

Political Campaign Success Predictors from Social Media Financing

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Social media advertising has become an integral part of most political campaigns. This study investigates the funding and social media strategies adopted by politicians in the 2019 European Parliament Elections. We aggregate data across an EU member state, Malta, with a voting population of 330,000. This allows us to sample the entire candidate population (n=41) to identify the strategy-variances and crowd behaviour. We then compare and contrast pre-election crowd behaviour with post-election outcome. Results are based on 84,320 data points that include 1) individual candidate advertising spend, 2) content submitted by candidates, 3) user generated content, 4) user interaction across multiple dimensions, and 5) actual voting results.

Results show that pre-election social media engagement is indicative of campaign success. Pre-election engagement is also related to campaign effectiveness based on lower cost per vote conversion. We also note that while spending more in Facebook™ advertising alone does not necessarily improve the candidate's likelihood of getting elected, however, the advertising cost conversion seems to have a significant influence on results. This suggests that the campaign's strategic efficiency is a key determinant of success.

Keywords: Political Marketing, Social Media Financing, Social Media Campaigns

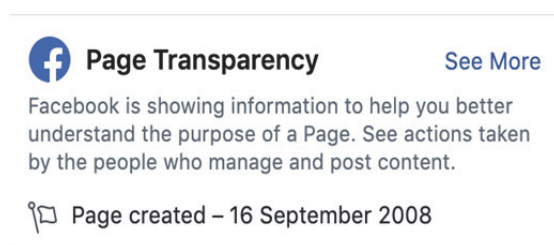
INTRODUCTION

Political elections are a fundamental component of democratic systems. Over the past three decades, technology has disrupted many aspects of election campaigning and this has attracted strong attention from academics and political campaign practitioners (Saida, 2018; Jason, 2016; Bor, 2012). New technologies provided new tools (Verger, 2013; Vaccari, 2015) such as email campaigning, personalized apps to encourage grassroots activism, member relationship management systems that tame down management complexity and process automation to create personalized voter experiences from basic rule-based systems to complex AI-based personalisation.

There have been many instances where new technologies were used in unethical ways in political campaigning (Berghel, 2018). On the other hand, if used responsibly, these tools can present a valuable resource for incumbents and prospective politicians to communicate and reach out to their communities in a more efficient and cheaper way than traditional communication channels such as television advertising. In principle, this easier access to reaching out, such as by using Facebook™ as a communication tool, should facilitate access for prospective politicians who do not have the power of incumbency or strong internal/external support. However, is the effectiveness of using Facebook™ for political campaigning dependent on the candidates spend in financing message-spread through paid advertising?

As part of Facebook™'s effort to increase transparency in political campaigns, in 2019 Facebook™ updated its advertising policy and is now making political adverts' data public. This includes the number of adverts that a candidate's page is running, the spend on each advert and results data on each advert including demographic data and advert's reach (Figure 1). For the first time, this allows us to compare and contrast relationships between campaign social media spending and campaign success across an entire competing political candidate cohort. In addition, we also aggregate and compare public data for each candidate's campaign such as number of posts, engagement for each post and user generated comments during the 5-week campaign prior to election day.

FIGURE 1
FACEBOOK™ UPDATED PAGE TRANSPARENCY DATA



Source: Facebook™ (2019)

CONTEXT

In this study we set our lens on Malta, one of the smaller EU member states since its size allows us to investigate the entire cohort of political candidates in an EU country for the 2019 European Parliament Elections.

Malta is the southern European country with an area of 316km². 41 candidates ran for election of six seats that represent Malta in the European Parliament. Of 371,643 registered voters 206,212 cast a valid vote. Five candidates had no party affiliation (independent) with the rest affiliated with one of 8 parties. Table 1 shows the distribution of the candidates across the parties and Figure 2 shows the gender distribution.

TABLE 1
NUMBER OF CANDIDATES AND POLITICAL PARTIES

Party	n
AD	2
Allejanza Bidla	2
Brain Not Ego	1
Imperium Europa	1
<i>Independent</i>	5
MPM	2
PD	4
PL	14
PN	10
Total	41

Source: Electoral Commission (2019)

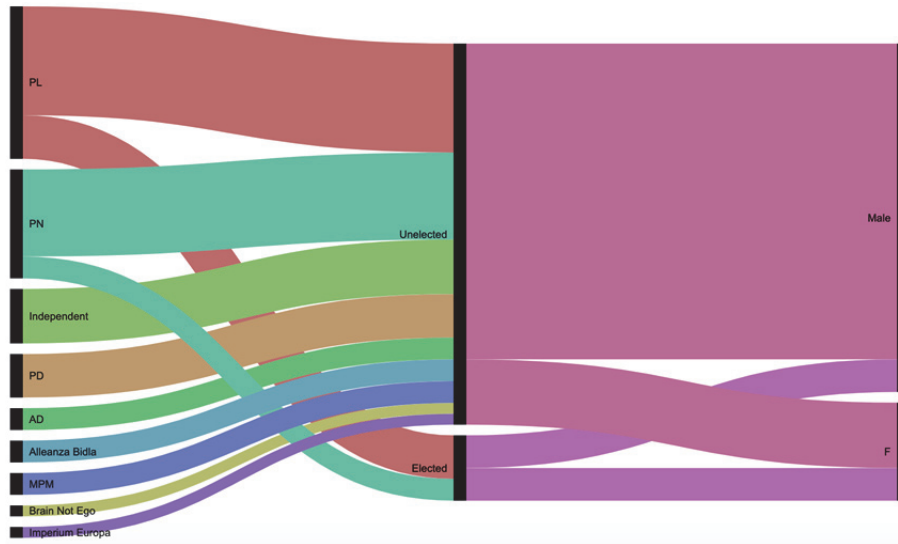
Facebook™ is widely adopted across the country. 87% of the population makes regular use of Facebook™. This makes Malta ranked the second highest in Europe's average of 65% (Eurostat, 2019). This also makes Facebook™ well within the candidates' radar when they evaluate communication channel to use to reach out to their constituents.

Existing Work

The influence of social media on election outcomes has seen a surge in research over recent years as new tools and affordances emerged (Ceron, 2014; Housholder & Lamarre, 2015; Rodrigues, 2017; Farkas, 2018). Larsen (2014) analysed social media content and engagement to understand the relation between the popularity of the social media pages and political content consumption in the light that political campaigning is nowadays 'always on' throughout the legislature. Results indicate that small parties and candidates are able to build momentum and adapt faster to a changing environment probably due to the ease of access that social media platforms afford. This contrasts with the funding required to build strong impact and reach out within cash-hungry social media platforms that is presented in Lindsey (2018).

Concurrently, the relationship between spending and campaign success has also attracted the attention of researchers for a long time. Sudulich and Wall (2010) investigated the relationships between campaign spending diversification and overall success with results showing that diversification of spending is associated with positive campaign results only in well-financed campaigns. Most of the existing studies however group advertising spends and channels together. For example, in their analysis Sudulich and Wall (2010) cluster together all advertisement, publicity, posters, other election material, office, transport, marketing and research, and campaign workers. In our study, we open up advertisement to focus on social media advertising spending and voter engagement as a single communication channel. This allows us to better understand the relationship between social media advertising spend, voter engagement and campaign success.

FIGURE 2
DISTRIBUTION OF CANDIDATES ACROSS PARTIES, ELECTION
OUTCOME AND GENDER



Source: Author's calculations

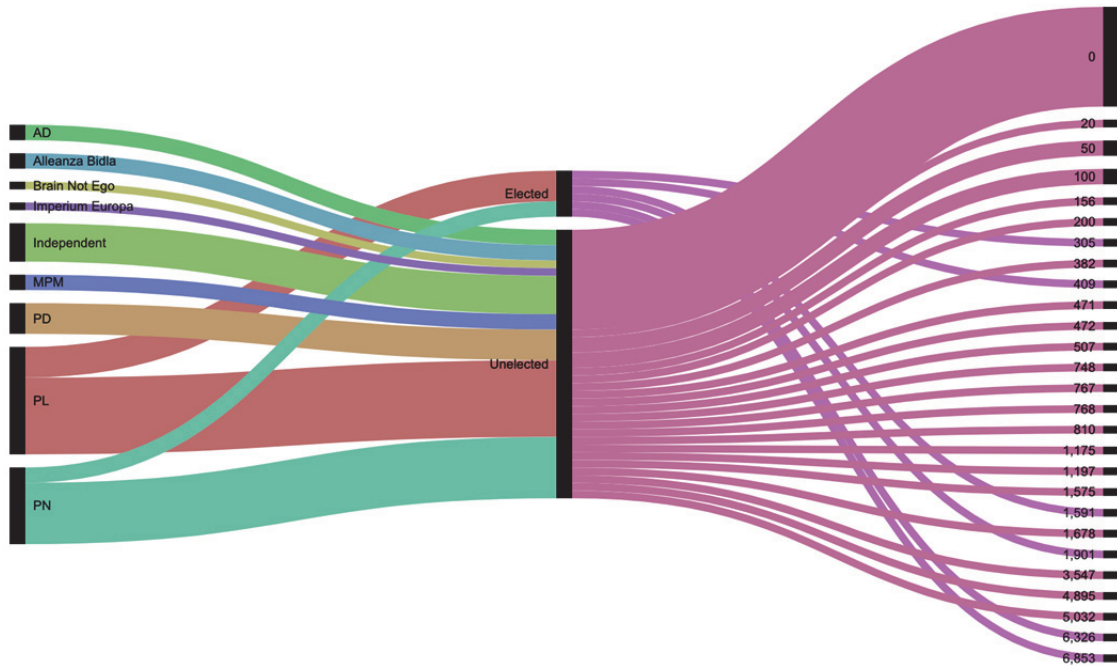
METHOD

We collect social media data during 5 weeks prior to European Parliament election day 26th May 2019. This data included candidate lists, number of fans on page and daily posts. On election day we also stored a data snapshot of the interaction for each post within the previous 5-week campaign period, categorised and quantified the interaction types (e.g. Like, Love, Haha, Angry etc...), comments and shares for each post and number of fans (growth). On election day we also counted the number of political and non-political adverts that each candidate got approved during the campaign and the advertising spend for each candidate. This data was sourced from FacebookTM page transparency service. Our data collection generated 84,320 data points. We then use SPSS and Tableau for data analysis.

RESULTS

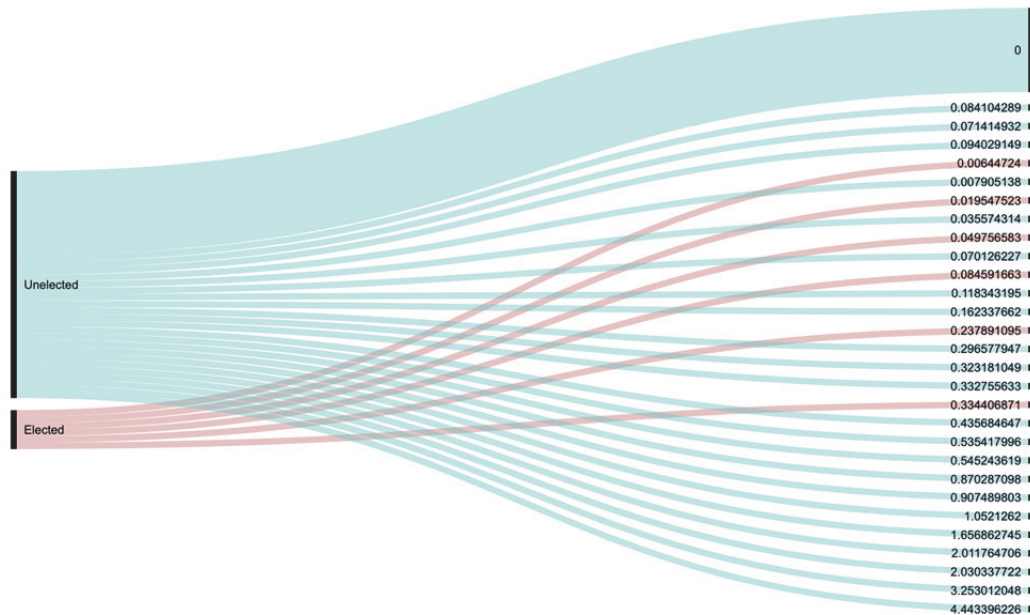
The resulting dataset covered a total of 41 European Parliament candidates. Six of these candidates got elected, representing two major Maltese political parties (out of a total of eight parties along with five independent candidates). Forty of these candidates had a FacebookTM page on which a level of interaction with followers occurred. Figure 3 shows the distribution across parties, election outcomes and FacebookTM advertising spend (€). On the other hand, Figure 4 highlights the relation between the election outcome and the cost per vote conversion. Initial statistics suggest a significant difference between those candidates who got elected and those who did not in terms of the average number of FacebookTM fans, ads, likes, comments and growth (see Table 2).

FIGURE 3
DISTRIBUTION ACROSS PARTIES, ELECTION OUTCOMES AND FACEBOOK™
ADVERTISING SPEND (€)



Source: Author's calculation

FIGURE 4
DISTRIBUTION OF CANDIDATES' ELECTION OUTCOME AND AVERAGE SPEND PER
VOTE CONVERSION (€)



Source: Author's calculations

TABLE 2
DIFFERENCES BETWEEN ELECTED AND NON-ELECTED
CANDIDATES – INDEPENDENT SAMPLES T-TEST

Election Outcome		Group Statistics		Levene's Test for Equality of Variances		t-test for Equality of Means (equal variances assumed)		
		Mean	Std. Deviation	F	Sig.	t	df	Sig. (2-tailed)
Social media spend	Elected	2897.50	2933.06	13.813	.001	3.115	39	.003
	Unelected	705.71	1281.92					
Number of ads	Elected	82.67	56.03	.205	.653	2.098	39	.042
	Unelected	27.60	59.89					
Average spend per ad (Euro)	Elected	29.14	13.90	1.975	.168	-.042	38	.967
	Unelected	29.88	42.46					
Average cost per vote conversion (Euro)	Elected	0.12	0.13	3.454	.071	-1.036	39	.307
	Unelected	0.55	1.01					
Fans	Elected	30888.83	14809.79	18.127	.001	5.054	17	.000
	Unelected	7919.62	5359.19					
Page Performance Index	Elected	0.80	0.28	.335	.570	.215	17	.832
	Unelected	0.77	0.31					
Number of Likes	Elected	58492.33	18047.06	1.412	.244	7.386	29	.000
	Unelected	11916.00	12831.33					
Posts per day	Elected	5.11	1.75	.252	.619	1.148	29	.260
	Unelected	3.51	3.28					
Post interaction	Elected	0.02	0.00	7.429	.011	-.556	29	.583
	Unelected	0.02	0.02					
Average Weekly Growth	Elected	0.01	0.01	.009	.927	.631	29	.533
	Unelected	0.01	0.02					
Number of Comments	Elected	4414.67	1309.62	.100	.754	7.482	29	.000
	Unelected	980.92	934.94					
Number of posts	Elected	184.00	63.12	.252	.619	1.148	29	.260
	Unelected	126.24	118.18					
Growth (absolute)	Elected	1452.67	1146.13	10.287	.003	4.186	29	.000
	Unelected	251.76	455.64					
Engagement	Elected	0.08	0.04	.036	.851	1.322	29	.197
	Unelected	0.05	0.05					

Source: Author's calculations

As each of these variables featured wide ranges, we investigated how the first count votes and total votes can be predicted using log10 transformed predictor variables. Using stepwise regression analysis, we tested how variables like fans, posts per day, number of posts, number of comments, growth, social media spend, average cost per vote, page performance index, number of likes, post interaction, average weekly growth and engagement could predict the number of first count (Table) and total (Table 4) votes attained by a candidate on election day. Our analysis finds that in both cases, the prime predictor variable is the number of fans a candidate's Facebook™ profile attracts ($p < 0.05$). The average cost per vote is a second ranking predictor only in the case of first count votes ($p < 0.05$).

TABLE 3
STEPWISE REGRESSION MODEL FOR PREDICTING FIRST COUNT VOTES

Model Summary ^c				ANOVA		Coefficients					
Model	R	R Square	Adjusted R Square	F	Sig.	Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
							B	Std. Error	Beta		
1	.783 ^a	.614	.586	22.234	.000 ^a	(Constant)	-127173.364	30149.177		-4.218	.001
						L(10) Fans	34643.067	7346.990	.783	4.715	.000
2	.847 ^b	.717	.673	16.433	.000 ^b	(Constant)	-100719.319	29433.067		-3.422	.005
						L(10) Fans	26342.031	7565.513	.596	3.482	.004
						L(10) Average cost per vote conversion	-9303.288	4281.486	-.372	-2.173	.049

a. Predictors: (Constant), L(10) Fans

b. Predictors: (Constant), L(10) Fans, L(10) Average cost per vote

c. Dependent Variable: First count votes

Source: Author's calculations

TABLE 4
STEPWISE REGRESSION MODEL FOR PREDICTING TOTAL COUNT VOTES

Model Summary ^b				ANOVA		Coefficients					
Model	R	R Square	Adjusted R Square	F	Sig.	Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
							B	Std. Error	Beta		
1	.805 ^a	.648	.621	23.955	.000 ^b	(Constant)	-120544.322	28162.051		-4.280	.001
						L(10) Fans	33934.657	6933.355	.805	4.894	.000

a. Predictors: (Constant), L(10) Fans

b. Dependent Variable: Total votes

Source: Author's calculations

At this stage we investigated what actions would lead for candidates to boost the number of fans on their Facebook™ profile. In the same fashion, we tested out the same predictor variables using a stepwise regression model approach, and find that the total number of likes, engagement, number of comments and post interaction account can predict the number of Facebook™ fans a candidate's profile can attract during an electoral campaign ($p < 0.05$). Similar tests to predict the average cost per vote conversion suggest that social media spending, number of likes, engagement and growth are very good predictors ($p < 0.05$) (Table 6). The above analysis helps us propose an initial conceptual model (Figure 5) that explains how electoral candidates perform based on their engagement with audiences on Facebook™ as a modern medium for electoral campaigning.

TABLE 5
STEPWISE REGRESSION MODEL FOR PREDICTING THE NUMBER OF FACEBOOK™ FANS FOR AN ELECTORAL CANDIDATE

Model Summary ^c				ANOVA		Coefficients					
Model	R	R Square	Adjusted R Square	F	Sig.	Predictor	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
							B	Std. Error	Beta		
1	.800 ^a	.641	.615	24.955	.000 ^b	(Constant)	1.178	.585		2.013	.064
						L(10) Number of likes	.668	.134	.800	4.996	.000
2	.995 ^b	.990	.988	624.964	.000 ^c	(Constant)	-1.054	.148		-7.130	.000
						L(10) Number of likes	.921	.026	1.104	34.894	.000
						L(10) Engagement	-.972	.046	-.664	-20.997	.000
3	.998 ^c	.996	.995	1064.849	.000 ^d	(Constant)	-1.034	.093		-11.124	.000
						L(10) Number of likes	.782	.035	.937	22.628	.000
						L(10) Engagement	-.985	.029	-.673	-33.743	.000
						L(10) Number of comments	.174	.038	.189	4.583	.001
4	.999 ^d	.997	.997	1094.580	.000 ^e	(Constant)	-1.099	.084		-13.047	.000
						L(10) Number of likes	.813	.032	.974	25.125	.000
						L(10) Engagement	-.936	.033	-.640	-28.786	.000
						L(10) Number of comments	.126	.038	.137	3.287	.007
						L(10) Post interaction	-.080	.034	-.050	-2.329	.040

a. Predictors: (Constant), L(10) Number of likes

b. Predictors: (Constant), L(10) Number of likes, L(10) Engagement

c. Predictors: (Constant), L(10) Number of likes, L(10) Engagement, L(10) Number of comments

d. Predictors: (Constant), L(10) Number of likes, L(10) Engagement, L(10) Number of comments, L(10) Post interaction

e. Dependent Variable: L(10) Fans

Source: Author's calculations

TABLE 6
STEPWISE REGRESSION MODEL FOR PREDICTING THE AVERAGE COST PER VOTE
CONVERSION FOR AN ELECTORAL CANDIDATE

Model Summary ^e				ANOVA		Coefficients					
Model	R	R Square	Adjusted R Square	F	Sig.	Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
							B	Std. Error	Beta		
1	.518 ^a	.268	.216	5.125	.040 ^b	(Constant)	-2.717	.858		-3.165	.007
						L(10) Social media spend	.629	.278	.518	2.264	.040
2	.751 ^b	.564	.497	8.411	.005 ^c	(Constant)	.214	1.202		.178	.861
						L(10) Social media spend	.923	.244	.759	3.790	.002
						L(10) Number of likes	-.878	.295	-.595	-2.972	.011
3	.840 ^c	.706	.632	9.597	.002 ^d	(Constant)	2.742	1.470		1.865	.087
						L(10) Social media spend	.908	.208	.747	4.358	.001
						L(10) Number of likes L(10)	-1.156	.278	-.784	-4.161	.001
						Engagement	1.095	.455	.423	2.404	.033
4	.910 ^d	.828	.765	13.207	.000 ^e	(Constant)	3.035	1.180		2.571	.026
						L(10) Social media spend	.894	.167	.735	5.362	.000
						L(10) Number of likes L(10)	-.559	.308	-.379	-1.814	.097
						Engagement	1.510	.393	.584	3.839	.003
						L(10) Growth	-.880	.315	-.605	-2.789	.018

a. Predictors: (Constant), L(10) Social media spend

b. Predictors: (Constant), L(10) Social media spend, L(10) Number of likes

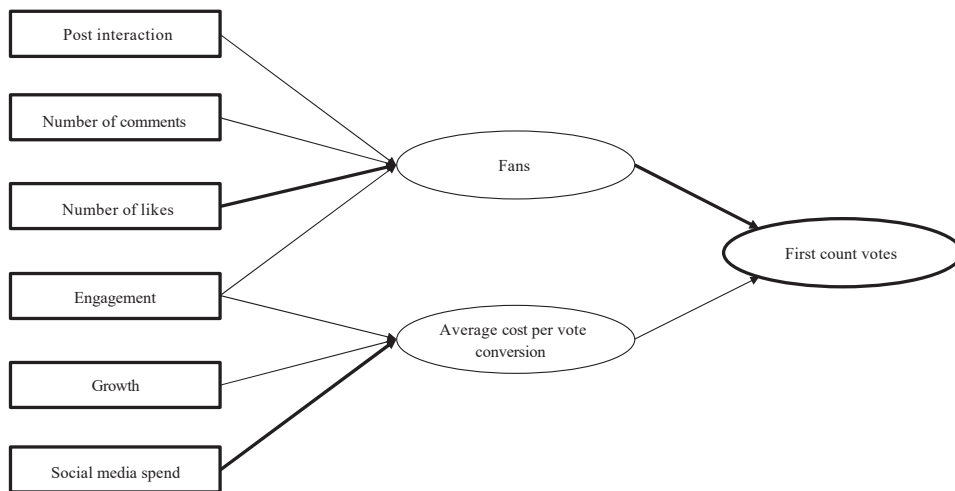
c. Predictors: (Constant), L(10) Social media spend, L(10) Number of likes, L(10) Engagement

d. Predictors: (Constant), L(10) Social media spend, L(10) Number of likes, L(10) Engagement, L(10) Growth

e. Dependent Variable: L(10) Average cost per vote conversion

Source: Author's calculations

FIGURE 5
PROPOSED CONCEPTUAL MODEL: DETERMINANTS OF FIRST COUNT VOTE
PERFORMANCE IN ELECTORAL CAMPAIGNS BASED ON
FACEBOOK™ AS A COMMUNICATIONS MEDIUM



Source: Author's calculations

DISCUSSION

While candidates who did not generate engagement on social media fared poorly, the average cost per vote suggests that some campaigns were highly inefficient. We define campaign efficiency as the average cost for converting one vote. Campaign efficiency seems to be a key indicator of message effectiveness. The distribution in Figure 4 suggests that the communication message is an essential element. In the future, a more detailed content analysis may give us deeper insight on how message effectiveness decreases social media advertising costs.

We observe that the two most voted candidates were also among the least to invest in Facebook™ advertising. At the same time, they were among the top candidates for engagement and user generated content (UGC). This engagement was generated through regular Facebook™ posts that spread organically and increased campaign efficiency by lowering costs. This mechanism indicates that campaign success is not necessarily dependent on Facebook™ advertising even in a small country that has a high degree of Facebook™ adoption. Our observation should not be interpreted as Facebook™ adverts do not contribute to campaign success. Indeed, an observation of the other four successful candidates who invested heavily in Facebook™ advertising suggest that paid adverts contributed to reaching out beyond the limitations of an otherwise small-impact organic reach.

LIMITATIONS

We are aware of a number of limitations to the study that are relevant to highlight for those interested in extending this work. This study investigates the effect of social media advertising on a national election. This research does not attribute any influence from other campaign communication channels such as print adverts, SMS messaging and email campaigns among others. The work takes the assumption that the results are influenced from social media advertising. The study also investigates the entire voting and candidate population on one country. As such, the results may be reflecting influences from factors that are country specific. In this light, we hope that future work will replicate similar studies in other elections, geographies and cultures. We consider our work as a contribution in this direction. We also do not factor-in the effect of party grouping on result. In another work-in-progress study, we are extrapolating any hidden unconventional influencing factors such as the use of trolls, that was widely mentioned in existing related literature, to influence comments and the effect that this has, if any, on election outcomes.

CONCLUSIONS

We hope that this small full population study could provide a blueprint for replication in other countries and elections to better understand how democracies are tangibly being shaped by election campaign investments, new communication channels and voter engagement prior to elections. While more research needs to be conducted in this area to gain more robust outcomes through larger samples and study replication, the results indicate that the number of social media followers is strongly related to campaign outcome. Additionally, while the total Facebook™ advertising spend did not feature as related to election outcome, however, the cost of advert conversion is strongly related to election outcome. This suggests that campaign efficiency is a most important feature that should be monitored in the runup to an election. Future work that further investigates this is expected to include measures of message believability, adverts' look and feel and the adopted strategy type.

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