THE PHENOMENON OF WAR FLAMING ON WRITING IN SOCIAL MEDIA: THE EFFECT OF ECHO CHAMBER AND FILTER BUBBLE ALGORITHM IN DIGITAL CITIZENSHIP

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ABSTRACT

Echo Chamber and Filter Bubble are two subjects now under extensive discussion. The growing prevalence of social media in recent years underscores the potential effects of the Echo Chamber and Filter Bubble phenomena. One of them is the conflict raging on social media. The attributes of the Echo Chamber and Filter Bubble can influence the prevalence of war flame on social media. This study aimed to examine the impact of the Echo Chamber and Filter Bubble on War Flaming. This study used a quantitative methodology to investigate the relationship among the three ideas. The sample was chosen through selective sampling, comprising 100 respondents identified as flame perpetrators. The study's results indicate a significant correlation between Echo Chamber and Filter Bubble phenomena and the prevalence of war flame on social media. This study demonstrates that Echo Chamber and Filter Bubble significantly influence War Flaming. Echo Chamber (X1) and Filter Bubble (X2) collectively account for 41.8% of the variance in War Flaming (Y). The results indicate that preventing war escalation is challenging due to the existence of echo chambers and filter bubbles, unless stringent content restriction policies are implemented by social media companies and enhanced self-awareness is cultivated from an early age through familial, social, and educational influences.

ABSTRAK

Echo Chamber dan *Filter Bubble* merupakan dua isu yang saat ini sedang dibahas secara luas. Pertumbuhan penggunaan media sosial yang pesat dalam beberapa tahun terakhir menyoroti potensi dampak yang dapat ditimbulkan oleh fenomena *Echo Chamber* dan *Filter Bubble*. Salah satunya adalah konflik yang berkecamuk di media sosial. Atribut dari *Echo Chamber* dan *Filter Bubble* dapat memengaruhi tingkat prevalensi *war flame* di media sosial. Penelitian ini menggunakan metode kuantitatif untuk meneliti hubungan di antara ketiga konsep tersebut. Sampel dipilih melalui teknik *selective sampling*, yang terdiri dai 100 responden yang diidentifikasi sebagai pelaku *flaming*. Penelitian ini menunjukkan bahwa *Echo Chamber* dan *Filter Bubble* secara signifikan memengaruhi *War Flaming*. *Echo Chamber* (X1) dan *Filter Bubble* (X2) secara bersama-sama menjelaskan 41,8% keragaman pada *War Flaming* (Y). Hasil penelitian menunjukkan bahwa pencegahan eskalasi konflik sulit dilakukan karena keberadaan *echo chamber* dan *filter bubble*, kecuali apabila kebijakan pembatasan konten yang ketat diterapkan oleh Perusahaan media sosial serta peningkatan kesadaran diri ditanamkan sejak usia dini melalui pengaruh keluarga, sosial, dan Pendidikan.

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INTRODUCTION

The swift advancement of digital technology, along with the growing number of social media users, has transformed how individuals engage and communicate within their online social milieu. Social media remains a prevalent tool for disseminating information, articulating viewpoints, and facilitating the establishment of global social networks. Each year, there is a growing trend of social media users, signifying the rising popularity of social media. Moreover, the evolution of social media, encompassing enhancements to established platforms and the introduction of diverse new networks, progressively satisfies the demands and aspirations of the interconnected community in their everyday existence.

Annual developments indicate a rise in social media users. Approximately 50% of Indonesians have social media accounts, totalling 139 million identified users across all regions of Indonesia (Ranier, 2024). Additional data indicates that social media is expanding rapidly; as of January 2023, Indonesia has 276.4 million inhabitants, 77 percent of whom use the internet, and 60.4 percent, or 167 million individuals, have accounts and engage with social media regularly (Roza, 2023). The growth trajectory of social media users is anticipated to persist annually. The Influence of social media nowadays astonishes specialists, since the number of global users is rapidly escalating.

This trend has engendered several phenomena that alter mindsets and paradigms in societal communication and interaction. It also offers individuals the option to articulate their opinions and emotions through a range of particular material and remarks. This transition undoubtedly presents obstacles due to its Influence on the proliferation of many societal issues, one of which is cyberbullying. Cyberbullying is synonymous with social media harassment. This is a significant ethical concern in social media, as it harms the victim's emotional well-being. This can result in heightened stress, sadness, social anxiety (Festus et al., 2024), fear, and may culminate in suicide ideation (Abinayaa & Nithya, 2022). Cyberbullying encompasses numerous forms, one of which is flame, characterized by the transmission of messages, both textual and emotive, that express fury and direct hostility, often resulting in severe and disrespectful language. This conflict manifests as Direct Flaming (explicit profanity) and Indirect Flaming (sarcastic insults) (Nitin et al., 2011).

War flaming is a social phenomena that emerges from the detrimental utilization of social media. The term "war flaming" denotes aggressive exchanges that result in conflict and animosity among social media users, frequently characterized by the use of vitriolic rhetoric. The ongoing conflict renders the social media ecosystem toxic, as it starkly contradicts established norms of civilized discourse. A 2022 research by the Pew Research Center indicated that approximately 46% of U.S. youths aged 13 to 17 reported experiencing or seeing aggressive online conduct, including war flaring (Vogels, 2022). According to Carr (2021), cyberbullying experienced by kids manifests across multiple electronic platforms, including emails, text messages, discussion forums, social media, and comment sections on websites and blogs. Moreover, among the several forms of cyberbullying, flame is prevalent among the research participants. Data indicates that burning behavior is extensively reported by 83% of the research participants. This demonstrates that burning is also extensively experienced by social media users.

The 2020 poll by Microsoft in Indonesia, included in the Digital Civilization Index report revealed that 47% of social media users have encountered cyberbullying, with one form being war flaming. Generation Z, comprising individuals born between 1997 and 2010, is the age group most frequently subjected to cyberbullying at a rate of 47%, followed by millennials, born between 1981 and 1996, at 54% (Mazrieva, 2021). Furthermore, a study

conducted by digital research organizations We Are Social and Hootsuite in early 2024 indicated that Indonesia is in the top 10 countries globally for time spent on social media, hence creating a significant potential for the prevalence of online conflict in the nation (Kemp, 2023). Social media serves as a platform that facilitates connections among individuals, particularly through its features that expose users to content aligned with their preferences, such as likes and comments. The study titled The Echo Chamber Effect on Social Media (Cinelli et al., 2021) emphasizes that everyday social media usage predominantly restricts exposure to diverse perspectives and ideas, hence facilitating the establishment of user groups with shared interests, habits, and beliefs. Limitations on exposure to echo chambers and filter bubbles Social media possesses the capacity to amplify the dynamics of warfare escalation.

This occurs because when individuals are solely presented with information that corroborates their beliefs, they are more inclined to exhibit hostile behaviour towards opposing perspectives. Moreover, they exclusively engage with and favor social media content that aligns with their beliefs. Research by Barbera, titled Social Media, Echo Chambers and Social Polarization (Barbera, 2019), underscores that echo chambers are prone to selective exposure and group polarization, wherein social network interactions are confined to ideologically homogeneous groups, leading users to encounter content that reinforces their preexisting beliefs. Content associated with hatred or fervour might induce a halo effect, perhaps resulting in online aggressive behaviour. The potential of the echo chamber will ultimately result in the emergence of the war flaming phenomenon on social media platforms. Echo chambers and filter bubbles have emerged as prominent subjects of contemporary discourse. Both phenomena significantly contribute to the escalation of war-related occurrences on social media. An echo chamber arises when individuals predominantly encounter information and viewpoints that affirm their pre-existing ideas, whereas bubble filters are created by algorithms that selectively display content aligned with the user's prior preferences and actions. Both tendencies restrict exposure to varied viewpoints and promote politicized and fragmented online groups.

This study is considered to have a high degree of novelty and to offer valuable scientific recommendations, particularly in the fields of digital literacy and the development of information and communication technologies. Previous studies have primarily focused on examining the effects and relationships between filter bubbles and echo chambers in relation to patterns of information consumption (Armanda et al., 2025) and internet usage behavior (Wulandari et al., 2021). n contrast, the present study specifically investigates the relationship between echo chambers and filter bubbles and the occurrence of *war flaming* on social media. Furthermore, with regard to the concept of *war flaming*, prior research has mainly concentrated on content analysis, examining how flaming manifests in comment sections or in posts from specific Instagram accounts (Hildansyah & Hkikmat, 2023). This study clearly differs from previous work, as it does not merely analyze content characteristics but places greater emphasis on examining the correlations and influences of echo chambers and filter bubbles on the emergence and escalation of war flaming, particularly within social media environments. Other studies addressing online flaming have emphasized user characteristics and friendship network structures as triggering or controlling factors of flaming behavior (Nitin et al., 2012). Classification of Flames in Computer Mediated Communications (Nitin et al., 2011). Compared to previous studies that primarily focused on individual characteristics, social reputation, and interpersonal network structures as determinants of online flaming behavior, this study offers a novel contribution by emphasizing the role of

algorithm-driven environments, particularly echo chambers and filter bubbles, in intensifying polarization and escalating online conflicts into large-scale flaming wars.

This study also seeks to determine the impact of echo chambers and filter bubbles on war flames. Researchers aim to investigate the impact of echo chambers and filter bubbles on online aggression and user interactions that contribute to flame wars, in order to comprehend the fundamental causes of aggressive behaviour on social media and its wider consequences for social cohesion and public discourse. This study's findings will enhance the discourse regarding the influence of digital media on society and provide insights into measures to alleviate its adverse impacts. The research ultimately seeks to foster a more inclusive and affirmative online atmosphere, favourable to productive debate and mutual respect among social media users.

METHOD

This study employs a quantitative methodology with a survey as its research strategy. The researcher selected a quantitative technique as it is the only method capable of elucidating the impact of one research variable on others. This variable is an attribute that is the primary topic of the research to be examined (Ghanad, 2023). Quantitative researchers seek to ascertain the impact of one variable on another, as exemplified in this study investigating the relationship between echo chambers and filter bubbles on war flaming. The selection of survey research methodologies aims to descriptively elucidate the attitudes or opinions of certain populations that have been chosen. In this case, this study wants to find out the influence of this research using the *cross sectional* who use questionnaires in the collection of research data in one research data collection (Creswell & Creswell, 2018). In this cross sectional survey, research data collection is carried out by researchers by showing similarities in variables. The research data sample was taken at one time only, not at several times.

In the quantitative research process carried out by researchers through various stages (Kittur, 2023), which starts from focus on your interest in the research field, then complete the research topic, then reduce it to a research hypothesis. In this study, the research hypothesis is:

H_0: The echo chamber and filter bubble variables have no effect on war flaming

H_a: The echo chamber and filter bubble variables affect on war flaming

The next step is compiling research questions to be researched. This research instrument will later be tested for validity and reliability. In this study, primary data collection requires appropriate instruments so that it is necessary to be tested for validity and reliability. Variable Y has 9 statement items, variable X1 has 8 statement items, and variable X2 has 6 statement items. By using the real level or $\alpha = 5\%$, if the value $r_{calculate} > r_{table}$ or value of sig < 0,05 then the result is rejecting H_0, so that the statement item is valid. Conversely, if the value $r_{calculate} < r_{table}$ or value of sig > 0,05 then the result is not rejecting H_0, so the statement item is invalid. Based on Table 1, all question items on the Y variable (*war flaming*) have a value of sig < 0,05 so that all statement items are valid.

Table 1. Results of the Validity Test of the War Flaming Variable (Y)

Indicators	Statement	$r_{calculate}$	sig	α	Results
Y_1	I once made a blasphemous comment on content that I didn't like.	0,541	0,000	0,05	valid
Y_2	I once commented using abusive words.	0,524	0,000	0,05	valid
Y_3	I have conveyed information that I think is true but has not been proven to be true.	0,328	0,001	0,05	valid
Y_4	I have fought against a comment that contradicts me.	0,708	0,000	0,05	valid
Y_5	I once reprimanded people who made negative comments.	0,506	0,000	0,05	valid
Y_6	I used to feel angry when I read negative comments written by others.	0,588	0,000	0,05	valid
Y_7	I want to write a comment more and more when someone likes my comment.	0,568	0,000	0,05	valid
Y_8	I once commented negatively on content that I didn't like, when I read comments from other accounts that also thought the same as me.	0,694	0,000	0,05	valid
Y_9	I've reported content that I didn't like.	0,610	0,000	0,05	valid

Source: Research Data, 2024

Next, a validity test was carried out for the *Echo Chamber variable* (X1). Based on Table 2, each statement item has a value of sig < 0,05; so it can be concluded that all statement items are valid.

Table 2. Echo Chamber Variable Validity Test Results (X1)

Indicators	Statement	$r_{calculate}$	sig	α	Results
X1_1	I follow an account that has the same likes or views as me	0,773	0,000	0,05	valid
X1_2	I feel like Instagram is giving me recommendations for the accounts I'm looking for	0,707	0,000	0,05	valid
X1_3	On certain issues, I feel that the information shared by the accounts I follow reinforces my views	0,755	0,001	0,05	valid
X1_4	I like posts shared by accounts I follow	0,818	0,000	0,05	valid
X1_5	The accounts recommended to me are those that have the same favorite topics as me	0,837	0,000	0,05	valid
X1_6	Every time I like or share information from an account,	0,786	0,000	0,05	valid

	another account will appear that also provides similar information so that it supports my views				
X1_7	I just searched and opened the account whose content I wanted to see	0,510	0,000	0,05	valid
X1_8	I like to use the like, click, search, comment, and share features on social media	0,795	0,000	0,05	valid

Source: Research Data, 2024

Then validity testing is also carried out for the *filter bubble variable (*X2). The results in Table 3 show that the values of sig < 0,05 on each statement item, so it can be concluded that all statement items are valid.

Table 3. Filter Bubble Variable Validity Test Results (X2)

Indicators	Statement	$r_{calculate}$	sig	α	Results
X2_1	I feel like Instagram knows what kind of content I like	0,809	0,000	0,05	valid
X2_2	I find it easier to find information through social media than other sources	0,749	0,000	0,05	valid
X2_3	The content recommendations presented on Instagram make it easier for me to find the information I want	0,778	0,001	0,05	valid
X2_4	Every time I see a piece of content, similar content automatically appears on my social media	0,842	0,000	0,05	valid
X2_5	The content that appears on my social media is the content I'm looking for	0,636	0,000	0,05	valid
X2_6	Social media algorithms form the same information as ask me	0,791	0,000	0,05	valid

Source: Research Data, 2024

To provide measurement results that are close to the actual value, an instrument that has been proven to be reliable is also needed. The smaller the measurement error, the more reliable it can be said.

Table 4. Reliability Test Results of Each Variables

Variable	Cronbach's Alpha	Standard	Results
War Flaming (Y)	0,731	0,809	reliable
Echo Chamber (X1)	0,886	0,749	reliable
Filter Bubble (X2)	0,860	0,778	reliable

Source: Research Data, 2024

Next step is determine the population and research sample. In the selection of samples, this study uses a non-probability sampling in quantitative research. One of the strategies for determining research samples is selective sampling. The reason for choosing selective sampling is because this study examines and focuses on a specific issue, namely war flaming.

The research respondents are perpetrators of war flaming in social media so they cannot be chosen at random. Purposive sampling is deliberate sampling based on the identification of the researcher that the respondent matches or corresponds to the event or case in the study. So, respondents are deliberately selected to provide important information related to the main topic of the research (Taherdoost, 2018). The last step is Processing and analysis of statistical data, both descriptive analysis and multiple linear regression analysis.

RESULTS AND DISCUSSION

The respondents in this study are Instagram social media users who have experienced/been involved in *war flaming*, so the sampling technique used is selective sampling. The method of data collection is by distributing questionnaires/questionnaires that are distributed to selected respondents. The total number of respondents who filled out the questionnaire was 100 people. Based on Table 5, there are 58% of respondents who are female and 42% who are male. The respondents who are most involved in *war flaming* are those who have an age range of 13 – 22 years (Generation Z), which is 70%.

Table 5. Percentage of Respondents by Gender and Age

Age	Male (%)	Female (%)	Total (%)
13 - 22 years old (Generation Z)	27	43	70
23 - 38 years old (Generation Y)	13	13	26
39 - 54 years old (Generation X)	2	2	4
Total (%)	42	58	100

Source: Research Data, 2024

Based on Table 6, respondents came from various educational qualifications, ranging from junior high school/equivalent to postgraduate level (S2/S3). The most selected respondents came from the last level of high school/equivalent.

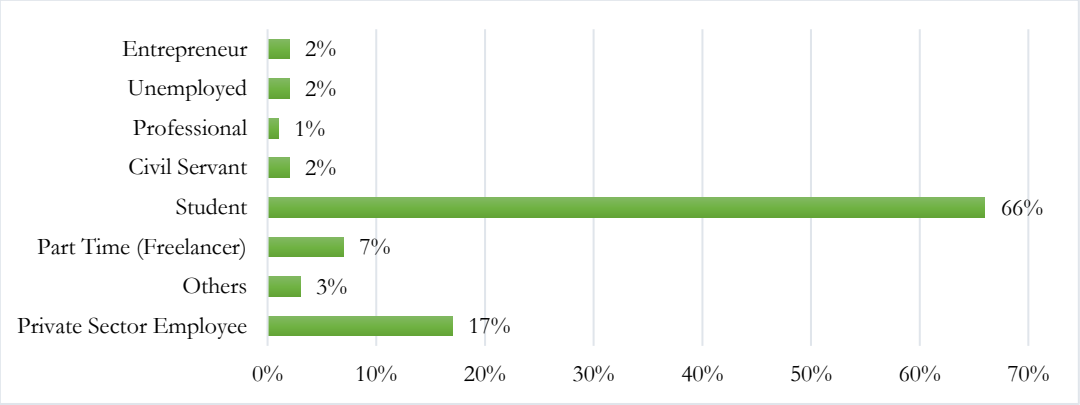
Table 6. Percentage of Respondents' Last Education Level

Level of Education	Last Education (%)
Junior high school/equivalent	3
High School/equivalent	88
Diploma	2
S1/ equivalent	5
S2/S3	2
Total (%)	100

Source: Research Data, 2024

Then, in Figure 1, it can be seen that the selected respondents also come from various professions. The highest percentage of respondents involved in *war flaming* are those who are still in the status of students.

Figure 1. Percentage of Respondents' Job Profiles



Source: Research Data, 2024

Furthermore, in Table 7, it can be seen that 20% of respondents access social media for 0 – 2 hours and 55% of respondents access social media for 3 – 4 hours. In fact, as many as 25% of respondents accessed social media for more than 7 hours. The social media platforms that are most often used by respondents can be seen in Figure 2. The highest percentage of the types of platforms that are frequently accessed by respondents are Tiktok and Instagram with 42% and 40% respectively. Furthermore, the types of content that appear on respondents' social media also vary. In Figure 3, news and daily life content such as tips and tricks, daily activities, content creators, and the like, as well as entertainment are the most frequent content that appears on respondents' social media.

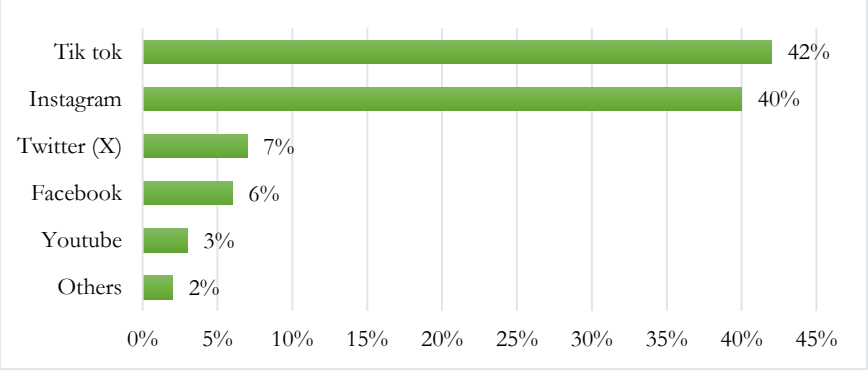
Table 7. Percentage of Social Media Usage Time by Respondents

Duration	Social Media Usage (%)
0–2 hours	20
3–4 hours	55
More than 7 hours	25
Total (%)	100

Source: Research Data, 2024

Furthermore, an analysis of the types of social media platforms most frequently used by the respondents indicates that TikTok and Instagram are the most preferred platforms, accounting for 42% and 40% of user preference, respectively. Overall, the aggregated respondent data regarding the social media platforms most commonly utilized in this study are presented as follows:

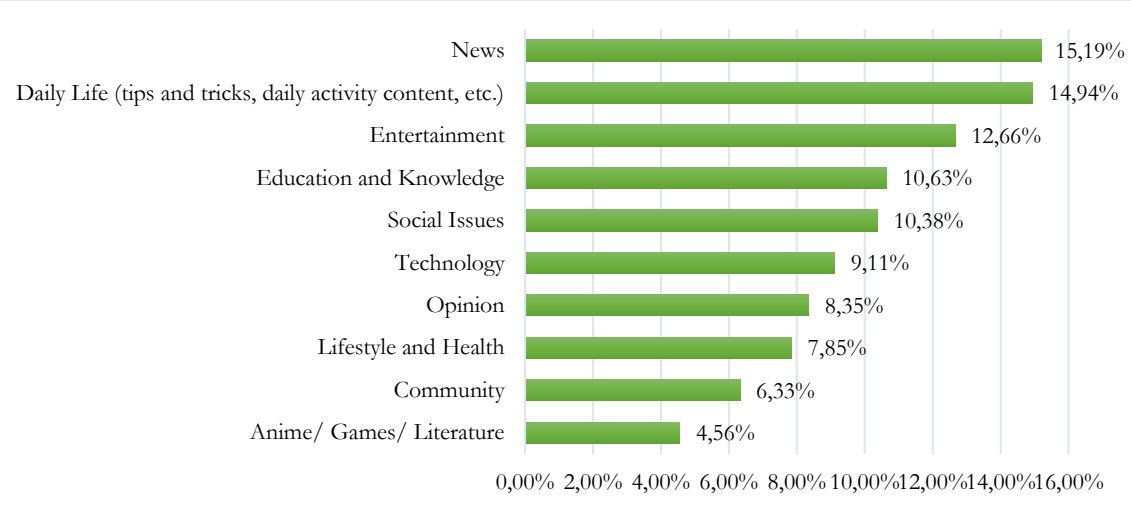
Figure 2. Types of Social Media Platforms Most Used by Respondents



Source: Research Data, 2024

In addition, the findings also provide data on the types of social media content most frequently viewed by the respondents in this study. The results indicate that respondents predominantly consume content related to news, daily life information, and entertainment. More specifically, the distribution of content consumption among respondents is illustrated in the statistical diagram below.

Figure 3. Types of Content That Often Appear on Respondents' Social Media



Source: Research Data, 2024

In this case, the war flaming variable is the bound variable (Y) and the independent variable is the echo chamber (X1) and the filter bubble (X2). The two independent variables will be tested for their effect on the bound variable. Data collection was through a questionnaire, using a Likert scale where respondents chose one of the four answer options provided (polytomus data).

1. Classical Assumption Test

The classical assumption test is a pre-condition test to conduct regression analysis. Statistical tests used in classical assumption testing include: First, the Normality Test. Normality testing uses Kolmogorov-Smirnov. If the value of sig > 0,05, then the data are normally distributed; if the value of sig < 0,05, then the data are not normally distributed. The results of the Kolmogorov-Smirnov normality test in Table 8, show that the value of sig = 0,200 > 0,05. Thus, the data is distributed normally.

Table 8. Normality Test Results (Kolmogorov-Smirnov Test)

Test Statistic	Asymp. Sig.
0,068	0,200

Source: Research Data, 2024

Scound, the Multicollinearity Test. This test was conducted to determine whether there is a linear relationship between the independent variables. In a multiple regression analysis, there should be no linear relationship among the independent variables. If the value $tolerance > 0{,}10$ or $VIF < 10$, then there is no multicollinearity. On the other hand, if the value $tolerance < 0{,}10$ or $VIF > 10$ then multicollinearity occurs. Based

on Table 9, both free variables have a value $tolerance > 0{,}10$ of or $VIF < 10$. Thus, it can be concluded that there are no symptoms of multicollinearity.

Table 9. Multicollinearity Test Results

Variable	Tolerance	VIF
X1	0,300	3,331
X2	0,300	3,331

Source: Research Data, 2024

Third, the Heteroscedasticity Test. The assumption that heteroscedasticity does not occur must be met before performing multiple linear regression so that the model does not give biased results. The technique used is the Glejser test. If the value sig > 0,05 then there is no heteroscedasticity. However, if the value sig < 0,05 then the heteroscedasticity occurs. The results in Table 10 show that the values sig > 0,05; so that there is no heteroscedasticity.

Table 10. Heteroscedasticity Test Results

Variable	Sig.
X1	0,769
X2	0,186

Source: Research Data, 2024

2. Multiple Linear Regression Analysis

Furthermore, the Influence of the echo chamber variable (X1) and the filter bubble variable (X2) on the war-fighting variable (Y) will be tested. The regression equation model obtained is:

$$y = 8{,}540 + 0{,}361X_1 + 0{,}389X_2 \qquad (1)$$

In equation (1), if variable X1 experiences an increase of 1% with other variable X constant, then variable Y will experience an increase of 36.1%. Conversely, if variable X1 experiences a decrease of 1% with other variables constant, then variable Y will also experience a decrease of 36.1%. Furthermore, if variable X2 experiences an increase of 1% with the other variable X constant, then variable Y will experience an increase of 38.9%. Conversely, if the other X variable is constant and the X2 variable decreases by 1%, then the Y variable will also experience a decrease of 38.9%.

3. Hypothesis Testing

First, Determination Coefficient Test Results (R^2). The value of the determination coefficient indicates how well the free variable explains the bound variable. The value of R^2 tends to increase when there is a new independent variable added. However, the value *of Adjusted* R^2 will increase if the addition of free variables makes a significant contribution. Based on Table 11, the *Adjusted* R^2 value is 0.418 or 41.8%. Thus, the *Echo Chamber* variable (X1) and the *Filter Bubble* variable (X2) can explain *the War Flaming* variable (Y) simultaneously (together) by 41.8%, while other variables explain the rest.

Table 11. Determination Coefficient Test Results

R^2	Adjusted R^2
0,430	0,418

Source: Research Data, 2024

Scound, F-test. The F test is used to test the joint influence of independent variables on the dependent variables. The hypotheses include:

Ho_1: The Echo Chamber and Filter Bubble variables have no effect on War Flaming

Ha_1: Echo Chamber and Filter Bubble variables affect War Flaming

In decision-making, if the F value is calculated > F table or value sig < 0,05 then Ho_1 it is rejected. Conversely, if the value of F is calculated < F of the table or value sig > 0,05 then Ho_1 it is accepted. In table 12, the F value is calculated as 36,518 > the F table is 3,090 or the value sig = 0,00 < 0,05; so Ho_1 it is rejected. Thus, the variables Echo Chamber and Filter Bubble have a significant effect on War Flaming.

Table 12. F-test Result (ANOVA)

Type	Sum of Squares	D_f	Mean Square	F	Sig
Regression	962,999	2	481,499	36,518	0,000
Residual	1278,961	97	13,185		
Total	2241,960	99			

Source: Research Data, 2024

Third, T-test. The T-test is used to test the effect of each independent variable on the bound variable (partially). The hypotheses include:

Ho_2: Echo chamber variable has no effect on war flaming

Ha_2: Echo chamber variable affects war flaming

Ho_3: Filter bubble variable has no effect on war flaming

Ha_3: Filter bubble variable affects war flaming

In decision-making, if the value t is calculated > t table or value of sig < 0,05; then H_0 it is rejected. However, if the value t is calculated < t table or value of sig > 0,05 then H_0 it is accepted.

Table 13. T-test Result

Type	t-calculated	Sig
(Constant)	4,361	0,000
X1	2,663	0,009
X2	2,222	0,029

Source: Research Data, 2024

Based on Table 13, the t-value calculated on the variable X1 is 2.663 > the t-value of the table is 1.984 or sig value 0,009 < 0,05; so Ho_2 it is rejected. Thus, the echo chamber variable has a significant effect on war flaming. Furthermore, the calculated t-value on the variable X2 is 2.222 > the t-value of the table is 1.984 or sig value 0,029 < 0,05; so Ho_3 it is rejected. This means that the filter bubble variable has a significant effect on war flaming.

This study shows that the dominance of flaming perpetrators in social media is who have an age range of 13–22 years (Generation Z), which is 70%. Generation Z refers to people born in the mid-1990s to early 2010s (Rachman et al., 2025). This generation is also considered a generation that grows up with the presence of internet technology. Therefore, in terms of digital skills, this generation demonstrates high adaptability and effective use of

digital technology (Siagian & Yuliana, 2023). As a generation that is close to the development of digital technology, especially social media, Gen Z faces various challenges, namely cyberbullying, one of which is War Flaming. Gen Z has a great chance of being exposed to negative content from social media, so it is also possible for Gen Z to face various phenomena, especially war flaming (Hu, 2024).

Furthermore, when viewed from a profession or job, a person who has experience in war flaming is predominantly high school students and college students. Based on the results of the research data, the highest percentage of respondents involved *War Flaming* is 66% still in the status of students. Most of the victims are also fellow students or students. This is in accordance with the research on the phenomenon of cyberbullying in DKI Jakarta students (Hanika et al., 2021), 82 respondents out of 100 respondents felt acts of bullying, domineering, cursing or being cursed by others on social media which is part of war flaming behavior.

All research respondents who had experience in doing war flaming using social media in a span of 3-4 hours with the dominant activity was accessing social media Tik Tok and Instagram. The duration of social media access time in the range of 3-4 hours is also in accordance with data from the Global Web Index in 2022 (Kurniasari et al., 2023), namely from 4.6 million social media users, accessing social media at that time duration (Kurniasari et al., 2023). Social media is used for news searches and entertainment activities as well as part of daily activities. In this time span, social media users have a relatively long time and open opportunities for respondents to be exposed to social media content that can trigger anger, negative emotions and lead to conflicts and controversies, which can ultimately trigger war flaming. The long duration of accessing social media shows that social media is currently part of the daily life routine which functions as a medium for communicating and interacting, searching for information, entertainment which all have the potential to occur *hatecomment* and *War Flaming* If the use of social media is not wise.

In addition, respondents choose to be more dominant using the TikTok and Instagram platforms.These two social media do have interactive features that provide great opportunities for their users to be able to interact and respond actively through *likes, share* and *comment* (Nurbaiti, 2024). The use of social media that is quite intense but not balanced with policies in its use can have the potential for war flaming, especially when reading or seeing sensational, controversial and provocative information. If there is content that triggers rejection, it will encourage users to *War Flaming* as an active response to the content.

From this study, it was found that the variables Echo Chamber (X1) and Filter Bubble (X2) simultaneously could only explain 41.8% of the variation of the War Flaming (Y) phenomenon. While the remaining 58.2% showed that there were other factors that affected War Flaming (Y), but were not studied in this study. Other variables that have the potential to affect war flaming are psychological variables of a person's psychiatric and mental condition. There is also the influence of the halo effect, this halo effect is also a cognitive bias that is felt and experienced by humans. This halo effect discusses how the first impression is formed on others (Lammers et al., 2016). Perceptions and judgments of others then affect the way a person acts and responds to their behavior. This halo effect also has the potential to influence behavior *War Flaming* on social media. Other factors are in the form of other online behaviors such as aggression, emotions, other levels of social media engagement.

The percentage of influence that has not reached 50% opens up opportunities for other factors to become other independent variables that are more relevant. The potential of

other variables that can affect War Flaming (Y) can be in the form of social, psychological, and other variables related to the digital behavior of social media netizens such as digital communication and interaction, aggression, anonymity, patterns of social media utilization, psychosocial factors, and platform features or characteristics in social media. In future studies, other potential variables can be added to improve R Square and can improve the model's ability to explain variations and independent variables.

Even so, the R number obtained in the study is considered quite high because it almost reaches 50%. Previous research on the influence of the bubble and echo chamber filter algorithms on internet usage behavior stated that basically the bubble and echo chamber filters have an effect on the scope and ecosystem of users, because the content sorting feature can very well read what content is often consumed according to the algorithm of social media user behavior (Wulandari et al., 2021). On the one hand, this algorithm can have a positive impact, but on the other hand it can have a negative impact depending on the user's behavior, including the potential to convince social media users of their opinions and opinions to like or hate according to the continuous exposure of content that is in accordance with the algorithm of their information search behavior on social media.

The academic recommendation that can be concluded from this study is that in its application, although the Echo Chamber (X1) and Filter Bubble (X2) variants theoretically have a fairly high relationship and influence on War Flaming (Y), these results still show that there are factors that reach 58.2% that need to be further explored, including digital communication culture, social interaction in cyberspace and communication dynamics in more complex digital media.

This condition constitutes a serious challenge that must be addressed carefully, as the characteristics of social media foster the emergence of echo chambers and filter bubbles, which in turn generate negative consequences, particularly in the form of flaming wars (hostile online conflicts). Therefore, one essential preventive measure is strengthening moral values, especially among younger generations. Previous studies have identified several strategies that can be developed to enhance moral awareness and promote positive values among youth, including the implementation of Pancasila and civic education values that emphasize mutual respect, tolerance, and openness to diversity (Siregar & Rachman, 2024), the utilization of local cultural practices to foster tolerance and social harmony (Ginting et al., 2025) and the strengthening of complex problem-solving competencies through active youth engagement in the digital society era (Hidayah et al., 2025). Through the implementation of these diverse strategies, it is expected that the prevalence of flaming wars on social media can be reduced.

Furthermore, enhancing moral awareness within society, particularly in the context of social media use, is not the responsibility of a single actor but requires collaboration among various social elements, including parents or families, educators, social media platform providers, influencers, local community or traditional leaders, and the government. All of these stakeholders play an important role in building and strengthening positive character within society. This collaborative effort is especially crucial given that the algorithmic dynamics of social media tend to reinforce *echo chambers* and *filter bubbles*, which can intensify polarization and increase the likelihood of online hostility or *flaming wars*. Research findings indicate that the development of positive character among youth must be supported by their surrounding environment, with the family serving as the most fundamental source of support (Salis et al., 2025). In addition, the government also plays a significant role in promoting positive social behavior, especially in digital environments. This can be enhanced through

the integration of legal education and digital ethics into higher education curricula (Hanum et al., 2025), which is essential for equipping young people with the critical awareness needed to navigate polarized digital spaces and to reduce the escalation of online conflicts.

CONCLUSION

This study demonstrates that Echo Chamber and Filter Bubble account for 41.8% of the variation in the War Flaming phenomenon. The Echo Chamber and Filter Bubble phenomenon, characterized by the ability to interpret algorithms based on social media users' information-seeking behavior, primarily determines the type of information and content users encounter in their everyday digital media interactions. Ultimately, due to this algorithmic occurrence, social media users appear to be ensconced in an echo chamber regarding their choices in selecting and consuming content that aligns with their preferences and requirements. The Echo Chamber and bubble filter algorithm significantly influence the formation and reinforcement of social media users' views and attitudes regarding a topic or social issue, resulting in both good and negative effects based on user engagement.

When linked to war rhetoric, it becomes evident that echo chambers and filter bubble algorithms can reinforce an individual's animosity towards specific content or news items, rendering them more emotionally volatile and prone to utterances classified as hate speech. This can lead to a willingness to engage in conflict, violence, and provocation, driven by their unwavering belief in the information they consistently consume, which aligns with their perspectives. Consequently, a pragmatic advice derived from this study's findings is the necessity for all social media users to maintain heightened awareness when evaluating and consuming news and information from diverse perspectives, rather than solely those that align with their preexisting opinions. A critical mindset and analytical intelligence are essential to prevent conflict escalation caused by the echo chamber phenomena and filter bubble algorithms, particularly on social media platforms.

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Disclosure of Interests

The authors have no competing interests to declare relevant to this article's content.

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