

Digital Echo Chambers and Political Polarization: A Mixed-Method Study of Social Media Use and Political Attitude about 2022 No-confidence Vote in Pakistan

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ABSTRACT

Aim of the Study: This paper discusses how social media contributed to political polarization in Pakistan in the 2022 no-confidence vote and the Pakistan Democratic Movement (PDM) mobilization. Based on an integrated theoretical framework that combines the agenda-setting theory, the uses and gratifications theory and the echo chamber theory, the study examines the impact of social media use on political attitudes and the role in causing ideological polarization.

Methodology: It was a mixed-method study design including survey data (n=320) and qualitative data obtained through semi-structured interviews (n = 30). The quantitative analysis involving correlation and multiple regression indicates that social media use, belief reinforcement, are important predictors of political polarization, whereas political engagement is a modulating factor. Further validity and reliability tests prove that the measurement model is sound.

Findings: The combination of quantitative and qualitative outcomes points to the fact that political polarization is a multi-dimensional process, which is determined by the interplay of technological systems and user behavior. Interestingly enough, the research establishes a discrepancy between how users experience algorithmic filtering and how they are aware of its impact. The results indicate that social media is a multiplier of the existing socio-political divisions but not a factor in polarization.

Conclusion: The research add to the literature by bringing empirical evidence in a developing democratic situation and by offering practical implications of digital literacy, platform governance, and policy interventions to decrease online polarization.

Keywords: Social Media, Political Polarization, Pakistan, Echo Chambers, Political Engagement.

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1. INTRODUCTION

The rapid expansion of social media has made a fundamental change in political communication, especially among the youth population in developing democracies. Facebook and Twitter have become key centers of political activity in Pakistan, where users can access information, share opinions and engage in political debate in real time (Safdar et al., 2025; Waseem, 2021). Social media emerged as the most important source of influence on the formation of the discourse and the impact on politics during politically charged events, most importantly, the 2022 vote of no-confidence of Prime Minister Imran Khan and the following mobilization organized by the Pakistan Democratic Movement (PDM).

Although social media has facilitated political participation and democratized access to information, its contribution to the rise of political polarization has become more pronounced. Political polarization is the process that leads to individuals forming ideologically dissimilar and, in many cases, antagonistic groups and diminishes the likelihood of agreement and productive dialogue (Safdar et al., 2026; Safdar & Eman, 2025; McCoy, 2022; Carothers and O'Donohue, 2019). This polarization in the Pakistani context is not an ideological phenomenon but is rooted in more extensive socio-political divisions, such as civil-military tensions, partisan loyalties, and identity-based affiliations (Farid, 2023).

The current literature indicates that social media sites are associated with polarization, which occurs due to the presence of selective exposure, algorithmic filtering, as well as the creation of echo chambers where users are largely exposed to information that confirms their already established opinions (Sunstein, 2001; Pariser, 2011). These processes are further enhanced in times of political instabilities when alternative narratives, fake news and emotionally charged content spread quickly through the digital networks. Social media is actively used by political actors and media cells affiliated with a particular party to develop issues, gather supporters, and discredit opponents, further dividing the political sphere in Pakistan (Safdar & Khan, 2025; Safdar & Fatima, 2024; Qaisar and Riaz, 2020; Javeed et al., 2022).

Although social media and political polarization are increasingly becoming a topic of scholarly interest in most parts of the world, there is still a dearth of empirical studies that specifically investigate the dynamics of these processes in Pakistan during important political activities (Afzal, 2023; Safdar et al., 2018; Safdar et al., 2018a; Safdar et al., 2016). Specifically, little has been done regarding the interaction of social media use and user perceptions, political engagement, and exposure to polarized information in the Pakistani online space. This is a wide divide considering the unique political system in the country, where polarization, driven by the elite, collides with the digital involvement that is rapidly growing.

This gap is addressed in this paper which discusses the role of social media in promoting political polarization in Pakistan in the 2022 no-confidence vote and the PDM movement. The study uses survey data to analyze trends in social media usage, political participation and perceptions of polarization among users. Moreover, the research suggests the inclusion of the qualitative data to be able to capture the richness of the user experiences and the subjective aspects of online political communication. This research will have the following goals by placing the analysis within the existing theoretical frameworks, such as the agenda-setting theory, the uses and gratifications theory, and the echo chamber theory.

- To examine the extent to which social media usage influences political polarization among users in Pakistan during the 2022 no-confidence vote and PDM movement.
- To identify the key mechanisms, such as echo chambers, algorithmic filtering, and misinformation, that contributes to political polarization in the online environment.
- To analyze the relationship between social media engagement and political participation in shaping polarized political attitudes.
- To explore how social media exposure reinforces or alters users' pre-existing political beliefs and perceptions.

- To gain qualitative insights into users' experiences and perceptions of political discourse and polarization on social media platforms.

2. LITERATURE REVIEW

2.1 Conceptualizing Political Polarization

Political polarization refers to the process through which individuals and groups increasingly align along rigid ideological lines, resulting in diminished consensus and heightened antagonism between opposing camps (McCoy et al., 2018; Carothers & O'Donohue, 2019). Political polarization means the process by which people and groupings move towards more extreme polarities of ideological beliefs, leading to reduced agreement and more ire between antagonistic camps (McCoy et al., 2018; Carothers and O'Donohue, 2019). The modern academic literature differentiates ideological polarization (a difference in preferences on policies) and affective polarization (emotional animosity and distrust towards political opponents) (McCoy and Somer, 2019). The latter is especially important, as it changes the political rivalry into the rivalry of identity, in which antagonistic entities are not viewed as opponents but as existential threats.

Researchers state that polarization is not necessarily harmful to democracy; it only becomes defective when it turns into what McCoy and Somer (2019) define as pernicious polarization, which means intolerance towards each other, undermining democratic principles, and the discrediting of political adversaries. In this case, politics becomes confrontational instead of deliberative, and chances of compromise and positive interaction are limited.

Notably, polarization is becoming more and more explained as a socially constructed process, which is formed through political actors, media systems and communication environments (Benson, 2023). This viewpoint indicates that the structural factors should be looked at, but also the communicative processes that strengthen the divisions within a society.

2.2 Political Polarization in Pakistan

The historical, institutional, and social-political dynamics have been entrenched in the political polarization in Pakistan. The politics of the nation have been characterized by civil-military conflicts, unbalanced democratization processes, and elite-initiated power games, which have led to a disintegrated political arena (Farid, 2023; Rais, 2022). In contrast to most Western democracies, where polarization tends to be created by the ideological difference between citizens, polarization in Pakistan is mostly top-down, meaning that it is political elites who create narratives that are then internalized by the masses (Khan et al., 2020).

According to the available literature, political parties in Pakistan often resort to adversarial rhetoric, personal attack, and delegitimization tactics, which further fuel divisions within supporters (Lodhi, 2021). These forces are further supported by identity-based cleavages such as ethnic, religious, and regional differences that overlap with political affiliations to further enhance the fragmentation of the society.

These divisions have been intensified by recent political developments, especially the 2022 no-confidence vote and following political actions, which have created an atmosphere of increased political friction and lower levels of tolerance for conflicting opinions. Though the structural and elite-based variables of polarization in Pakistan have been well established, few studies have been done on the mediation and amplification of these divisions by digital platforms.

2.3 Social Media and Political Polarization

The emergence of social media has radically transformed the manner in which political communication is done by allowing information to be shared quickly, allowing more people to participate, and allowing direct contact between political actors and citizens. Whereas these platforms have made access to political discourse more democratic, they have also been found to stimulate increased polarization in politics.

The existing literature indicates that social media may lead to polarization by a range of mechanisms, including selective exposure (where people actively seek out information that supports their current views) and algorithmic filtering (where content is prioritized according to the user's preferences) (Sunstein, 2001; Pariser, 2011). The processes form groups where people are mostly only exposed to similar views, which strengthens ideological homogeneity and limits exposure to opposing views, forming echo chambers.

In addition, emotionally charged and sensational information is more likely to gain more engagement on social media, which only enhances polarizing stories (Sunstein, 2018). This interaction promotes the dissemination of misinformation, political propaganda and unfavorable dialogue, which helps in building antagonistic political identities.

The association between polarization and social media is, however, not one-sided. It can also be developed on social media, according to some scholars, which also leads to exposure to various perspectives and enhances awareness of politics, especially in younger users (Mukhongo and Macharia, 2016). This implies that social media is like a two-sided sword, as it facilitates democratic involvement and increases ideological polarization at the same time.

2.4 Social Media and Political Polarization in Pakistan

Social media has come out as a highly effective tool of political communication, especially with the youth in the Pakistani context. Activists, influencers, and political parties are actively utilizing such platforms as Facebook or Twitter to shape opinions, attract followers, and form political frames (Afzal, 2022; Javeed et al., 2022).

As the empirical data demonstrates, the coordinated messages, the agenda-setting approaches, and the digital campaigns have been utilized by politically motivated actors in Pakistan to influence the online conversations (Qaisar and Raza, 2020). They are distinguished by sharing partisan information, increasing the impact of specific stories, and, under different circumstances, silencing the opponents through online bullying and harassment (Qaisar et al., 2022).

Moreover, studies indicate that exposure to polarized political materials on social media may support preexisting beliefs and lead to the rise of greater ideological rigidity among social media users (Youseafzai, 2022). This is especially worrying within the Pakistani situation, where politics are largely associated with emotional and symbolic affections, and individuals are more vulnerable to affective polarization.

In spite of these observations, the literature on it is still deficient in various aspects. To start with, the majority of the studies concentrate on the impact of social media on political mobilization and participation, and relatively little has been said on the impact of social media on polarizing politics. Second, no empirical studies have been conducted on users themselves and their perceptions and experiences of polarization in online settings. Third, not many studies combine quantitative and qualitative methods to be able to capture the quantifiable trends and the subjective aspects of social media use.

2.5 Theoretical Framework

The proposed study is based on a comprehensive theoretical framework, which is informed by an agenda-setting theory, uses and gratifications theory, and the echo chamber/filter bubble theory to explain how social media has contributed to the process of political polarization in Pakistan. The paper does not address these theories individually but rather combines them to form a more comprehensive picture of the formation of political attitudes and the strengthening of ideological differences through the use of digital platforms.

2.5.1 Agenda-Setting Theory and Political Salience

According to the theory of agenda setting, the media does not determine what people think, but only implies what people think about based on preference of a few issues relative to others (McCombs and Shaw, 1972). In the context of social media, this process is no longer controlled by any of the traditional media institutions but increasingly affected by the algorithmic processes, trending topics, and organized political communications.

In politically relevant moments, like the no-confidence vote in 2022 or the PDM mobilization, social media served as an essential resource to promote certain narratives, frame political participants, and focus people on a particular problem. This process was actively supported by political parties, influencers, and cells of digital media engaged in the strategic distribution of information aimed at changing the perceptions of people (Qaisar and Riaz, 2020). In this study, the agenda-setting theory is used to demonstrate how repeated exposure to politically edited information on social media affects users' attitudes toward the political significance, which leads to the development of polarized opinions.

2.5.2 Uses and Gratifications Theory and User Motivation

The uses and gratifications theory focuses on the active aspect of people when choosing media as a means to fulfill certain needs, including information, socialization, identity, and entertainment (Katz et al., 1973; Ruggieri, 2000). Within the framework of social media, the user is not a passive consumer but an active participant who selects material that follows the interests and preferences of the user. Users tend to use social media to be informed, share their opinions, and find other like-minded people in a politically charged environment. Nonetheless, such selective participation may give rise to preference-based exposure in which people continue to consume more content that supports their pre-existing assumptions.

This paper utilizes the uses and gratification theory to describe how user patterns and motives of social media use lead to selective exposure, which further promotes the strengthening of political attitudes and enhances polarization.

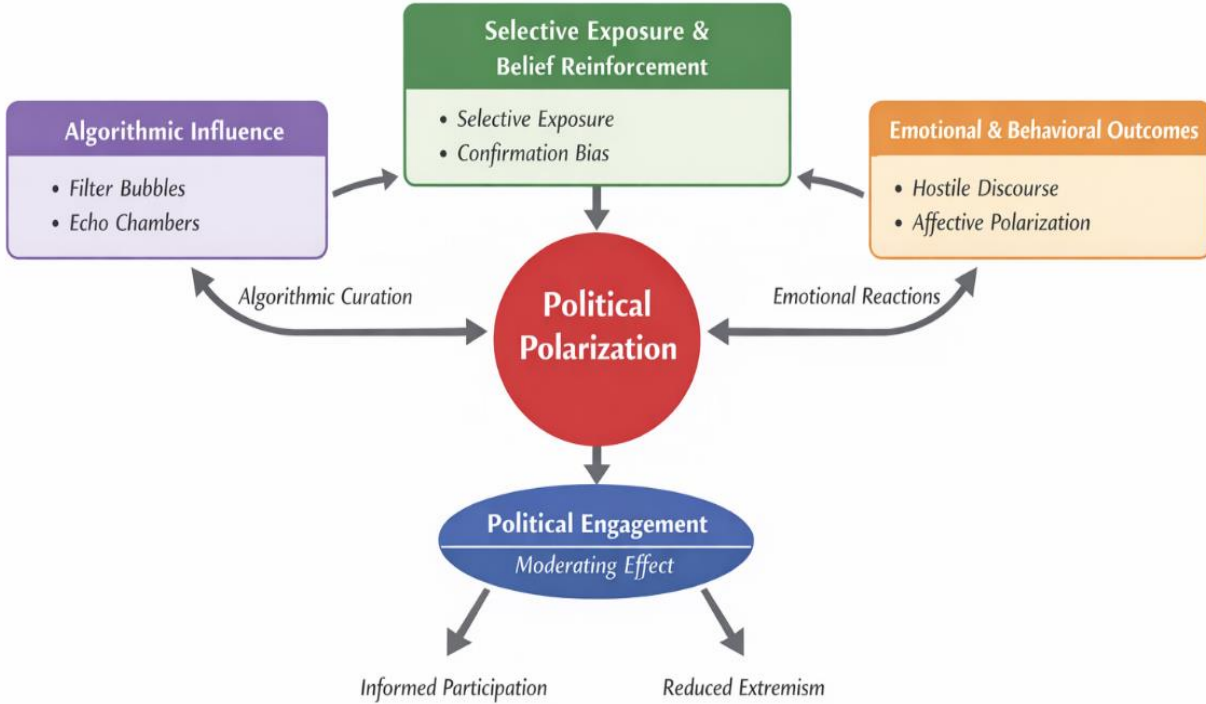
2.5.3 Echo Chambers, Filter Bubbles, and Reinforcement Mechanisms

The critical interpretation of the role of social media spaces in the homogeneity of ideologies is possible with the help of the theories of the echo chamber and filter bubble. Echo chambers are the communicative environments in which individuals are presented with information that is largely reflective of their personal views, whereas filter bubbles are algorithmically constructed environments in which content is customized based on the actions of users (Sunstein, 2001; Pariser, 2011). These systems limit the exposure to diverse opinions and predetermine the situation when the conflicting arguments are either excluded or weakened. Consequently, people get more attached to their beliefs, and political identities get stronger and more hostile.

Such mechanisms of reinforcement can significantly increase the affective polarization in the Pakistani context, where political affiliations are usually emotional, or identity-based. In the exposition of the role of content exposure through algorithms and engagement between the homophilic in the reinforcement of polarizing political beliefs, the paper uses the concept of an echo chamber and filter bubble.

Figure 1 represents the combined theoretical framework that will inform this study. The model shows how the use of social media can lead to political polarization by facilitating a series of processes, such as agenda-setting effects, selective engagement, and reinforcement processes, like echo chambers. It also emphasizes the moderating effect of political participation and proposes the idea that the informed participation could decrease extreme polarization. This model incorporates structural, behavioral, and cognitive aspects to offer an in-depth explanation of polarization on online platforms.

Figure 1: *Integrated Theoretical Model of Social Media and Political Polarization*



3. METHODOLOGY

This research uses a mixed-method research design to test the connection between the use of social media and political polarization in Pakistan in the 2022 no-confidence vote and the 2022 Pakistan Democratic Movement (PDM) mobilization. To quantify the measurable tendencies of social media use, voting turnout, strengthening of beliefs and perceptions of political polarization, a quantitative design approach was used. The items of the questionnaire that was employed to gather data were Likert-scale questions with the questionnaire being a structured questionnaire, as a result of the existing literature on the impacts of politics and media. The population of interest involved the social media users in Pakistan that were active with the political content in the identified timeframe. Out of the distribution of online surveys were selected (n=320) individuals through the assistance of a convenience sampling tool. This sampling approach limits the generalization, but it is appropriate in case one wants to carry out a study in order to examine new digital behaviors.

Statistical Package of Social Sciences (SPSS, version 21) was used in the analysis of the quantitative data. Descriptive statistics were used to summarize the respondent characteristics and reliability analysis (Cronbachs Alpha) was used to measure internal consistency of the measurement scales. The construct validity was determined through the exploratory factor analysis, which was supported by Kaiser- Meyer-Olkin (KMO) test of Sphericity, Bartlett test of Sphericity, and composite reliability (CR) and average variance extracted (AVE). Inferential tests that were employed included Pearson correlation and multiple regression to examine the relationship and predictive effects of all variables. The interaction effects were also to test moderating relationships between social media engagement and belief reinforcement and political participation.

To complete quantitative results and represent the subjective factor of the user experience, the qualitative section was also introduced in the form of semi-structured interviews with a small group of the participants (n = 30), the qualitative data was analyzed with the help of the thematic analysis and included identification, coding and categorizing the recurring patterns of exposure, emotional response, and

behavior on social media. This method allowed gaining a better insight into the way users experience and navigate polarized political contexts.

Ethical concerns were also well followed, like the informed consent, voluntary participation and anonymity of respondents. All in all, the mixed-method research design strengthen the study because it incorporates statistical data with practical knowledge to give an in-depth view of the phenomenon of politicization of social media in the Pakistani context.

4. RESULTS

Table 1: Demographic Characteristics of Respondents (N = 320)

Variable	Category	Frequency	Percentage
Gender	Male	172	53.8%
	Female	148	46.3%
Age	Under 18	48	15.0%
	18–24	132	41.3%
	25–35	88	27.5%
	35+	52	16.3%
Occupation	Student	268	83.8%
	Employed	52	16.3%
Education	Matric or below	48	15.0%
	Intermediate	12	3.8%
	BS	172	53.8%
	MS/MPhil or above	88	27.5%

According to Table 1 demographic distribution, it is confirmed that the sample is mostly young and well-educated, with most of the respondents aged between 18 to 35 and a significant percentage being students. This indicates a digitally active portion of the society with higher chances of being involved with political content on social media. Gender balance is rather well-balanced, which improves the variety of responses, but the density of educated young people indicates that the results are to be viewed in this context.

Figure 2: Social media usage and political engagement

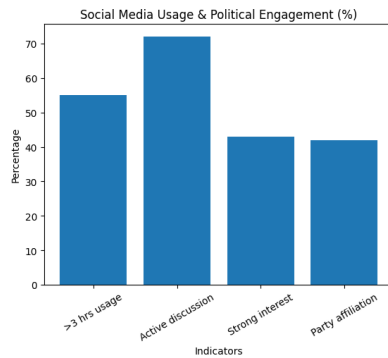


Figure 3: Perceived drivers of political polarization

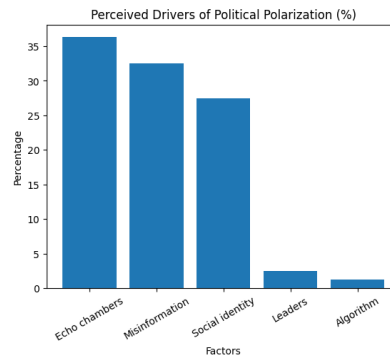
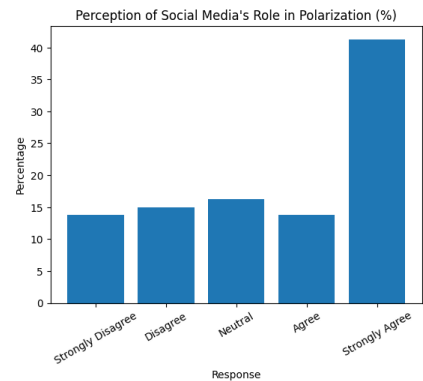


Figure 4: Perception of social media's role in polarization



The figure 2 shows that social media can be considered as a major part of the daily life and political activities of the respondents. About 55 percent of the respondents claimed to spend over three hours per day on social media and 72 percent of the respondents are engaged in online political debates. Moreover, forty-three percent of them indicated that they are very interested in Pakistani politics and forty-two percent indicated that they belong to a political party.

These findings show that social media does not just represent a passive source of information but rather an active platform of political interaction and participation. A high degree of engagement leads to a greater exposure to political content, which, according to the theoretical framework, may also facilitate the process of awareness as well as polarization.

Figure 3 demonstrates that Echo chambers were the most common factor listed that led to political polarization, then misinformation and social identity dynamics. The fact that algorithmic bias is not widely recognized implies that the users are exposed to filtered content, but they are likely not aware of the technological processes happening behind the scenes. Such disparity between experience and awareness is important because it shows that polarization can work in a manner that is not entirely apparent to the users.

Figure 4 shows that most of the respondents (55.1%) agreed or strongly agreed that social media fosters political polarization. This means that there is a general feeling that social media is a divisive influence, but the fact that there are neutral and opposing reactions to it implies that people have a different experience and interpretation of it.

Table 2: Descriptive Statistics

Variable	N	Mean	Std. Deviation	Minimum	Maximum
Social Media Engagement (SMA)	320	3.87	0.82	2.00	5.00
Political Participation (PE)	320	3.45	0.91	1.00	5.00
Belief Reinforcement	320	3.76	0.85	2.00	5.00
Political Polarization (SMP)	320	3.92	0.88	2.00	5.00

The descriptive statistics of table 2 show that social media engagement and political polarization of respondents are moderately high. The average of political polarization ($M = 3.92$) is an indication of a high level of polarization attitude, whereas the reinforcement of beliefs ($M = 3.76$) indicates that the exposure to social media helps to reinforce the existing political attitude. The standard deviations among the variables are relatively low, which implies uniformity in the responses, and the common patterns of perception of the participants.

Table 3: Reliability Analysis

Scale	Number of Items	Cronbach's Alpha
Social Media Engagement	5	0.81
Political Participation	4	0.78
Belief Reinforcement	4	0.83
Political Polarization	5	0.86

Table 3 below displays Cronbach Alpha of all constructs as values between 0.78 and 0.86, which means that there is good internal consistency reliability. The values of all the values are above the acceptable value of 0.70 which validates that the measurement scales employed in this research are valid and can be used in the next stage of statistical analysis.

Table 4: KMO and Bartlett's Test of Sampling Adequacy

Test	Value
Kaiser-Meyer-Olkin (KMO)	0.79
Bartlett's Test of Sphericity (Chi-square)	312.45
df	120
Sig.	.000

Table 4 shows that Kaiser-Meyer-Olkin (KMO) value is 0.79, which is sufficient to state that it has a good sampling adequacy, which is above the recommended level of 0.60. The Test of Sphericity by Bartlett is statistically significant ($p < .001$), which proves the presence of statistically significant

correlations between variables to proceed with factor analysis. These findings indicate that the dataset can be used in structure detection and construct validation.

Table 5: Factor Loadings

Item	SMA	PE	BR	SMP
SMA1	0.78			
SMA2	0.81			
SMA3	0.76			
PE1		0.74		
PE2		0.79		
PE3		0.77		
BR1			0.82	
BR2			0.85	
BR3			0.80	
SMP1				0.83
SMP2				0.86
SMP3				0.81

Table 5 reveals that the factor loadings on all items are stronger than the recommended level of 0.70 that depicts a strong convergent validity. The items load high on their respective constructs which validates the scales used in measuring the variables in their measure design. The distinctiveness of the factors also contributes to discriminant validity, since the items do not load heavily on the irrelevant constructs.

Table 6: Composite Reliability and Average Variance Extracted

Construct	CR	AVE
Social Media Engagement	0.88	0.64
Political Participation	0.84	0.58
Belief Reinforcement	0.87	0.69
Political Polarization	0.89	0.67

The table 6 indicates that Composite Reliability (CR) values of all constructs are above the recommended Composite Reliability of 0.70, which means that it is strongly internally consistent. Likewise, the values of Average Variance Extracted (AVE) exceed 0.50, which validates the sufficient convergent validity. Such findings indicate that the constructs are reliable and valid, which proves the strength of the measurement model.

Table 7: Correlation Matrix

Variable	SMA	SMP	PE	Belief Reinforcement
SMA	1			
SMP	.870**	1		
PE	.138	-.895**	1	
Belief Reinforcement	.092	.800**	-.720**	1

Note: $p < .01$

The table 7 results show a positive correlation between social media engagement (SMA) and political polarization (SMP), and belief reinforcement and polarization. On the other hand, there is a negative relationship between political engagement and polarization, which indicates a moderator. These results can be used to argue that polarization processes are grounded in exposure and reinforcement mechanisms.

Table 8: Multiple Regression Results

Predictor Variable	Beta (β)	Std. Error	t-value	p-value
Social Media Engagement (SMA)	0.62	0.08	7.75	.000**
Belief Reinforcement	0.48	0.10	4.80	.000**
Political Engagement (PE)	-0.31	0.09	-3.44	.001**

R² = 0.71

The model in the table 8 explains 71 percent of the variation in political polarization, thus having a high degree of explanatory power. The most important predictor is the social media engagement followed by belief reinforcement. The political activity shows the opposite effect and indicates that the greater the political awareness the less the extreme polarization.

4.1 Qualitative Findings

Semi-structured interviews with a sample of participants (n = 30) were conducted to support the quantitative analysis and to gain more insight into the user experiences. The data were analyzed qualitatively by the help of the thematic analysis which was done in a systematic manner after the data familiarization and initial coding, the development, and the refinement of the themes. The first step in the review of responses was to determine recurring patterns, and then to generate the codes and classify them into larger thematic groups. The outcome of this process was four prevailing themes that encompass the experiential aspects of social media political polarization.

1. Reinforcement of Existing Beliefs

One of the strongest trends among the respondents is the belief that social media supports already existing political opinions. According to the respondents, they are often exposed to content that supports their views, which adds to stronger ideological stances.

“Most of what I see supports what I already think, so it makes my beliefs stronger.”

This observation is consistent with the quantitative findings that provide strong association between reinforcement of belief and political polarization (r =.800, p.01). It indicates that polarization is not only motivated by exposure but by the repetition of affirmation of pre-existing attitudes.

2. Algorithmic Filtering and Content Homogeneity

The participants often reported routinely seeing the same and similar content on their social media feed, which is a sign of an algorithm-controlled filtering system.

“Once I engage with certain political posts, my feed becomes full of similar content.”

Even though so few respondents quantitatively recognized algorithmic bias as a factor (1.3%), qualitative data indicates that users are affected by algorithmic bias even though they do not necessarily perceive it. This shows the missing linkage between user experience and awareness, and implies that algorithmic influence is largely implicit.

3. Emotional Intensification and Identity-Based Polarization

Another important theme that has been revealed by the information was the emotive component of political debate. Participants reported political discourse to be very personal and emotionally intense and was frequently connected with identity and group membership.

“It’s not just about politics anymore; it feels personal when someone criticizes my party.”

This observation indicates the change in ideological to affective polarization, in which differences in politics are influenced by emotions and shaped by identities. It corroborates available literature that polarization is not just about policy disagreements but also about the emotional animosity with regard to the opposing groups.

4. Hostility and Breakdown of Constructive Dialogue

It was a common finding that political discourse on social media is also hostile, aggressive, and lacks any meaningful discussion.

“People don’t discuss anymore, they just attack each other.”

It implies that behavioral polarization is expressed in confrontational interactions, which strengthens the division and minimizes the possibility of constructive interaction. The popularity of hate speech also helps to normalize antagonistic politics.

5. Selective Exposure and Avoidance of Dissenting Views

The conscious avoidance of opposing opinions was another common motif. The participants stated that they filtered their information environments by unfollowing or ignoring sources that offer conflicting views.

“I avoid pages that support the other side because it’s frustrating to see those opinions.”

Such a practice shows that algorithms are not the only force that influences polarization but users contribute to it as well. The resultant impact of algorithmic filtering, combined with self-selection, forms closed informational spaces, which further divides ideologies.

Table 9: Summary of Quantitative and Qualitative Findings

Theme	Quantitative Evidence	Qualitative Evidence	Interpretation
Echo Chambers	36.3% highest factor	Repeated exposure to similar views	Reinforces ideological homogeneity
Misinformation	32.5% significant	Concerns about fake news	Distorts political perception
Belief Reinforcement	$r = .800^{**}$	Strengthened opinions	Entrenches attitudes
Hostility	Majority perceive polarization	Reports of aggressive discourse	Emotional polarization
Political Engagement	Negative correlation	More informed users, less extreme	Moderating role
Algorithmic Influence	Low awareness (1.3%)	Experienced but not recognized	Hidden structural factor

According to table 9 syntheses of quantitative and qualitative results indicates high level of convergence as far as major aspects of political polarization are concerned. Quantitative data indicate that the intensity of social media use and reinforcement of belief are highly predictive variables of polarization, and qualitative data indicate contextual richness which embodies how users experience such dynamics in their daily interactions. These two information flows lead us continuously to the same problem related to echo chambers, selectivity and confirmation of the pre-existing beliefs.

Interestingly enough, quantitative data studies show that polarization has a strong statistical correlation with the use of social media, whereas qualitative evidence shows that users actively use social media to filter information spaces and not expose themselves to opposing views. This means that polarization is not only algorithm-based but also behavioral.

However, there is a difference in the perception of algorithmic influence. Quantitatively, the number of respondents who cited algorithmic bias as a factor is very low, however, qualitatively, users report experiencing repetitive and filtered content and do not always cite algorithmic bias as the reason. This gap denotes that users are not much aware of the structural influences, and it is a considerable field that needs additional research.

Overall, the results synthesis confirms the fact that the process of political polarization is multi-level, and it is predetermined by the combination of technological platforms, user activities, and feelings.

The results of this work offer a multi-dimension and comprehensive insight into the role of social media in political polarization in Pakistan, especially in times of political instability, like in the 2022 no-confidence vote and the Pakistan Democratic Movement (PDM) mobilization. Combining both quantitative and qualitative evidence, the study proves that polarization is not a consequence of one factor but rather the effect of the combination of exposure, user behavior, and algorithmic reinforcement.

5. DISCUSSION

Among the main findings of this research, the close connection between the use of social media and political polarization should be mentioned. According to the regression model, the use of social media is the best predictor of polarized attitudes, and it should be believed that the higher the exposure to political content, the higher the ideological division. This observation supports the theory of agenda-setting (McCombs and Shaw, 1972) that states that as issues of saliency are subsequently covered, there is a change in the perceptions of the people. This is enhanced by constant and customized delivery of content, especially when the events are politically charged, in the context of social media. It is noteworthy to note that the study design is cross-sectional, therefore, a causal conclusion cannot be made; it can be thought of that social media is rather a contributor of, but not a sole cause of, political polarization (Batool and Tehseem, 2022).

The paper also emphasizes the importance of belief reinforcement as one of the main mechanisms of polarization. Quantitative findings demonstrate a high positive correlation between belief reinforcement and political polarization, and qualitative data give an idea of how users can feel this process as a result of constant exposure to ideologically congruent content. The respondents always stated that social media reinforces their existing beliefs instead of questioning them. Such a combination of quantitative and qualitative results gives strong evidence to echo chamber and filter bubble theories (Sunstein, 2001; Pariser, 2011), which shows that polarization is fueled by algorithmic filtering as well as by user-controlled selective exposure.

Notably, the results show that algorithmic influence is not imposed on users, but rather, they are the active participants in the formation of their information environments. The qualitative data demonstrate that people are conscious enough not to watch opposing opinions and filter their social media feeds so that they can fit their tastes. This justifies the uses and gratifications theory (Katz et al., 1973) that asserts that users play an active role in the selection of media. The effects of the interactions also support this interpretation, where polarization occurs the most among the users who are high social media users with firm pre-existing beliefs. Therefore, polarization is a phenomenon that is created by a positive feedback mechanism between the platform design and user actions, instead of being caused by technical aspects.

One of the significant contributions of the study is bridging the gap between user experience and knowing that it is influenced by algorithms. Although quantitative data show that a very small number of respondents acknowledge the presence of algorithmic bias as a causal factor, qualitative data show that users are often presented with repetitive and homogeneous content. This difference indicates that algorithmic processes work in a highly unspoken way, defining the perception of politics without users being conscious of it. The implications of this finding on digital literacy are significant because it shows the necessity to increase the awareness of users on the mechanisms of information curation by social media platforms.

The emotional and behavioral factors of political polarization are also provided in the paper with useful information. The qualitative evidence shows that hostility, aggression and conflict based on identity are some of the characteristics of political discourse on social media. The participants stated that the interactions on the political ground were emotionally loaded and antagonistic, which is suggestive of the shift towards the change of ideological divergence into affective polarization. This corresponds to the

concept of pernicious polarization by McCoy and Somer (2019), according to which the political adversaries are not considered opponents but rather just legitimate rivals. This heightening of emotions further alienates the society within Pakistani setting where politics identities are generally quite interwoven with the larger social and cultural identities.

In the meantime, the findings indicate that there is a less evident relationship between polarization and political participation. The polarization and political activity have an inverse relation that suggests that people can be less polarized the more educated and actively engaged in political discussion they can be. This finding is not in line with the assumption that with increased exposure more division is bound to occur but rather it is possible that political awareness may have a moderating effect. It shows that passive observation of polarized information may reinforce the divisions, but active and knowledgeable viewing may result in more balanced perceptions.

The quantitative and qualitative findings combined suggest the high percentage of overlap of the key themes, in particular, when it comes to the points of echo chambers, belief reinforcement, and selective exposure. The two groups of data are homogenous in their focus on the role of social media in the creation of ideological homogeneity and division. However, the visible contrast between the perspectives on algorithmic impact reveals the importance of incorporating the methodological approaches to capture the objective predispositions and the subjective experiences.

5.1 Implications

The findings of this study have several important theoretical, practical, and policy implications. Theoretically, the research adds to the body of literature by combining the theories of agenda-setting, uses and gratifications and echo chambers into a single framework, illustrating the combination of structural, behavioral, and algorithmic factors in the formation of political polarization. This combination is progressive in the sense that it builds on the current literature by emphasizing the multidimensionality of polarization in online spaces, especially in a developing democratic society like Pakistan.

Practically, the results suggest that better digital literacy of social media users, especially young people, is necessary to increase awareness of algorithmic filtering, misinformation and biased exposure. The fact that algorithmic influence is not very noticeable to users means that interventions that would encourage critical media consumption are necessary in reducing polarization.

At the policy level, the study has brought out the role of social media networks and regulatory authorities in combating the dissemination of misinformation and enhancing polarizing content. The severity of online polarization can be reduced by using interventions that work at the platform level such as algorithmic transparency and promoting alternative views. Additionally, the policy-makers and educators may strive to promote healthy political language and tolerance in the cyberspace.

5.2 Limitations and Future Research

This study has a number of limitations, in spite of its contributions. First, the results have limited external validity because the sample used (N=320) is rather small, and the convenience sample was used. The study needs to be conducted using bigger and more representative samples in the future to increase external validity. Second, the research is cross-sectional; therefore, it does not allow the development of causal relationships between the use of social media and the polarization of politics. It involves longitudinal studies which will be conducted to determine the variations in polarization with time. Third, the self-report data would pose the risk of the influence of bias in responses as the perceptions of the participants may not be the actual image of the behavior.

Future studies would be able to use behavioral data, including the logs of social media activity, to gain more objective information. Even though the qualitative data inclusion makes the analysis sounder, the number of interviews is not sufficient to investigate the qualitative aspect in depth. The qualitative aspect of the study should be enlarged in future research with in-depth interviews or focus groups to get a more

comprehensive picture of user experiences. In addition, the involvement of some platform algorithms, political bots, and organized digital campaigns in polarization can be studied in the future. It would also prove helpful in cross-country or political environment comparative studies to see whether the identified trends are specific to Pakistan, or they would rather reflect the global trends.

6. CONCLUSION

This paper aimed to analyze how social media contributed to the process of political polarization in Pakistan in the 2022 no-confidence vote and the Pakistan Democratic Movement (PDM) mobilization. The results show that social media is an influential and multidimensional phenomenon that not only enables political participation but also strengthens ideological boundaries by providing mechanisms like selective exposure, echo-chambers, and belief-reinforcement. The findings show that social media use is a powerful predictor of political polarization, and qualitative data show that polarization takes place on cognitive, emotional, and behavioral levels. The paper also identifies the complicated nature of political involvement, which implies informed engagement might alleviate, not escalate, the extreme polarization. Notably, the results show there is a disconnect between the actual experiences of users with algorithmic filtering and their conscious awareness of its manipulation, which indicates that more people should be digitally literate. Overall, the study concludes that social media does not act as an isolated driver of polarization but rather as an amplifier of existing socio-political divisions within Pakistan. Social media enhances the political polarization caused by elites and shifts the character of political discourse by forcing polarization into the digital realm of the general population. To overcome these issues, a multi-level strategy of addressing users, platforms, and policymakers is needed to advance more inclusive and balanced online communication spaces.

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Conflict of Interest

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