



The Influence of Information Cocoons on Modern Consumers

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Abstract. The rapid development of social media platforms and digital technology provides individuals with advantages to access information, but it also creates information cocoons in the meantime. The purpose of this paper is to discuss the influence brought by information cocoons in this age of information explosion and the impact on several areas such as online consumption, short video viewing, political polarization, and democratic discourse. By conducting adequate research and reviewing abundant resources online, we safely draw to the content that people will be easier to obtain and accept information that aligns with their existing beliefs, which results in a pattern of fast thinking. To apply this type of fast thinking in daily behavior, consumers rely on narrow sources of information and recommendations, resulting in suboptimal online shopping outcomes. In addition, it also limits people's reception of video content. Except for individuals' decisions, information cocoons cause influence on politics that are accepted by citizens as well. This article emphasizes the most on the impact of information cocoons on consumers, including overspending, product selection, and other negative effects. In the end, we predict that the impact of information cocoons will be continuous in the future, but it can be lessened if people are intentionally breaking out of the bubbles.

Keywords: information cocoons · online consumption · social media platforms · digital technology · consumer behavior

1 Introduction

The fast development of social media platforms and digital technology has fundamentally changed how individuals' access, use, and exchange information in the twenty-first century. Although this has many advantages, it has unintentionally led to a brand-new phenomenon called the "information cocoon." Information cocoons are self-reinforcing informational bubbles that cater to a person's preexisting beliefs, attitudes, and preferences, frequently limiting their exposure to diverse viewpoints. They occur when people find themselves ensconced in an informational bubble that supports their preexisting attitudes, beliefs, and preferences. This restricted access to information has significant

ramifications for how democratic societies operate as well as for the development of each person.

The concept of an “information cocoon” has become increasingly relevant as consumers are bombarded with an overwhelming amount of information and advertising content. This phenomenon can lead to a limited and biased perspective, ultimately impacting decision-making, including purchase judgments. This paper delves into the intriguing question of whether customers enveloped in information cocoons are more susceptible to advertising manipulation, leading to suboptimal purchase judgments. Moreover, we will explore the economic implications of this vulnerability, as well as the role of trust development within information cocoons and how it impacts consumer decisions.

Additionally, this paper will examine the cognitive processes that underpin decision-making, such as fast thinking, and how they intersect with the effects of information cocoons on shopping choices. We will also investigate the social dynamics of in-group and out-group status and how these distinctions may exacerbate the influence of information cocoons on consumer behavior. A case study of My Pillow, a company that has leveraged the concept of a “cult of personality” in its advertising strategy, will provide a real-world example of the potential impact of information cocoons on marketing campaigns.

In the course of our analysis, we will identify the various bias factors that contribute to the formation of information cocoons and their influence on consumer decisions. By examining the interplay between information cocoons, advertising manipulation, and consumer behavior, this paper seeks to provide valuable insights into the complex dynamics that govern today’s marketplace and the potential pitfalls facing consumers who fall prey to the allure of information cocoons.

The rise of information cocoons threatens the foundational principles of a well-informed citizenry and healthy public discourse. In today’s digital era, it is essential for successful decision-making, the development of empathy, and meaningful civic involvement to be able to connect with many points of view and gain nuanced knowledge. Information cocoons may deepen societal conflicts, damage democratic institutions, and hinder personal development by isolating people behind their ideological silos. While the socially disruptive and damaging nature of ICs is widely acknowledged, there is a growing concern that these virtual environments might also give rise to additional negative effects, such as the exploitation of IC-trapped consumers’ economic interests. In this paper, we argue that the information cocoons’ effect is growing, affecting consumer decision-making and rendering consumers more vulnerable to manipulative advertising.

The purpose of this paper is to fill the existing research gap by examining the relationship between information cocoons and consumers. We will strive to provide a comprehensive overview of the current state of research on information cocoons, highlighting the complex interplay of psychological, social, and technological factors that drive their formation. Through this research, we seek to further knowledge of the difficulties and possibilities brought on by the digital era and to encourage more educated, active, and inclusive digital citizenship. As a complete knowledge of these dynamics might help create solutions to lessen the negative consequences of information cocoons, we work to evaluate the significance of researching this connection for both consumers and organizations.

2 Literature Review

2.1 The Emergence of Information Cocoons

The term “information cocoon” was first used by Cass Sunstein in his book *Republic.com*. [1]. According to Sunstein, people build a “cocoon” of knowledge that supports their preexisting ideas and values by surrounding themselves with information that supports those beliefs and values. This phenomenon has the potential to impact political beliefs and behavior substantially. The origins of the modern information cocoon phenomenon can be traced back to the early 2000s [2]. When personalized websites that recommended news content based on users’ interests and perusing history began to emerge. The purpose of these sites was to improve the user experience, but they also laid the groundwork for creating the information cocoon. In 2004, Facebook introduced News Feed, which provided users with pertinent information. Facebook researchers discovered that after personalized push algorithms filtered and recommended content over time, users were more likely to consume content relevant to their current views and had less access to other viewpoints [3].

Numerous academics have studied information cocoons, especially concerning their influential role in the media industry. Garrett et al. discovered that individuals’ online news consumption patterns were highly stable over time and tended to consume news from a few sources. This indicates that individuals do not actively seek diverse information sources and that information cocoons persist over time. Numerous reasons exist for the persistence of information cocoons, including information inundation, algorithmic constraints, and individual tendencies. One reason is that people naturally search for information supporting their preexisting beliefs and ignore information contradicting those beliefs. The development of personalized recommendation algorithms exacerbates this tendency towards confirmation bias [4].

Moreover, social identity is a significant factor in the persistence of information cocoons. To reinforce their sense of identity, individuals tend to seek out connections with individuals who share their beliefs [5]. This behavior may cause individuals to self-validate their extant opinions regardless of their accuracy and veracity. Nevertheless, it has been suggested that people are not always passive recipients of information and can also take measures to break out of the information cocoon [6]. Until recently, information cocooning has been a complex and multifaceted issue, and research on the topic has demonstrated a trend towards interdisciplinarity, diversity, refinement, and practical application.

2.2 Fast and Slow Thinking Behind Information Cocoons

People living in an information cocoon typically accept information that aligns with their existing beliefs and reject information that contradicts them, causing them to exhibit a pattern of fast thinking. In his book *Thinking, Fast and Slow*, psychologist Daniel Kahneman proposes two models for information processing: fast and slow thinking. Fast thinking is a relatively quick response that enables quick decisions to be made without in-depth analysis; in contrast, slow thinking requires more time and effort because it entails more in-depth reasoning and analysis [7, 8] (see Fig. 1).

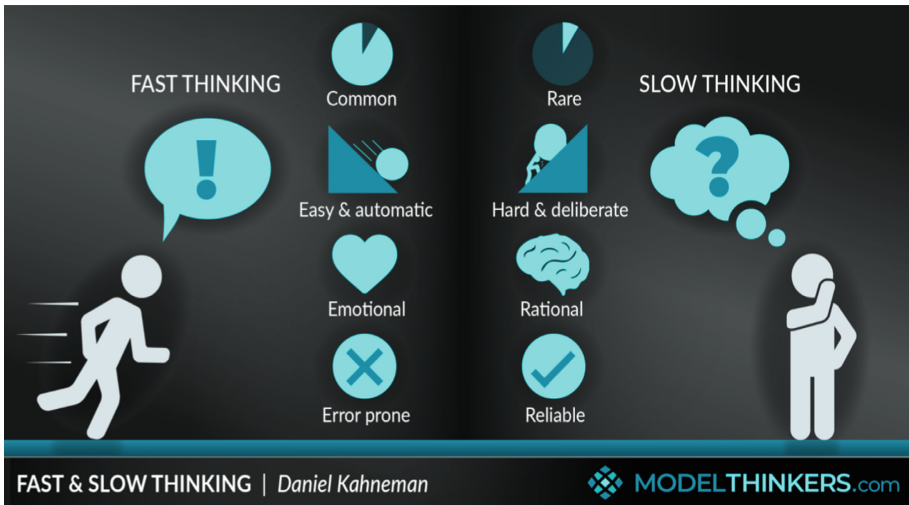


Fig. 1. Fast and Slow Thinking [9]

2.3 Suboptimal Buying Outcomes of Information Cocoons

With the emergence and rise of the internet, social media, and personalized content algorithms, the impact of the information cocoon on consumers' online shopping has further expanded [10]. The information cocoon reinforces people's exposure to information that aligns with their existing beliefs and preferences. For online shopping, the information cocoon leads consumers to rely on narrow sources of information and recommendations, resulting in suboptimal online shopping outcomes.

Firstly, information cocoons may cause consumers to engage in blind and repetitive purchasing. Marketing scholars suggest that consumers are influenced by external factors throughout their shopping journey, and they actively seek more information about products or brands [11]. When shopping online, it becomes more convenient for consumers to find and use this information. However, consumers within the information cocoon will receive limited and biased product or brand information, which also affects their decision-making process. Under the influence of marketing strategies, consumers find it difficult to judge products objectively and comprehensively. For example, advertisers and companies use a large number of online influencers to promote their products. Consumers can only obtain positive and repetitive product evaluations in the promotion of these online influencers, so they are more likely to stick with the same brand despite the availability of better choices.

In addition, the information cocoon can create an environment of constant consumption and strengthen the influence on consumers through the echo chamber effect. On the one hand, the information cocoon can imply scarcity to specific products and use different information channels to persuade consumers to agree with this viewpoint. Because the sources of product information are limited, consumers will believe that this product is indeed scarce, valuable and popular. Therefore, the fear of missing out and the desire to purchase before the product is no longer available will prompt consumers to make

purchasing decisions faster. On the other hand, the information cocoon can also create a sense of belonging and identity for consumers. By promoting specific products or brands to different consumers, it allows them to identify and reinforce each other's viewpoints. A typical example is the formation of a brand community among consumers who are interested in a particular fashion brand. These consumers actively identify with the values and beliefs of the fashion brand and maintain their sense of belonging by purchasing a large number of products from the brand [12]. In either case, consumers will end up making more and faster purchases than they intended due to information cocoons.

2.4 Impact on Short Video Platforms Brought by Information Cocoons

Short video platforms have developed rapidly in recent years and draw a variety of users' attention. Besides the great success of operating these platforms derived from advanced algorithms, short video platforms also create information cocoons for users and bring negative effects. To be more specific, researchers focus on the information cocoon that measures overwhelmingly homogeneity of users' video consumption [13]. The article presented by Li states that information cocoons will be formed majorly from three aspects of uses, including demographics, video content, and user-recommendation interactions driven by algorithms and user preferences. Among these, video content is the most contributing factor that creates information cocoons for users. The most broadly-known example is Tik Tok, a top leading short video platform that attracts millions of users from all around the world. As demonstrated by Tik Tok, the information cocoon room effect is enhanced by big data technology, especially when people obtain network information through computers, mobile phones, and other mobile terminals [14]. After constantly browsing a large amount of homogeneous information, there will be a gradual barrier existing for users since they will be less likely to receive other types of information outside the cocoons.

2.5 Consequences of Information Cocoons on Political Polarization

Political polarization has been connected to information cocoons as it grows [15]. Lack of exposure to competing ideas may strengthen pre-existing opinions, exacerbate confirmation bias, and amplify unfavorable impressions of political opponents [16]. Garrett found that people are more inclined to seek out information that supports their current opinions than information that challenges them in a research looking at the connection between selective exposure and political polarization. The research also discovered that deliberately exposing oneself to ideas that one agrees with might strengthen one's political beliefs.

In a longitudinal research, Stroud found that people with strong political attitudes who watch similar media grow increasingly divided over time. This research implies that information cocoons contribute to the deepening of political divides between various ideological groupings in addition to reinforcing preexisting ideas [17]. In a different research, Gentzkow and Shapiro investigated how the internet contributes to political polarization and came to the conclusion that the politically targeted news content of online news sources exacerbates already existing differences [18].

According to Levendusky, the proliferation of partisan media outlets—driven in part by the spread of information cocoons—has exacerbated political polarization and decreased political trust. In this process, divided people may consume more political media, which in turn reinforces their polarized attitudes and views [19, 20]. Moreover, Druckman, Levendusky, and McLain offered evidence that exposure to partisan media sources might result in emotional polarization, in which people have stronger unfavorable attitudes toward opposing political groupings [21]. Information cocoons may promote political extremism in addition to strengthening pre-existing opinions and escalating political conflict. According to Sunstein's theory, people who are only exposed to material that shares their viewpoints are more likely to hold extreme beliefs as their confidence in such ideas grows. Group polarization is a phenomena that has been empirically validated and may have substantial effects on how democratic societies operate [22].

It is important to highlight, nonetheless, that some academics contend that the influence of information cocoons on political polarization may be exaggerated. For instance, Arceneaux and Johnson argued that politically active people who use partisan media are already divided and that exposure to information that shares their views may not significantly alter their sentiments [23]. In a similar vein, Guess, Nyhan, and Reifler discovered that those with the highest political expertise are more likely to be exposed to a variety of information sources, which may help to lessen the impact of information cocoons on polarization [24].

2.6 Consequences of Information Cocoons on Democratic Discourse

The quality of democratic discourse may be harmed by the absence of various viewpoints in information cocoons since people may be less willing to participate in fruitful discussion. Information cocoons may promote the spread of false information and undermine faith in conventional news sources. Information cocoons may also enhance political cynicism and indifference since they expose people to increasingly radical and pessimistic ideas. Researchers have discovered that the predominance of information cocoons reduces people's opportunity to encounter other viewpoints. When people become less knowledgeable about competing ideas and less able to have reasoned debates, this reduced exposure to varied viewpoints may cause a reduction in the quality of democratic discourse.

Another effect of information cocoons is misinformation, which has the ability to skew public perception and impair democratic decision-making [25]. Allcott and Gentzkow looked at how social media was used to transmit false information during the 2016 U.S. presidential election and found that ideologically motivated news consumption aided in the transmission of false information [26].

Another possible effect of information cocoons is a decline in confidence in conventional news sources. According to Lazer et al., people who are exposed to news sources that share their ideologies may become skeptical of mainstream media, which might have a detrimental impact on democratic debate [27, 28]. When people grow increasingly dependent on partisan news sources as a result of this lack of trust, political ideas may become even more divisive.

Finally, political cynicism and indifference may be influenced by information cocoons. Those who are exposed to polarizing and unfavorable information may lose

faith in the political system. According to Cappella and Jamieson, exposure to news sources that share the same ideologies may create cynicism and, in the end, result in disengagement from the democratic process [27].

However, it is essential to note that some studies suggest that information cocoons might not be as detrimental to democratic discourse as initially thought. Gentzkow and Shapiro argued that people who consume information with ideological alignment may nonetheless be exposed to other viewpoints via other channels, such as interpersonal interactions [29]. Additionally, Bail et al. discovered that exposure to competing political viewpoints on social media may, in certain circumstances, soften political attitudes, suggesting that online platforms may still promote varied democratic dialogue [30].

2.7 How Information Cocoon on Political News Affects Shopping Decision Making

A growing body of research has established a link between political news consumption and consumer behavior [31, 32]. According to these studies, exposure to political news can shape consumer preferences, brand evaluations, and purchasing decisions. For instance, politically conservative consumers may be more likely to support brands that align with their values, whereas politically liberal consumers may demonstrate a preference for brands with environmentally friendly or socially responsible practices [33, 34].

One significant aspect of the relationship between political news and consumer behavior is the role of partisan alignment in shaping brand preferences. Studies have shown that consumers tend to align their brand preferences with their political ideologies. For instance, politically conservative consumers may be more likely to favor brands that share their values, such as those that emphasize patriotism or traditional family roles [35]. Conversely, politically liberal consumers may exhibit a preference for brands associated with progressive social causes or environmental sustainability. This tendency can be reinforced by targeted advertising campaigns that appeal to specific political demographics. Another aspect of the influence of political news on consumer behavior is the impact of politically charged news events on consumer sentiment. Research has found that exposure to negative political news can lead to a decline in consumer confidence and a subsequent decrease in purchasing intentions [36]. This effect is particularly pronounced during election seasons, when political news coverage is heightened, and consumers may be more likely to make purchasing decisions based on their perceptions of the political climate [37].

3 Analyzing the Impact of Information Cocoons on Consumers

3.1 The Influence of the Information Cocoon on U.S. And Chinese Consumers

A review of previous research on information cocoons demonstrates that they can negatively affect consumers by limiting their exposure to diverse information and products, reinforcing their existing preferences and biases, and exposing them to inaccurate and polarizing information. According to Boxell et al., information cocoons have impacted

political polarization and misinformation dissemination in the United States, with the My Pillow advertising controversy serving as an example [15]. My Pillow, a Minnesota-based bedding manufacturer, has become famous in the United States due to extensive advertising on Fox News and other media outlets. Since 2021, Mike Lindell, CEO of My Pillow, has gone on conservative news shows like Fox News to spread conspiracy theories about the 2020 U.S. presidential election [38]. Some viewers and media outlets have criticized Mike Lindell for promoting the conspiracy, while other viewers and Trump supporters have backed and supported it. As Lindell is constantly appearing in public, beliefs and biases that question the outcome of the election are reinforced, thereby exacerbating political polarization and the proliferation of conspiracy theories [39]. The Lindell phenomenon illustrates, to some extent, the impact of the information cocoon on observers. In the information cocoon, consumers lack faith in traditional media channels. They are only willing to acquire news and information from sources that align with their preexisting beliefs. Therefore, a growing number of media observers are recognizing that the information cocoon has had a substantial effect on the attitudes and behaviors of American news consumers.

Additionally, information cocoons affect Chinese consumers, particularly regarding online consumer decisions and behaviors. Some Chinese e-commerce platforms and merchants manipulate consumers' purchasing decisions by exploiting information gaps; consequently, the information cocoon restricts consumers' access to accurate and objective data. On Taobao, China's largest e-commerce platform, some merchants will use fabricated sales figures and reviews to boost the reputation of their products and thus attract more customers. Besides, some merchants use false advertising to deceive consumers. For instance, some mask sellers advertise that their products are endorsed by well-known Chinese physicians and medical experts, thereby exaggerating the product's efficacy and misleading consumers into making erroneous purchasing decisions [40]. Furthermore, e-commerce platforms and merchants employ personalized recommendation algorithms to encourage customers to purchase additional products. These algorithms recommend more products that match consumers' preferences based on their purchase history, search history, and browsing behavior. Although this may enhance the user experience somewhat, it is more likely to limit consumers' exposure to new and unique products, causing them to miss out on higher-quality alternatives.

3.2 Longitudinal Comparison

Consumers had more restricted access to information sources and were exposed to a greater range of viewpoints via conventional media, such as newspapers, radio, and television, before the rise of information cocoons. The introduction of Facebook's "push feature" and other customized content distribution algorithms in 2004 signaled a change toward a more focused and tailored information environment. Since consumers were more exposed to material catered to their interests and views, restricting their exposure to opposing ideas, this transformation enabled the construction of information cocoons. Consumer decision-making has been significantly impacted by the modifications in information consuming habits brought about by the rise of information cocoons. Consumers were more likely to come across a variety of viewpoints and beliefs before the development of tailored content distribution algorithms, which might have influenced

their purchase choices. The emergence of information cocoons, on the other hand, has resulted in a shrinking of customers' informational horizons, with people increasingly depending on partial or constrained information sources when making judgments about purchases. This change may result in less wise decisions and more susceptibility to deceptive marketing strategies.

3.3 Information Cocoons' Negative Effects

Information cocoons have a number of detrimental effects on customer behavior. First of all, information cocoons may help create echo chambers where customers are only exposed to content that supports their own views, decreasing the probability of running across opposing viewpoints or fresh ideas. Consumers may get more enmeshed in their opinions and less open to considering opposing viewpoints as a result of this lack of exposure to other points of view. Information cocoons may encourage a false consensus, when people think that more others agree with them than they really do. Consumers may be less inclined to doubt the legitimacy of their preferences or examine other possibilities as a result of this false consensus, which may result in overconfidence in purchase decisions. Lastly, there are effects on customer trust from the growth of information cocoons. People may be less inclined to trust information sources that give opposing opinions as people grow more dependent on customized content delivery algorithms. This might result in people dismissing potentially useful information when making judgments about purchases. Consumers may become even more isolated in their informational cocoons as a result of their lost trust, also displaced or unearned trust which might feed the vicious circle of skewed judgment.

3.4 Future Developments of the Impact on Online Consumption

According to previous research and social news on information cocoons, we know that algorithms contribute to one of the major factors that influence people's decisions about consumption and it is evidenced in Gaskell's article stating that "Recommender systems are pervasive on most websites today, with their influence on our buying behavior considerable as they guide us towards products that our past buying behavior indicates we might like" [41]. However, we can find that more and more people are becoming aware of the impact of information cocoons. In other words, even though some people believe that the influence brought by information cocoons might be more severe in the future because people will increasingly rely on the internet and the algorithms will be more sophisticated in the meantime, people's growing awareness may support them to break through the information cocoon.

4 Conclusion

The purpose of the paper is to define the concept—information cocoon, and investigate its role and impact on the society and the public. By examining the interplay between information cocoons, the paper provides valuable insights into the complex dynamics that is very closely related to today's economy. Also, cognitive processes that underpin

decision-making was discussed. In order to solve the problems that people might be stuck in the information cocoons, there are two main tracks. As individual consumers, one can actively seek different information from a variety of sources and perspectives for the purpose of preventing himself/herself from absorbing information that only aligns with their existing opinions. Moreover, from the market supplier's viewpoint, the people who manage and operate platforms should regulate the recommending algorithms and encourage the diversity of the market. In the future, consumers will be continuously influenced by the information cocoon and that will be contributed by several factors such as consumer behaviors/personal preference, more advanced algorithms that platforms adopt, and some regulations that relevant departments enforce. However, as we discussed above, when both market makers and market takers put mutual effort into breaking through the information cocoon, the impact will gradually be lowered and consumers can make more rational decisions.

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