

科技部補助專題研究計畫成果報告

(☐期中進度報告/☒期末報告)

網路沉默螺旋的進化與重塑：

台灣社群媒體使用者意見表達規避策略初探

計畫類別：☒個別型計畫 ☐整合型計畫

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本計畫除繳交成果報告外，另含下列出國報告，共 1 份：

☐執行國際合作與移地研究心得報告

☒出席國際學術會議心得報告

☐出國參訪及考察心得報告

※本期末報告為本研究完成後，統整、翻譯、投稿至國際傳播學會（International Communication Association, ICA）之會議論文版本，論文名稱為：「Proactive Opinion Expression Avoidance about Same-Sex Marriage on Social Media: Acceptance, Reactance, and Self-Censorship」。該論文已獲錄取，訂於 2020 年 5 月在澳大利亞黃金海岸 ICA 第 70 屆年會中宣讀。

※本研究實際執行內容與原申請計畫書有若干出入，茲說明如下：

1. 本研究計畫書原規劃兩年期研究，惟核定結果為一年期，因此本研究在實際執行時，大幅縮限探討之規模，除摘去原計畫書中第二年之規劃事項，原擬採用「整合型科技接受模式」（unified theory of acceptance and use of technology, UTAUT）為理論架構，亦更換為「科技接受模式」（technology acceptance model, TAM）。
2. 計畫書中所規劃之研究題材原擬為：「視本計畫通過後台灣社會屆時發生的重大公共議題擇一而定（如 2018 年底的九合一選舉）」（計畫書 p. 13），後經審視本計畫執行當時之社會情境，改採「同性婚姻合法化」為題材，並據以修改研究問卷內容，經本校 IRB 審核通過（2019 年 2 月 26 日；同意變更證明書附於本期末報告後）後，進行資料蒐集。
3. 本研究在實際執行時，另加入心理抗拒理論（psychological reactance theory）及相關變項進行探討。

Introduction

While research substantiates that social networking sites (SNSs) facilitate opinion expression (e.g., Chan, 2016; Kushin & Yamamoto, 2010), statistics (e.g., Anderson & Quinn, 2019; Duggan & Smith, 2016) have revealed that a substantial amount of users feel worn out by the information shared and discussed on those platforms. The strategies of opinion expression avoidance on social media have thus emerged and drawn scholarly attention. For instance, Zhu, Skoric, and Shen (2017) found that Facebook users in Hong Kong employed features such as “hide post” and “unfriend” to shield themselves from the views they disapproved of regarding protests during the Umbrella Movement in 2014. Author (2018) further categorized the aforementioned features and the others (i.e., “unfollow” and “snooze someone for 30 days”) as proactive avoidance strategies, which enable the users to tacitly filter out a dissenting post or its owner.

These proactive strategies highlight the unique ways of opinion expression avoidance developed in the contexts of social media with the pivotal aid of technological affordance. However, findings identifying the adoption process of these strategies on Facebook are still preliminary (e.g., Author, 2018; Jeong, Zo, Lee, & Ceran, 2019), and the influences of the affordance remain little understood. Davis’s (1989) Technology Acceptance Model (TAM) helps elucidate the user perception of technology. This framework has been extensively applied to examine the adoption of SNSs (e.g., Lemay, Doleck, & Bazilais, 2017; Rauniar, Rawski, Yang, & Johnson, 2014) and specific features of a technology (e.g., photo messaging; Hunt, Lin, & Aktin, 2014). By adopting TAM as a framework to outline the effects of perceived usefulness and perceived ease of use of Facebook features, the current study is expected to foster the knowledge about the technological influences on the strategic use of proactive opinion expression avoidance.

In addition, this study delves into the influences of self-censorship and psychological reactance, two dispositional constructs that help explain SNS users’ avoidance behaviors.

Willingness to self-censor describes an individual's tendency to withhold his/her true opinion when perceiving that an audience may have an opposing view (Hayes, Glynn, & Shanahan, 2005). This tendency has been found to negatively predict one's intention for expressing opinions online (e.g., Kwon, Moon, & Stefanone, 2015) and offline (e.g., Hayes et al., 2005), especially under a hostile opinion climate (Hayes, Uldall, & Glynn, 2010).

Moreover, psychological reactance refers to one's motivational state to restore the behavioral freedom that is actually, or threatened to be, eliminated (Brehm, 1989). As social media promotes the value of user autonomy (Zhu & Chen, 2015) by allowing personalized communication (Bennett & Segerberg, 2011) and selective exposure (Messing & Westwood, 2014), information perceived as intrusive or unwelcome on the users' SNS timelines may be regarded as a threat to such value. Since the Facebook features for proactive avoidance allow the users to filter out unwanted posts or the authors of a post, the strategic use of those features should be more appealing to those with a higher level of self-censorship and reactance.

To sum up, the present study aims to verify the technological and dispositional influences on adopting proactive avoidance strategies on Facebook with TAM as the major framework. Also, to extend from the extant literature that primarily inquires about the likelihood of opinion withdrawal in political discussions, this study focuses on the topic of same-sex marriage legalization. In Taiwan, the disputes over this social issue are ongoing, even after decades, despite the fact that Taiwan has become the first nation in Asia that recognizes the legality of same-sex marriage as of May 17, 2019 (Jennings, 2019). The controversy of this topic thus tends to expose Taiwanese users to different opinions on SNSs and may prompt them to avoid an opposing view to their own. Therefore, the findings of this study are expected to broaden the applied contexts of online opinion expression avoidance behaviors and enrich the knowledge about the determinants of the strategic use of Facebook proactive avoidance features.

Literature Review

Opinion Expression Avoidance on Social Media

Opinion expression avoidance tends to occur when individuals are being requested or feel socially obligated to express their opinion in response to an audience perceived to be hostile to that opinion (Hayes, 2007). The avoidance behaviors were originally conceptualized and examined in face-to-face (FtF) interactions. For instance, Hayes (2007, p. 794) identified eight strategies such as “reflect the question,” “express uncertainty or ambivalence,” and “express indifference.” Although not mentioned in the findings, most of the strategies may require strong enough communication skills to be effectively implemented. In addition, Bull (2003, p. 115) observed politicians’ responses to journalists in interviews and classified more strategies that depend on social status and power, including “acknowledge the question without answering it,” “question the question,” “attack the question,” and so on.

Extending to the contexts of social media, technology affordance outweighs communication skills and relational power in shaping the landscape of opinion expression avoidance strategies. Facebook has attracted wide scholarly attention in particular (e.g., Gearhart & Zhang, 2014; Jeong et al., 2019; Zhu et al., 2017), as this platform offers more varieties of features that could be utilized for avoidance behaviors. Author (2018) differentiated between reactive and proactive strategies on Facebook. The former illustrates the responses of less explicit disagreement to an opposing view, resembling the FtF strategies categorized by Hayes (2007). Yet, the features—such as the reaction icon of “angry” and the share button that allows one to reply with some likeminded information—allows users to “hassle” the opposing view with a simple click rather than the efforts of verbal expression.

The latter, proactive strategies, demonstrate an even stronger association with technological attributes. The corresponding Facebook features (i.e., hide a post, unfriend, unfollow, and snooze someone for 30 days) enable one to tacitly remove a dissenting post or

annoying contact from his/her personal timeline without notifying the individual concerned. Users who adopt this set of strategies can not only avoid the conversational pressure to give a response under a hostile opinion climate, but also the future encounters of that unwanted content or unwelcome contact on the site. The proactive strategies are thus distinguished from the established forms of opinion expression avoidance in FtF interactions (e.g., Bull, 2003; Hayes, 2007) and underscore the unique dynamics of managing opinion dissonance on social media.

The adoption of proactive avoidance strategies on Facebook has captured a growing amount of scholarly attention. Zhu et al. (2017), for example, substantiated a positive relationship between Hongkongers' experience of unfriending people and their participation in street protests during the Umbrella Movement in 2014. Additionally, perceived out-group threat (i.e., the immigrants from Mainland China) was found to intensify the Hongkongers' strategic use of unfriending and hiding the posts to shield themselves from the views they disapproved of regarding the protests. Jeong et al. (2019) further investigated the adoption process from an affective approach, identifying that exposure to opposing views on Facebook provokes the users' negative emotions, which in turn promotes the use of proactive avoidance strategies. Also, Author (2018) verified self-efficacy and social norms as two major predictors of proactive avoidance by integrating the Spiral of Silence (SoS) theory (Noelle-Neumann, 1993) with the Theory of Planned Behavior (TPB; Ajzen, 1991).

The above findings demonstrate the personal, emotional, and social influences on adopting proactive avoidance strategies, but literature exploring technological influences remains limited. As this set of strategies is a product of technology affordance, the users' evaluation of the associated Facebook features should also carry out crucial effects on their adoption process. This study, therefore, employs TAM as a framework to obtain more empirical evidence regarding technological impacts.

Acceptance of Technological Features for Proactive Avoidance

TAM evolves from the Theory of Reasoned Action (TRA; Fishbein & Ajzen, 1975), which argues that human behavior is generally determined by behavioral intention, and the intention is predicted by the attitudes toward that behavior. Davis, Bagozzi, and Warshaw (1989) focused specifically on computer adoption behaviors and developed TAM with two technology-related factors—perceived ease of use and perceived usefulness—incorporated into the model. Perceived ease of use describes the degree to which an individual believes that using a given technology is free of effort, whereas perceived usefulness refers to the level of job performance improvement that one expects after using that technology (Davis, 1989). Both perceived ease of use and perceived usefulness are found to be determinants of attitudes, and perceived ease of use also predicts perceived usefulness (Davis, 1989; Davis et al., 1989).

Although TAM originates in organizational settings, this model has been applied to a variety of contexts with a focus on diverse categories of technologies over three decades (see Marangunic´ & Granic´, 2015). Social media as a form of technology is also examined to verify the user adoption process. Wirtz and Göttel’s (2016) systematic review of 32 SNS studies provides extensive evidence confirming the relationship between perceived ease of use and perceived usefulness, and the subsequent influences on attitude towards behavior, behavioral intention, and the actual behavior. Moreover, the scenarios of acceptance probed in the literature range widely from daily usage (e.g., Rauniar et al., 2014) to smartphone advertising (e.g., Kim, Joo, & Lee, 2016) and higher education learning (e.g., Dumpit & Fernandez, 2017), demonstrating that the implications drawn from TAM are not limited for workplace adoptions or the adopters’ professional performance.

Furthermore, some other researchers employed TAM to delve into the adoption of a specific technological feature and concentrate on the distinct purpose of acceptance. For instance, Hunt et al. (2014) investigated the user motives for socialization with photo messaging (sending and sharing) on SNSs. Also, in marketing contexts, Ruiz-Mafe, Martí-

Parreño, and Sanz-Blas (2014) focused on user attachment to Facebook fan pages in strengthening consumer loyalty, whereas Casaló, Flavián, and Ibáñez-Sánchez (2017) explored the intention to follow and recommend a brand's official Instagram account for consumer engagement. Accordingly, the fundamental "perception-attitude-intention" chain of constructs that TAM formulates is also applicable to analyzing the strategic use of the Facebook features for proactive opinion expression avoidance. Therefore, this study proposes the following hypotheses:

H1: Perceived ease of use of the proactive opinion expression avoidance strategies is positively related to perceived usefulness of the same strategies.

H2: Perceived ease of use of the proactive opinion expression avoidance strategies is positively related to the attitude towards the same strategies.

H3: Perceived usefulness of the proactive opinion expression avoidance strategies is positively related to the attitude towards the same strategies.

H4: Attitude towards the proactive opinion expression avoidance strategies is positively related to the intention to adopt the same strategies.

Dispositional Predictors of Proactive Avoidance

The widespread research applications of TAM also breed modifications of the model by integrating constructs from other theories and fields for more comprehensive knowledge about technology adoption processes (Marangunic ´ & Granic ´, 2015). For instance, Venkatesh and Davis (2000) verified the predictive effects of subjective norms and job relevance on perceived usefulness in the extended version of TAM. Walczuch, Lemmink, and Streukens (2007) further discovered the influences of personality traits (e.g., optimism and insecurity) on user perceptions of technology. With regard to the adoption of proactive opinion expression avoidance strategies, the extant findings have identified normative influence (Author, 2018) and political social media use (Zhu et al., 2017) as determinants. By contrast, evidence revealing the adopters' personality traits remains scant. To better

understand the inner drive of SNS users who are engaged in proactive avoidance behaviors, this study incorporates willingness to self-censor and psychological reactance into TAM for examination.

Willingness to self-censor. The withdrawal of opinions expressed in public tends to occur when an individual perceives his/her opinion to be deviant from the majority. Noelle-Neumann's (1993) SoS theory attributes such a circumstance to one's fear of social isolation. Alternatively, Hayes et al. (2005a) took the approach of self-censorship and conceptualized willingness to self-censor as one's dispositional tendency to withhold his/her true opinion when perceiving that an audience has an opposing view. Distinct from fear of isolation, this construct does not emphasize social pressure by size. That is, one may be engaged in self-censorship when the potential disagreement is perceived from either a crowd or another individual. Also, willingness to self-censor indicates that withholding an opinion is not solely a result of social threat but also a personal decision that is consciously and autonomously made.

Studies on willingness to self-censor improve the understanding of opinion expression in two major aspects. First, the findings generally demonstrate a negative relationship between self-censorship and willingness to express under a hostile opinion climate (e.g., Hayes et al., 2010; Kwon et al., 2015), broadening the knowledge about the predictors of SoS phenomenon. Second, as self-censorship describes an individual's choice to withhold their *true* opinion, its association with the forms of opinion expression avoidance promotes curiosity. A small number of studies about the topic have revealed mixed results. For example, Gearhart and Zhang (2014) probed three avoidance behaviors on Facebook (i.e., reading but not commenting, ignoring the comments, and discussing with someone offline) regarding the issue of LGBT tolerance. However, they found that willingness to self-censor was only predictive of the likelihood of reading but not commenting. On the other hand, Chen (2018) verified that self-censorship mediated the relationships between fear of isolation

and the withdrawal behaviors, including deleting or editing one's own posts and asking other Facebook contacts to "untag" the user from a post.

As Facebook features evolve to formulate the strategies of proactive avoidance, it is intriguing to examine how self-censorship predicts the adoption of these strategies. Given that users with a high willingness to self-censor tend to conceal their true thought when a dissenting post appears, they should be less likely to enjoy seeing it and have a higher intention to filter out that post or the owner of the post. Also, the technological aspects of the strategies have not been fully considered in the above pioneering studies. Guided by TAM, perceived ease of use and perceived usefulness of technology are crucial to adoption intention. Users more willing to self-censor should, therefore, find strategies for proactive opinion expression avoidance—afforded by the Facebook features—particularly useful and easy to use. Formally, this study hypothesizes:

H5: Willingness to self-censor is positively related to the intention to adopt the proactive opinion expression avoidance strategies.

H6: Willingness to self-censor is positively related to perceived ease of use of the proactive opinion expression avoidance strategies.

H7: Willingness to self-censor is positively related to perceived usefulness of the proactive opinion expression avoidance strategies.

Psychological reactance. When an individual's freedom to engage in a particular behavior is threatened or eliminated, psychological reactance tends to be aroused and motivates him/her to reestablish such behavioral freedom (Brehm, 1989). With a broad definition of free behaviors (Dillard & Shen, 2005), this theory not only discusses the freedoms associated with actions (e.g., choosing a product between two brands; Brehm, 1989) but also the ones with emotions and attitudes. For instance, Quick, Kam, Morgan, Montero Liberona, and Smith (2015) found that guilt appeals in the narrative of organ donation positively predict a perceived threat to freedom, which in turn predicts a higher

level of reactance. Moreover, Worchel and Brehm (1970) identified that reading pro-attitudinal persuasive information with threatening statements (e.g., “you have no choice but to believe this,” p. 19) repels the readers from the advocated opinion.

Social media promotes the values of freedom of speech and user autonomy with the aid of technological affordances. Freedom of speech is encouraged by the multiple forms of opinion expression including posting, liking, commenting, and sharing (Oeldorf-Hirsch & Sundar, 2015). User autonomy is reinforced by the mechanisms of personalized communication (Bennett & Segerberg, 2011) and selective exposure (Messing & Westwood, 2014), allowing users to be engaged in desirable self-presentation and customized information surroundings. The above values tend to embolden SNS users’ free will in determining the content appearing on their platform page. Therefore, psychological reactance may be aroused when such freedom of control is threatened. Seeing unwanted posts (e.g., an incongruent opinion) appear on one’s own Facebook timeline, for example, may be perceived as a threat to that individual’s freedom of control, which in turn motivates him/her to restore the freedom.

The adoption of proactive avoidance strategies on Facebook could be regarded as a means of restoring the threatened or eliminated freedoms of Facebook use, a consequence of psychological reactance. In spite of a dearth of literature associating psychological reactance with opinion expression on social media, advertising research has developed insights about the results of psychological reactance. Particularly, advertising avoidance—the use of a given method to reduce one’s exposure to an advertisement (Speck & Elliot, 1997)—has been found to be an outcome of reactance provoked by a variety forms of online advertisement such as pop-up ads (e.g., Edwards, Li, & Lee, 2002) and location-based mobile ads (e.g., Shin & Lin, 2016). The identified methods for behavioral avoidance include scrolling down a webpage to avoid an ad, closing the window of the ad, leaving the webpage, and deleting an ad after/without reading it (Cho & Cheon, 2004; Edwards et al., 2002; Shin & Lin, 2016).

Likewise, the proactive avoidance strategies on Facebook—such as unfriending, unfollowing, snoozing someone, and hiding the post—not only helps reduce one’s exposure to an unwanted post and the owner of the post, but also, more radically, filter them out of the user’s platform.

In accordance with the established perspective that conceptualizes psychological reactance as a trait (e.g., Brehm & Brehm, 1981; Dowd, Milne, & Wise, 1991; Hong & Faedda, 1996), this study specifically investigates the association between this personal quality and the strategic use of proactive opinion expression avoidance on Facebook. With the framework of TAM, moreover, the relationships between psychological reactance and the perceptions of the technological aspect of the strategies are also expected to be verified. Therefore, this study postulates:

H8: Psychological reactance is positively related to the intention to adopt the proactive opinion expression avoidance strategies.

H9: Psychological reactance is positively related to perceived ease of use of the proactive opinion expression avoidance strategies.

H10: Psychological reactance is positively related to perceived usefulness of the proactive opinion expression avoidance strategies.

To sum up, a proposed model encompassing the research hypotheses is illustrated in Figure 1.

Research Context: Disputes on the Legalization of Same-Sex Marriage in Taiwan

On May 17, 2019, the Taiwanese Congress passed an act legalizing same-sex marriage (i.e., “Enforcement Act of Judicial Yuan Interpretations No. 748”) to enforce the ruling issued by the island’s Constitution Court on May 24, 2017. The Act provides sufficient rights for two persons with the same gender to complete marriage registration at the Household Administration Office (Jennings, 2019). At this point, Taiwan has become the first in Asia to recognize the legality of same-sex marriage.

The Constitutional Court's ruling of same-sex marriage in 2017 was a major milestone in the history of LGBT people in Taiwan fighting for equal rights in marriage, which has gone on for decades. The ruling noted that the provision of the Civil Law, which stipulates a marriage relationship could only be a relationship between a man and a woman, violates the spirit of the Constitution. Moreover, the ruling ordered the authorities to complete the formulation or amendment of relevant laws within two years; otherwise, same-sex couples will automatically be able to legally complete marriage registration after the deadline (Chappell, 2017).

While the ruling was an immense encouragement to LGBT people, it does not resolve the differences over views of same-sex marriage in Taiwanese society, which have been ongoing for many years. For instance, after the ruling, a major anti-LGBT group advocated for a direct democratic procedure to be adopted to determine Taiwan's marriage system (Coalition for the Happiness of our Next Generation, 2018). In line with the election of local public officials at the end of 2018, the group initiated three related referendum cases. On the other hand, several pro-LGBT groups also united and proposed to run two referendum cases (Morgan, 2018). On November 24, 2018, the results of the referendums demonstrated that the three anti-LGBT referendums obtained a valid vote of 32.40% to 38.76% of the total number of voters, which exceeded the passing threshold of 25%. On the other hand, the two pro-LGBT referendums obtained only 17.12% and 17.75% valid votes, so both failed to pass (Central Election Commission, 2018).

The act legalizing same-sex marriage passed by the Taiwanese Congress in 2019 seems to have settled the issue of marriage equality into law. However, the legislation also reflects that the Taiwanese government has compromised due to the confrontation between the pro- and anti-LGBT sides. On the one hand, the LGBT couples in Taiwan can now register their marriage with the protection of the act. On the other hand, the opposition side has ensured the content of the Civil Law which stipulates that the marriage system remains unchanged,

indicating the government's conformity with the larger public opinion shown in the results of the 2018 referendums. Since neither side completely won or lost, the controversy of the legalization of same-sex marriage in Taiwan continues.

Controversial issues such as same-sex marriage have received particular attention in the research of opinion expression (e.g., Gearhart & Zhang, 2018; Ho & McLeod, 2008), as individuals have a higher need for judging the opinion climate to determine whether their opinion aligns with the majority's voice (e.g., Noelle-Neumann, 1993). The studies on opinion expression avoidance also investigate the strategies employed in responding to dissent regarding issues that are widely debated in society. The legalization of same-sex marriage in Taiwan, therefore, fits into this research interest and can help expand the understanding of social media users' avoidance behaviors that currently over-concentrate on political issues (e.g., Author, 2018; Zhu et al., 2017).

Method

This study conducted an online survey with Taiwan Trend Research, a contract marketing research company that excels in nationwide public opinion polls, and collected responses from 1,495 Taiwanese Facebook users between April 29 and June 6, 2019. The valid sample includes the data of 910 participants, of which 62.1% are female. Moreover, the respondents' ages ranged from 20 to 77 years old ($M = 35.47$, $Mdn = 34.00$, $SD = 10.89$), and the education level of the majority was college (69.3%), followed by college graduate (17.1%). Also, the participants used Facebook rather frequently each day in the past six months ($M = 6.39$, $SD = 1.16$; 7-point Likert scale: 1 = almost none, 7 = almost always), and the median number of Facebook Friends they claimed to have was 200 (range: 5 to 5,000).

Measures

The research variables in this study were measured by established instruments (translated into Chinese) on the same 7-point Likert format that ranges from 1 (strongly disagree) to 7 (strongly agree). **Willingness to self-censor** was measured with five items

(e.g., *It is difficult for me to express my opinion if I think others won't agree with what I say*; $M = 4.29$, $SD = 1.11$, Cronbach's coefficient $\alpha = .82$) adopted from Hayes et al.'s (2005) Willingness to Self-Censor Scale. For **psychological reactance** ($M = 3.57$, $SD = 1.01$, $\alpha = .87$), nine items were adopted from the refined Hong Psychological Reactance Scale (e.g., *When someone forces me to do something, I feel like doing the opposite*; Hong & Faedda, 1996). The participants' **perceived ease of use** (e.g., *It is easy for me to use the Facebook features to filter out the opinion or the person I disagree with*; $M = 5.03$, $SD = 1.37$, $\alpha = .97$) and **perceived usefulness** (e.g., *It is useful to use the Facebook features to filter out the opinion or the person I disagree with*; $M = 4.22$, $SD = 1.38$, $\alpha = .92$) of proactive opinion expression avoidance strategies were measured with three items, respectively, adapted from Venkatesh, Morris, Davis, and Davis (2003) and Venkatesh, Thong, and Xu (2012). Three items measuring the **attitude** towards the proactive opinion avoidance strategies (e.g., *On Facebook, when there was an overwhelming number of my Facebook Friends expressing their opinions regarding the legalization of same-sex marriage that I disagree with, it would be wise for me to stop seeing their posts*; $M = 4.00$, $SD = 1.60$, $\alpha = .97$) were adapted from previous studies (Hagger & Chatzisarantis, 2005; Park & Smith, 2007). The measure of the **intention** to adopt proactive opinion avoidance strategies was adopted from Author (2018), which identifies four items corresponding to the relevant Facebook features (i.e., *hide the post, unfollow, snooze for 30 days, and unfriend*; $M = 2.98$, $SD = 1.50$, $\alpha = .87$)

A measurement model consisting of the above measures with their individual items was further constructed for confirmatory factor analysis using IBM SPSS Amos 25.0. According to the cutoff criteria suggested by the literature, the results demonstrated a relatively good model fit: $\chi^2 = 711.30$, $df = 297$, $p < .001$, CMIN (minimum discrepancy) /DF = 2.40 (Marsh & Hocevar, 1985: CMIN/DF lower than 5); comparative fit index (CFI) = .975; root mean squared error of approximation (RMSEA) = .039 (Hu & Bentler, 1999: CFI greater than or close to .95 and RMSEA close to or lower than .06).

Moreover, validity tests were conducted to verify the convergent and discriminant validity of the measurement model. The results indicated that the composite reliability (CR) of all measures exceeded .70, the average variance extracted (AVE) from them exceeded or closely reached to .50, and the CR of each measure was greater than its AVE. Based on the common criteria (e.g., Fornell & Larcker, 1981; Hair, Black, Babin, Anderson, & Tatham, 2006), therefore, the convergent validity for the measures was satisfactory. Also, each measure's maximum shared variance (MSV) showed less than its AVE, and the square root of the AVE of each measure exceeded its inter-construct correlations with the other measures. Likewise, the results revealed satisfactory discriminant validity for the measures, according to Fornell and Larcker (1981). See Table 1.

Control variables. The participants' sex (male = 1; female = 0), age, daily Facebook use frequency, and number of contacts were identified as control variables. In addition, two more variables related to the participants' Facebook user experience were controlled: the percentage of their Facebook Friends perceived to hold a congruent opinion regarding the legalization of same-sex marriage ($Mdn = 60\%$), and their likelihood to take no reactions if seeing an overwhelming number of Facebook Friends express dissenting opinions regarding the legalization of same-sex marriage ($M = 4.98$, $SD = 1.55$).

Furthermore, based on the previous findings (e.g., Author, 2018), individuals' fear of isolation and issue involvement also had a significant influence on their opinion expression avoidance tendency. Thus, to control these two variables, Hayes's (2013) five-item Fear of Social Isolation Scale (e.g., *It is scary to think about not being invited to social gatherings by people I know*; $M = 4.17$, $SD = 1.45$, $\alpha = .89$) and nine items from Zaichkowsky (1985) for issue involvement (e.g., *This issue is significant to me*; $M = 4.68$, $SD = 1.46$; $\alpha = .95$) were adopted, followed by the same 7-point Likert format addressed above.

Finally, the act of legalizing same-sex marriage was passed on May 17, 2019, amid the period of data collection. To identify the likelihood that the responses collected before or after

the act passed may have an effect on the respondents' tendency to avoid opinion expression, this study also controlled this confounding factor, "response date" (1 = May 17 to June 10, 2019; $n = 239$; 0 = April 29 to May 16, 2019; $n = 671$).

Collinearity Check

The variables identified in the measurement model were examined for collinearity diagnostics under the linear regression procedure of IBM SPSS 22.0. The results showed that the variance inflation factor (VIF) values were under 1.47, indicating that collinearity was not an issue.

Results

Descriptive statistics were performed to reveal users' experiences of employing the Facebook features related to proactive opinion expression avoidance. The results demonstrated that the participants used the features of hiding a post ($M = 2.90$, $SD = 1.76$) and unfollowing a Facebook Friend ($M = 2.90$, $SD = 1.82$) more frequently than unfriending someone ($M = 2.64$, $SD = 1.58$) or snoozing someone for 30 days ($M = 2.20$, $SD = 1.58$), measured on a 7-point Likert scale ranging from 1 (never) to 7 (always). It should be noted that social connection is nonetheless a primary purpose for SNS use, so it is unlikely to expect a high level of frequency in adopting features that discourage social interactions.

Furthermore, nearly half (49.3%) of the users had never snoozed a Facebook contact. Considering that this feature was a relatively new release in 2017, however, its adoption rate may still be growing. By contrast, only about 30% and below of the participants had never used the other three features (31.8% never unfollowed; 28.2% never unfriended; 27.8% never hid a post). In other words, the majority in the sample have had some experience using these features on Facebook.

Also, structural equation modeling (SEM) using IBM SPSS Amos 25.0 with Maximum Likelihood (ML) as the estimation procedure was implemented to test the hypotheses. The results of the analysis demonstrated a relatively good model fit based on the criteria

recommended by the literature (Hu & Bentler, 1999; Marsh & Hocevar, 1985): $\chi^2 = 2093.44$, $df = 989$, CMIN/DF = 2.12, $p < .001$; CFI = .960; RMSEA = .035 (See Figure 2). The total explained variance (R^2) for proactive avoidance intention reached 30%.

Hypothesis 1 predicted a positive relationship between perceived ease of use of the proactive avoidance strategies and perceived usefulness of the same strategies. The model indicated that the effect of the path was positive and significant ($\beta = .40$, $p < .001$), validating H1. Next, H2 postulated that perceived ease of use of the proactive avoidance strategies is positively related to the attitudes toward the same strategies. The results also showed that the positive prediction of perceived ease of use was significant ($\beta = .13$, $p < .001$). Thus, H2 was supported. Similarly, H3—the positive association between perceived usefulness of the proactive avoidance strategies and the attitude towards the same strategies—also reached statistical significance ($\beta = .34$, $p < .001$), supporting this hypothesis. In addition, H4 predicted that the attitude towards the proactive avoidance strategies is positively related to the intention to adopt the same strategies. The path in the model demonstrated a significant, positive effect ($\beta = .48$, $p < .001$), confirming H4.

Moreover, H5 posited that willingness to self-censor is positively related to the intention to adopt the proactive avoidance strategies. The results indicated that the positive relationship was fairly weak ($\beta = .03$, $p = .525$). Therefore, H5 failed to gain support. Yet, the positive relationship between willingness to self-censor and perceived ease of use of the proactive avoidance strategies—as predicted in H6—was significant ($\beta = .16$, $p < .001$). Hypothesis 6 was thus supported. Likewise, H7 investigated the positive relationship between willingness to self-censor and perceived usefulness of the proactive avoidance strategies. The model demonstrated that the path was also significant ($\beta = .24$, $p < .001$), supporting H7.

Meanwhile, although H5—a direct effect of willingness to self-censor on the intention to adopt the proactive avoidance strategies—was not supported, an additional bootstrap procedure (2000 samples) using a bias-corrected percentile method was performed for further

exploration. The results showed that the total effect of willingness to self-censor on the intention to adopt the proactive avoidance strategies was significant ($\beta = .17$, $SE = .05$, 90% CI = [.01, .17]). Moreover, a significant indirect effect was also verified ($\beta = .06$, $SE = .01$, 90% CI = [.04, .08]), indicating that the dynamic of perceived ease of use, perceived usefulness, and the attitudes toward the proactive avoidance strategies fully mediated the direct effect predicted in H5.

Furthermore, H8 predicted that psychological reactance is positively related to the intention to adopt the proactive avoidance strategies. The results demonstrated that the prediction was significant ($\beta = .19$, $p < .001$), substantiating H8. Also, H9—a positive effect of psychological reactance on perceived ease of use of the proactive avoidance strategies—was supported, although the effect size was slightly weak ($\beta = .09$, $p = .024$). Hypothesis 10 posited a positive relationship between psychological reactance and perceived usefulness of the proactive avoidance strategies. However, the effect did not reach significance ($\beta = -.01$, $p = .791$), failing to support H10. Another bootstrap procedure (2000 samples) using a bias-corrected percentile method revealed that the total effect of psychological reactance on perceived usefulness also failed to be significant ($\beta = .10$, $SE = .04$, 90% CI = [-.04, .10]), but the indirect effect was significant ($\beta = .03$, $SE = .02$, 90% CI = [.01, .07]). This relationship was thus fully mediated by perceived ease of use.

Finally, with regard to the effects of the control variables, male participants ($\beta = .06$, $p = .047$) and those more involved in the issue of legalization of same-sex marriage ($\beta = .11$, $p = .004$) had a significantly higher intention of adopting the strategies when encountering an overwhelming number of dissenting opinions regarding this issue posted on their Facebook timeline. On the other hand, age ($\beta = .03$, $p = .361$), likelihood to do nothing about the dissent ($\beta = .03$, $p = .299$), Facebook use frequency ($\beta = -.04$, $p = .251$), number of Facebook Friends ($\beta = -.03$, $p = .359$), perceived percentage of Facebook Friends holding a congruent view on this issue ($\beta = -.03$, $p = .420$), fear of isolation ($\beta = -.02$, $p = .652$), and the response date

before or after the act was passed ($\beta = -.04, p = .232$) exerted only trivial effects.

Discussion

This study verifies the influences of technology acceptance, psychological reactance, and self-censorship on intention to adopt proactive opinion expression avoidance strategies on Facebook. The research context is situated in social disputes on the legalization of same-sex marriage in Taiwan that contribute to the generalization of SNS users' avoidance behaviors for a wider range of issue types, as the extant literature primarily focuses on politics (e.g., Author, 2018; Chen, 2018; Zhu et al., 2017). Also, the controversial nature of same-sex marriage has been extensively applied to the examination of individuals' public opinion expression tendencies across different cultures including in the United States (Gearhart & Zhang, 2018) and Singapore (Ho, Chen & Sim, 2013). Thus, this study of Taiwan not only amplifies the evidence of this research theme, but also further demonstrates more updated strategies (i.e., hide a post, unfollow, temporary snooze, and unfriend) that could be employed when reacting to incongruent opinions regarding this issue on social media, rather than remaining silent.

With the framework of TAM, this study substantiates the pivotal effects of technology on modern opinion expression avoidance behaviors. The two perception variables—ease of use and usefulness of a technology—were both found to promote a positive attitude towards the strategic use of those Facebook features that enable users to filter out a dissenting post and/or its owner, which, in turn, elevates the adoption intention of those features. While the perception-attitude-intention theoretical chain has been applied to investigating the acceptance of a variety of new technologies (e.g., Casaló et al., 2017; Ruiz-Mafe et al., 2014), this study is more than mere empirical replication.

As opinion expression avoidance strategies evolve to fit social media settings, communication skills (Hayes, 2007) and social power (Bull, 2003) that qualify the success of avoidance in FTF contexts appear to be less relevant. Instead, technology affordances

essentially shape the means of opinion expression avoidance on SNSs. Therefore, probing user perception of the Facebook features for proactive avoidance strategies helps identify the technological aspect of the entire adoption process that has not yet received enough scholarly attention, and improves our fundamental understanding of avoidance behaviors on social media.

Moreover, the adaptive nature of TAM allows theoretical extensions by including additional determinants (e.g., Venkatesh & Davis, 2000). This study incorporates psychological reactance and willingness to self-censor into the model to examine the dispositional effects on proactive opinion expression avoidance intention. The findings verify that perceived ease of use is the crux connecting dispositional variables and the rest of the TAM factors in the adoption process. That is, the effortlessness of using this set of strategies to shield oneself from opposing views regarding same-sex marriage is the common attribute that appeals to individuals prone to self-censorship and self-defense for their behavioral freedoms. Ironically, while “click speech” (i.e., the use of the “like,” “comment,” and “share” buttons) has been found to facilitate opinion expression on social media in terms of intensity, frequency, and diversity (Pang et al., 2016), a simple click is also suggested as a major incentive to avoid opinion expression.

With regard to psychological reactance, this study also demonstrates a positive effect of this disposition on intention to adopt proactive avoidance strategies. The direct prediction reveals that this unpleasant motivational state urges more immediate actions to regain threatened behavioral freedoms, aside from the evaluation process of the strategies’ technological attributes. Extending from advertising research (e.g., Edwards et al., 2002), the findings here confirm that psychological reactance predicts individuals’ avoidance tendency even in a context without obvious persuasive purposes. Seeing opposing views regarding same-sex marriage on one’s own Facebook timeline tends to be more repelling to those who are more resistant to the constraints of personal behavioral freedoms. The Facebook features

for proactive avoidance thus emerge as a strategic solution, as they enable users to determine the posts and contacts to be erased, restoring their autonomy in social media use.

Also, perceived ease of use of the proactive avoidance strategies fully mediated the prediction of psychological reactance on perceived usefulness of the same strategies. This finding demonstrates that to those high in reactance, it is the effortlessness of using Facebook features to proactively avoid opinion expression that makes this set of strategies perceived as useful. In other words, effort expectancy outweighs performance expectancy in their evaluation process of the strategies' technology attributes. Simply put, the proactive avoidance strategies are regarded as convenient methods for reducing one's level of reactance. This study thus fosters an understanding of the relationship between psychological reactance and social media avoidance behaviors in managing controversial issues and reveals the evaluation process of the strategies that achieves those behaviors.

Furthermore, willingness to self-censor positively predicts both perceived ease of use and perceived usefulness of the proactive avoidance strategies. That is, filtering out opposing views on homosexual marriage legalization is regarded as effortless and effective to social media users who are prone to withholding their true opinion from disagreeing counterparts. Also, the above perceived technological advantages in turn promote a more positive attitude towards those strategies, which subsequently predicts adoption intention. On the other hand, willingness to self-censor fails to predict intention to adopt proactive opinion expression avoidance strategies directly, but the effect is found to be fully mediated by the dynamic of TAM. Taken together, the findings attest that perceptions of the technology attributes of the proactive avoidance strategies serve as a primary influence on the dispositional self-censors' strategies adoption intention.

Self-censorship in the context of social media has drawn more empirical investigations, but mixed results are found regarding its predictive effect on the likelihood of avoiding disclosure of one's true opinion (e.g., Author, 2018; Chen, 2018; Gearhart & Zhang, 2014;

Stoycheff, 2016). As only limited research attention has been paid to the technological aspect of the SNS affordances for opinion expression avoidance, this study associates self-censorship with the factors of TAM. The findings identify user perceptions of the Facebook features for proactive avoidance strategies as a mediating factor that prompts those more willing to self-censor to adopt those strategies when encountering opposing views on same-sex marriage. In other words, it is imperative for the dispositional self-censors to assess strategies for opinion expression avoidance before putting them into practice. By revealing perceived ease of use and perceived usefulness as two significant indicators of evaluating the technology-laden strategies for opinion expression avoidance, this study thus helps delineate a more detailed process regarding the influences of self-censorship.

Finally, this study identifies specific implications regarding the disputes on the legalization of same-sex marriage in Taiwan. Although since May 2019 Taiwan became the first nation in Asia to recognize the legality of homosexual marriage, the 2018 referendum results demonstrate that a relative majority of Taiwanese voters were in support of the heterosexual marriage system (stipulated in the Civil Law) remaining intact, breaking a rooted impression that the society was generally in favor of homosexual marriage. As social media such as Facebook has become one of the primary channels for the Taiwanese to learn about public issues (Lin, 2018), this misperception may be partly attributed to the filtered information that results from the use of opinion expression avoidance strategies.

Based on the research findings, Facebook users who have higher levels of willingness to self-censor and psychological reactance particularly tend to erase content and sources regarding the legalization of same-sex marriage with a dissenting view. Such a tendency did not significantly change, even after the passing of the act to legalize same-sex marriage. While avoidance behaviors reflect the value of user autonomy that social media promotes, these behaviors are likely to minimize Taiwanese users' awareness of the ongoing disputes on same-sex marriage in society, and may aggravate misunderstanding between pro- and anti-

LGBT sides. More research that continues to track the dynamic of public opinion on same-sex marriage is necessary to advance the preliminary findings of this study.

Limitations and Future Directions

This study conducted an online survey that recruited volunteer Taiwanese Facebook users as participants. Although the appropriate size of sample illustrates user diversity in terms of gender, age, education level, and the region of residence, this sample may not be fully representative of the population of Taiwanese social media users. In addition, this study concentrates on the proactive avoidance strategies driven by Facebook features. As the technology affordances offered on each SNS vary, however, other platforms popular in Taiwan (e.g., Instagram, PTT, and Dcard) may inspire different forms of proactive opinion avoidance behaviors that are also worthy of examination. Taken together, replication studies could be achieved by involving users of more varieties of SNSs and improving the categorization of this set of strategies to demonstrate social media users' opinion expression avoidance behaviors in Taiwan more faithfully.

Moreover, this study approached psychological reactance from the trait perspective. While supported by previous literature (e.g., Brehm & Brehm, 1981; Dowd et al., 1991; Hong & Faedda, 1996), this approach fails to observe more factors elucidated in the subtle process of reactance, including perceived threat to freedom, anger, and negative cognition (Dillard & Shen, 2005). Also, a great extent of the proactive avoidance strategies involves the user's Facebook contacts (e.g., unfriending and unfollowing), but the current study did not specify the tie strength between the "avoider" and the "avoided." Nonetheless, it is likely that a user's level of intention to adopt the proactive opinion expression avoidance strategies depends on whether the dissenting view is posted by a strong-tie or weak-tie Facebook Friend. To promote the understanding of these unsettled queries, experimental designs would be ideal to delve further into the process of psychological reactance, and to discover the influences of social tie strength.

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Figure 1. The proposed model.

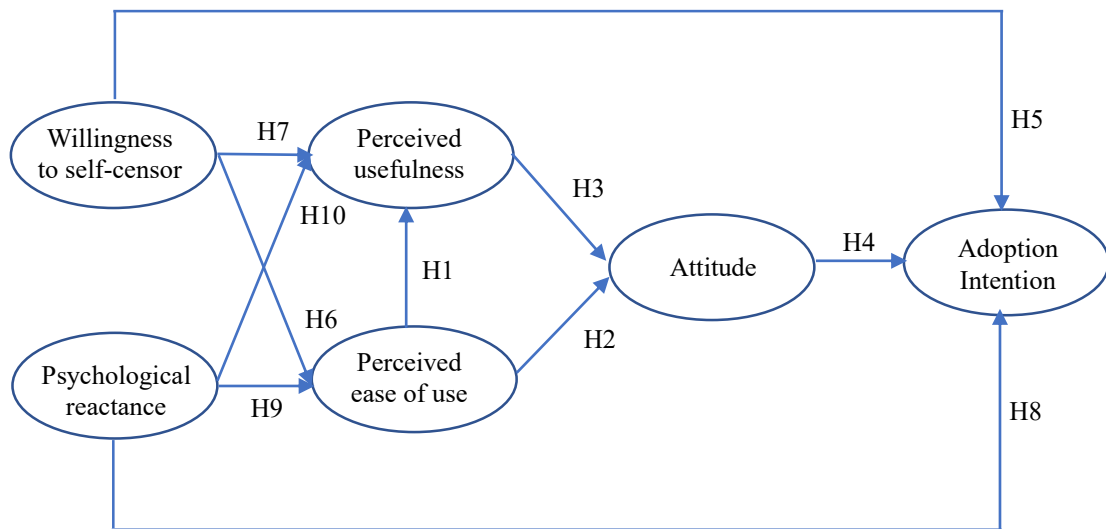
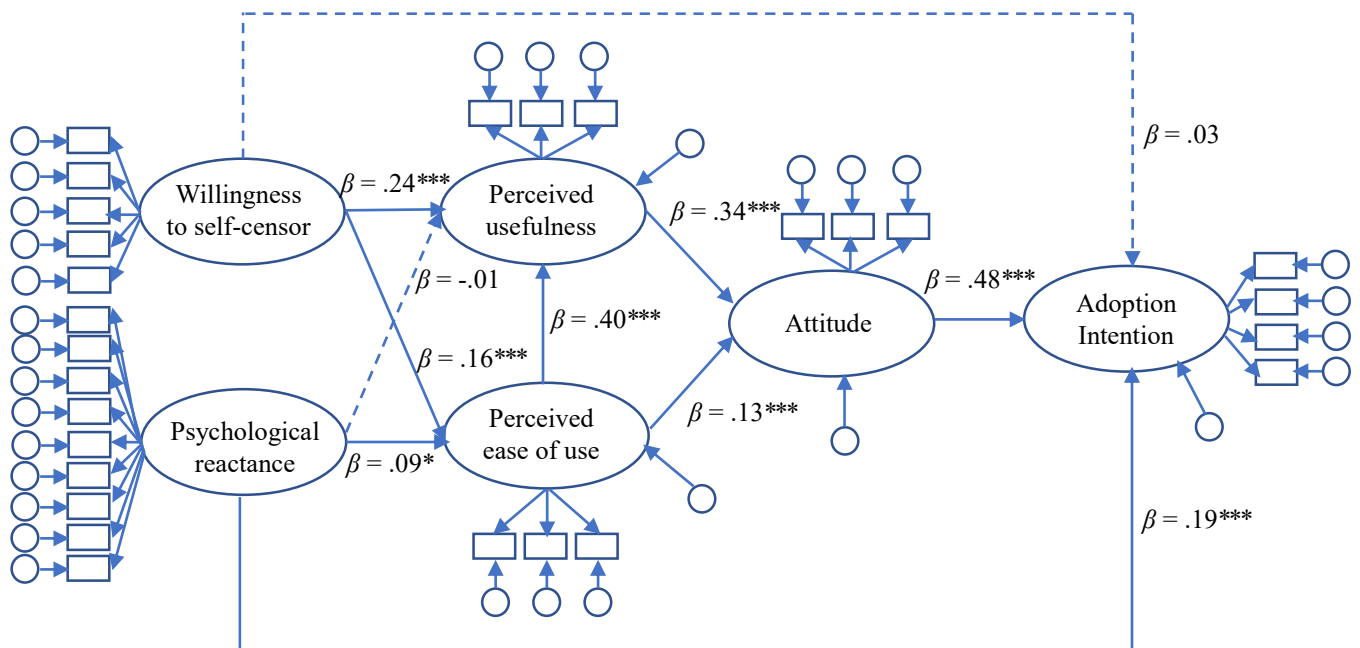


Figure 2. The structural equation model.

Note. The Control variables and their paths are not shown in this model. The paths with dash lines indicate those that fail to support the hypotheses.



* $p < .05$; *** $p < .001$

Table 1

Results of Validity Tests and Inter-correlation between Measures ($N = 910$)

Measure	CR	AVE	MSV	1	2	3	4	5	6
1. Willingness to self-censor	.82	.48	.10	.70	–	–	–	–	–
2. Psychological reactance	.87	.43	.13	.28***	.65	–	–	–	–
3. Perceived ease of use	.97	.90	.20	.18***	.13***	.95	–	–	–
4. Perceived usefulness	.92	.79	.20	.31***	.10**	.45***	.89	–	–
5. Attitude	.97	.92	.27	.27***	.25***	.28***	.39***	.96	–
6. Intention	.88	.65	.16	.19***	.32***	.17***	.29***	.52***	.81

Note. CR = composite reliability; AVE = average variance extracted; MSV = maximum shared variance; The fifth to tenth columns from left demonstrate the inter-correlations of the 6 measures with the diagonal values in bold numbers indicating each measure's square root of AVE.

** $p < .01$; *** $p < .001$



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計畫名稱：網路沉默螺旋的進化與重塑：台灣社群媒體使用者意見表達規避策略初探

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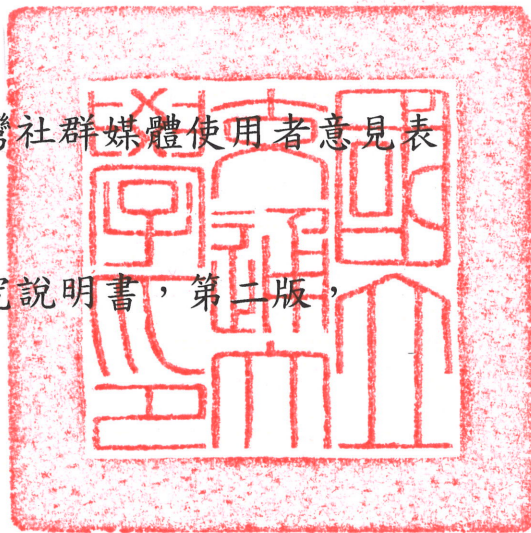
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主任委員

周倩

Research Ethics Committee for Human Subject Protection
National Chiao Tung University

Certification of Modify

Title: The Evolving and Re-shaping Spiral of Silence Online: Predicting the Use of Opinion Expression Avoidance Strategies on Social Media

Application Number: NCTU-REC-107-038-m

Principle Investigator: Wu, Tai-Yee

Affiliation: National Chiao Tung University

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Chairperson

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