



Information Cocoons and Youth Democratic Engagement in the Era of Social Media: A Sociological Perspective

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Abstract

The study examines the impact of information cocoons on democratic engagement in the social media era by analysing the stories, perceptions, and behaviours of individuals. The rapid evolution of digital communication platforms and social media provides users with easy access to information while simultaneously creating information cocoons. The study examined the phenomenon of personalised and algorithmic news recommendations and their impacts on society, such as the erosion of diverse viewpoints, misinformation, and the development of audience-centred news values. Furthermore, tailored news consumption also impacts individuals, leading to a decrease in knowledge and bias, a reduction in critical thinking, and a decrease in concentration levels. Based on a comprehensive analysis of online resources and thematic evaluation of conversations and interviews with 20 respondents, the study indicates that people are inclined to seek out and embrace information that aligns with their pre-existing views, and simultaneously, social media platforms employ algorithms that populate users' news feeds with content matching their existing views, aiming to boost user engagement on the site. **Keywords:** Information Cocoons, Democratic Engagement, Social Media

1. Introduction

Democratic systems flourish through the active and well-informed involvement of their citizens. The capacity to formulate ideas, engage in policy discourse, and ensure leader accountability is significantly dependent on access to diverse and reliable information and news. The rapid rise of social media platforms and digital technology has fundamentally altered and enhanced how individuals' access, utilise, and communicate information in the twenty-first century. A survey conducted by the Reuters Institute in 2024 revealed that a new generation of Indians mainly relies on social media channels, such as YouTube (54%), WhatsApp (48%), Facebook (35%), and Instagram (33%), as their primary means of obtaining news (Newman, 2024). In the era of digital media, social platforms such as YouTube, Facebook, Instagram, and Twitter have revolutionized the way in which we engage in politics and have become a critical tool for political participation for a significant number of individuals. These platforms have influenced the way in which individuals interact with society, express their opinions, and become involved in politics (Anderson et al., 2018). Despite its various advantages, this has indirectly led to the emergence of a phenomena termed the information cocoon. The information cocoon is a concept introduced by Harvard professor Cass Sunstein (2001) in his book Republic.com; it

suggests that users of personalized recommendation systems tend to choose and encounter information and viewpoints that align with their preferences, attitudes, and beliefs. Contemporary social media users encounter an excessive volume of information, hence becoming the notion of an "information cocoon" increasingly pertinent. These behaviours may result in a restricted and biased viewpoint, ultimately affecting individuals' decision-making processes (Niu et al., 2023).

This paper explores how social media platforms prioritize certain content over others and how algorithms and user behaviours can create isolated online environments that reinforce existing beliefs and distorted understandings of democracy and civic responsibilities. Historically, democratic engagement involved a broad spectrum of media sources, including newspapers, television, and public forums, providing citizens an environment where they could access diverse viewpoints on any topic and who possessed the ability to critically think about any information. However, in the contemporary digital age, the rise of algorithm-driven platforms like Facebook, Twitter, Instagram, and YouTube has created a new media environment characterized by personalized content curation. Moreover, personalized news recommending systems have the potential to undermine democratic engagement by reinforcing people's pre-existing beliefs, limiting people's varied viewpoints, and fostering strong conflict attitudes toward opposing groups. The studies on parental involvement in school reform attempts show that structural constraints, mistrust, and limited access to information hamper effective and democratic engagement (Marsh et al., 2014).

The rise of information cocoons had an immense impact on the engagement of social media users at both the societal and individual levels. At the societal level, the rise of information cocoons threatens and weakens democratic discourse by the absence of diverse perspectives and the spread of misinformation. A survey done from December 2018 to January 2019 revealed that the widespread use of fake news among first-time voters in India was a major concern (Basuroy, 2023). However, information cocoons indirectly promoted audience-centered news values by allowing people to control their media consumption and actively choose what content appears in their news stream. At the individual level, social media users may be at danger of developing partial news literacy due to information cocoons. The present study aims to address the research vacuum by investigating the relation-ship between information cocoons and social media users.

2. Literature Review

Communication and media influence how people participate in society. The emergence of digital media significantly transforms voter mobilization, fundraising, and strategic targeting, enhancing the potential for more individualized and effective political communication (Bimber, 2014). This section will examine relevant studies about the interplay between social media, information cocoons, and their influence on democratic engagement in society.

2.1. The History of Information Cocoons

A cocoon is a silken protection constructed by the larvae of moths and other insects prior to growing into adults. The information Cocoon is a notion introduced by Harvard professor Cass Sunstein in his book named *Republic.com* (Sunstein, 2001). Sunstein posits that individuals construct a "cocoon" of knowledge that reinforces their preexisting opinions and values by curating information that aligns with those beliefs. The emergence of information co-coons is closely linked to technological advances that prioritize user preferences to increase platform engagement (Zhang et al., 2023). Since the advent of the Internet in 1995, the World Wide Web has progressed from Web 1.0 to Web 2.0, and subsequently to Web 3.0. The news media sector has transformed, transitioning to digital and online platforms alongside the advancement of Internet technologies. Web 1.0, also called the "read-only Web," had a "one-to-many" top-down communication model. This approach limited the role of the news consumer to reading primarily textual news and information from traditional media venues like print, broadcast, and digital natives (Du, 2024). Web 2.0, referred to as the "read-write web" or many-to-many, developed with the onset of the new millennium. Web 2.0 is inherently participatory, enabling users to interact with fellow users and content producers (Du, 2024, p.46). Consequently, the emergence of social media platforms like Facebook and Twitter has led to the widespread dissemination and cross-sharing of news and information across many sites and networks. The modern information cocoon phenomena originated in the early 2000s (Pariser, 2011). The communication model of

Web 3.0 can be categorized as “one to one,” and “read-write-execute Web,” in which computers use algorithms to interpret information via machine learning. Furthermore, social networking platforms have adopted Web 3.0 algorithmic technology, which frequently employs algorithms to facilitate personalization and customisation for customer retention purposes. In 2004, Facebook launched News Feed, delivering consumers relevant information. Researchers at Facebook found that personalized push algorithms, through their filtering and recommendation processes, led users to predominantly engage with content aligning with their existing beliefs, hence limiting exposure to alternative perspectives (Bakshy et al., 2015).

2.2. Factors Influencing Formation of Information Cocoons

A multitude of scholars have examined information cocoons, particularly regarding their significant impact on the media sector. (Garrett et al., 2016) found that consumers' online news consumption patterns exhibited significant stability over time and predominantly received news from a limited number of outlets. In an age of severe material abundance and information overload, the huge amount of information that is making personalized and better healthcare possible is like information cocoons in that it gives people too many options, making them rely more on algorithms to choose what information to see (Kitsuregawa & Nishida, 2010). Another explanation for the information cocoon's longevity is algorithmic constraints. The algorithmic recommendation process of online platforms allows users to continuously get homogeneous information, resulting in a limited field of vision and confining people to information cocoons (Sun et al., 2023). In the rapidly evolving media landscape, achieving relevance is essential for media organizations and this method enhances selective exposure and establishes a feedback loop of information preferences among consumers (Zhang et al., 2023, p.2). Cognitive and emotional elements contribute to the maintenance of information cocoons, which is known as informational homogeneity, where comfort in familiar narratives considerably enhances the cocooning effect (Yuan & Wang, 2022). Early concepts of selective information exposure, before the digital age, suggested that individuals selectively consume information that aligns with their own viewpoints, and material in line with their attitudes tends to strengthen existing beliefs and choices (Festinger, 1964). This trend has intensified due to the efficacy of algorithms in content filtration (Shi, 2023).

3. Research Objectives

The main goal of the research is to understand the influence of information cocoons on the principles of democratic engagement among the youth. Based on this goal, the study also examines how the structure of social media and individual tendencies give priority to particular material over others and promote information cocoons.

4. Theoretical Framework

This research employs a theoretical framework to direct the analysis and interpretation of the data, integrating elements from communication and media theories. The study employed two theoretical frameworks, namely use and gratification theory and selective exposure theory.

The Uses and Gratifications Theory, as proposed by Katz et al. (1974), is based on the user actively seeking out and using media, as well as the media providing such uses. According to this viewpoint, people utilize media for a variety of goals, including knowledge, communicating with others, entertainment, and reinforcing their own personal identity. Researchers use the Uses and Gratifications Theory in the study on Information Cocoons and Youth Democratic Engagement in the social media Era: A Sociological Perspective, which allows us to understand how selective media consumption, driven by personal gratifications, can lead to the formation of information cocoons—environments where individuals predominantly encounter content that aligns with their beliefs and values. They also influence political participation, polarization, and public discourse in democracy.

According to Festinger (1964), Selective exposure Theory states that divergent information, or information that contradicts the user's perspective or attitude, increases the user's uncertainty and discomfort. The Selective Exposure Theoretical Framework explains how individuals prefer information that aligns with their pre-existing beliefs, values, and preferences while avoiding contradictory content.

5. Research Methodology

5.1. Research Design

The study used a qualitative research approach to get an extensive understanding of individuals' experiences, beliefs, and behaviours about information cocoons and their impact on democratic engagement among social media users. Qualitative research provides rich, nuanced insights into the complex relationship between algorithmic constraints and individual preferences for social media use in the formation of information cocoons (Creswell, 2014). Through qualitative methods, the study aims to explore participants' different perspectives and experiences about the establishment of information Cocoons, reflecting the complexities of their involvement with information Cocoons and its impact on their democratic engagement.

5.2. Data Collection

The primary method for data collection in this study is semi-structured interviews. Semi structured interviews are an important tool for data collection in qualitative research, providing individual participants with the opportunity to express their unique viewpoints and provide detailed accounts of their experiences (Rubin & Rubin, 2005).

5.3. Sampling Technique

A purposive sampling method was employed to choose 20 postgraduate students at North Bengal University in Siliguri City. The sample of respondents consists of 10 male and 10 female participants with a variety of backgrounds, varying levels of individual motives for social media usage, including YouTube, Facebook, Instagram, and Twitter, and varying degrees of information cocoon formation in their social media usage, all of which have an impact on democratic engagement. To guarantee a diverse representation of opinions, the sample comprises people of various genders and socioeconomic backgrounds.

5.4. Data Analysis

The acquired data was subjected to a thematic analysis approach, which entails dis-covering and analysing reoccurring themes, patterns, and meanings (Braun & Clarke, 2019).

The analytical method consists of multiple repetitive steps. Initially, Researchers read and reread the transcripts to become familiar with the facts. Then, open coding was used to develop first programs that contained important ideas and concepts. These codes were modified and arranged into subject areas using axial coding. The discovered themes were examined, compared, and analysed to discover connections, links, and patterns in the data. The third step entailed interpreting the themes using relevant theoretical frameworks to provide a thorough grasp of the research issue.

6. Ethical Considerations

Ethical considerations were prioritized throughout the research process. Informed consent was secured from all participants to guarantee their voluntary involvement and the confidentiality of their personal information. The research complies with ethical standards and pro-cesses, safeguarding participants' privacy, anonymity, and rights.

7. Findings And Discussion

Researcher categorized the findings and discussion into Two segments based on the information they collected. The parts encompass the impact of information cocoons on democratic engagement at the societal level and the impact of information cocoons on democratic engagement at the societal level.

Section 1: The impact of information cocoons on democratic engagement at the societal level.

7.1.1. Theme1: information cocoons and weakening democratic discourse:

One prominent theme that emerged from the data of the 1st section is that information cocoons play an important role in weakening democratic discourse by encouraging **the Erosion of diverse viewpoints**. Respondent expressed that information cocoons are empowered to trap consumers in filter bubbles and block diverse ideas. They noted that they only get content in their news feed on social media that aligns with their beliefs and faith. The respondent observed that this restricted perspective undermines their ability to critically

think, make collective decisions, and make informed decisions about various events and issues, including gender and caste class. The study's findings are similar to previous research by Chavalarias (2016), which found that personalized news recommendations reduce the shared information environment, which is required for democratic discourse.

Respondent also expressed that **Fake news and Misinformation** are profoundly weakening democratic discourse in the digital communication age. They mentioned that they constantly encountered fake news and misinformation in social media. They expressed that this misinformation manipulates and shapes their public perception and viewpoint about a person, group, community, and religion. Furthermore, the Respondent mentioned that algorithmic curation on platforms like Facebook and Twitter amplifies certain topics, making them appear disproportionately important within specific user communities, resulting in their being ideologically motivated to that certain topic and group or sometimes against that group. The study's results align with earlier re-search by Allcott and Gentzkow (2017), which revealed that ideologically driven news consumption promoted the dissemination of misinformation.

Lastly, participants expressed that **Declining confidence in conventional media** plays a crucial role in weakening democratic discourse. They noted that when they are exposed to news sources in social media that share their ideologies, they may become sceptical of mainstream media. Additionally, respondent expressed that they were declining in confidence in traditional media when they were repetitively exposed to biased or false narratives about the media.

Respondent 1 shared, "I always see one thing in my news feed that these social media platforms show me those contents that match my pretexting belief and faith unless I actively search for another viewpoint about that topic. I think it distorts and manipulates our thoughts about the topic, which is not a good thing in any democratic discourse. And I constantly encounter fake news about an event, person, and community. I can give you one example of fake news recently; I encountered one reel about a popular female person of West Bengal in my news feed, where she was answering a question of a journalist by telling a taboo word (SEX), and I thought how she could say the word in a public place, and I formed a biased perspective about that person, and then social media constantly showed up those contents that matched my thought about the person. After a few days, a friend told me that the reel is not true; rather, it is fake news. But that fake news manipulated and shaped my viewpoints, and that is not good for democratic discourse".

7.1.2. Theme 2: Information Cocoons and the rise of political polarisation:

One prominent theme that emerged from the data in the second section is that information cocoons lead to **the rise of political polarization** in the social media age. Respondent expressed that their social media algorithm promotes similar media sources to them for information. They noted that they have developed strong political attitudes against opposing political ideologies and people for following similar media sources in social media. The study mentioned that there is a correlation between user consumption of similar media sources or partisan media and the development of strong political attitudes. The study's findings are similar to previous research by Stroud (2010), which discovered that individuals who consume similar media get progressively polarized over time.

Respondent also expressed that information cocoons play a crucial role in **developing in-groups and out-groups** in society. Respondent mentioned that they have the tendency to selectively expose themselves to the content on social media that matches their beliefs, and simultaneously, based on user data and responses, social media algorithms promote matching viewpoints in their social media feed. They expressed that this limited exposure leads to the formation of extreme beliefs about their own group as well as opposing views against other sections of society, potentially resulting in group polarization over issues related to religion, caste, class, or others.

Respondent 7 shared "I consistently follow specific sources or similar content creators on social media to consume news. I do not watch some creators and sources in social media, specifically YouTube, FB, and Instagram, which are always criticizing the ideologies that I am associated with and also criticize some political person whom I am following, and I am connected with their ideas. And I used to follow liberal and secular attitudes about religion, caste, and class in my life, but in recent times I watched some videos and reels on my social media about some issues and events. After that, I realized that I needed to cultivate a strong sense of belonging to my own group, and I am now adopting this attitude."

7.1.3. Theme 3: Information Cocoons and the development of audience-cantered news value:

Respondent expressed that information cocoons latently impact developing **audience-cantered news value** in digital communication systems. They expressed that the advent of web 3.0 and personalized news systems has given them the ability and power to choose their own news environment within their social media feeds. Respondent expressed that in today's social media, they deliberately choose media content that will satisfy given needs and allow one to enhance knowledge, relaxation, social interactions/companionship, diversion, or escape. They mentioned that algorithmic recommendation systems and personalization fulfil some of these gratifications for them as news consumers. Furthermore, Respondent mentioned that they have an active role in content production, as well as in interpreting and integrating media into their own lives. The study's findings match with prior research which revealed that customized news suggestions hold audiences accountable for choosing media that meet their desires and needs for fulfilment (Du, 2024, p.56).

Respondent 17 shared, "I feel now confident about one thing in social media: that is what content I usually love to watch, then I comment, like, and share that content, and then the social media algorithm provides that content to me. I believe this is the first time I have actively participated in content production and making; in the past, this power was limited to elite individuals, the media, and certain professionals. I think that today, web 3.0 and I remove the gatekeeping processes in content production at digital communication. Although I believed that it creates information cocoons, it simultaneously provides me power in content making as a consumer. And it is the only good bene-fit that personalized news systems give us or their users."

Table:1 Here is the theme chart in the form of a table of the 1st section

Theme	Code	Description
Information Cocoons and weakening democratic discourse.	WD	Information cocoons weaken democratic engagement by encouraging the erosion of different points of view, fake news, and declining trust in conventional media.
Information Cocoons and the rise of political polarisation	PP	Information cocoons promote political polarization by creating ingroup, outgroup, and partisan media in society.
Information Cocoons and the development of audience cantered news value	AN	Information cocoons indirectly contribute to the development of audience-cantered news value, where audiences actively participate in the content production process that determines what content appears in their news feed.

Table:2 Table of coding for the Respondents' response

Respondent	Theme 1: Information Cocoons and weakening democratic discourse (WD)	Theme 2: Information Cocoons and the rise of political polarisation (PP)	Theme 3: Information Cocoons and the development of audience-centered news value (AN)
R1-M	WD	PP	AN
R2-M	WD	PP	AN
R3-F	WD	PP	AN
R4-M	WD	PP	AN
R5-F	WD	PP	AN
R6-F	WD	PP	AN
R7-M	WD	PP	AN
R8-F	WD	PP	AN
R9-M	WD	PP	AN
R10-M	WD	PP	AN
R11-F	WD	PP	AN
R12-F	WD	PP	AN
R13-M	WD	PP	AN
R14-M	WD	PP	AN
R15-F	WD	PP	AN
R16M-	WD	PP	AN
R17-F	WD	PP	AN
R17-F	WD	PP	AN
R19-M	WD	PP	AN
R20-F	WD	PP	AN

Section 2: The impact of information cocoons on democratic engagement at the Individual level.

7.2.1. Theme 1: Information Cocoons and Uninformed and Bias individual:

One prominent theme that emerged from the data of the 2nd section is that information co-coons may lead to the participants of social media **being Uninformed and biased** in the digital era. Respondent expressed that the personalized news system in social media only exposes them to the information and perspectives they want to hear, along with members of like-minded subgroups. They observed that their knowledge about competing ideas in any given topic is limited. Participants expressed that living in ideological silos on social media hinders their ability to respond effectively to societal debates. Furthermore, respondent mentioned that this customized news system reduced their personal development. Previous research has verified empirical data indicating that when individuals are confined to biased information spaces, their ability to engage in constructive dialogue is hindered, which is essential to the democratic process (Xiong et al., 2021).

Respondent 10 shared, “I am fully living now in a personalized news system in the social media era in which whatever I want to hear and watch, social media provides that content in my news feed. But I feel now that I am gradually less knowledgeable about any topic because I do not have various viewpoints and perspectives on it due to the personalized news system and my individual preferences. As a result, I am unable to respond articulately in any debate. I have two options: I either agree with the viewpoint or disagree with it, but I never find a middle ground or synthesize the two perspectives in any debate.”

7.2.2. Theme 2: Information Cocoons and Reduced Critical thinking:

Another prominent theme that emerged from the data in the third section is that information cocoons **reduced the critical thinking of users** of social media. Respondent expressed that the personalized news systems of social media, along with their individual preferences, consistently exposed them to homogeneous information, which negatively impacted their critical thinking. They noted that the engagement between structure and agency (social media algorithm and individual user) reduced their motivation for knowing counter-attitudinal perspectives about any issue and increased their emotional manipulation. Previous research has verified empirical data indicating that continuous exposure to uniform content restricts critical thinking of an individual and leads to cognitive bias and emotional instability (Shi, 2023, p.279).

Respondent 13 shared, “I am losing my critical thinking due to the way I engage with social media and social media engages with me. Based on my beliefs and attitude, I typically like, share, and comment on content on social media, and the platform's algorithm provides me with the desired information. But I understand that if I want to be a well-informed individual or to critically discuss any topic, I need to be aware of a variety of viewpoints on that topic. And today's social media does not provide that environment to me unless I actively search or want varied perspectives about any topic. I believe that it is not a good thing for a good individual as well as for a citizen.”

7.2.3. Theme 3: Information Cocoons and Decreased Concentration level:

The respondent lastly expressed that information cocoons lead to a **decrease in concentration levels** among users of social media. They observed that personalized news systems consistently provide fragmented and fast-paced information on their social media platforms. Respondent noted that this fast-paced information consumption reduces their ability to focus on complex content, leading to the development of escapist tendencies among them. Furthermore, respondent reported that their personalized news consumption experience occasionally exacerbated their anxiety, panic, and emotional exhaustion due to their reduced concentration levels.

Respondent 20 shared, “Actually, I highly use Instagram and FB among social media, and these platforms, specifically their algorithm, always supply fast-paced information and short videos, such as reels, in which I do not have enough time to assess the content constructively and focus fully on that content. In recent times, I have developed a strong addiction to reels on Instagram and Facebook, and as a result of that, I feel that I have highly decreased my concentration level because when I want to watch a lengthy and complex video on social media, even in physical worlds, I am unable to fully concentrate on that content. This lack of concentration can sometimes lead to the development of anxiety, panic, and emotional exhaustion within me.”

Table:3 Here is the theme chart in the form of a table of the 2nd section

Theme	Code	Description
Information Cocoons and Uninformed and Bias individual	UB	Information cocoons may lead to customers being misinformed and biased since they will only be exposed to the information and perspectives they want to hear, and members of like-minded subgroups will engage only with their peers and never with those with whom they disagree.
Information Cocoons and Reduced Critical thinking	RC	Information supplied Persistent exposure to homogeneous knowledge impairs critical thinking, leading to cognitive biases and emotional instability.
Information Cocoons and Decreased Concentration level.	DC	Information cocoons always supply fragmented and fast-paced information, which impairs consumers' capacity to focus on difficult or non-fragmented content and encourages escapist behaviour.

Table 4: Table of coding for the Respondent response

Respondent	Theme 1: Information Cocoons and Uninformed and Bias individual (UB)	Theme 2: Information Cocoons and Reduced Critical thinking (RC)	Theme 3: Information Cocoons and Decreased Concentration level. (DC)
R1-M	UB		DC
R2-M	UB	RC	DC
R3-F		RC	DC
R4-M	UB	RC	
R5-F		RC	DC
R6-F	UB		DC
R7-M	UB	RC	DC
R8-F	UB	RC	DC
R9-M	UB		DC
R10-M	UB	RC	DC
R11-F		RC	DC
R12-F	UB		DC
R13-M	UB	RC	DC
R14-M	UB		DC
R15-F	UB	RC	DC
R16M-	UB	RC	DC
R17-F	UB	RC	DC
R18-F		RC	DC
R19-M	UB	RC	DC
R20-F	UB		DC

8. Limitations of the Study

It is important to recognize the limitations of this study. First, the research design emphasized qualitative methodologies, restricting the findings' generalizability to a specific environment and population. Future research could use quantitative methods to determine the prevalence and scope of the discovered themes across a bigger population.

Second, the study used self-reported data, which is susceptible to social desirability bias and individual interpretations. Triangulating data from numerous sources, such as social media analytics and polls, could provide a more complete picture of the relationship between the formation of information cocoons for social media usage and its impact on democratic engagement among young social media consumers.

9. Conclusion

The paper's goal is to describe the notion of the information cocoon, investigate its construction process, and assess its role and impact on democratic engagement at both the societal and individual levels. The study gives important information about the complicated interactions that happen in modern information cocoons by looking at how structural limitations, personal preferences, and cognitive preferences affect how they are built. These cocoons significantly influence democratic discourse by promoting alternative facts that gain credibility due to widespread belief in today's social media era. For example, when certain alternative facts are forwarded 300,000 times on WhatsApp, Facebook, and Instagram, they get authority only as a result of that viral social media activity. This phenomenon may threaten democratic discourse in society.

There are two main approaches to addressing the challenges that people may encounter in their information cocoons. As individual consumers, one might actively seek information from a range of sources and perspectives in order to avoid acquiring information that just reinforces their pre-existing beliefs. Algorithmic constraints play a key part in the creation and maintenance of information cocoons that are visible to everyone in society, hence it is critical to focus on the invisible. The invisible aspect is why people readily believe in something that may be seen both physically and virtually. This is often caused by cognitive preferences and personal biases based on gender, religion, and other factors. In this process, individuals actively identify and rectify their biases. Furthermore, from the perspective of market suppliers and social media plat-formers, those who administer and maintain platforms should govern recommendation algorithms and promote content diversity and heterogenic information.

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