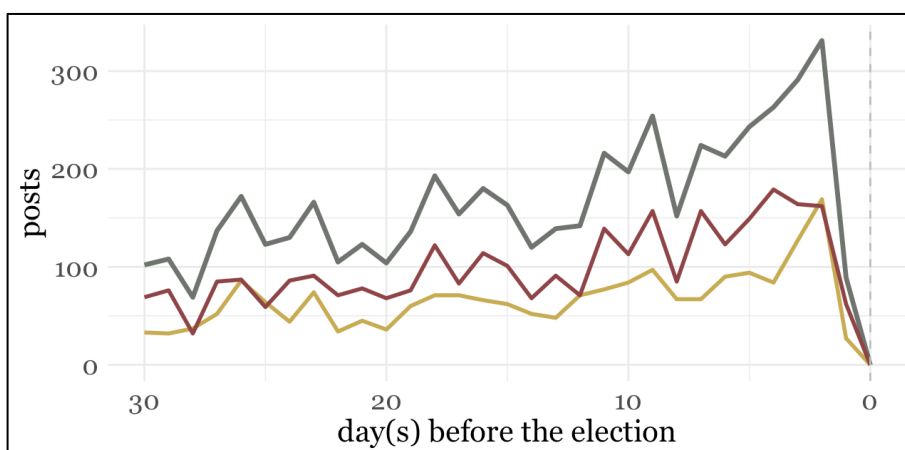


Figure 8: Advertising patterns of candidates by incumbency. (black line: total ads; red line: challenger; yellow line: incumbent)

Finally, the study discusses the advertising trends of combinations of each party and incumbency (Figure 9). According to the Mann-Kendall Test (Table 13), only the two groups with the highest advertising volumes showed an increasing trend: DPP incumbents and KMT challengers. These two groups exhibited advertising patterns similar to the overall ads, the KMT overall, and the DPP overall, with higher points occurring during the weekend before the election and two to three days before the election.

On the other hand, the advertising patterns of KMT incumbents and DPP challengers, who had lower advertising volumes, did not show statistically significant trends. Their ad volumes were relatively evenly distributed over the thirty days before the election, making it difficult to discern a clear strategy.

Mann-Kendall Test for each group	
	Tau value
DPP Incumbent	0.373**
DPP Challenger	0.0591
KMT Incumbent	0.283
KMT Challenger	0.409***
TPP	-0.0982
NPP	0.202
TSP	-0.0281

*p<.05; **p<.01; ***p<.001

Table 13: Mann-Kendall test results for advertising trends of each group.

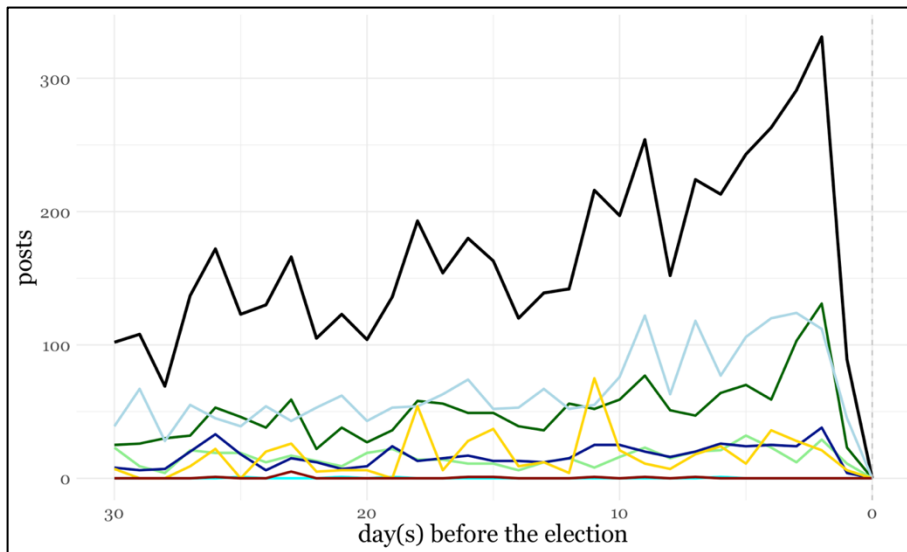


Figure 9: Advertising patterns by party and incumbency status. (black line: total ads; dark green line: DPP incumbents; light green line: DPP challengers; dark blue line: KMT incumbents; light blue line: KMT challengers; cyan line: TPP; yellow line: NPP; dark red line: TSP)

4.2 The styles, topics, and functions of the advertisements

This section focuses on the content of advertisements placed by regional legislator candidates in the month leading up to the 2024 election. It examines what the ads included, whether they primarily involved negative attacks and their purposes. As in section 4.1, this section begins with statistics on individual ads and then discusses the characteristics of ad content at higher levels, such as candidates, constituencies, and parties.

4.2.1 The styles, topics, and functions of the advertisement at the advertisement level

The styles of the advertisements

First, regarding the advertising styles of all candidates, approximately three-quarters of the ads were categorized as “Acclaim.” They primarily discussed the candidates' strengths, including their policies and activities. Second, some ads mainly provided objective information, such as details about events not related to campaigning (e.g., event

times and locations) or simple greetings to voters like "Happy New Year" or "Merry Christmas," without mentioning their own or their competitors' abilities or policies. They account for about 9.5% of the overall content. Third, the study focused on "attack" posts, including criticisms of opponents' actions, abilities, policies, or governance records. These constituted only 9.2%, approximately seven times less than "acclaim" posts. Last, Ads that used similar space to compare opponents and themselves made up about 3%, while responses to opponent attacks were less than 2%. Ads with no text content or insufficient content to be categorized accounted for approximately 2%.

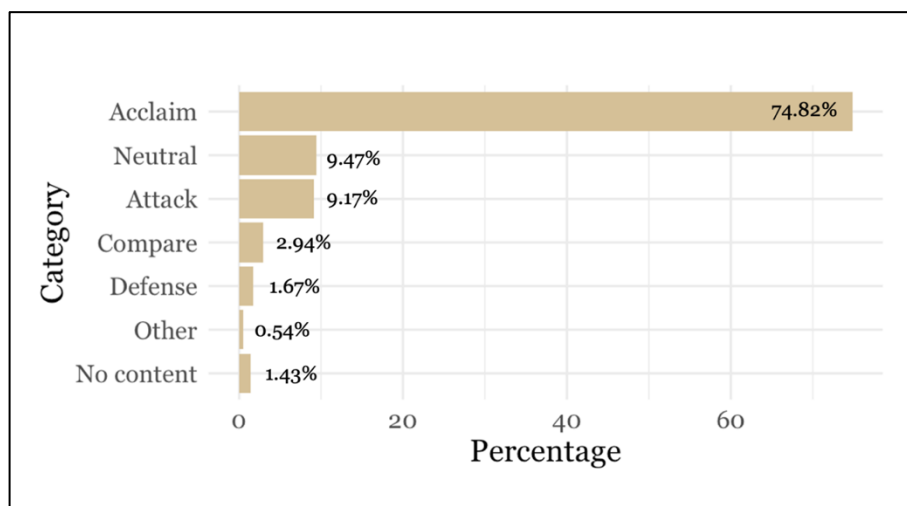


Figure 10: Proportions of ad styles. Positive acclaim ads account for three-quarters, while ads attacking opponents account for less than 10%.

The topics of the advertisements

Over 70% of the ads focused on candidates' personal traits, abilities, and activity information, with only 23% discussing candidates' policies, achievements, and views on issues (see Figure 11). Next, the research further examines the content categorized under "Personal" and "Political."

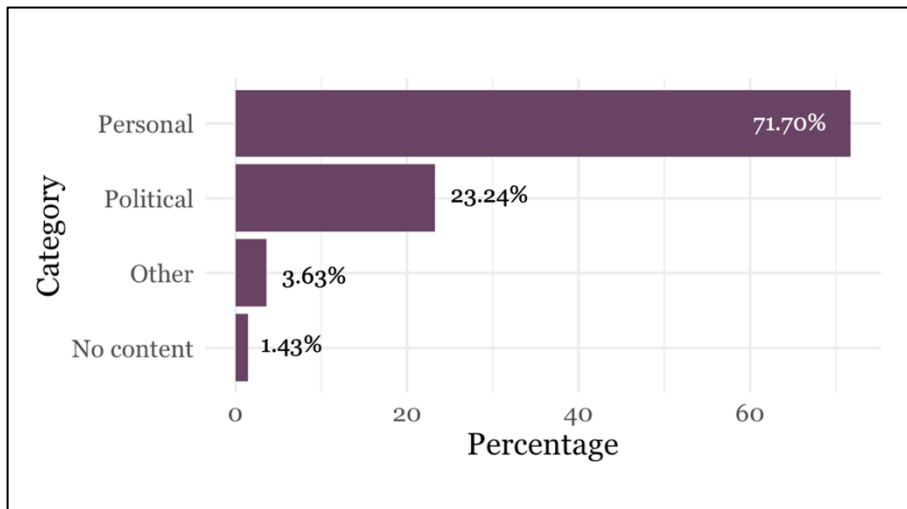


Figure 11: Proportions of ad topics. Over 70% focus on personal content, with less than a quarter discussing candidates' past achievements, governance vision, or issues.

In the "Personal" content category (Figure 12), nearly 40% were related to the candidates' activities and the election itself. These ads provided event times and locations, mobilized voters to participate in increasing support, reviewed the process of events to create the impression of high support for the candidate, or called for voter support on election day. Ads emphasizing candidates' traits accounted for about 25%, showcasing their past service to demonstrate their commitment to public service, discussing their integrity and honesty, or criticizing opponents' misconduct during the campaign. Ads using endorsements from well-known figures to promote themselves accounted for about one-fifth. Familiar political figures included presidential and vice-presidential candidates from various parties, county and city leaders, or other well-known politicians like 蔡英文, 馬英九, and 韓國瑜, as well as popular legislator candidates from different constituencies. The remaining content included discussing the values the candidates identified with (e.g., democracy, the sovereignty of the Republic of China), their capabilities (e.g., securing budget allocations, number of service cases), and other content,

each accounting for less than 10%.

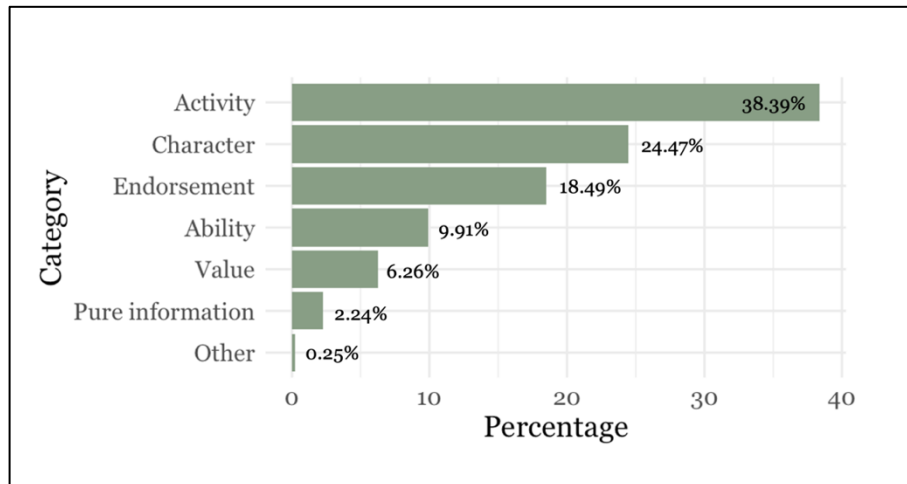
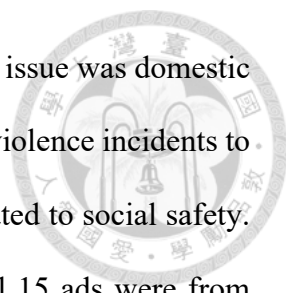


Figure 12: Proportions of content in the "personal" category. In this category, the most common ads focus on activities related to the candidates.

The subtopic distribution in the "Political" content category (Figure 13) was relatively balanced due to the numerous topics discussed. The most significant proportion was ads that discussed achievements and visions comprehensively, often covering more than three issues or policies in a "for dummies" format. These account for 19% of the total issues. The most common issues were health and welfare, which also accounted for 19% of the cases. Within this category, children's welfare policies were the most frequently mentioned political issue (about 35% of this category), followed by policies related to declining birthrates (public nursery subsidies, birth subsidies, parental leave, etc.) and long-term care policies. Next were transportation policies, accounting for 16%. These are primarily related to achievements in transportation infrastructure or policy plans for transportation development. Issues like pedestrian rights and people-oriented transportation, which have recently attracted attention, appeared in a few ads (19 ads) in



the candidates' policies or issues of concern. The third most common issue was domestic issues, accounting for about 9%. Many candidates referenced social violence incidents to discuss local security issues and policy suggestions or criticisms related to social safety. There were also a few ads on the death penalty issue. However, all 15 ads were from KMT candidates questioning DPP candidates' positions on the death penalty without an in-depth discussion of the issue. Other topics, such as education issues (9%), economic development issues (6%), and environmental and pollution issues (5%), were only discussed by a few candidates. Notably, the relatively hot topics of national defense and cross-strait foreign affairs accounted for only 1.11% of overall ads (13 ads). The little appearance of these issues indicates that very few legislator candidates believed focusing on these issues would attract voter support.

This study also utilized the concept of the Gini coefficient to discuss whether overall advertisements were particularly biased toward specific topics. The Gini coefficient, also referred to as the Gini index or Gini ratio, is a statistical measure designed to represent the distribution of income or wealth among a population. Here, I use the concept to measure the distribution of the issues.

The calculations revealed that the Gini coefficient result is 0.1516, which is relatively low. This indicates that the distribution of political issues in political ads is reasonably even, and most political issues are represented in the ads to a similar extent. There isn't a significant concentration or dominance of a single issue over others. For political strategists, a low Gini coefficient might suggest that their strategy of covering a wide range of issues is being implemented effectively. On the other side, for the public, this could mean they are being exposed to a balanced view of political issues, potentially leading to a more informed electorate.

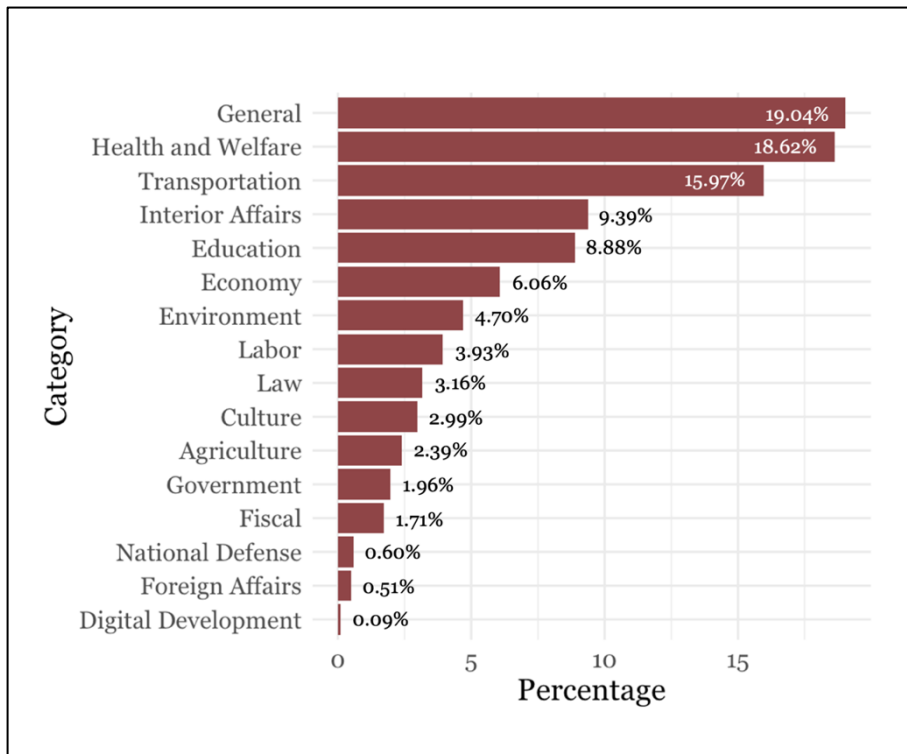


Figure 13: Proportions of content in the "Political" category. The most common topics in this category are health and welfare, transportation, and domestic issues.

The combinations of the styles and the topics of the advertisements

To gain a deeper understanding of the content of candidates' advertisements, the study categorized the combination of advertisement styles and topics. Table 14 presents the proportions of the most common three style categories and two topics within each category, encompassing a total of 4,552 advertisements (90%).

A chi-square test was performed to examine the relationship between ad topic and style. The relation between the two variables was significant, $X^2(2, N = 4552) = 25.55, p < .001$. The result indicates that the topic of ads (personal or political) does influence the ad style.

Acclaim ads constitute the largest share of both personal and political topics. This reflects a strategic emphasis on positive, personal content in the campaign's political advertising landscape. The high percentage of acclaim ads suggests a campaign strategy focused on positive self-presentation.

Attack ads are slightly more common in personal topics than in political topics (11% vs. 9.7% in each topic). This shows that candidates tend to criticize their opponents' personalities or question their ability rather than their political stances or past government records. It's noteworthy that attacking ads were still significantly fewer than acclaiming ones, even on the Meta ad system, where it's very easy to target a designated audience.

The ads categorized as "Neutral" and "Personal" contain many activities unrelated to any candidate or campaign activities. That's the main reason why this category contains much more ads than "Neutral" and "Political" ads. Taken together, the least frequent neutral ads underscore a campaign environment with clearly defined stances rather than moderate or ambiguous messaging.

	Personal	Political
Acclaim	2810 (81.6%)	941 (84.9%)
Neutral	300 (8.7%)	46 (4.1%)
Attack	333 (9.7%)	122 (11%)
Sum of 3 styles	3443	1109
A chi-square test examined the relationship between ad topic and style. The two variables' relationship was significant, $\chi^2(2, N = 4552) = 25.55, p < .001$.		

Table 14: The number and proportion of advertisements for the three most common style categories and two topics.

The study further analyzed the advertisement expenditure and impressions for these six types of ads. Despite the lower volume of attack ads, which are only slightly more common in personal topics than in political topics, the average budget and impressions for personal attack ads are significantly higher than those for other types of advertisements (Table 15).

	Impression per ad (times)		Spending per ad (NTD)	
	Personal	Political	Personal	Political
Acclaim	32754	33478	2928	2979
Neutral	20218	24815	1952	3071
Attack	44911	23148	4516	2531
Average	32629		2981	
Note: The “Average” is the average impression and spending of the 4552 ads that fell into these six categories.				

Table 15: Average impression times and spending for six types of advertisements. The bold numbers represent the impression times and advertisement budget for attack ads targeting personal characters. Both numbers are significantly higher than those for other types of advertisements.

The study also used regression analysis to understand the relationship between advertisement categories, spending, and impressions (Tables 16 and 17). The regression analysis used advertisements categorized as "Attack, Personal" as the reference point for linear regression with dummy variables. The results showed that, statistically, both spending and impression times for ads attacking personal attributes were significantly higher than those for other types of ads. The only category that did not show a significant

difference was the "Neutral, Political" ads. Considering the numerical differences presented in Table 15, the study believes the lack of significance is due to the small number of ads in this category. These ads constituted only about 1% of the total ads, and the number was vastly different from that of "Attack, Personal" ads.

On the other hand, when "Neutral, Personal" ads were used as the reference point in the regression analysis, most categories were also statistically significant (detailed results not shown below). The study argues that since "Neutral, Personal" ads mainly include information unrelated to the campaign, candidate characteristics, or abilities, candidates are less likely to allocate resources to such ads. This leads to the average spending and impression times for these ads being statistically significantly lower than those for other types of ads.

Dependent Variable: Average ad expenditure for each category		
	Coefficient (SE)	t-test
Intercept	4516.2***(323.4)	13.964
Acclaim, Personal	-1588.1***(342)	-4.643
Acclaim, Political	-1537.6***(376.3)	-4.086
Neutral, Personal	-2563.9***(469.8)	-5.457
Neutral, Political	-1445.6(928.3)	-1.557
Attack, Political	-1537.6**(376.3)	-3.179
N	4552	
R ²	0.0071	
adjusted R ²	0.006	
F-statistics	6.518 (df = 5 on 4546)	
p-value	<0.001	

*p<.05; **p<.01; ***p<.001



Dependent Variable: Average ad impressions for each category		
	Coefficient (SE)	t-test
Intercept	44911***(3714)	12.091
Acclaim, Personal	-12158**(3928)	-3.095
Acclaim, Political	-11434**(4322)	-2.646
Neutral, Personal	-24693*** (5395)	-4.577
Neutral, Political	-20096(10662)	-1.885
Attack, Political	-21764**(7173)	-3.034
N	4552	
R ²	0.0052	
adjusted R ²	0.0041	
F-statistics	4.83 (df = 5 on 4546)	
p-value	<0.001	

*p<.05; **p<.01; ***p<.001

Table 16 and Table 17: Regression analysis results of average spending and impression per advertisement for each type of ad. "Attack, Personal" categorized ads were used as the reference basis.

The functions of the advertisements and their time pattern

The study answers research Question 5 here and will discuss the strategic difference at the end of section 4.2.3.

Among all advertisements, those that simply convey information in a top-down manner account for 58%, making it the primary function among the functions. The result indicates that a significant focus of the political ads was on conveying factual information, which includes candidate positions, policy proposals, political records, counterparts' disadvantages, and other informative content aimed at informing voters. The dominance

of informational content suggests that campaigns prioritized ensuring that voters were well-informed about the candidates, their parties, and even their counterparts.

Secondly, advertisements aimed primarily at mobilization account for 28%. Typical content includes providing event information and urging supporters to attend or calling on voters to cast their ballots on election day. Other forms of mobilization, such as appeals for donations or calls for volunteers, are nearly nonexistent.

Finally, advertisements attempting to interact with voters or featuring live content make up only 10%. Common examples include sharing interactions with voters during campaign events to create an impression of high support, live streaming events, or sending festive greetings to voters. Overall, the content types did not exhibit much variation.

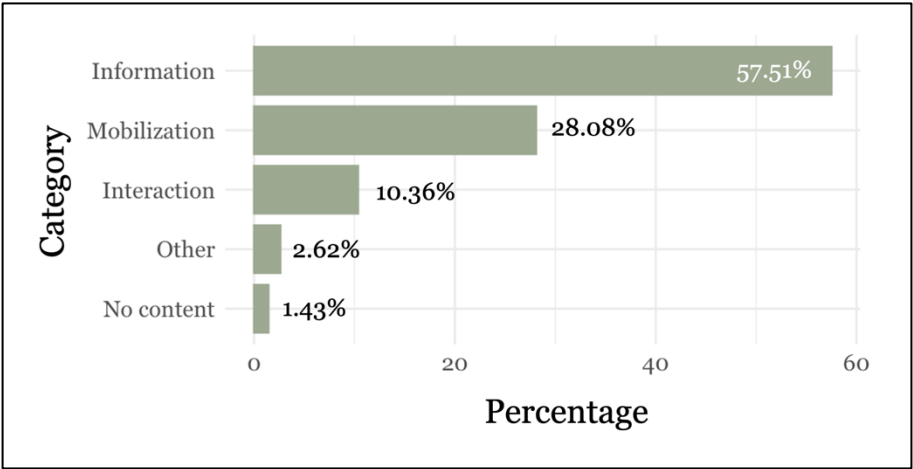


Figure 14: Proportions of ad functions.

In addition to presenting the proportion of advertisements serving various functions, the study found that the trends of the three functions also displayed different patterns. As shown in Figure 13, "Information" advertisements, which account for over half of the total, followed a trend similar to that of overall advertisements. As mentioned in Section

4.1.5, there was a surge in information about events right before the final weekend leading up to the election. Most of these advertisements were classified under "Information" and "Mobilization," resulting in "Information" reaching its second highest point during this period.

Examining the trend of "Mobilization" advertisements, the research observed a rapid increase starting from the final weekend before the election. During this time, in addition to numerous posts urging voters to attend events, many candidates also heavily promoted GOTV (Go-Out-to-Vote) related posts, which significantly boosted the number of advertisements leading up to the election. In contrast, "top-down" informational posts saw a sharp decline.

According to the results of the Mann-Kendall Test (Table 18), only "Mobilization" advertisements and overall advertisements showed a statistically significant increase as the election date approached. The other two categories did not exhibit any specific trends.

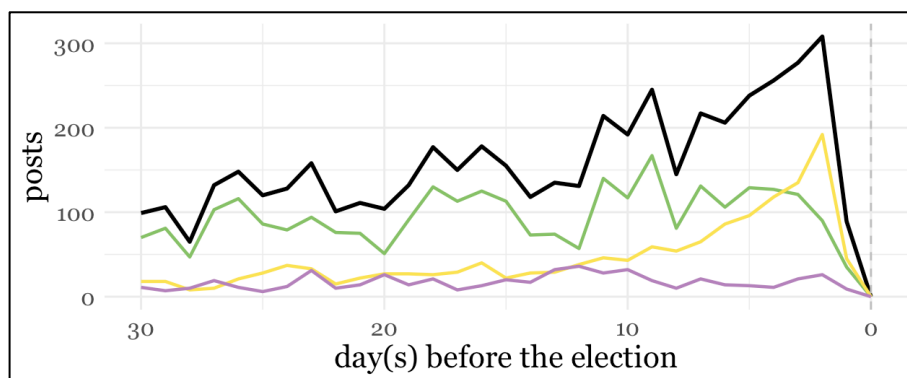


Figure 15: The trends for all ads and the three categories of ad functions. (black line: all advertisements; green line: Information; yellow line; Mobilization; purple line; Interaction)



Mann-Kendall Test for each ad category	
	Tau value
All advertisements (n = 4835)	0.543***
Information (n = 2898)	0.214
Mobilization (n = 1415)	0.745***
Interaction (n = 522)	0.213

*p<.05; **p<.01; ***p<.001

Table 18: Mann-Kendall Test results for various types of ads. Only "Mobilization" ads show a statistically significant upward trend.

4.2.2 The characteristics and sponsors of “Attack” advertisements at the candidate level

In this section, the study answers Research Question 3 and Hypothesis 4. It will present the relationship between different types of candidates and negative ads, as well as the issues candidates focus on.

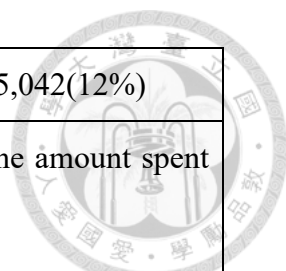
Although, as indicated earlier in the study, negative ads constitute only a small portion of the overall advertisements, understanding who is placing these negative ads and the characteristics of these advertisers remains important. When the narrative is dominated by negativity, the electorate is deprived of the opportunity to evaluate candidates based on their competencies and ideas. The absence of detailed policy discussions leaves voters with a shallow understanding of where candidates stand on important issues. Moreover, the focus on personal attacks diminishes the dignity of the political process, reducing it to a spectacle of character assassination rather than a contest of ideas.

Overall, by focusing on personal attacks and derogatory claims, candidates are

neglecting the essential task of engaging in substantive policy discussions.

Table 19 lists the top ten candidates who spent the most on "Attack" ads. From the table, it is evident that all of these candidates are challengers, indicating that the incumbency status of a candidate is a significant factor influencing the budget for negative ads. The constituencies of these candidates are located in New Taipei City, Taoyuan City, Hsinchu City, and Taichung City. These align closely with the counties and cities where the top ten candidates with the highest overall ad budgets are based. In terms of party affiliation, there are four candidates from the DPP, five from the KMT, and one from the NPP. It also roughly corresponds to the party distribution of the candidates with the highest overall ad budgets.

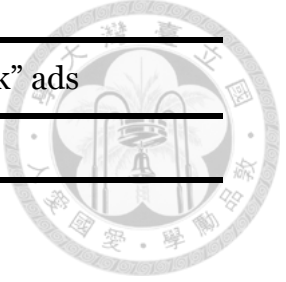
Candidate	Constituency	Party	Incumbency	Spending on “Attack” ads
范綱祥	Taoyuan 4 th	DPP	Challenger	262,500(54.6%)
涂權吉	Taoyuan 2 nd	KMT	Challenger	154,800(32.2%)
廖偉翔	Taichung 4 th	KMT	Challenger	97,400(29.2%)
劉仁照	Taoyuan 5 th	DPP	Challenger	86,100(35%)
李全教	Tainan 4 th	KMT	Challenger	85,300(70.2%)
王婉諭	Hsinchu County 2 nd	NPP	Challenger	73,300(12.1%)
葉元之	New Taipei 7 th	KMT	Challenger	63,100(41.7%)
廖先翔	New Taipei 12 th	KMT	Challenger	60,250(25.7%)
謝志忠	Taichung 8 th	DPP	Challenger	58,300(42.1%)
林志潔	Hsinchu City	DPP	Challenger	50,000(26.2%)



Average	-	-	-	15,042(12%)
Note 1: The number shown for "Attack" category ads represents the amount spent (NTD) and the proportion of the candidate's overall ad spending. Note 2: The "Average" listed at the bottom of the table represents the average for all ad sponsors.				

Table 19: Top ten candidates who spent the most on "Attack" ads.

To understand the overall spending on “Attack” advertisements by candidates, the study also employed linear regression analysis to explore the relationship between “Attack” ad budgets and candidates' political parties, incumbency status, and the competitiveness of the constituency (measured by the vote-share difference between the winner and the runner-up). The findings align with the previously described statistical results, showing that only the incumbency status of the candidate is statistically significant. The amount and budget of “Attack” ads placed by candidates did not show a statistical correlation with their party affiliation or the competitiveness of the race (Table 20).



Dependent Variable: Candidate's spending on "Attack" ads		
	Coefficient (SE)	t-test
Intercept	10217(6428)	1.590
KMT	-2262(6219)	-0.364
NPP	4127(19380)	0.213
TPP	-27420(23350)	-1.174
TSP	-22401(32664)	-0.686
Incumbency	19916** (6238)	3.198
(Challenger = 1)		
Vote-share different	-34064(31412)	-1.084
N	120	
R ²	0.1107	
adjusted R ²	0.0635	
F-statistics	2.344 (df = 6 on 113)	
p-value	0.036	

*p<.05; **p<.01; ***p<.001

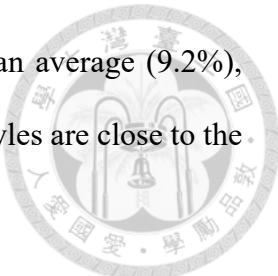
Table 20: Regression analysis of candidates' "Attack" ad spending in relation to political party, incumbency status, and competitiveness of the constituency. Only incumbency is statistically significant among all factors.

4.2.3 The styles, topics, and functions of the advertisement at the party level

The earlier sections of this study organized the overall distribution of advertisements by style, topic, and function. In this section, I will present the content patterns of the three parties with the highest number of advertisements—DPP, KMT, and NPP—as well as the issues on which each party has placed the most advertisements.

First, I'll discuss the style of advertisements (Figure 16). The DPP's "Acclaim" advertisements exceed the average (74.8%), while the NPP's are significantly below

average. Conversely, the NPP has more "Attack" advertisements than average (9.2%), whereas the DPP has fewer. The KMT's advertisements in all three styles are close to the average.



Among the DPP's advertisers, incumbents and successors account for 38 (66%) of the total. The KMT has 19 incumbents or successors (34%), and all three NPP candidates are challengers. According to the earlier analysis on the relationship between incumbency status and the volume of negative advertisements, challengers statistically tend to produce more negative ads attacking incumbents. Therefore, the DPP's lower number of attack ads is a reasonable outcome. However, regardless of the party, advertisements responding to opponents' attacks (Defense) are very rare, with the DPP at 2%, KMT at 1.3%, and NPP at 2.4%. This indicates that different parties often resort to independent narratives rather than directly addressing attacks.

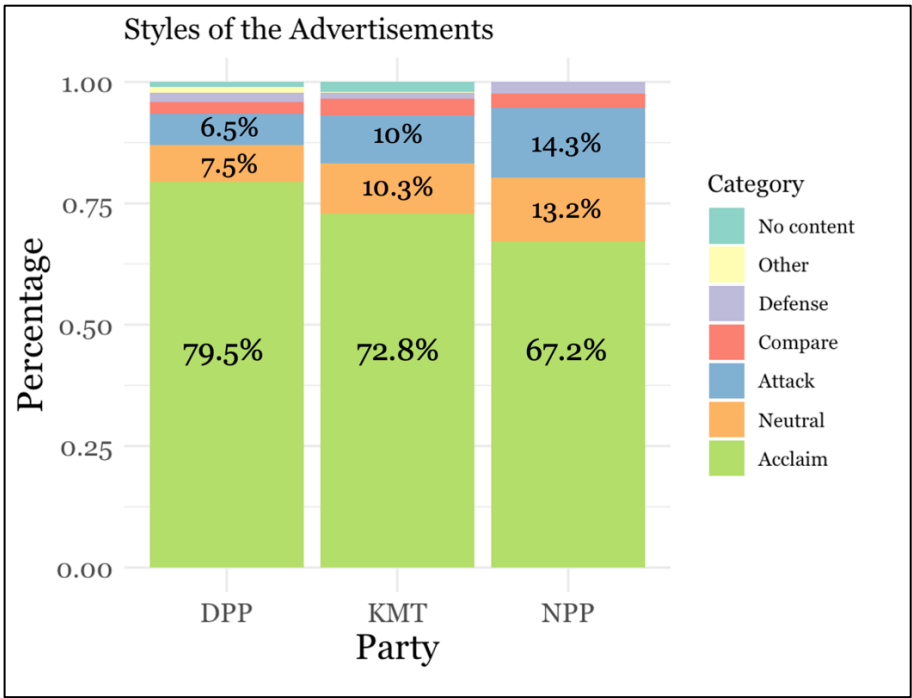


Figure 16: The distribution of the styles of the ads from DPP, KMT, and NPP.

The three parties exhibit different strategies regarding advertisement topics (Figures 17 and 18). Among the three parties, the DPP has the fewest advertisements mentioning policies, achievements, and the candidates' personal advantages, abilities, or service experience. Policy discussions make up only 21.7% of their ads (compared to the overall average of 23.2%). Additionally, nearly half of the "personal" content ads are focused on providing information about campaign events or other activities to achieve mobilization (refer to Figure 18 as well). This suggests that with a majority of incumbents, the DPP primarily uses Facebook ads to provide event information and mobilize supporters, rather than to attract more support and votes through policy discussions or highlighting candidates' qualities.

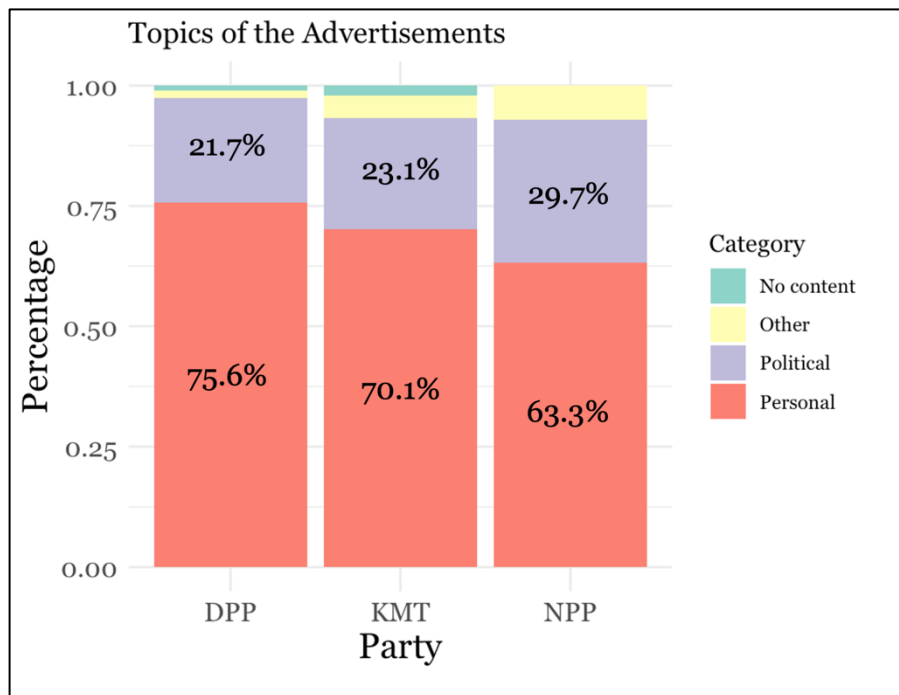


Figure 17: The distribution of topics from DPP, KMT, and NPP.

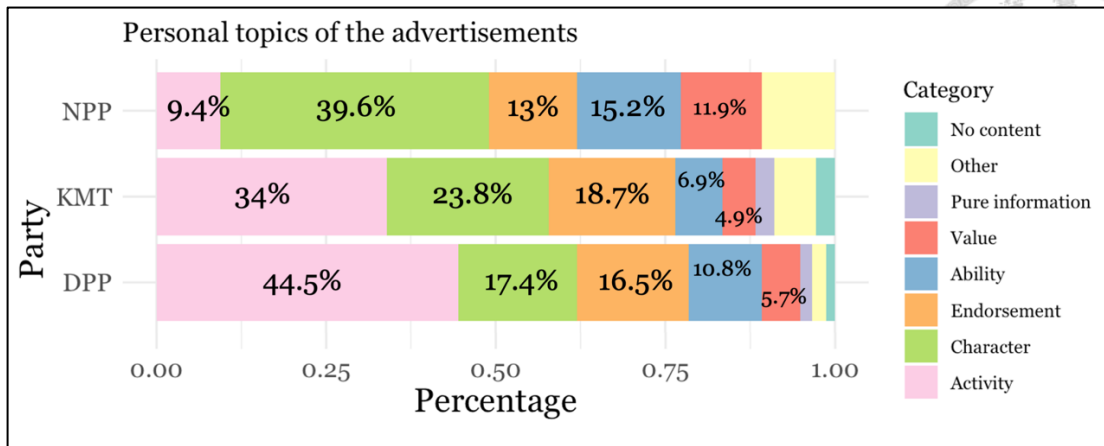


Figure 18: The distribution of content proportions in "personal" ads for DPP, KMT, and NPP.

In contrast, the NPP, as a smaller party aiming to win two district legislator seats in Hsinchu City and County, adopts a relatively unique strategy to garner public support. In broad categories, the NPP dedicates 30% of its ads to discussing policies or current issues, and 63% focus on the candidates' personal qualities. Among the personal content ads, those discussing candidates' traits, abilities, experiences, and values on issues have the highest proportion among the three parties. This indicates that as a minority party, the NPP effectively utilizes the unique qualities of its candidates to garner support.

The KMT's advertisements, whether in broad or detailed categories, are close to the average proportions. The only notable deviation is the higher-than-average proportion of "Endorsement" ads, which can be attributed to the KMT's current number of county and city mayors. These leaders can leverage their support base to assist the campaigning of legislator candidates in their governing regions.

Additionally, the study highlights the issues that each party emphasized during this election. For the DPP and KMT, the most common ads broadly discussed policies or issues, often mentioning three or more policy points or listing past policies promoted by

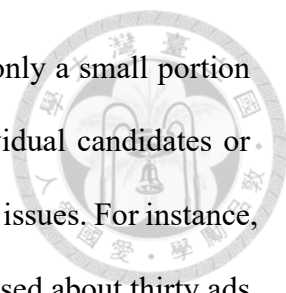
incumbents. The most frequently mentioned political category across the three parties is health and welfare, with common topics including children's rights, fertility-related subsidies, and long-term care.



Health and welfare issues are also the NPP's most focused issue. NPP candidate 王婉諭 has long been an advocate for children's welfare, and 邱顯智 highlighted legislation on public preschool surveillance systems during his campaign, resulting in multiple ads related to this issue. These factors made health and welfare the most emphasized issue for the NPP in this election. For the KMT and DPP candidates, this issue category was not driven by specific candidates but was sporadically included in the ads of various candidates across different regions.

Transportation policy is another key concern for both the KMT and DPP. Most of their content is about the completion or planning of local transportation infrastructure. A few candidates proposed traffic improvement plans, and even fewer addressed human-oriented transportation issues. There was almost no discussion in the ads about the development, planning, or policy revisions for the overall national transportation infrastructure.

Suppose the policies mentioned in the "GNR" category, which includes multiple issues or policy positions, are calculated separately. In that case, it was found that there was no significant change in the distribution of issues among the parties. The top three issues mentioned by each party remain the same. The most frequently mentioned issues for the DPP are Health and Welfare, Transportation, and Education. For the KMT, they are Health and Welfare, Transportation, and Interior Affairs. For the NPP, the top issues are Health and Welfare, Interior Affairs, and Labor.



Overall, given that ads related to various issues accounted for only a small portion (23%) of the total, the volume of issue-specific ads was low. Individual candidates or local issues easily influenced the total number of party ads on specific issues. For instance, in Taoyuan City's second constituency, KMT candidate 涂權吉 released about thirty ads concerning industrial area air pollution, which made up more than half of the KMT's ads on this issue. Similarly, in Taichung City's fourth constituency, DPP candidate 張廖萬堅, who has long been focused on education, released about twenty education-related ads, accounting for approximately one-third of the DPP's ads in this category.

Moreover, ads in categories such as transportation, education, economy, and environment often involve many local issues. The involvement of various local issues makes it difficult to identify specific party focus on particular topics or predict their legislative priorities and governance focus based on these ads. In summary, it is challenging to categorize the DPP or KMT as having particular concerns based on their campaign Facebook ads in this election. As a result, the result does not support Hypothesis 5 that different political parties have different themes in their advertisements.

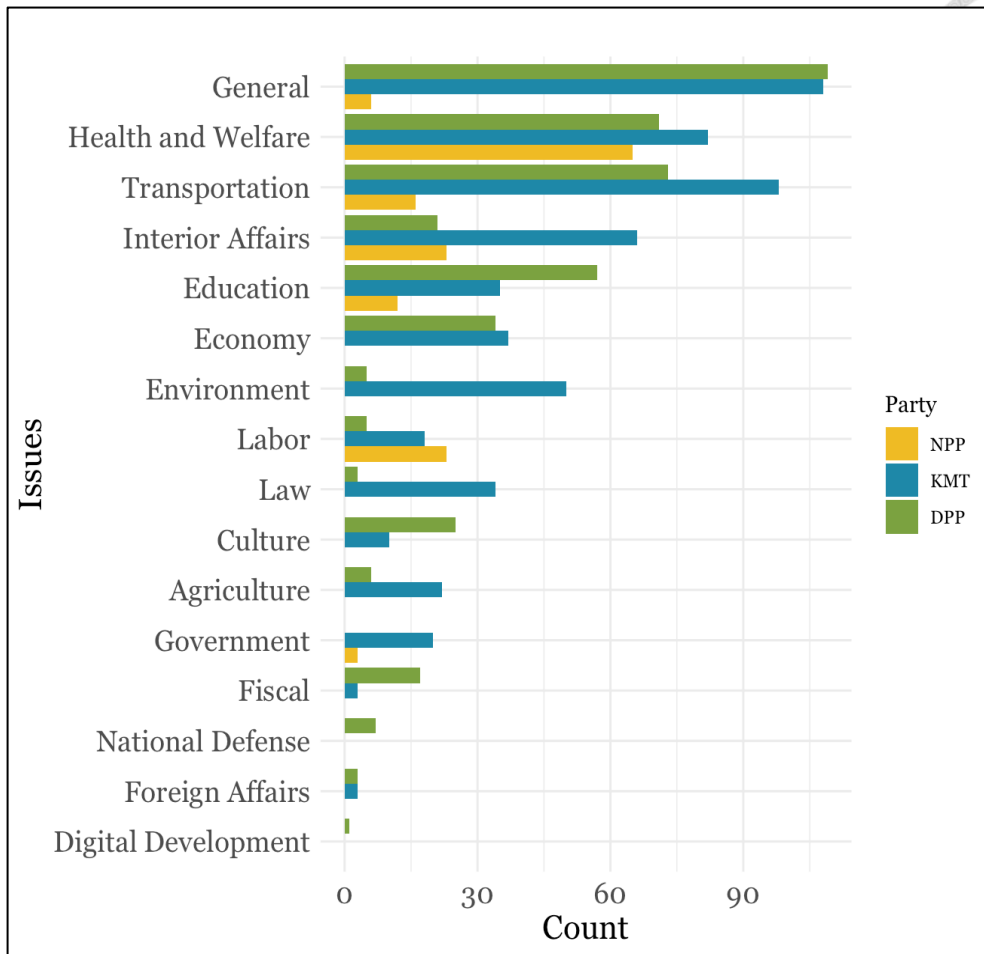


Figure 19: Number of ads on various topics by DPP, KMT, and NPP.

Lastly, in terms of ad functionality, as previously mentioned, the DPP, being mostly incumbents, focused more on ads that provide event information and mobilize supporters. As shown in Figure 20, the "Mobilization" ads from the DPP account for 34%, which is 6% above the average. In contrast, the NPP allocated most of their resources to "Information" ads, reflecting a campaign strategy centered on the candidates' characteristics, abilities, and issue advocacy.

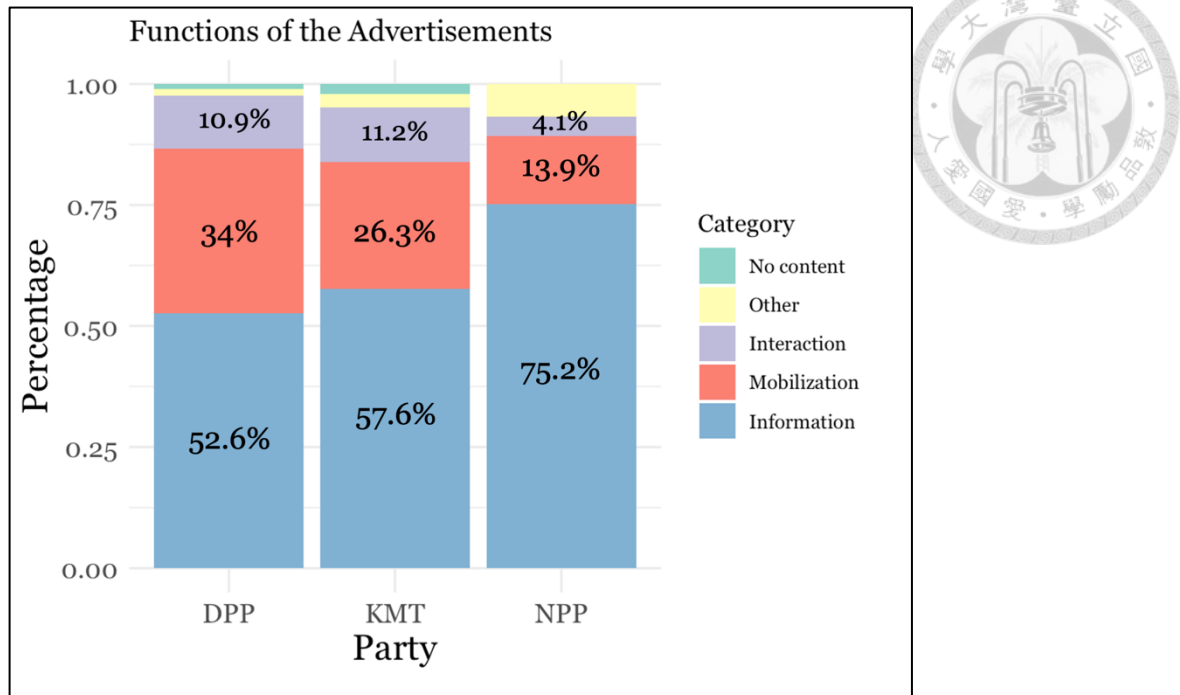


Figure 20: The distribution of ads by function for DPP, KMT, and NPP.

4.3 The “estimated audience size” and the content and spending of the ads

According to Meta, the estimated audience size is typically used to gauge the number of accounts that match the targeting and placement criteria set by the advertiser when creating an ad. The system also updates this estimate in real-time using a method that considers numerous factors, including the advertisers’ budget, the advertisers’ selection of where the ads are shown, users’ activity on Meta platforms (such as liking a fan page), and the demographic data self-reported by users (such as age and gender).

Therefore, the study suggests that understanding the relationship between the estimated audience size and the content and expenditure of these ads might give us deeper insights into whether candidates are leveraging Facebook's microtargeting capabilities to deliver specific, potentially attacking, or negative content. This analysis can also help determine if dark posts have become an issue of concern in Taiwan.

Based on the statistics from this study, Facebook ads have been classified into eight categories of estimated audience size: >1,000,000, [1,000,000: 500,000], [500,000: 100,000], [100,000: 50,000], [50,000: 10,000], [10,000: 5,000], [5,000: 1,000], [1,000: 100]. In this election, considering that the average number of voters per constituency in Taiwan is 260,790, most ads have an estimated audience size larger than the average number of voters per constituency ($M = 529,627$, $SD = 366,170$). This implies that if candidates target ads at voters within their constituencies, most advertisers focus on a relatively wide range of voters. Therefore, most ads raise little concern about the presence of dark posts.

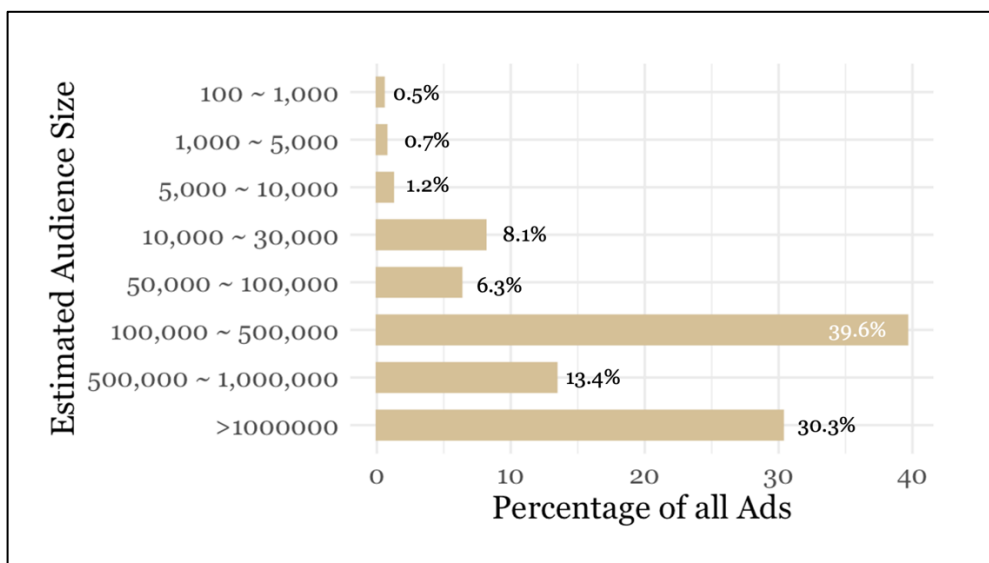


Figure 21: Distribution of ads by estimated audience size. Over 80% of the ads do not target a specific segment of the voters in a constituency.

However, the study still attempted to understand the relationship between ad spending and estimated audience size through correlation analysis and used regression analysis to investigate whether party affiliation, incumbency status, and ad content show

specific trends.

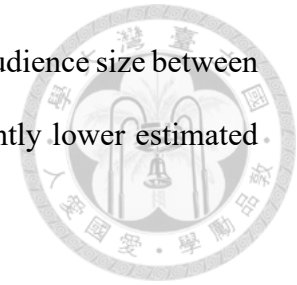
First, there is a statistically significant correlation between ad spending and estimated audience size ($r(5038) = .06, p < .001$), indicating that higher ad spending is associated with larger estimated audience sizes. The study suggests that this could indicate that estimated audience size is influenced by ad placement. Candidates may increase their budget to secure better ad placements or more exposure opportunities, thereby increasing the estimated audience size calculated by the system. This suggests that the estimated audience size is less likely determined by candidates targeting specific voter activities.

Next, the study conducted a regression analysis using ad spending, party affiliation, incumbency status, ad style, and ad content as independent variables, with estimated audience size as the dependent variable (Table 21). Besides ad spending, only the KMT and NPP (compared to the DPP) among party affiliations, and challengers (compared to incumbents) in terms of incumbency status showed significant correlations. Ad content was not statistically correlated with estimated audience size.

The study posits that the NPP may have a specific strategy in ad placement, focusing on ads with an estimated audience size between 100,000 and 500,000, which results in a significantly lower estimated audience size compared to DPP candidates. Conversely, DPP placed many ads with an estimated audience size of one million. The largest portion of ads from KMT and NPP candidates had an estimated audience size between 100,000 and 500,000, potentially explaining the significant results for KMT as well.

Challengers also showed a significant correlation. The study suggests that parties adopt different strategies for candidates based on their incumbency status. For incumbents, 49% of ads had an estimated audience size of one million, whereas only 13% of

challenger ads did. Instead, 48% of challenger ads had an estimated audience size between 100,000 and 500,000, explaining why challenger ads had significantly lower estimated audience sizes than those of incumbents.

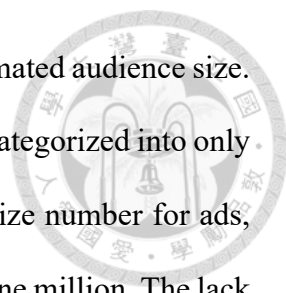


Ad content and style did not show statistically significant differences in estimated audience size. According to the analysis, candidates did not target specific audiences with particular content. Among the 117 ads with an estimated audience size of less than 10,000, no significant amount of aggressive content or discrepancies between ad content and known facts about the candidates were found. In summary, the study found no notable characteristics in the content of these 117 ads.

Dependent Variable: The estimated audience size of the ads		
	Coefficient (SE)	t-test
Intercept	686600***(10950)	62.728
spending	3.521***(0.086)	4.101
NPP	-163100***(20220)	-8.070
KMT	-45290*(12820)	-1.171
TPP	-268500(17590)	-1.124
TSP	-223000(10720)	-1.208
Challenger	-135300***(13570)	-9.972
Successor	-178900(17860)	0.698
STYLES	(All p > 0.1)	
TOPICS	(All p > 0.1)	-
N	5028	
R ²	0.0851	
adjusted R ²	0.0822	
F-statistics	29.13 (df = 16 on 5011)	
p-value	<0.001	

*p<.05; **p<.01; ***p<.001

Table 21: The regression analysis between estimated audience size and spending (on each ad), advertisers' parties and incumbency, and the content of the ads.



The study must highlight the limitations in investigating the estimated audience size. The estimated audience size data in the Meta advertising database is categorized into only eight groups. It makes it difficult to determine the actual audience size number for ads, especially for some ads with an estimated audience size greater than one million. The lack of more detailed figures reduces the accuracy of the analysis across different categories. Additionally, many factors can influence this data, including candidates' choices regarding ad placement, exposure time, and target audience selection. Without knowing the advertisers' choices, researchers can only perform a rough analysis based on the estimated audience size.

Fortunately, from the perspective of estimated audience size, the vast majority of ads do not target specific audiences within the constituencies. The differences suggested by the regression analysis can be interpreted as variations in strategy among candidates or different parties, rather than indicating that specific parties or candidates frequently use Facebook ads to precisely target specific content to specific voters. The concerns about dark posts mentioned in the literature are not substantial.

V. Discussion



The rise of social media in the 21st century has set a new stage for political advertising and has given it a fresh appearance (林照真, 2022). After the Cambridge Analytica scandal in the 2016 U.S. presidential election and the 2017 UK Brexit referendum, concerns have been raised in academia about the potential influence of microtargeting on social media platforms. Studies mushroomed to answer if microtargeting or sponsored posts and ads on Facebook threaten the public discourse and elections. The study contributes to the debate on the effect of sponsored content by providing empirical results with analyses of 5040 sponsored posts and ads sponsored by 120 candidates on Facebook in the context of the 2024 Taiwan regional legislative election. Also, it raises some implications on political ads in Taiwanese elections, including the characteristics of ads, candidates, parties, and incumbencies observed in the ads.

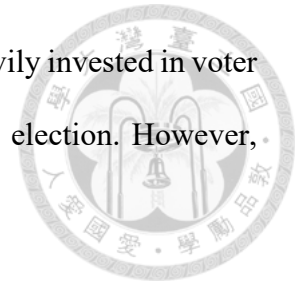
In recent years, it has become a trend for Taiwanese politicians to advertise on platforms, especially Meta. In the 30-day run-up to the 2024 regional legislative election, 120 candidates published 5040 ads, which accounted for 15,077,250 NTD and generated 162,843,500 impressions. The study analyzed these ads downloaded from Meta Ad Library to answer the research questions and hypotheses.

5.1 Candidates' ad expenditure and the debate of normalization and equalization

5.1.1 The characteristics of ad placement and spending

First, the study found that both the volume and budget of advertisements significantly increased as the election approached. Overall, the budget of ads surged two

days and nine days before the election, indicating that candidates heavily invested in voter mobilization and rallying activities on the last weekend before the election. However, different trends can be observed within smaller groups.



When analyzed by political parties, the DPP and KMT, the two major traditional parties, displayed similar trends, with budgets soaring just before the election. In contrast, the smaller NPP emphasized steady engagement in political issue-related advertisements throughout the period, with a decrease in ad volume and budget closer to the election.

Regarding incumbency, incumbents already have name recognition and are focused on last-minute voter mobilization. On the other hand, challengers emphasized rallies and promoting their policies and personal qualities in the weeks leading up to the election to attract voter support, resulting in lower ad volumes than incumbents. The study suggests that political party and incumbency influenced candidates' allocation of advertising resources at various stages of the campaign.

Regarding the advertising budgets among constituencies, the study found that the competitiveness of the election significantly influenced the overall ad budget within a constituency. Statistically, the closer the vote margin between the winner and the runner-up, the higher the advertising budget in that constituency.

Additionally, no statistically significant results were found when analyzing whether the constituency was located in a particular city or experienced a change in the ruling party. This indicates that candidates' strategies varied across constituencies, and there was no consistent pattern of higher ad spending in any specific city.

For instance, Taichung City had three constituencies among the top ten in ad budgets out of 73 constituencies, yet also had two constituencies with no ad budget at all.

Kaohsiung City had one constituency that ranked third in ad budget but also had three with no ad spending. The researchers initially hypothesized that constituencies, where the ruling party changed, would have higher average ad budgets. However, only three of the top ten constituencies by ad budget experienced a change in the ruling party, and regression analysis across all 73 constituencies yielded insignificant results.

5.1.2 The characteristics present in the advertisers of Facebook ads

First, the study sought to answer what kind of candidates spend more resources on Facebook advertisements. Regarding the debate of normalization and equalization, the research presents mixed results but also suggests that Facebook advertising holds the potential for equalization.

Based on the number of legislative seats and candidates in this election, we can categorize the parties into the two well-resourced parties, DPP and KMT, and the three smaller parties, TPP, NPP, and TSP. The TPP far exceeds the two major parties regardless of the average ad volume, budget, or the number of exposures generated by ads per candidate. This demonstrates that the low-cost nature of Facebook ads allows smaller parties, despite having fewer resources, to generate significantly more exposure than the major parties.

However, other small parties like TPP and TSP did not adopt the same strategy to compete for constituency seats, with the volume of ads and exposures being less than those of the two major parties and the NPP (Table 6).

Also, the number of followers on a candidate's fan page is not significant in the regression analysis, indicating that a candidate's social media visibility does not influence their decision on how much to spend on advertising. In other words, less well-known

candidates do not tend to use Facebook ads more to increase their visibility or attract more support. This result does not support the equalization hypothesis.

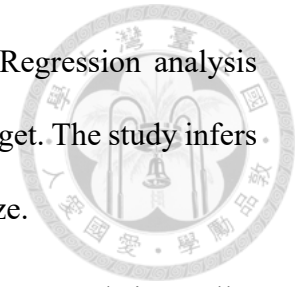
Secondly, from the statistics in Table 7, it is evident that challengers' ad budgets and exposure numbers are significantly higher than those of incumbents. This indicates that Facebook advertising is perceived as more beneficial for challengers in increasing their support. However, from Table 8, it can be observed that the DPP allocates more of its ad budget to incumbents and successors. In contrast, the KMT allocates a significantly higher budget to challengers than incumbents. These results suggest that different parties may adopt different ad budget allocation strategies or that the competitiveness of the constituencies influences their strategy (see the discussion in 5.1.1).

In sum, the results only support hypothesis 2. Challengers allocate higher budgets for Facebook ads than Incumbents. The results do not support hypotheses 1 and 3 because only one of the three peripheral parties' candidates allocate higher budgets per candidate for FB ads. And there's no evidence that candidates who ran for a constituency outside six major cities allocate higher budgets for FB ads.

5.2 The content of the ads and discussion about negativity and issue ownership

According to this study, attack advertisements only account for about 9% of all ads, significantly lower than the 75% of positive endorsements. Neutral content, counter-attacks, and comparative ads also have low proportions. Additionally, compared to the average number of voters in a constituency (260,790 people), most ads have an estimated audience size in the range of 100,000 to 500,000 people and above. This indicates that microtargeting is not common in this election. Based on my observations, among the 117 ads with an estimated audience size of less than 10,000 people, there were no significantly

more attack ads or content that was misinformation or incorrect. Regression analysis shows a high correlation between estimated audience size and ad budget. The study infers that the ad budget may significantly affect the estimated audience size.



Furthermore, the average estimated audience size for NPP and KMT ads is smaller than that for DPP, but the data shows that most ads still reach an estimated audience of over 1,000,000. DPP has invested more in ads with an estimated audience of one million, and NPP has strategically set the majority of its ads to target an audience size between 100,000 and 500,000. These factors might explain the significant differences in estimated audience size among the parties.

The concerns raised by international research regarding the potential impacts of Facebook's microtargeting and dark posts on the opportunities for dialogue among different groups have yet to be obvious in Taiwan's elections. However, the study did discuss the negative advertising in this election. Researchers found that although the number of negative ads is low, the budget for attack ads targeting the counterparts' character is significantly higher than for other types of ads. This indicates that candidates spend more money on ads attacking opponents' character (rather than questioning policies or political views) to achieve higher exposure. Additionally, the regression analysis results show that challengers are more inclined to run attack ads, aligning with the concept proposed by Nai (2019). Other variables, such as party affiliation, did not show significant differences. Therefore, Hypothesis 4 is supported: Challengers are more inclined to broadcast negative advertisements during the campaign.

To address Hypothesis 5, the study also categorized the issues mentioned in the advertisements by each party to understand whether parties are particularly focused on specific issues. In this election, political issue-focused advertisements account for only

23%, with the rest being about candidate characteristics and pre-election event information. The limited ad volume shows that parties do not mainly focus on specific issues, nor are there significant differences in the issues that concern different parties. Moreover, due to the small number of issue-focused ads, the number of such ads can easily be influenced by local issues and the long-term focus of individual candidates. From this election's advertising data, it is impossible to pinpoint different issues of concern for different parties, nor can it verify the issue ownership theory or provide more empirical data on the issues that Taiwanese parties are proficient in. The study results do not support Hypothesis 5.

Lastly, regarding Research Question 5, over half of the ads (58%) primarily served an informational purpose, followed by “mobilization” (28%) and “interaction” (10%). This approach is more aligned with the strategy of European party candidates, who use the "Information" function and adopt a mass-centered, top-down approach (Lilleker et al., 2011; Magin, 2017), rather than the high proportion of sponsored posts and ads aimed at soliciting donations or encouraging supporters to vote seen in the UK and US (Anstead et al., 2018; Fowler et al., 2021). Over time, only "mobilization" ads showed a clear upward trend, peaking two days before the election.

The three parties with the most advertisements exhibited different strategies related to their party types and the number of seats they held in the Legislative Yuan. With the most seats, the DPP had the highest proportion of mobilization ads (34%). The KMT, which has a broad support base but fewer seats, followed with 26.3%. Lastly, the NPP, a minor party with all three candidates as challengers, less popular support than the two major parties, and a primary strategy of attracting support through issue advocacy, had 13.9% mobilization ads.

In summary, the study on advertisement content reveals two primary findings: negative content and issue-focused advertisements are both in the minority. According to the 2023 Taiwan Internet Report (財團法人台灣網路資訊中心, 2023), Facebook has become the primary source of political information for Taiwanese citizens. Advertisements are crucial in enhancing citizens' knowledge about issues and understanding candidates' positions on these issues. If only a small portion of Facebook advertisements discuss issues, citizens' understanding of social issues will diminish as campaign activities increasingly shift online.

Moreover, aside from the scarcity of issue-focused advertisements, the structure of this election's campaign ads shows a clear partisan bias in the advertisements from the two major parties, KMT and DPP. This means that the advertisement content allows the audience to associate candidates with their respective parties, and this trend is more pronounced in parties with more seats in the Legislative Yuan.

The study's ads, categorized as 'Activity' and 'Endorsement,' are linked to the candidate's party. Figures 16 and 17 show that 46% of DPP candidates' advertisements are in this category, and 37% of KMT candidates' ads are in this category. The New Power Party (NPP), which holds the fewest seats, has only 14% of its ads in this category.

The trends observed in this election align with the findings of Fowler et al. (2021) on the 2018 U.S. federal and local elections. Facebook ads predominantly feature less negative and political issue-based content while showing solid partisan leanings. This indicates that major parties primarily use Facebook ads to mobilize their base. In Taiwan, the DPP, which holds a majority in the legislature, adopts this strategy more noticeably than other parties. Observing the function of the ads (Figure 18), the percentages of ads aimed solely at mobilization are 34% for the DPP, 26.3% for the KMT, and 13.9% for

the NPP, further supporting the observations above.

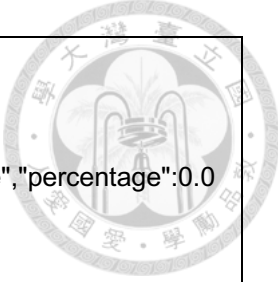
5.3 Limitations and future works

This study attempts to depict the landscape of Facebook advertising in Taiwanese elections. We can access research data by leveraging the Meta Ad Library, including ad content, ad budgets, and estimated audience size. Researchers can use this data to analyze the content of advertisements and understand how candidates allocate their advertising resources. The Ad Library also includes data on the age and gender distribution of each ad's audience, providing more precise insights into whether candidates are targeting specific demographics or if there are "information-disadvantaged" groups among voters. However, due to the complexity of the raw data format (see Table 22), it is challenging for me to systematically process more than 5,000 ads, which were therefore not included in this study. I hope that future researchers who can handle this data will use it to understand the audience profile in election advertising better.

On the other hand, the criteria selected by candidates when placing ads are not presented in the Ad Library. Nevertheless, Facebook has repeatedly adjusted the content displayed in the Ad Library. I hope that this data will be made available in the future. This will allow researchers in related fields to access more comprehensive information and investigate more advertisers' strategies and potential impacts on civil society.

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demographic_distribution
```

```
{"age":"35-44","gender":"unknown","percentage":0.001115},{  
"age":"45-54","gender":"male","percentage":0.06316},{  
"age":"45-54","gender":"unknown","percentage":0.000502},{  
"age":"65+","gender":"unknown","percentage":0.000251},{  
"age":"25-34","gender":"unknown","percentage":0.001422},{  
"age":"35-
```



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44","gender":"male","percentage":0.106865},{ "age":"18-
24","gender":"male","percentage":0.098197},{ "age":"25-
34","gender":"male","percentage":0.177467},{ "age":"65+","gender":"female","percentage":0.0
18731},{ "age":"65+","gender":"male","percentage":0.01402},{ "age":"45-
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64","gender":"unknown","percentage":0.000139}

```

Table 22: The demographic distribution data from Meta Ad Library.

This study exclusively presents data on Facebook advertisements from the 2024 regional legislative elections, including ad budgets, impressions, the prevalence of negative ads, and the topics discussed by different parties. Future research is expected to compare different elections, varying levels of elections, or other communication channels (such as Facebook “Posts” and Line, which candidates increasingly use) to identify differences in style and content. I also hope this study's findings will contribute to future research efforts.



VI. Reference



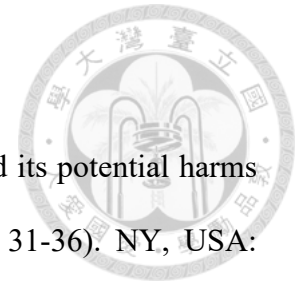
Taiwanese Literature :

- 王泰俐（2013）。臉書選舉？2012年台灣總統大選社群媒體對政治參與行為的影響，*東吳政治學報*, 41（1）：1-52。
- 呂月琪（2020）。〈誰是社群贏家？Facebook, Youtube, Instagram 跨平台分析〉。
臺灣大學新聞研究所碩士學位論文。
- 沈有忠、陳宥辰（2020）。〈社群媒體中的選舉策略 2018 年臺灣縣市長選舉的實證分析〉。*國家發展研究*，19（2）：129-154。
- 林照真（2022）。〈社群媒體與政治廣告：分析 2020 年臺灣選舉的臉書政治廣告〉，《*中華傳播學刊*》，41：3-40。
- 財團法人台灣網路資訊中心（2023 年八月）。財團法人台灣網路資訊中心公布 2023 年《台灣網路報告》。財團法人台灣網路資訊中心。
<https://blog.twNIC.tw/2023/08/29/28021/>
- 莊伯仲（2006）。〈競選廣告：1996-2004年臺灣與美國總統大選之分析〉。《*東吳政治學報*》，24：213-243。

Foreign Literature :

- Anstead, N., Magalhães, J.C., Stupart, R., & Tambini, D.A. (2018). Political Advertising on Facebook: The Case of the 2017 United Kingdom General Election. London School of Economics, Working Paper. <https://ecpr.eu/Filestore/PaperProposal/71b9e776-0ea8-4bf3-943e-d25fa26898b8.pdf>.
- Baldwin-Philippi, J. (2017). The myths of data-driven campaigning. *Political*

Communication, 34(4), 627–633.



Barocas, S. (2012). The price of precision: voter microtargeting and its potential harms to the democratic process. *Politics, elections and data*. (pp. 31-36). NY, USA: Association for Computing Machinery.

Bennett, C. J., & Lyon, D. (2019). Data-driven elections: Implications and challenges for democratic societies. *Internet policy review*, 8(4).

Benoit, W. L. (2017). Meta-Analysis of Research on the Functional Theory of Political Campaign Discourse. *Speaker & Gavel*, 54(1), 7-50.

Benoit, W. L. & Sheafer, T. (2006). Functional theory and political discourse: Televised debates in Israel and the United States. *J&MC Quarterly*, 83(2), 281-297.

Bode, L., Lassen, D.S., Kim, Y.M., Shah, D.V., Fowler, E.F., Ridout, T. and Franz, M. (2016). Coherent campaigns? Campaign broadcast and social messaging. *Online Information Review*, 40(5), 580-594.

Bodó, B. & Helberger, N. & de Vreese, C. H. (2017). Political micro-targeting: A Manchurian candidate or just a dark horse? *Internet Policy Review*, 6(4).

Boerman S. C., Kruikemeier S., & Zuiderveen Borgesius, F. J. (2017) Online behavioral advertising: A literature review and research agenda. *Journal of Advertising*, 46(3), 363-376. DOI: 10.1080/00913367.2017.1339368

Christenson, D. P., Smidt, C. D., & Panagopoulos, C. (2014). Deus ex Machina: Candidate web presence and the presidential nomination campaign. *Political Research Quarterly*, 67(1), 108–122.

Cunningham, M. (2024, April 15). *Taiwan's Elections Are a Model for the World, but Its Campaigns Lack Substance.* The Heritage Foundation. <https://www.heritage.org/asia/commentary/taiwans-elections-are-model-the-world-its-campaigns-lack-substance>



Dobber, T., Ó Fathaigh, R., & Zuiderveen Borgesius, F. (2019). The regulation of online political micro-targeting in Europe. *Internet Policy Review*, 8(4).

Dubois, P. R., Arteau-Leclerc, C., & Giasson, T. (2021). Micro-targeting, social media, and third party advertising: Why the Facebook Ad Library cannot prevent threats to Canadian democracy. In Garnett, H. A., and Pal, M. (Eds), *Cyber-threats to Canadian democracy*. Forthcoming from McGill-Queens University Press.

Fowler, E., Franz, M., Martin, G., Peskowitz, Z., & Ridout, T. (2021). Political advertising online and offline. *American Political Science Review*, 115(1), 130-149.

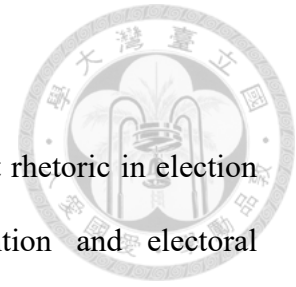
Fowler, E. F., Franz, M., & Ridout, T. (2021). *Political Advertising in the United States*. Routledge.

Franz, M. M., Franklin Fowler, E., Ridout, T., & Wang, M. Y. (2020). The Issue Focus of Online and Television Advertising in the 2016 Presidential Campaign. *American Politics Research*, 48(1), 175-196.

Garnett, H. A., & James, T. S. (2020). Cyber elections in the digital age: Threats and opportunities of technology for electoral integrity. *Election Law Journal*, 19(2), 111-126.

Gertner, J. (2004). The Very, Very Personal Is the Political. *New York Times Magazine*. Retrieved from <https://www.nytimes.com/2004/02/15/magazine/the-very-very->

personal-is-the-political.html



Gerstlé, J., & Nai, A. (2019). Negativity, emotionality and populist rhetoric in election campaigns worldwide, and their effects on media attention and electoral success. *European Journal of Communication*, 34(4), 410–444.

Gillespie, T. (2014). The relevance of algorithms. In T. Gillespie, P. Boczkowski, & K. A. Foot (Eds.), *Media technologies: Essays on communication, materiality, and society*. (pp. 167-193). Cambridge, MA: MIT Press.

Henson, J., & Benoit, W. (2010). Because I Said So: A Functional Theory Analysis of Evidence in Political TV Spots. *Speaker & Gavel*, 47, 1-15.

Hughes, A.(2018). The theory and the practice of political advertising. In A. Huges(Ed.), *Market-driven political advertising: Social, digital and mobile marketing*, (pp. 29-60). London, UK: Palgrave Macmillan.

Kreiss, D., & McGregor, S. C. (2018). Technology firms shape political communication: The work of Microsoft, Facebook, Twitter, and Google with campaigns during the 2016 US presidential cycle. *Political Communication*, 35(2), 155-177.

Kruschinski, S., Haßler, J., Jost P., & Sülflow, M. (2022). Posting or Advertising? How Political Parties Adapt Their Messaging Strategies to Facebook’s Organic and Paid Media Affordances, *Journal of Political Marketing*.

Lilleker, D. G., Tenscher, J., & Štětka, V. (2015). Towards hypermedia campaigning? Perceptions of new media’s importance for campaigning by party strategists in comparative perspective. *Information, Communication & Society*, 18(7), 747–765.

Magin, M., Podschuweit, N., Haßler, J., & Russmann, U. (2017). Campaigning in the fourth age of political communication. A multi-method study on the use of Facebook by German and Austrian parties in the 2013 national election campaigns. *Information, Communication & Society*, 20(11), 1698-1719.

Matthes, J., Hirsch, M., Stubenvoll, M., Binder, A., Kruikemeier, S., Lecheler S. & Otto, L. (2022). Understanding the democratic role of perceived online political micro-targeting: longitudinal effects on trust in democracy and political interest. *Journal of Information Technology & Politics*.

Mehta, S., Erickson, K. (2022). Can online political targeting be rendered transparent? Prospects for campaign oversight using the Facebook Ad Library. *Internet Policy Review*, 11(1), 1-31.

Nai, A. (2020). Going Negative, Worldwide: Towards a General Understanding of Determinants and Targets of Negative Campaigning. *Government and Opposition*, 55(3), 430-455.

Ortega, A. (2021). Are microtargeted campaign messages more negative and diverse? An analysis of Facebook ads in European election campaigns. *European Political Science*.

Pierri, F. (2023). Political advertisement on Facebook and Instagram in the run up to 2022 Italian general election. In Proceedings of ACM Conference (Conference'17). ACM, New York, NY, USA, 10 pages.

Roberts, C. (2013). A Functional Analysis Comparison of Web Only Advertisements and Traditional Television Advertisements from the 2004 and 2008 Presidential

Campaigns. *Journalism & Mass Communication Quarterly*, 90(1): 23–38.

Steppat, D., Castro, L. (2023). Content analysis in the research field of election campaign communication. In: Oehmer-Pedrazzi, F., Kessler, S.H., Humprecht, E., Sommer, K., Castro, L. (Eds). *Standardisierte Inhaltsanalyse in der Kommunikationswissenschaft – Standardized Content Analysis in Communication Research*. Wiesbaden, Germany: Springer VS.

Zuiderveen Borgesius FJ., Möller J., Kruikemeier S., Fathaigh, R., Irion, K., Dobber, T., Bodo, B., de Vresse, C. (2018). Online political microtargeting: Promises and threats for democracy. *Utrecht Law Review*, 14(1): 82–96.

VII. Appendices

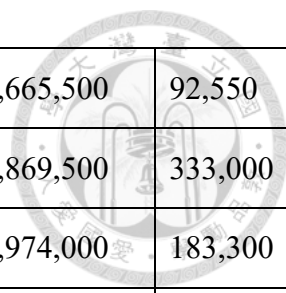


Appendix 1. Advertisement Count, Spendings, and Impressions of 2024 Regional Legislative Candidates (by Constituency Order)

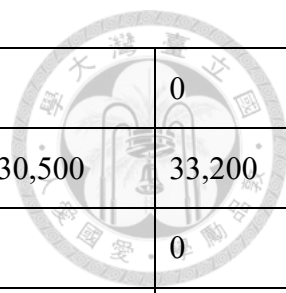
Candidate					Advertisement		
constituency	candidate	party	Incumbency	Age	Count	Impressions	Spend
Taipei 1 st	張斯綱	KMT	Challenger	53	15	370,000	20,150
Taipei 1 st	吳思瑤	DPP	Incumbent	50	16	3,510,000	245,000
Taipei 2 nd	游淑慧	KMT	Challenger	48	10	180,000	71,250
Taipei 2 nd	王世堅	DPP	Successor	64	0	0	0
Taipei 3 rd	王鴻薇	KMT	Incumbent	60	0	0	0
Taipei 3 rd	謝佩芬	DPP	Challenger	37	0	0	0
Taipei 4 th	李彥秀	KMT	Challenger	53	30	686,500	44,000
Taipei 4 th	高嘉瑜	DPP	Incumbent	44	22	2,344,500	88,500
Taipei 4 th	吳欣岱	TSP	Challenger	37	11	324,500	33,700
Tapei 5 th	鍾小平	KMT	Challenger	62	0	0	0
Tapei 5 th	吳沛憶	DPP	Successor	37	57	1,564,000	186,900
Taipei 6 th	羅智強	KMT	Successor	54	0	0	0
Taipei 6 th	苗博雅	SDP	Challenger	37	0	0	0
Taipei 7 th	徐巧芯	KMT	Successor	35	2	480,000	13,750
Taipei 7 th	許淑華	DPP	Challenger	51	28	1,010,000	32,100
Taipei 8 th	賴士葆	KMT	Incumbent	73	8	457,500	44,000
Taipei 8 th	王閔生	DPP	Challenger	49	3	313,500	13,900

New Taipei 1 st	洪孟楷	KMT	Incumbent	41	39	496,000	45,000
New Taipei 1 st	何博文	DPP	Challenger	51	18	529,500	45,800
New Taipei 2 nd	林淑芬	DPP	Incumbent	51	4	120,500	11,300
New Taipei 2 nd	李有宜	TPP	Challenger	34	0	0	0
New Taipei 3 rd	蔡明堂	KMT	Challenger	66	34	1,500,500	223,650
New Taipei 3 rd	李坤城	DPP	Successor	51	64	782,000	76,400
New Taipei 4 th	蔣欣璋	KMT	Challenger	37	85	8,543,000	382,300
New Taipei 4 th	吳秉叡	DPP	Successor	58	100	1,164,500	72,400
New Taipei 5 th	洪佳君	KMT	Challenger	47	0	0	0
New Taipei 5 th	蘇巧慧	DPP	Incumbent	48	75	2,496,000	382,750
New Taipei 6 th	林國春	KMT	Challenger	56	2	1,075,000	21,000
New Taipei 6 th	張宏陸	DPP	Incumbent	52	111	2,742,000	586,950
New Taipei 7 th	葉元之	KMT	Challenger	50	21	1,130,500	151,400
New Taipei 7 th	羅致政	DPP	Incumbent	60	2	55,500	3,300
New Taipei 8 th	張智倫	KMT	Challenger	41	103	1,225,500	118,500
New Taipei 8 th	吳崢	DPP	Successor	35	16	778,000	136,250
New Taipei 8 th	邱臣遠	TPP	Challenger	43	0	0	0
New Taipei 9 th	林德福	KMT	Incumbent	71	0	0	0
New Taipei 9 th	莊銘淵	DPP	Challenger	51	0	0	0
New Taipei 10 th	林金結	KMT	Challenger	56	7	116,500	18,300
New Taipei 10 th	吳琪銘	DPP	Incumbent	61	25	1,027,500	74,150
New Taipei 11 th	羅明才	KMT	Incumbent	57	28	685,000	46,550

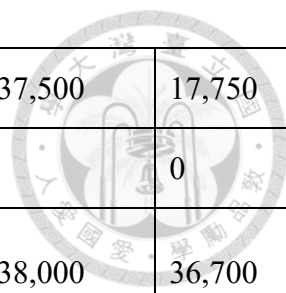
New Taipei 11 th	曾柏瑜	DPP	Challenger	33	32	579,000	95,750
New Taipei 12 th	廖先翔	KMT	Challenger	36	16	1,170,000	234,250
New Taipei 12 th	賴品妤	DPP	Incumbent	32	17	2,612,500	269,250
Taoyuan 1 st	牛煦庭	KMT	Challenger	34	21	346,000	45,250
Taoyuan 1 st	鄭運鵬	DPP	Incumbent	51	11	36,500	3,250
Taoyuan 2 nd	涂權吉	KMT	Challenger	54	168	6,121,500	480,300
Taoyuan 2 nd	黃世杰	DPP	Incumbent	45	18	484,000	134,300
Taoyuan 3 rd	魯明哲	KMT	Incumbent	61	77	1,387,500	123,300
Taoyuan 3 rd	彭俊豪	DPP	Challenger	42	5	57,500	11,000
Taoyuan 4 th	萬美玲	KMT	Incumbent	55	41	303,500	45,900
Taoyuan 4 th	范綱祥	DPP	Challenger	58	20	4,553,500	480,850
Taoyuan 5 th	呂玉玲	KMT	Incumbent	63	21	250,500	23,550
Taoyuan 5 th	劉仁照	DPP	Challenger	43	52	1,993,000	245,950
Taoyuan 5 th	賴香伶	TPP	Challenger	56	1	9,500	1,250
Taoyuan 6 th	邱若華	KMT	Challenger	36	28	927,000	85,800
Taoyuan 6 th	趙正宇	DPP	Incumbent	58	20	199,000	18,200
Taoyuan 6 th	李慕妍	TPP	Challenger	28	0	0	0
Taichung 1 st	蔡其昌	DPP	Incumbent	55	60	2,880,500	144,800
Taichung 1 st	蔡壁如	TPP	Challenger	60	0	0	0
Taichung 2 nd	顏寬恒	KMT	Challenger	47	2	2,000,000	130,000
Taichung 2 nd	林靜儀	DPP	Incumbent	50	0	0	0
Taichung 3 rd	楊瓊璿	KMT	Incumbent	60	19	461,000	14,050



Taichung 3 rd	謝子涵	DPP	Challenger	33	45	1,665,500	92,550
Taichung 4 th	廖偉翔	KMT	Challenger	34	77	1,869,500	333,000
Taichung 4 th	張廖萬堅	DPP	Incumbent	59	96	1,974,000	183,300
Taichung 5 th	黃健豪	KMT	Challenger	36	53	4,037,500	275,850
Taichung 5 th	莊競程	DPP	Incumbent	44	61	952,500	91,850
Taichung 6 th	羅廷瑋	KMT	Challenger	35	140	9,069,000	817,600
Taichung 6 th	江肇國	DPP	Successor	47	86	4,192,500	487,300
Taichung 7 th	林家興	KMT	Challenger	34	145	2,173,500	292,950
Taichung 7 th	何欣純	DPP	Incumbent	51	9	223,500	12,750
Taichung 8 th	江啟臣	KMT	Incumbent	52	24	1,567,000	84,400
Taichung 8 th	謝志忠	DPP	Challenger	55	40	1,019,000	138,550
Tainan 1 st	周宏昌	KMT	Challenger	47	9	852,500	19,000
Tainan 1 st	賴惠員	DPP	Incumbent	63	0	0	0
Tainan 2 nd	陳昆和	KMT	Challenger	63	51	1,214,000	93,550
Tainan 2 nd	郭國文	DPP	Incumbent	57	77	1,765,500	98,050
Tainan 3 rd	姚正玉	KMT	Challenger	58	34	515,000	47,100
Tainan 3 rd	陳亭妃	DPP	Incumbent	50	0	0	0
Tainan 4 th	李全教	KMT	Challenger	64	14	851,500	121,500
Tainan 4 th	林宜瑾	DPP	Incumbent	55	1	9,500	650
Tainan 5 th	林俊憲	DPP	Incumbent	59	0	0	0
Tainan 6 th	陳以信	KMT	Challenger	52	73	1,031,500	162,750
Tainan 6 th	王定宇	DPP	Incumbent	55	0	0	0

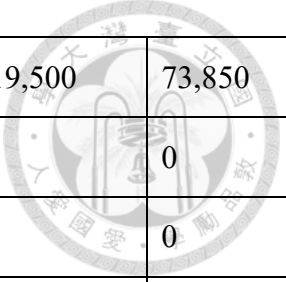


Kaohsiung 1 st	林義迪	KMT	Challenger	65	0	0	0
Kaohsiung 1 st	邱議瑩	DPP	Incumbent	53	24	830,500	33,200
Kaohsiung 1 st	曾尹儷	TPP	Challenger	61	0	0	0
Kaohsiung 2 nd	曹桓榮	KMT	Challenger	48	0	0	0
Kaohsiung 2 nd	邱志偉	DPP	Incumbent	52	0	0	0
Kaohsiung 3 rd	李眉蓁	KMT	Challenger	45	243	7,022,000	760,550
Kaohsiung 3 rd	李柏毅	DPP	Successor	47	61	1,714,000	281,550
Kaohsiung 4 th	陳若翠	KMT	Challenger	55	53	221,500	28,750
Kaohsiung 4 th	林岱樺	DPP	Incumbent	52	7	200,500	10,550
Kaohsiung 5 th	黃柏霖	KMT	Challenger	57	47	1,306,000	120,100
Kaohsiung 5 th	李昆澤	DPP	Incumbent	60	52	2,048,500	172,000
Kaohsiung 6 th	陳美雅	KMT	Challenger	54	0	0	0
Kaohsiung 6 th	黃捷	DPP	Successor	31	0	0	0
Kaohsiung 7 th	鍾易仲	KMT	Challenger	42	126	2,051,500	190,100
Kaohsiung 7 th	許智傑	DPP	Incumbent	58	56	1,085,000	103,450
Kaohsiung 8 th	李明璇	KMT	Challenger	31	0	0	0
Kaohsiung 8 th	賴瑞隆	DPP	Incumbent	51	0	0	0
Keelung	林沛祥	KMT	Challenger	47	63	336,500	59,850
Keelung	鄭文婷	DPP	Successor	56	0	0	0
Keelung	王醒之	NPP	Challenger	52	14	131,000	13,100
Yilan	黃瑋婷	KMT	Challenger	46	45	3,269,000	370,550
Yilan	陳俊宇	DPP	Successor	49	96	1,209,000	112,400



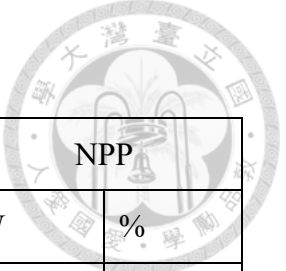
Yilan	陳琬惠	TPP	Challenger	50	3	437,500	17,750
Yilan	林意評	TSP	Challenger	35	0	0	0
Hsinchu County 1 st	徐欣瑩	KMT	Successor	52	86	638,000	36,700
Hsinchu County 1 st	詹紀緹	DPP	Challenger	34	19	317,000	27,150
Hsinchu County 2 nd	林思銘	KMT	Incumbent	58	8	224,000	61,500
Hsinchu County 2 nd	曾聖凱	DPP	Challenger	40	45	1,124,000	141,150
Hsinchu County 2 nd	王婉諭	NPP	Challenger	45	132	6,789,500	607,900
Hsinchu City	鄭正鈐	KMT	Incumbent	55	11	290,000	29,300
Hsinchu City	林志潔	DPP	Challenger	51	35	1,070,000	191,000
Hsinchu City	邱顯智	NPP	Challenger	48	363	6,088,000	455,500
Miaoli 1 st	陳超明	KMT	Incumbent	73	74	657,500	49,900
Miaoli 1 st	康世明	DPP	Challenger	55	21	787,000	84,900
Miaoli 2 nd	邱鎮軍	KMT	Successor	53	7	980,000	58,000
Miaoli 2 nd	曾玟學	DPP	Challenger	37	18	628,500	47,100
Changhua 1 st	阮厚爵	KMT	Challenger	54	16	255,500	19,950
Changhua 1 st	陳秀寶	DPP	Incumbent	52	4	425,000	36,000
Changhua 2 nd	楊曜聰	KMT	Challenger	52	7	1,135,000	168,000
Changhua 2 nd	黃秀芳	DPP	Incumbent	53	10	430,000	32,000
Changhua 3 rd	謝衣鳳	KMT	Incumbent	47	31	601,000	48,150

Changhua 3 rd	吳音寧	DPP	Challenger	52	7	327,500	43,500
Changhua 4 th	鄭俊雄	KMT	Challenger	63	79	4,802,000	216,500
Changhua 4 th	陳素月	DPP	Incumbent	58	44	1,687,500	140,750
Nantou 1 st	馬文君	KMT	Incumbent	59	5	85,500	6,850
Nantou 1 st	蔡銘軒	DPP	Challenger	40	2	65,000	3,500
Nantou 2 nd	游顯	KMT	Successor	41	34	980,000	83,150
Nantou 2 nd	蔡培慧	DPP	Challenger	53	18	1,363,500	69,400
Yunlin 1 st	丁學忠	KMT	Challenger	54	14	1,380,000	107,750
Yunlin 1 st	蘇治芬	DPP	Incumbent	71	1	1,500	50
Yunlin 2 nd	邱良閔	KMT	Challenger	42	0	0	0
Yunlin 2 nd	劉建國	DPP	Incumbent	55	7	66,500	11,250
Chiayi County 1 st	詹琬蓁	KMT	Challenger	47	15	290,000	15,850
Chiayi County 1 st	蔡易餘	DPP	Incumbent	43	9	85,500	4,950
Chiayi County 2 nd	林國慶	KMT	Challenger	59	52	897,000	93,200
Chiayi County 2 nd	陳冠廷	DPP	Successor	38	67	1,011,000	100,350
Chiayi City	張秀華	KMT	Challenger	67	52	1,897,000	219,650
Chiayi City	王美惠	DPP	Incumbent	59	52	1,025,500	62,300
Pingtung 1 st	黃明賢	KMT	Challenger	41	30	1,546,000	98,300
Pingtung 1 st	鍾佳濱	DPP	Incumbent	59	26	468,000	17,900
Pingtung 2 nd	蘇孟淳	KMT	Successor	32	12	449,500	27,050



Pingtung 2 nd	徐富癸	DPP	Challenger	54	57	819,500	73,850
Taitung	黃建賓	KMT	Challenger	46	0	0	0
Taitung	賴坤成	DPP	Successor	60	0	0	0
Hualien	傅崐萁	KMT	Incumbent	62	17	654,500	32,600
Hualien	張美慧	DPP	Challenger	54	18	881,000	67,900
Penghu	吳政杰	KMT	Challenger	57	0	0	0
Penghu	楊曜	DPP	Incumbent	52	27	590,000	49,450
Kinmen	陳玉珍	KMT	Incumbent	51	0	0	0
Kinmen	尚文凱	TPP	Challenger	47	0	0	0
Lienchiang	陳雪生	KMT	Incumbent	72	0	0	0
Lienchiang	李問	DPP	Challenger	35	15	104,500	40,750
Lienchiang	曹爾凱	TPP	Challenger	47	0	0	0
Sum	156 candidates	-	-		5,040	162,843,500	15,083,850

Appendix 2. Number of Issue Advertisements by Party



Issue \ Party	DPP		KMT		NPP	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
General	109	26%	108	18%	6	4%
Health and Welfare	71	17%	82	14%	65	44%
Transportation	73	18%	98	17%	16	11%
Interior Affairs	21	5%	66	11%	23	16%
Education	57	14%	35	6%	12	8%
Economy	34	8%	37	6%	0	0%
Environment	5	1%	50	9%	0	0%
Labor	5	1%	18	3%	23	16%
Law	3	1%	34	6%	0	0%
Culture	25	6%	10	2%	0	0%
Agriculture	6	1%	22	4%	0	0%
Government Affairs	0	0%	20	3%	3	2%
Fiscal	17	0%	3	1%	0	0%
National Defence	7	0%	0	0%	0	0%
Foreign Affairs	3	1%	3	1%	0	0%
Digital Development	1	0%	0	0%	0	0%
	437		586		148	
Note: TPP and TSP sponsored no content about issues or policies.						