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A Comparative Survey of

*DEMOCRACY, GOVERNANCE AND DEVELOPMENT*

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Online Political Participation in East Asia:  
Replacement or a Substitute for Electoral  
Participation

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# Online Political Participation in East Asia: Replacement or a Substitute for Electoral Participation

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## Abstract

The rise of the Internet has coincided with new waves of political activism across East Asia, but also with lower electoral turnout in many of the region's democracies. Data from the four waves of the Asian Barometer Survey (ABS) also appear to lend empirical support at the individual level to this trend, showing that regular Internet users are more likely to participate in politics through political activism but less likely to participate in politics through voting in elections. However, this article shows that the divergent effects of regular Internet use on political participation are mediated by a number of individual-level and contextual factors. The effects of these individual-level and contextual factors in the relationship between regular Internet use and patterns of political participation are explored using a hierarchical generalized linear model (HGLM).

Keyword: internet usage, vote, activism, generation effects, regime type, Internet freedom

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\*\*This is only a rough draft. Please do not quote without author's permission\*\*

## Introduction

Rapid advances in information technology over the past twenty years have radically changed the ways in which people communicate and interact with each other. This revolution in communication has impacted our everyday lives in myriad ways. At the social level, people can now communicate with each other instantly and with minimal cost wherever they are in the world. At the economic level, the rise of the Internet has led to the emergence of the sharing economy, with new market players such as Uber and Airbnb challenging long-established economic models. At the political level, the Internet and social media is playing an increasingly important role in electoral politics. For instance, in the United States, the importance of social media and online organization was highlighted in Barack Obama's successful election campaign in 2008 and more recently Donald Trump's adept use of Twitter during the 2016 primaries and general election campaign. The Internet and social media is also increasingly the dominant channel for mobilizing political protest events across the globe, including the Orange Revolution in Ukraine (Karatnycky, 2005), and the 2009 protests in Iran (Grossman, 2009).

East Asia is no exception to this global trend. Like their counterparts elsewhere in the world, politicians in the region has made extensive use of social media to communicate with voters. Of the East Asian countries, Taiwan has seen some of the highest penetration of social media in politics. For example, former president Ma Ying-jeou has more than 1.85 million Facebook followers, while his successor Tsai Ing-wen has more than 2.15 million followers. The Malaysian prime minister Najib Razak also has more than 3 million followers on his Facebook page as well as 2.84 million Twitter followers. The presidents of South Korea and the Philippines, as well as the prime minister of Japan also boast hundreds of thousands of social media followers. Social media offers politicians the chance to directly engage with voters unfiltered by the traditional media and at minimum cost. Yet, at the same time, movements that challenge the government also use the same tools to communicate their message, organize and mobilize existing supporters, and recruit new supporters to the cause. Recent large scale protest movements that have rocked the region in recent years have made extensive use of the Internet and social media, including the Bersih protests in Malaysia (Postill, 2014), the Umbrella Movement in Hong Kong (Lee, 2014), and the Sunflower Movement in Taiwan (Ho, 2015; Rowen, 2015). These movements maintain an extensive social media presence, challenging official narratives, and demanding reform. For instance, the Facebook page of Bersih 2.0 has nearly 250,000 followers on Facebook, while the

Facebook page of Taiwan March, one of the organizers of the Sunflower protests has more than 120,000 followers.

How does online political engagement affect political participation in the real world? Are politicians or civil society organizations able to generate real world political participation through engagement with citizens online? Or alternatively, has politics through social media generated a form of “slacktivism” whereby individuals replace “feel-good” measures such as joining a Facebook group or signing an online petition with more onerous and time consuming forms of political participation like voting in elections or joining a protest march? And how do the effects of Internet use on patterns of political participation interact with other individual and macro level factors? This article attempts to answer these questions by examining how regular Internet use affects levels of electoral and activist participation in East Asia using data from the Wave 2 to Wave 4 of the Asian Barometer Survey.

If rising Internet use is indeed associated with a decline in real world political participation, this should be an issue of significant concern, because it indicates that citizens are increasingly replacing real engagement in politics with activities that are considered more effective at making people feel good about themselves than achieving actual political goals. However, if rising Internet use is associated with an increase in real world political participation, then the opposite is the case – the Internet and social media, rather than offering an alternative to traditional forms of political participation, may actually offer a channel to get more people involved in politics. For instance, citizens may be more motivated to vote in elections or join a political process after first becoming engaged in a political issue or cause online. Alternatively, as we explore in this article, regular Internet use may produce divergent effects on political participation. In the case of East Asia, the data from the ABS show that rising Internet use is generally associated with lower levels of electoral participation (voting in elections) but higher levels of activist participation. The finding on electoral participation poses potential questions for the legitimacy of democratic institutions in the Internet age, yet the finding on activist participation appears to contradict the “slacktivism” theory that online political participation offers an easily accessible “feel good” alternative for real world political participation (Christensen, 2011), instead suggesting that for political activism, online and real world political participation may be complementary. However, when we introduce other contextual and individual factors into our analysis, a more complex picture emerges.

## **The Rise of the Internet and Political Participation**

The mass adoption of the Internet, driven by advances in hardware technology, improvements in software interfaces, and more recently mobile device technology, is one of the most significant developments of this century (Cowhey and Aronson, 2012). Software interfaces have become increasingly user-friendly, enabling consumers to easily access the Internet without any previous technical knowledge or expertise (Paasonen, 2010: 414). At the same time, the falling costs of Internet access together with rising incomes are making the Internet increasingly accessible across all sections of society. Data from the Internet Telecommunications Union (2015) show this rapid growth has expanded beyond the economically advanced countries, with the online population in the developing world more than trebling from less than 10% in 2006 to more than 35% in 2015. In the Asia-Pacific region, Internet penetration has increasingly been driven by a rapid increase in the uptake of mobile Internet as the cost of smartphones decreases and coverage of 3G and 4G networks expand — the mobile-broadband subscription rate in the region has increased from 7.4 to 42.3 per 100 inhabitants in the past five years (2010-2015). Furthermore, the same trends that are driving current increases in Internet use are likely to continue into the future, meaning we can expect near universal levels of Internet adoption across all generations and social classes in the future.

How can we understand the impact of this development on political participation in theoretical terms? The two most salient features of the Internet for political participation are, first, that it breaks down spatial and temporal barriers to communication, and, second, that it makes information easily and instantly accessible. Scholars have identified a number of possible implications of these features for political participation. First, since communication is now instant, people increasingly expect the government to respond quickly to their concerns. If the government fails to respond, then the Internet offers a convenient platform to organize in pursuit of specific political goals (Chou, 2014: 139-163). Second, when compared to the instant nature of online communication, conventional channels of political participation are increasingly regarded as slow and outdated, and unable to respond to the needs of different groups in society (Schmitter, 2005: 31). Third, the Internet reduces the information gap between the government and citizens, meaning that people are able to more easily access information that challenges the claims of politicians (Leung, 2009: 1327-1347).

Due to a combination of these dynamics, the Internet has become an important and important channel for mobilizing political activism (Postmes and Brunsting, 2002). Recent high-profile movements in a number of Asian countries share some common features including, a relatively fragmented leadership, organization and resource mobilization carried out predominantly through online channels, and a focus on procedural justice issues. In Taiwan, the Sunflower Movement (March–April, 2014) directly challenged ruling party’s alleged failure to follow proper legislative procedure during the passage of the Cross-Strait Service Trade Agreement (Ho, 2015). In Hong Kong, the Umbrella Movement (September–December 2014) was a protest towards China’s imposition of unfair rules that compromise the democratic principle for the 2016 Chief Executive election (Chan, 2014). In Malaysia, the Bersih protests which began in 2007 have focused on demands for clean and fair elections (Houghton, 2013; Postill, 2014). As well as high profile protest movements that have made international news headlines, there have been numerous smaller scale protests movements that have been mobilized online for causes including environmental protection, animal welfare, labor rights, transitional justice, and many others. In addition, although the Internet appears to undermine the authority of politicians vis-à-vis voters, politicians may also make effective use of the Internet as a means to mobilize voters, boosting election turnout (Tolbert and Mcneal, 2003; Bakker and de Vreese, 2011). The extensive use of social media by politicians in Asia is a testament to its usefulness in communicating with voters unfiltered by the traditional media.

However, the Internet may not always have a positive effect on political participation. First, governments may take action in response to the potential threat of the Internet, blunting the political manifestations of new technologies. In non-democratic regimes, the state regularly imposes wide-ranging censorship on the Internet, shutting down access to information deemed to threaten its interests. Of the fourteen countries surveyed by the ABS, Internet censorship is pervasive in China and Vietnam, and has also been widely reported in Thailand, Cambodia, Malaysia, Myanmar, and Indonesia.<sup>1</sup> The government may also monitor the communications of Internet users, meaning that certain online activities may entail significant risk. In the cases of the most egregious censorship and surveillance, such as in China, the Internet may no longer offer a viable safe space for organizing political action that challenges the state. Second, citizens are used to the instant communication afforded by the Internet may become frustrated with slow and seemingly anachronistic forms of political

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<sup>1</sup> See the country profiles section of the OpenNet Initiative (2013)

participation such as voting in elections. As a result, Internet use may have a depressive effect on election turnout (Zukin et al., 2004). Third, Internet users may replace real world political participation with online “slacktivism” (Christensen, 2011).

At the macro level, the rise of the Internet has coincided with a period of decreased electoral turnout in democracies across the region. At the same time, there is no linear correlation between the rise of the Internet and increased political activism. For instance, Japan and South Korea, the two countries with the highest levels of Internet use in the region, have not witnessed a significant growth in activism with the emergence of the Internet. In particular, large scale student protests occurred in Japan in 2014 after decades of dormancy, but did not return the country to the radicalism of the student protests of the 1960s that forced the closure of university campuses (Oguma, 2015; Sunda, 2015). South Korea has witnessed a number of large-scale protest movements in the last decade, including 2008 protests against the decision to reverse the ban on U.S. beef imports (Kim, 2008) as well as the 2015 protests against textbook revisions and changes to labor laws (Kim, 2015). However, the scale and intensity of these protests did not match the democracy protests against the authoritarian regime of Chun Doo-hwan in the 1980s, in particular the Gwangju Uprising of 1980 and the June Democracy Uprising of the 1987. Even in Taiwan, large scale civil society activism and important protest movements such as the Wild Lily protests of 1991 emerged long before Internet use became widespread.

Clearly, the dynamics of political participation in each society are dependent on the precedence of a number of contextual factors. Nonetheless, at the individual level, the transformative potential of the Internet in terms of breaking down barriers to communication and facilitating political organization means that it is reasonable to expect that regular Internet users are more likely to participate in politics through non-institutional channels (activist participation). However, the effect of regular Internet use on electoral participation may be less straightforward. While on the one hand, we know that young people who use the Internet most frequently also have the lowest turnout rates, on the other hand, several studies have shown that Internet use may actually boost turnout. In the section below, we examine the relationship between regular Internet use and patterns of political participation.

### **Regular Internet Use and Patterns of Political Participation**



We measure the relationship between regular Internet use and political participation using data from the Wave 2 to Wave 4 of the ABS. For the measure of Internet use, respondents are asked the following question: “How often do you use the Internet?” Responses were as follows: (1) almost daily; (2) at least once a week; (3) at least once a month; (4) several times a year; (5) hardly ever; (6) never. Respondents who used the Internet “almost daily” were classified as regular Internet users.<sup>2</sup> For political participation, we distinguish between electoral and activist participation. To measure electoral participation, we use the following item: “In talking to people about elections, we often find that a lot of people were not able to vote because they were away from home, they were sick or they just didn’t have time. How about you? Did you vote in the election [the most recent national election, parliamentary or presidential] held in [year]?” Responses to this item are binary, distinguishing whether a respondent voted or not. To measure activist participation, citizens are asked if they have done the following never, once, or more than once during the past three years: (1) “Got together with others to raise an issue or sign a petition”; (2) “Attended a demonstration or protest march.” If a respondent has engaged in either of the two actions “once” or “more than once” over the past three years, then their responses are coded as 1, otherwise 0.

The results of the regression are presented in Table 1. The pattern over the three waves is fairly consistent. Generally speaking, regular Internet use is associated with lower levels of electoral participation but higher levels of activist participation. However, there was some variation in the results between different countries and different waves of the survey. Of the three liberal democracies in the region, Japan, South Korea, and Taiwan, for the second wave of the ABS, regular Internet use was associated with greater activist participation and lower electoral participation in all three countries, although the result was not statistically significant for electoral participation in Japan and activist participation in Taiwan. In the third wave, regular Internet use was also associated with greater activist participation and lower electoral participation in all three countries, and the effect was not statistically significant for activist participation in Japan. In the fourth wave, the negative relationship between regular Internet use and voting was consistent across all three countries, but only Taiwan showed a significant positive correlation between Internet use and activist participation. Overall, in the three liberal democracies, there appears to have been a

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<sup>2</sup> This scale adds two more answer choices, “Several hours a day” and “About half an hour to an hour a day” in Wave 4. So regular internet users also include those who give these two answer.

weakening of the positive effect of regular Internet use on activist participation, while the negative effect of regular Internet use on electoral participation remains strong. This could indicate the emergence of a trend towards “slacktivism” whereby online participation replaces real world participation, counteracting the reverse process whereby online and real world political participation are complementary.

The next group of countries, which we classify as “electoral democracies” (Mongolia, Indonesia, Philippines), show a very similar pattern of results to the liberal democracies. Overall, the relationship between Internet use and activist participation has weakened significantly, showing a statically significant positive relationship in all three countries in the second wave, but a statistically significant positive relationship for only Mongolia for the fourth wave. This finding is consistent with the results in Japan, South Korea, and Taiwan. At the same time, the negative relationship between regular Internet use and voting and regular Internet use showed a more uneven pattern, weakening over time in Mongolia and Indonesia, but strengthening somewhat in the Philippines. The reasons for the divergent trends in the three countries, however, remains unclear.

The next group include Thailand, Malaysia, Singapore, Hong Kong, and Cambodia. Although these countries are not classified by Freedom House as electoral democracies, they currently have (or have had in the recent past) varying degrees of competitive multiparty elections and open political debate. The first four of these countries (Thailand, Malaysia, Singapore, Hong Kong) enjoy relatively strong economies, and have shown a consistent pattern of a strengthening positive correlation between regular Internet use and activist participation, combined with a strengthening negative correlation between regular Internet use and electoral participation over the three waves of the survey. In the second wave, the negative correlation between Internet use and electoral participation was statically significant only in Malaysia, and Singapore actually had a statically significant positive correlation between Internet use and electoral participation. At the same time, for the second wave, only Thailand and Malaysia had statically significant positive correlation between Internet use and activist participation. However, for the third and fourth waves, all four countries had statistically significant negative correlations between Internet use and electoral participation, combined with statistically significant positive correlations between Internet use and electoral participation. However, for the final country in the group, Cambodia, which has a lower level of economic development and weaker Internet penetration, we did not find any consistent trend in the relationship between Internet use and political participation over the four waves.

The final group of countries, including China, Vietnam, and Myanmar, are, or have until recently been, one party authoritarian regimes that have not allowed multiparty competition. Due to the lack of competitive elections in these countries, it is more interesting to look at the relationship between regular Internet use and activism. Here, the findings suggest that governments have successfully policed the online space, preventing activists from effectively using the Internet to mobilize political opposition. In China, the relationship between regular Internet use and activism was only statistically significant in the second wave, which was administered in the second half of 2011 prior to Xi Jinping's rise to power. It should not be surprising that by the time of the fourth wave survey in China, which was administered between December 2014 and December 2015, there was no relationship between regular Internet use and activist participation, reflecting the government's increasingly effective monitoring and censorship of online space. However, in Vietnam, the relationship between regular Internet use and activist participation became statistically significant only in the fourth wave of the survey, suggesting that in contrast to China, activists in Vietnam may be increasingly effective at using online space for mobilization. Finally, the Myanmar survey was first administered in fourth wave just as the country was embarking on a process of liberalization, making any comparison over time impossible.

### **Generational Explanation of the Divergent Effects**

Why is regular Internet use generally associated with lower levels of electoral participation but higher levels of activist participation? Since young people are much more likely to use the Internet than their older counterparts, might this phenomenon be more closely related to generational differences rather than Internet use per se? In Table 2 below, we present the percentages of respondents who reported regular Internet use ("daily") in Wave 2, Wave 3, and Wave 4 of the ABS, dividing the sample into "youth" (aged 17-35) and "other" (aged 36 and over). Table 2 shows that Internet use has grown rapidly among both generations over the three waves of the survey. However, the gap between the generations remains large in all surveyed countries, and in many countries has actually grown in size. Therefore, any explanation of the divergent effects of Internet use on political participation must try to explain the role of generation in this relationship.

Figure 1 tries to show the generational effect in the relationship between Internet use and electoral participation. The x-axis shows the percentage difference in the number of

frequent Internet users between the generations, while the y-axis shows the percentage difference in voter turnout between generations using 38 data points.<sup>3</sup> The figure shows that young people consistently have a greater level of Internet use combined with a lower electoral participation. Therefore, it appears that the apparent relationship between regular Internet use and electoral participation is primarily driven by generational factors rather than Internet use per se. Figure 2 tries to show the generational effect in the relationship between Internet use and activist turnout. As with Figure 1, the x-axis shows the percentage difference in the number of frequent Internet users between the generations, while the y-axis shows the percentage difference in political activism. Unlike for the relationship between Internet use and electoral participation shown in Figure 1, Figure 2 suggests there is no significant generational effect in the relationship between Internet use and activist participation.

In Table 3 and Table 4, we examine the within generation effect of regular Internet use on political participation for the younger and older generations respectively. Table 2 shows that among young people, the relationship between regular Internet use and electoral and activist participation is generally quite weak, and only significant in a few cases. However, for Table 4, while the relationship between regular Internet use and electoral participation is also weak and significant in only a few cases, there is quite a strong and consistent relationship between regular Internet use and activist participation across the three waves of the survey. The findings in Table 3 and Table 4 show that divergent effect of regular Internet use on electoral and activist participation is a combination of “between generation effects” (which produces the correlation between the mean differences in Internet use and political participation between generations) and “within generation effects” (correlations within the youth and older generation). In general, the negative relationship between Internet use and electoral participation is a generational effect. However, the positive relationship between Internet use and activist participation is primarily produced by the individual-level effect of Internet use within the older generation. The synthetic effect of the “between generation effects” and “within generation effects” produce the divergent relationships between Internet use and electoral and activist participation.

The above findings suggest that the divergent effects are associated with the generational gap in in Internet use, however, it is not clear to what extent the generational factor

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<sup>3</sup> There should be 40 data points because ABS have 13 countries in Wave 2 and Wave 3 and 14 countries in Wave 4. However, the question of whether the respondent voted in the most recent election was not asked for Wave 2 Cambodia and Wave 4 in Vietnam, and the items on activism were not asked in Wave 2 in Cambodia and Wave 2 in Hong Kong. Therefore, there are 38 data points for both Figure 1 and Figure 2.

and Internet use per se explain the divergent effects. In fact, there are at least three possible arguments that can be made in explanation:

- (1) The divergent effects can be explained by behavioural differences between younger and older people. So the prime factor is generational effect, which is related to the fact that younger people use Internet more frequently than older generations.
- (2) The divergent effects are simply a coincidence of two totally unrelated findings — the negative relationship between Internet use and voter turnout (i.e. regular Internet users are less likely to vote) is a life-cycle effect produced by generational differences, while the positive relationship between Internet use and activist participation (i.e. regular Internet users are more likely to engage in activist participation) is a short-term effect that is primarily produced by self-selecting behaviour among the older generation — in other words, among the older generation, individuals who are motivated to get involved in political activism are also more likely to be willing to make the necessary investment to get online. If this is the case, then the former effect will persist as long as older people continue to vote more than their younger counterparts, while the latter will disappear once the Internet becomes the dominant mode of communication among all age groups.
- (3) The divergent effects are a more complex phenomenon that can only be explained with reference to various contextual explanations. For example, state-polity characteristics may be able to explain the different nature of electoral and activist participation in authoritarian and democratic political systems. The degree of Internet freedom is another factor that may be able to explain how effectively Internet technology can be used for mobilizing political participation. In addition, socioeconomic factors are also likely to influence the level of mass political participation, and more importantly, the way in which people seek to engage in politics.

To tease out whether the generational effect and Internet use are causally linked to divergent effects, we carry out a multilevel analysis to understand the individual-level, contextual, and crossover effects within this relationship. The research design aims to provide empirical evidence to assess the aforementioned three causal arguments.

## **Research Design**

The target of investigation is divergent effects, for which the dependent variables are electoral and activist participation. As we discussed earlier, we apply “whether the respondent voted in the most recent national election” and “whether the respondent engaged in signing a petition or join a demonstration in the past three years” as the measures. Since we want to explain the joint variation of both forms of political participation, we produce a four-category typology by linking the two dependent variables together: (1,1) indicates both electoral and activist participation; (1,0) indicates electoral participation only; (0,1) indicates activist participation only; (0,0) indicates neither form of participation. The actual dependent variable, therefore, is the multinomial variable with four possible outcomes reflecting the joint result of electoral and activist participation. The regression method for the multinomial variables pairs up the four outcomes and generates into six pair comparisons: (1,1)/(0,0), (1,0)/(0,0), (0,1)/(0,0), (1,1)/(1,0), (0,1)/(1,0), (1,1)/(0,1). A simple way to interpret the above pair comparison is treating the first combination as having greater level of political participation than the second combination, and a positive beta coefficient as meaning the increase of the probability of the outcome being the first combination rather than the second combination. However, there is another way of understanding each pair comparison: (1,1)/(0,0) indicates joint increase of both forms of political participation; (1,0)/(0,0), (0,1)/(0,0), (1,1)/(1,0), (1,1)/(0,1) indicate a marginal increase of one form of political participation with the same outcome for the other form of political participation; (0,1)/(1,0), indicates a shift in choice between electoral and activist participation, constituting a substitution effect.

One main purpose of the statistical analysis is to tease out the respective effect of Internet use and the generational factor, the two variables that are the prime target of investigation. In addition, past literature usually considers the following factors to be important in explaining electoral and activist participation: “Psychological Involvement”, “Political Efficacy”, “Social Capital”, “Political Satisfaction”, and “Demographic Variables”. We therefore also include these factors in our model (detailed information about variable construction is presented in the Appendix 1). For the above individual-level predictors, we expect Internet use and youth generation is negatively related to electoral participation but positively related to activist participation, consistent with the divergent effects show in Table 1. For the predictors of psychological involvement, political efficacy, and social capital, we expect a positive relationship with both forms of political participation. Satisfaction with the democratic system and family income, on the contrary, should show the reverse impact in the

way that people will seek more active political participation if they feel dissatisfied and intend to exert great influence in politics through electoral or activist channels. The last group of predictors contain three demographic variables for control purposes: male, age, and education.

How can we distinguish whether the divergent effects stem from one single predictor such as Internet use or generation effect or the divergent effects is a patchwork reflecting two unrelated causal results? Applying the multinomial regression for analysis, we can directly observe whether the main predictor simultaneously has a negative beta on the outcome pair (1,0)/(0,0) and (1,1)/(0,1), and a positive beta on the outcome pair (0,1)/(0,0) and (1,1)/(1,0). In addition, when the main predictor show a positive beta on the outcome pair (0,1)/(1,0), this signals a direct influence the substitution effect. Both results clearly support the argument that a single factor causes the divergent effects of political participation. However, if neither results are found and only partial corroborated evidence is present, such as showing an inverse relation with electoral participation, or a positive relation with activist participation alone, then the divergent effects are likely a result of heterogeneous findings.

Considering the potential contextual factors that may produce divergent effects, we also include several macro predictors to investigate the possible contextual effects as well as the crossover effects that are mediated through the main individual-level predictors. Following the previous discussion, we include the regime-type variable, “Democracy”, to tap into state-polity characteristics, the Freedom House indicator of “Freedom on the Net” to measure internet freedom, and the socioeconomic variable, “Growth”, to reflect the level of political frustration in a social context. Besides, because all 37 country samples are collected in three waves of survey, we also add two time dummies, “Wave 2” and “Wave 3”, and assume the default category refers to the cases of wave 4 non-democracies in the macro-level model. Information of macro predictors can be found in the Appendix 1.

To achieve both analytical purposes at the micro and macro levels, we a hierarchical generalized linear model (HGLM) with a four-category multinomial dependent variable. At the individual-level model, all the binary predictors such as "Membership", "Social Trust" (both are indicators of social capital), "Subjective Economic Satisfaction" (economic satisfaction), "Male" (demographic variable) are specified as uncentered, and the rest are centered by the groupmeans. For the macro-level model, we include five predictors and keep the binary dummies uncentered ("Democracy", "Wave2", "Wave3"), and grandcenter on "Internet Freedom" and "Growth". Detailed information on the HGLM model setup is present

in the Appendix 2. To reduce the complexity of the models, we only specified macro-level predictors for the level-1 intercept (contextual effects) and the level-1 beta coefficients of two main predictors, "Internet Use" and "Youth" (crossover effects). All the error terms of the level-1 beta coefficients are assumed varied randomly. The weighting method is to adjust each country sample to have the equal sample size (averaged sample size of the forty ABS country samples in wave 2 to 4.) HLM 6.08 is employed to conduct parameter estimation.

With the above model specification, the baseline profile for a respondent is “female, above 35 years old, no membership, little social trust, dissatisfied with family economic situation, with averaged level of internet use, political interest, political efficacy, social contacts, political satisfaction, education, and at the middle age of the over-35s in a Wave 4 non-democracy with an average level of Internet freedom and economic growth”. We can analyze the findings of contextual and crossover effects on the level-1 intercept and two main predictors to fathom out how different contexts exert their influence directly and through the individual-level predictor in the making of the divergent effects. We caution the reader always to interpret the findings by considering how a particular regression coefficient affects the sign and significance of the individual-level betas based on the setup of the baseline profile.

## **Empirical Findings**

The section will present the result of HGLM analysis (presented in Table 5) in the following order: first, we will report the relevant findings associated with whether internet use or generational difference by itself can explain the divergent effects on electoral and activist participation; second, we seek other explanations that could constitute the synthetic result of the divergent effects; third, we focus on how contextual factors are associated with the divergent effects; and fourth, whether other explanations at the individual level to explain the divergent effects .

To evaluate whether Internet use or generational difference can explain the divergent effects alone, we need to look at the sign and significance of the intercept for both variables under the baseline profile. For Internet use, only a positive beta is found to explain the pair comparison (0,1)/(0,0), which suggests those who use Internet more in a wave-4 non-democracy are more likely to participate through political activism compared to not participating at all, but none of the other findings are significant. No direct evidence is found



for the generational factor, either. Only a negative beta is significant for the pair comparison (1,1)/(0,0), which suggests youth people are less likely to participate in both forms of political activities comparing to participating in neither. However, crossover effects resulting from contextual variables might exist that can drive the two main level-1 predictors exhibit the divergent effects. As mentioned, if we found a macro predictor that can simultaneously turn the beta of Internet use or youth generation associated with the pair comparisons of lower electoral and higher activist participation, then the association of the level-1 predictor and the divergent effects are corroborated. Unfortunately, we do not find such a case for either Internet use or youth generation. Nonetheless, we do found two crossover findings that suggest the substitution effect: people with greater Internet use in wave-2 samples (see  $r=.25$  in pair 5) have greater chance to shift their preference from electoral to activist participation; the youth generation in a society with weaker economic growth (see  $r=-.08$  in pair 5) also have higher chance to shift their preference from electoral to activist participation. This suggests that argument 1 might hold true under certain circumstances: during the period of the Wave 2 survey (2005-2008), Internet use that can explain the divergent effects; on the other hand, the youth generation is associated with a choice of activist channels to replace electoral ones when the government performs poorly in economic growth.

Could we find the two main predictors associated with the partial result for the divergent effects? The answer is positive. For internet use, the temporal predictor, Wave 2, makes greater Internet use associated with a greater likelihood of activist participation (see  $r=.20$  in pair 3,  $r=.09$  in pair 4). For the youth generation, young people in a society with greater Internet freedom tend to participate less in elections (see  $r=-.24$  in Pair 2 and  $r=-.38$  in pair 6), and the similar effect also appears in the context where the economic growth is weaker ( $r=-.09$  in Pair 3). Given the fact that most of young people are more frequent Internet use, the divergent effects could be a synthetic result driven by contextual factors (greater internet freedom or underperformed economic growth during wave 2 period from 2005-2008) which are mediated through the main predictors (Internet use and youth generation).

Is there contextual effect directly associated with the divergent effects? To answer this question, we have to examine how macro predictors influence the level-1 intercept. As Table 5 shows, people in a democracy all participate more in both electoral and activist channels compared to their counterparts in non-democracies. However, this shows the contextual factor of democratic regime is homogenous instead of divergent. In fact, none of the macro predictors have significant beta which exhibit a divergent impact on electoral and activist

participation. In terms of the substitution effects, greater economic growth does show some explanatory power for a shifting preference from electoral to activist participation, and that is consistent with the expectations of modernization theory. However, the magnitude of the contextual effect is rather mild, and most of the people still prefer to engage in politics through electoral channels.

Finally, we turn to the other individual-level predictors to see whether the divergent effects have other explanations. Three confirmative results are found. First, people who are dissatisfied with how democracy works have lower electoral participation ( $r=.11$  in pair 2) while having greater activist participation ( $r=-.16$  in pair 4). The substitution is also significant with this predictor ( $r=-.18$  in pair 5). Second, economic dissatisfaction is associated with the shifting preference from electoral to activist participation, too ( $r=-.35$  in pair 5). Third, surprisingly, even if when we already control the generation variables, the age variable exhibits both of the significant divergent and substitution effects (from pair 2 to pair 6): young people are more likely to choose activist form in participating in politics in comparison with the older people. This suggests that the divergent effects might be a phenomenon of life-cycle effects and deserves our in-depth investigation in the future analysis.

How can we make sense of all the above findings? What we know is that Internet use and the generational factor are both likely associated with the divergent effects on electoral and activist participation, but the causal relationship might depend on particular contextual conditions, such as temporal (Wave 2), economic (Growth), or political (Internet Freedom). The divergent effects are also likely a synthetic result of coincidental findings from different factors at the same time. We find little evidence that the contextual variables can directly cause the divergent effects, but it appears that some individual-level predictors, such as political dissatisfaction, economic dissatisfaction, and the age factor, are still associated with the divergent effects even if numerous micro and macro variables are controlled. The significance of these findings might be attenuated once we specify crossover effects at the macro level. However, further investigation is required to understand the causal linkages of the divergent effects.

## **Conclusion**

Based on the observation that in the Internet age, election turnout is declining while Internet mobilized political activism seems to be growing, this study explores the effect of regular Internet use on electoral and activist political participation. In line with our expectations, regular Internet use is associated with lower levels of electoral participation together with higher levels of activist participation. However, when we include generation in our analysis, we find that the negative effect of regular Internet use on electoral participation is primarily a generational effect and not the result of regular Internet use per se. At the same time, the positive effect of regular Internet use on activist participation is primarily a within generation effect caused by the positive correlation between regular Internet use and activist participation among the older generation. The combination of the between generation and within generation effects produce the divergent effects of regular Internet use on the two forms of political participation.

To further test the effect of regular Internet use and generation on the two forms of political participation, we construct a hierarchical generalized linear model (HGLM). This model shows us that the causal effect of regular Internet use and generation on patterns of political participation may depend on particular contextual conditions, including temporal (Wave 2), economic (Growth), and political (Internet Freedom) conditions. Furthermore, numerous individual-level predictors, are associated with the divergent effects, even when we control for other macro and micro level factors. The causal relationship between regular Internet use and patterns of political participation is complex and mediated through numerous macro and individual-level factors. Further research is needed to better understand these causal relationships and under what conditions (macro or individual level), regular Internet use produces divergent effects (or other types of effect) on political participation.

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## Appendix 1: Information of Variable Construction and Operationalization

Variable	Questionnaire (ABS question id in Wave 4 dataset)	Range
Vote	Voted in the most recent election (q33)	0, 1
Activism	<ul style="list-style-type: none"> <li>• During the past three years, whether signed petition (q75) or joined demonstration or protest(q76)</li> </ul> Note: a positive response to either q75 or q76 is coded as 1	0, 1
Internet Use	<ul style="list-style-type: none"> <li>• Frequency of Internet usage (q49)</li> </ul> Note: we unify the scale by adopting a six-point Likert scale applied in Wave 2 and 3 by adjusting the order from low to high usage. In wave 4, we combine “several hours a day”, “about half an hour to an hour a day”, and “at least once a day” into “daily”.	1~6
Youth	<ul style="list-style-type: none"> <li>• Age from 17 to 35 (se3_2)</li> </ul>	0, 1
Political Satisfaction	<ul style="list-style-type: none"> <li>• Level of satisfaction with the way democracy works in your country (q92)</li> </ul>	1~4
Economic Satisfaction	<ul style="list-style-type: none"> <li>• Does the total income of your household allow you to satisfactorily cover your needs? (se14a)</li> </ul>	0, 1
Political Interest	<ul style="list-style-type: none"> <li>• Mean value of two items: How interested you are in politics (q44) and How often you follow news about politics and government (q45)</li> </ul> Note: combining "not even once a week" and "practically never." for q45.	1~4
Political Efficacy	<ul style="list-style-type: none"> <li>• Mean value of three items: I think I have the ability to participate in politics (q150), rejection of "politics and government seem so complicated that a person like me can't really understand what is going on" (q151), and rejection of "people like me don't have any influence over what the government does."</li> </ul>	1~4
Membership	<ul style="list-style-type: none"> <li>• Whether respondent joins organizations. First Organization(q20), Second Organization(q21), Third Organization(q22)</li> </ul> Note: After summing q20, q21 and q22, we recode those who have membership(s) as (1), no membership (0)	0, 1
Social Trust	<ul style="list-style-type: none"> <li>• Whether you think most people can be trusted (q23)</li> </ul>	0, 1
Social Contact	<ul style="list-style-type: none"> <li>• Frequency Level of the number of people you have contact with in a typical week day (q29)</li> </ul>	1~5
Male	<ul style="list-style-type: none"> <li>• Male (1), Female (0) (se2)</li> </ul>	0, 1
Age	<ul style="list-style-type: none"> <li>• Years old (se3_2)</li> </ul>	17~108
Education	<ul style="list-style-type: none"> <li>• Level of education (se5)</li> </ul>	1~10
Democracy	<ul style="list-style-type: none"> <li>• Japan(1), Hong Kong(0), Korea(1), China(0), Mongolia(1), Philippines(1), Taiwan(1), Thailand(0), Indonesia(1), Singapore(0), Vietnam(0), Cambodia(0), Malaysia(0)</li> </ul>	0, 1
Internet Freedom	<ul style="list-style-type: none"> <li>• Freedom House Indicator “Freedom on the Net” and we recoded score “0-30” as 4, “31-60” as 3, “61-80” as 2, and “81-100” as 1 Dummy variable for each country. There is no data available for Taiwan, Mongolia, and Hong Kong, and we estimate the three cases as “4”, “3”, and “3” respectively.</li> </ul>	1~4
Growth Wave	<ul style="list-style-type: none"> <li>• GDP per capita growth from WDI indicators</li> <li>• Wave 2, Wave 3</li> </ul>	-6.3~13.6 0, 1

## Appendix 2 HGLM Model Setup

For the hierarchical multinomial logistic regression, we apply the same model specification for all pair comparisons. We present only one pair comparison for the presentation purpose. For estimation, we change the default category from (0,0) to (1,0) and (0,1) to derive all estimated parameters.

$$\begin{aligned} \text{Log}[p(1,1)/p(0,0)] = & \beta_0 + \beta_1 (\mathbf{Internet Use}) + \beta_2 (\text{Youth}) + \beta_3 (\mathbf{Interest}) + \beta_4 (\mathbf{Efficacy}) \\ & + \beta_5 (\text{Membership}) + \beta_6 (\text{Social Trust}) + \beta_7 (\mathbf{Contact}) \\ & + \beta_8 (\mathbf{Political Satisfaction}) + \beta_9 (\text{Economic Satisfaction}) \\ & + \beta_{10} (\text{Male}) + \beta_{11} (\mathbf{Age}) + \beta_{12} (\mathbf{Education}) \end{aligned}$$

$$\beta_0 = \gamma_{(0)0} + \gamma_{01} (\text{Democracy}) + \gamma_{02} (\mathbf{NetFreedom}) + \gamma_{03} (\mathbf{Growth}) + \gamma_{04} (\text{Wave2}) + \gamma_{05} (\text{Wave3}) + u_0$$

$$\beta_1 = \gamma_{(1)0} + \gamma_{11} (\text{Democracy}) + \gamma_{12} (\mathbf{NetFreedom}) + \gamma_{13} (\mathbf{Growth}) + \gamma_{14} (\text{Wave2}) + \gamma_{15} (\text{Wave3}) + u_1$$

$$\beta_2 = \gamma_{(2)0} + \gamma_{21} (\text{Democracy}) + \gamma_{22} (\mathbf{NetFreedom}) + \gamma_{23} (\mathbf{Growth}) + \gamma_{24} (\text{Wave2}) + \gamma_{25} (\text{Wave3}) + u_2$$

$$\beta_3 = \gamma_{(3)0} + u_3$$

⋮

$$\beta_{12} = \gamma_{(12)0} + u_{12}$$

Uncentered: neither bold nor Italic

Group-centered: bold but not Italic

Grand-centered: bold and Italic

**Table 1. Divergent Effects of Vote and Activism with Internet Usage (Correlations)**

Countries	ABS 2		ABS 3		ABS 4	
	Vote	Activism	Vote	Activism	Vote	Activism
Japan	-.03(.19)	.05(.04) *	-.12(.00) **	.05(.07)	-.10(.00) **	.04(.09)
Korea	-.19(.00) **	.15(.00) **	-.16(.00) **	.10(.00) **	-.10(.00) **	-.02(.55)
Taiwan	-.16(.00) **	.03(.18)	-.12(.00) **	.09(.00) **	-.08(.00) **	.17(.00) **
Mongolia	-.20(.00) **	.18(.00) **	-.15(.00) **	.04(.18)	-.04(.12)	.13(.00) **
Indonesia	-.11(.00) **	.17(.00) **	-.24(.00) **	.18(.00) **	-.03(.63)	.05(.37)
Philippines	-.03(.23)	.12(.00) **	-.06(.04) *	.10(.00) **	-.08(.04) *	.01(.65)
Thailand	.02(.47)	.15(.00) **	-.16(.00) **	.08(.00) **	-.15(.00) **	.17(.00) **
Malaysia	-.14(.00) **	.15(.00) **	-.16(.00) **	.05(.05) *	-.15(.00) **	.07(.01) **
Singapore	.09(.00) **	.03(.21)	-.06(.04) *	.14(.00) **	-.07(.01) **	.08(.01) **
Hong Kong	-.03(.37)	na	-.09(.01) **	.13(.00) **	-.12(.01) **	.19(.00) **
Cambodia	na	na	-.11(.00) **	.04(.13)	-.04(.18)	.03(.22)
China	-.10(.00) **	.02(.49)	-.14(.00) **	.08(.00) **	-.21(.00) **	.01(.62)
Vietnam	-.10(.00) **	.03(.20)	-.11(.00) **	.05(.10)	na	-.06(.02) **
Myanmar	na	na	na	na	-.14(.00) **	.14(.00) **

Note: \*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

Data Source: ABS2, ABS3, ABS4



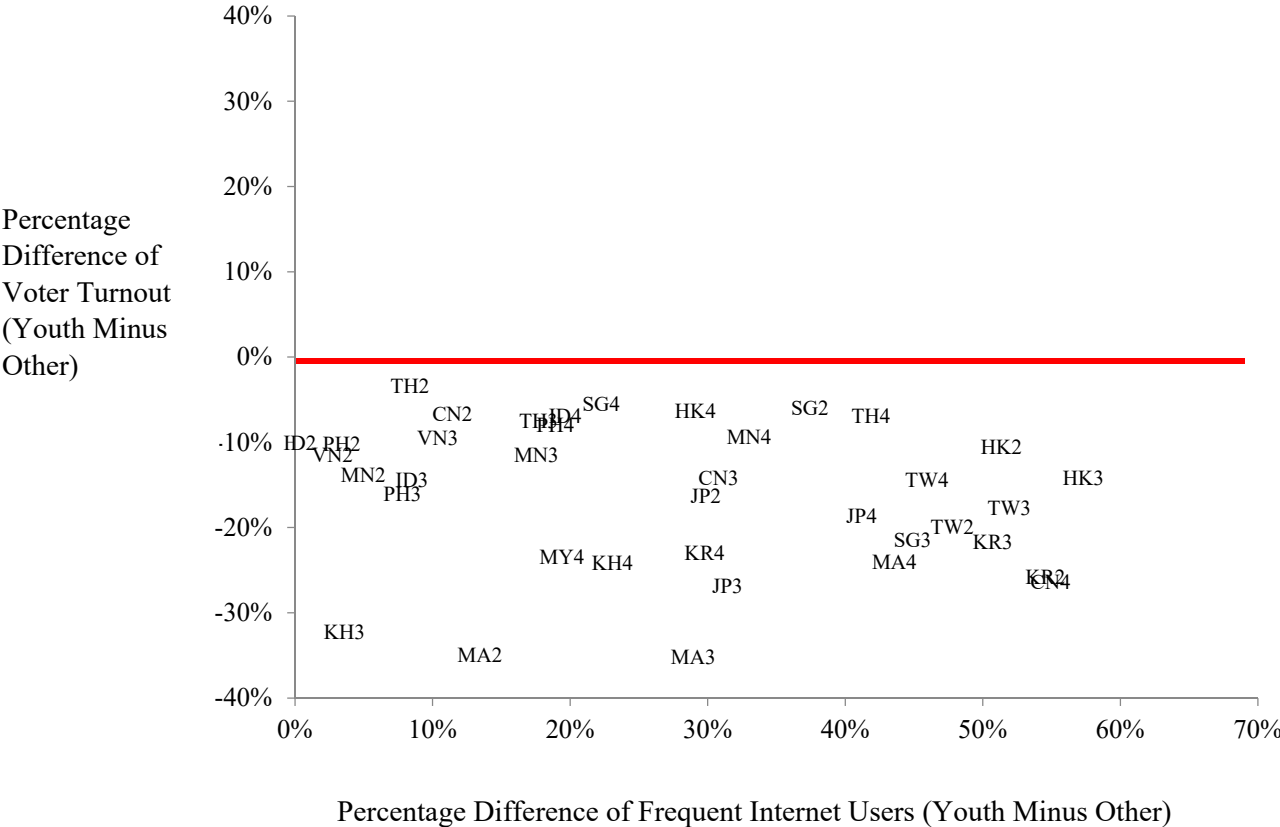
**Table 2. Percentage of Frequent Internet Users**

Country Sample	<u>ABS2</u>			<u>ABS3</u>			<u>ABS4</u>		
	Youth	Other	Diff.	Youth	Other	Diff.	Youth	Other	Diff.
Japan	56%	26%	<b>30%</b>	69%	38%	<b>31%</b>	95%	54%	<b>41%</b>
Korea	82%	28%	<b>55%</b>	87%	36%	<b>51%</b>	92%	63%	<b>30%</b>
Taiwan	65%	17%	<b>48%</b>	81%	29%	<b>52%</b>	95%	49%	<b>46%</b>
Mongolia	7%	2%	<b>5%</b>	28%	10%	<b>18%</b>	65%	32%	<b>33%</b>
Indonesia	1%	1%	0%	11%	2%	<b>8%</b>	82%	62%	<b>20%</b>
Philippines	5%	1%	<b>3%</b>	10%	2%	<b>8%</b>	29%	10%	<b>19%</b>
Thailand	11%	3%	<b>8%</b>	22%	4%	<b>18%</b>	62%	20%	<b>42%</b>
Malaysia	21%	8%	<b>13%</b>	42%	14%	<b>29%</b>	82%	38%	<b>44%</b>
Singapore	66%	29%	<b>37%</b>	79%	34%	<b>45%</b>	95%	72%	<b>22%</b>
Hong Kong	75%	23%	<b>51%</b>	91%	34%	<b>57%</b>	97%	68%	<b>29%</b>
Cambodia	na	na	na	4%	0%	<b>4%</b>	28%	5%	<b>23%</b>
China	13%	2%	<b>11%</b>	40%	9%	<b>31%</b>	79%	24%	<b>55%</b>
Vietnam	5%	2%	<b>3%</b>	20%	10%	<b>10%</b>	65%	20%	<b>45%</b>
Myanmar	na	na	na	na	na	na	29%	10%	<b>19%</b>

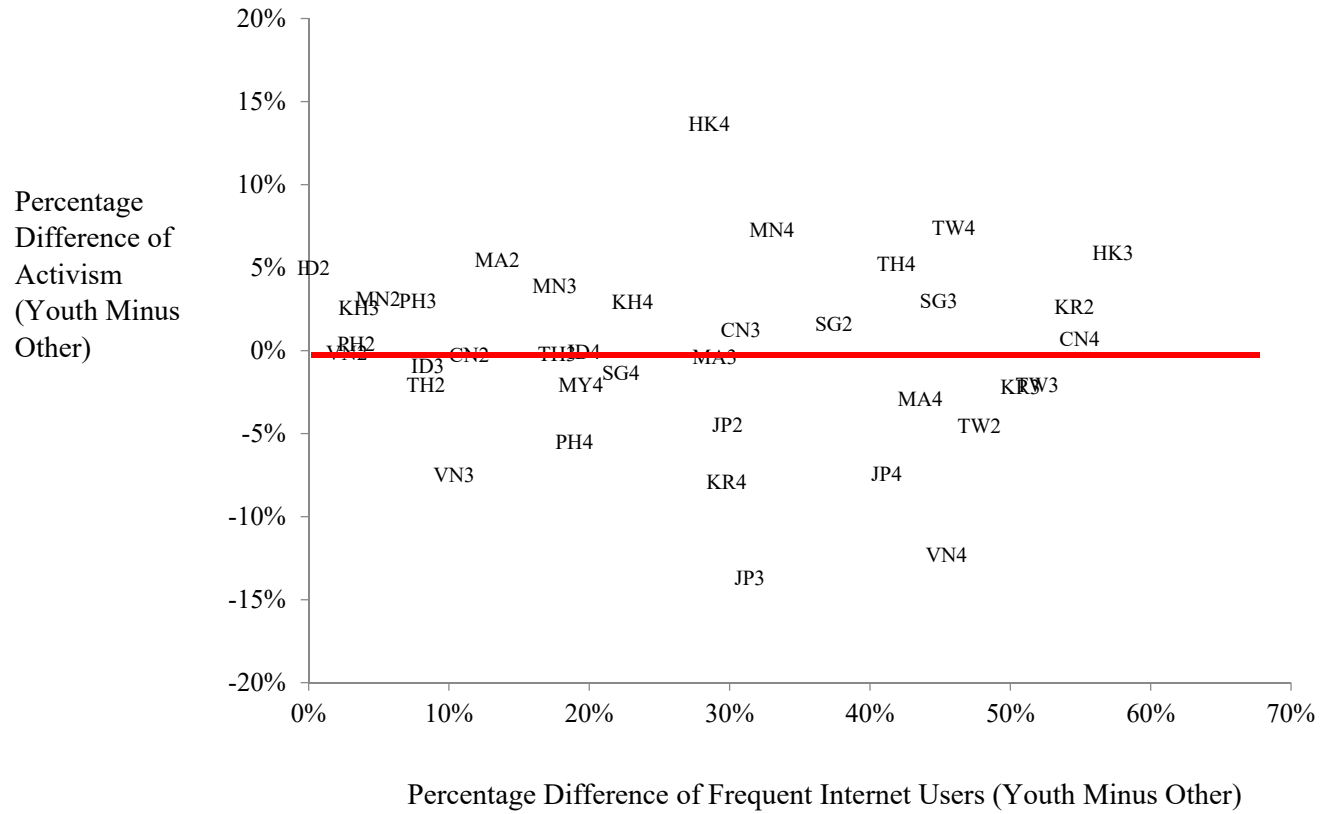
Note: All mean differences in available samples are significant at the 0.01 level (2-tailed), except Wave 2 of Indonesia.

Data Source: ABS2, ABS3, ABS4

**Figure 1. Negative Generation Effect of Internet Use on Voter Turnout**



**Figure 2. No Generation Effect of Internet Use on Activism**



**Table 3. Correlations of Internet Usage with Vote and Activism in the Youth Generation**

Countries	ABS 2		ABS 3		ABS 4	
	Vote	Activism	Vote	Activism	Vote	Activism
Japan	.21(.00)**	-.00(.95)	-.05(.42)	.13(.01)**	-.08(.24)	.01(.85)
Korea	.10(.03)*	.01(.75)	.06(.23)	.03(.58)	.03(.61)	-.01(.89)
Taiwan	-.00(.94)	.05(.27)	-.02(.66)	.04(.43)	.03(.55)	.11(.02)*
Mongolia	-.19(.00)**	.23(.00)**	-.09(.01)**	-.03(.45)	.02(.64)	.12(.00)**
Indonesia	-.11(.00)**	.18(.00)**	-.21(.00)**	.19(.00)**	-.03(.65)	.03(.71)
Philippines	.03(.55)	.12(.01)**	.00(.96)	.09(.03)*	-.05(.32)	-.03(.47)
Thailand	.10(.01)**	.12(.00)**	-.17(.00)**	.04(.52)	-.12(.03)*	.17(.00)**
Malaysia	-.06(.21)	.15(.00)**	.01(.85)	.04(.37)	.02(.74)	.06(.13)
Singapore	.13(.00)**	.04(.40)	-.08(.13)	.06(.24)	-.07(.16)	-.02(.77)
Hong Kong	.24(.00)**	na	-.17(.01)**	-.04(.43)	-.05(.62)	-.03(.47)
Cambodia	na	na	-.03(.42)	.05(.16)	.08(.04)*	.00(.98)
China	-.22(.00)**	-.03(.63)	-.13(.02)*	.05(.27)	-.13(.03)*	-.01(.89)
Vietnam	-.12(.00)**	.04(.30)	-.10(.03)*	.01(.79)	na	-.01(.84)
Myanmar	na	na	na	na	-.06(.18)	.14(.00)**

Note: \*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

Data Source: ABS2, ABS3, ABS4

**Table 4. Correlations of Internet Usage with Vote and Activism in the Other Generations**

Countries	ABS 2		ABS 3		ABS 4	
	Vote	Activism	Vote	Activism	Vote	Activism
Japan	-.02(.61)	.09(.00)**	-.02(.61)	.09(.00)**	-.04(.19)	.09(.01)**
Korea	-.11(.00)**	.20(.00)**	-.10(.00)**	.14(.00)**	-.02(.61)	.03(.32)
Taiwan	-.02(.53)	.10(.00)**	.00(.89)	.15(.00)**	-.01(.86)	.17(.00)**
Mongolia	-.03(.52)	.08(.04)*	-.11(.00)**	.08(.03)*	.03(.42)	.09(.01)**
Indonesia	-.06(.11)	.15(.00)**	-.14(.00)**	.19(.00)**	.02(.78)	.08(.30)
Philippines	-.05(.11)	.13(.00)**	-.03(.37)	.09(.01)**	-.06(.10)	.09(.01)**
Thailand	-.06(.08)	.24(.00)**	-.06(.05)*	.11(.00)**	-.11(.00)**	.15(.00)**
Malaysia	-.06(.21)	.15(.00)**	.01(.85)	.04(.37)	.02(.74)	.06(.13)
Singapore	.12(.00)**	.00(.96)	.05(.16)	.16(.00)**	-.05(.17)**	.11(.00)**
Hong Kong	.02(.68)	na	-.01(.86)	.13(.00)**	-.12(.02)*	.21(.00)**
Cambodia	na	na	-.05(.14)	-.03(.44)	.02(.55)	.07(.07)
China	-.01(.69)	.06(.08)	-.07(.08)	.10(.00)**	-.07(.07)	.02(.62)
Vietnam	.00(.95)	.03(.39)	-.06(.10)	.11(.00)**	na	.02(.66)
Myanmar	na	na	na	na	-.11(.00)**	.18(.00)**

Note: \*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

Data Source: ABS2, ABS3, ABS4

**Table 5. Hierarchical Generalized Model of the Divergent Effects (Multinomial Dependent Variable)**

Predictors	Pair 1 (1,1)/(0,0)	Pair 2 (1,0)/(0,0)	Pair 3 (0,1)/(0,0)	Pair 4 (1,1)/(1,0)	Pair 5 (0,1)/(1,0)	Pair 6 (1,1)/(0,1)
<b>Contextual and Crossover Effects</b>						
Threshold	-.99(.23) **	1.37(.18) **	-2.50(.23) **	-2.43(.13) **	-3.88(.22) **	1.47(.19) **
<i>Democracy</i>	1.26(.24) **	.58(.17) **	.94(.25) **	.70(.15) **	.34(.25)	.45(.21) *
<i>Internet Freedom</i>	-.20(.17)	-.36(.12) **	-.25(.17)	.17(.11)	.14(.17)	.01(.14)
<i>Growth</i>	-.03(.03)	-.05(.02) *	.02(.03)	.03(.02)	.08(.03) *	-.04(.03)
<i>Wave2</i>	.12(.22)	.50(.16) **	-.31(.23)	-.31(.14) *	-.79(.23) **	.20(.19)
<i>Wave3</i>	-.13(.22)	-.04(.15)	-.10(.21)	-.00(.14)	-.03(.22)	-.02(.18)
Internet Use	.04(.04)	.01(.03)	.13(.05) *	.03(.03)	.10(.06)	-.08(.05)
<i>Democracy</i>	-.04(.05)	-.07(.03) *	-.17(.06) *	.03(.04)	-.08(.07)	.07(.06)
<i>Internet Freedom</i>	.03(.03)	.07(.02) **	.04(.04)	-.04(.03)	-.04(.04)	.02(.04)
<i>Growth</i>	-.01(.01)	-.00(.00)	-.00(.01)	-.01(.00)	-.00(.01)	-.00(.01)
<i>Wave2</i>	.05(.04)	-.03(.03)	.20(.06) **	.09(.04) *	.25(.06) **	-.10(.06)
<i>Wave3</i>	-.03(.04)	-.07(.03) *	-.03(.06)	.03(.03)	.04(.06)	.03(.06)
Youth	-.37(.18) *	-.18(.14)	-.36(.26)	-.20(.13)	-.16(.25)	-.08(.24)
<i>Democracy</i>	.22(.18)	.11(.14)	-.34(.31)	.09(.14)	-.48(.29)	.64(.26) *
<i>Internet Freedom</i>	-.30(.13) *	-.24(.10) *	-.02(.22)	-.05(.10)	.22(.20)	-.38(.18) *
<i>Growth</i>	-.02(.02)	-.01(.02)	-.09(.04) *	-.01(.02)	-.08(.04) *	.05(.03)
<i>Wave2</i>	-.07(.17)	-.04(.14)	.19(.29)	-.03(.14)	.25(.28)	-.31(.25)
<i>Wave3</i>	-.22(.17)	-.08(.14)	.10(.28)	-.12(.13)	.17(.26)	-.35(.23)
<b>Individual-Level Effects</b>						
Political Interest	.69(.06) **	.30(.05) **	.44(.07) **	.39(.05) **	.14(.07)	.26(.06) **
Political Efficacy	.43(.05) **	.11(.04) **	.39(.10) **	.32(.04) **	.29(.09) **	.04(.09)
Membership	.82(.08) **	.25(.07) **	.58(.11) **	.57(.06) **	.32(.11) **	.23(.11) *
Social Trust	.04(.07)	.10(.05) *	.02(.13)	-.06(.05)	-.08(.13)	.01(.12)
Social Contacts	.12(.02) **	.07(.02) **	.05(.04)	.05(.03)	-.02(.04)	.06(.04)
Satisfaction with Democracy	-.05(.05)	.11(.03) **	-.07(.09)	-.16(.05) **	-.18(.09) *	.04(.09)
Subjective Economic Satisfaction	-.06(.07)	.09(.06)	-.29(.12) *	-.14(.06) *	-.35(.11) **	.19(.11)
Male	.02(.07)	-.07(.05)	-.12(.12)	.09(.06)	-.05(.11)	.14(.11)
Age	.03(.01) **	.04(.01) **	-.02(.01) *	-.01(.00) *	-.06(.01) **	.05(.01) **
Education	.08(.02) **	.02(.01)	.04(.04)	.06(.01) **	.01(.03)	.05(.03)
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Note: Entry is unstandardized coefficient and figures in parentheses are unstandardized errors. All beta coefficients are specified with random effects. Level of Significance: \* $p \leq 0.05$ , \*\* $p \leq 0.01$ . Program: HLM 6.08

Data Source: ABS2, ABS3, ABS4