



Bias and Nudge in Social Media

What are the different marketing strategies and nudges used on social media platforms and how effective are they?

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Abstract:

Social media has become an integral part of our daily lives. Billions of people use social media as a platform to interact with one another, make connections and gain knowledge. Businesses have recognised the amount of potential they have to connect with and engage a wide range of people on these platforms. In this research paper we briefly classify samples of content produced on these platforms and hope to offer new insights on the use of behavioral nudges and biases in online social media content to gain consumer traction. In particular we discuss the impact of key principles such as loss aversion bias, anchoring bias, confirmation bias and scarcity bias that tap into our psychological triggers. The results show us the impact of these biases causing increased consumer engagement. One key take away from this research paper is that people should be conscious of the fact that their preferences are driven by their might not be a true sense of what they like and don't like versus and instead socially following or lazy heuristic anchoring. There may need to be a policy push for this as it is unlikely to come from the social media providers themselves as they prioritize profitability and user engagement.

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I. Introduction

In an ever-changing world, digital technology and communication are more important than ever. The virtual world has well replaced the real world by developing communities and connecting people from various corners of the world. Social media is a platform where billions of users engage with content, connect with others, and consume information. As these platforms have become a major part of people's daily lives, businesses are aware of how much potential they have to connect with and engage their target audience.

In a nutshell, platforms have emerged as powerful tools for businesses to connect with their audience, build brand awareness, and gain consumer traction. Essentially, digital platforms draw more people to the business, which fosters a strong rapport between it and its clients, fosters trust, and draws in and keeps new clients. Since social media is dynamic, marketers are forced to use various innovative strategies and psychological nudges to stay ahead. With the introduction of algorithms, social media tactics now prioritize customisation. A common finding is that customisations work best when they align with each user's interests, which raises user engagement and consumer traction.

There are various different biases and nudges that are used to increase consumer engagement. These psychological biases include; Rule of Thumb, Availability Bias(Tversky and Kahneman, 1973), Anchoring bias (Tversky and Kahneman ,1974), Herd Behavior(Gustave Le Bon, 1895), Status Quo bias(William Samuelson and Richard Zeckhauser, 1988), Loss aversion Bias(Amos Tversky and his associate Daniel Kahneman,1979), Nudge theory(Richard Thaler and legal scholar Cass Sunstein,2008) etc. A cognitive bias (Amos Tversky and Daniel Kahneman, early 1970s) is a systematic pattern of deviation from norm or rationality in judgment.The use of these psychological nudges and biases is to direct/influence consumer behavior to benefit the company/business using it. By using cognitive biases and tapping into innate psychological triggers, businesses seek to shape various perceptions, maximize their engagement, and ultimately promote positive outcomes, such as increased brand loyalty and a more favorable market position. The key focus remains achieving business

objectives by integrating strategies aligned to an organization's principles coupled with effective interaction with the audience.

While marketing strategies are constantly evolving and some have existed for a long time, social media presents a relatively new environment for consumer engagement.

1.1 Aims and Objectives

Therefore, there is merit for researchers to explore how these marketing strategies have developed and whether there are now dominant ones being used and how effectively. For the purpose of this research paper, we will explore the various social media strategies and nudges companies use and evaluate the extent to which they work to influence user behavior. In this paper, I will look at the case studies of Instagram, Snapchat and YouTube. These are some of the applications with the highest user engagement. As for 2023, the number of people actively using Instagram is 2.4 billion. Youtube has 2.7 billion monthly active YouTube users worldwide. Snapchat has 406 million daily active users worldwide. By classifying samples of content produced on these platforms this study hopes to offer new insights on the use of behavioral nudges in online social media content.

II. Literature Review:

Behavioral economics is a vast branch of economics that combines insights from psychology and economics to understand how most individuals aren't as rational as conventionally thought (Richard Thaler, 1980). Behavioral economics was initially introduced by economist Richard Thaler, a keen observer of human behavior in the 1980s, who was inspired by Kahneman & Tversky's work in 1979. He disputed the idea of traditional economics that all people make decisions based on complete information and always act in their best self-interest. He believed that people frequently behave in ways that are influenced by cognitive biases, emotions, and social circumstances. There are many biases and nudges to consider. Gaining insights from psychology deepens our understanding of how individuals make decisions in complex, real-world situations. Additionally, the field of behavioral economics has played a role in advancing marketing. Understanding marketing strategies through the lens of behavioral economics helps marketers develop effective advertising strategies which helps promote business. Marketing professionals can adjust their language and product presentations to appeal to the psychological inclinations of their target audience by acknowledging the impact of cognitive biases and social circumstances. This approach goes beyond conventional economics that assumes rational decisions based on complete information. On social media, especially Instagram, Snapchat and YouTube, a lot of cognitive biases and heuristics are used to gain consumer traction. This paper will primarily focus on nudge theory and how marketers activate these biases and increase consumer engagement.

Nudges and biases play different roles in decision making. Nudges are subtle changes in the way various choices are presented to consumers to influence their behavior in a predictable direction. Biases are inherent mental shortcuts or patterns of thinking meant to simplify information processing. These cognitive biases often lead to deviation from rationality and inaccurate judgment. Nudges often take advantage of these psychological biases to make better decisions without removing any options. Several biases and a detailed explanation of nudge theory are described below with some case study examples and related theory.

Israeli cognitive psychologist Amos Tversky and his associate Daniel Kahneman were the first to identify and study **Loss Aversion Bias**. This cognitive bias describes how results are seen as wins and losses, with losses evoking higher emotional reactions in people than gains of the same size. It also states that the pain felt from losing something is equal to about twice the pleasure of gaining something. This essentially shows us that people are averse to failure as it causes pain. Loss Aversion Bias affects the way we make choices. Since consumers are more likely to buy products if they feel like they are 'missing out' on that particular product. Due to the fear of loss, people often miss out on great opportunities and gains. The Fear of Missing Out (FOMO) compels users to engage with content on these social media apps in order to prevent them from feeling as though they are missing out not being part of the latest trends, events, or conversations. Companies typically take advantage of this by making consumers feel that they are missing out if they don't purchase that good. For example, an insurance company usually makes use of this bias in their marketing. By illustrating the potential losses the consumer can incur without insurance, the companies make consumers feel like they are 'missing out' on an opportunity to avoid losses. This psychological bias has significant implications for user behavior on social media platforms such as Instagram, Snapchat, and YouTube as well.

The next bias we will be talking about is the **Anchoring Bias**, also introduced by Tversky and Kahneman, which paved the way for understanding how psychological factors can impact human decision-

making processes. Anchoring bias is when people base their decisions on pre-existing information and place an excessive amount of weight on the initial piece of information—the anchor—even when that information is unrelated to the issue at hand. Essentially this means that regardless of the accuracy of that information, people use it as a reference point to make judgements. The initial anchor acts as a reference point that influences subsequent decisions, often leading to systematic errors. To understand Anchoring bias let us look at a study by Tversky and Kahneman with the aim to understand the effect of anchoring on estimating the value of a mathematics problem. For the methodology of this study, the participants were high school students. The design used for this experiment was an independent measures design. There were two conditions of the Independent variables . One group of the participants was allocated the “ascending condition” and had to solve $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8$ in 5 seconds while the other group got the descending condition and had to solve $8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$ in 5 seconds. The dependent variable was the answer provided by the participant. Since we read from left to right, the researchers assumed that group 1 would use "1" as an anchor and predict a lower value than the group that started with "8" as the anchor. The results showed us that the ascending condition had a median of 512 and the median of the descending condition was 2250. The median was used in place of the mean which reduced the effect of outliers and increased the accuracy of the results. This suggests that the researchers' hypothesis was correct and that the values of 1 and 8 acted as anchors and biased the answer of the participants. This suggests that there was an anchoring bias as the participants' decision was influenced by the order of the same mathematical problem. This psychological bias has significant implications for user behavior on social media platforms such as Instagram, Snapchat, and YouTube as well.

The next bias is **Confirmation Bias**. Confirmation bias, a phrase coined by English Psychologist Peter Watson and later by Tversky and Kahneman, is the tendency to search for, favor, and remember information in a way that supports one's beliefs and values. The human brain's natural tendency to look for patterns and make sense of everything around them is one of the main reasons behind confirmation bias. When their thoughts and values align with circumstances around them they feel comforted and validated. In contrast, when people encounter knowledge that goes against their ideas, it might make them uncomfortable and cause them to unconsciously reject or ignore it. Another important phenomenon connected with confirmation bias is Echo Chambers. Echo Chambers create environments where confirmation bias is constantly reinforced and people hear things that confirm their beliefs, values, thoughts and opinions. This can cause people to become more closed minded and hard for them to understand other perspectives. For example, we yield to confirmation bias when reading about politics. A person who strongly identifies with a particular party may seek out news and select articles to read on the internet that support the positions held by their party. They often dismiss news from alternative sources that have different opinions. The reason for this is mentally, processing information that supports one's preexisting views is simpler and more natural. Therefore, it doesn't cause mental strain by having contradictory ideas, and therefore requires less cognitive effort.

The last bias that we will cover in this paper is **Scarcity Bias**. This bias was a concept developed by Robert Cialdini, stating that when an object is considered to be scarce, it is perceived as more valuable. This cognitive bias is deeply rooted in the fear of missing out. By creating a sense of limited availability of content, products and features marketers use this bias to increase consumer traction. This bias can influence how decisions are made, often leading to behavior that gives priority to limited resources even when other options could be more rational. This bias is also closely related to Loss Aversion bias where individuals tend to emphasize losing a resource than gaining a resource. In any shops or retail stores we visit, the presence of a limited time sale or discount offer triggers our scarcity bias. The time constraint creates a sense of urgency and immediacy in the minds of the consumers. Customers become illogical in their decision-making as a result, thinking that they are losing out on an opportunity to take advantage of an advantageous offer. For example, Limited edition sneaker releases from famous shoe brands such as Nike or Adidas cause excess demand and enthusiasm to purchase the sneaker. The scarcity of these limited-edition deals and demand to buy these sneakers even though they don't differ much from regular shoes. When consumers see a shoe that's considered 'rare' and 'unattainable' to the product, scarcity bias is activated. This cognitive bias makes the user feel like they are missing out on a product. Cialdini, Wosinska, Barrett, and Butner (1999) conducted a study aimed at examining the impact of scarcity bias on people's evaluations and assessments of job candidates. According to the study's findings, individuals who were in the experimental condition of little information gave the job candidate higher ratings than those who were in the condition of readily accessible information. The candidate was considered more 'valuable' and likable when information about him was limited and he was considered hard to obtain. These findings are further proof for how scarcity of information can enhance the value of a product or a person and influence people's decision making.

Nudge theory is a concept in behavioral economics that proposes adaptive designs of the decision

environment as ways to influence the behavior and decision-making of groups or individuals. The concept of nudge theory was popularized by Thaler and Sunstein in their book titled "Nudge: Improving Decisions About Health, Wealth, and Happiness." Fundamentally, nudge theory recognizes that cognitive biases and heuristics frequently lead to people making irrational decisions. By understanding these biases, policymakers can design nudges that subtly alter the choice architecture to encourage desired behavior. In 2009, Volkswagen conducted an experiment that shows the application of nudge theory known as the "Piano Stairs" experiment. Volkswagen converted the stairway next to the escalator of the Odenplan metro station in Stockholm, Sweden, into a massive piano keyboard. Every step is installed with sensors which when stepped on produce music. The purpose of transforming the stairs into a musical instrument was to appeal to the curiosity and entertainment of the people passing by. In order to promote physical exercise and a better lifestyle, the experiment sought to persuade participants to pick the stairs over the escalator. Not only did people start enjoying walking when they began utilizing these musical stairs, but they also unintentionally picked the steps over the adjacent escalator(Volkswagen,2009).

III. Methodology Section:

3.1 Methodology

As discussed above in the literature review, this study looks at 4 behavioral biases and how nudge theory is used to activate them. These behavioral biases are anchoring bias, confirmation bias, scarcity bias and loss aversion. The three platforms I will be looking at are Youtube, Instagram and SnapChat. I used these three applications because of their popularity and the fact that billions of users are active everyday on all of these platforms. These are some of the applications with the highest user engagement. As for 2023, the number of people using Instagram is 1.35 billion. Youtube has 2.7 billion monthly active YouTube users worldwide. Snapchat has 406 million daily active users worldwide.

Youtube, Instagram and Snapchat are particularly popular with the current generation. Each of these platforms offer special features that resonate with different audiences. In this research paper, we will look at the various features integrated by the app maker and work out what it looks like for a feature to be counted as using any of the 4 cognitive biases.

3.2 Features employing the 4 psychological biases

The three social media apps use various nudges to influence user behavior and gain consumer traction. For loss aversion bias I gathered a sample of posts, videos and stories from Instagram, YouTube and Snapchat and looked out for elements that may trigger loss aversion bias such as impermanent nature, FOMO, exclusivity access, trending topics and hashtags, and limited time offers. These were necessary for what it looks like for a feature to be counted as using loss aversion.

On Instagram, the impermanent nature of stories and lives creates a loss aversion bias. Instagram sends notifications whenever someone has liked, commented or tagged you in a post. This provides incentive and acts as a "nudge" to the users to open the app and possibly end up scrolling through new content. Instagram has integrated shopping features within the posts such as product tags. Snapchat has disappearing messages which amplifies loss aversion bias. Streaks on Snapchat represent consecutive days of exchanging snaps. This creates a sense of commitment and continuity nudging users to open the app everyday causing loss aversion to be created when streaks are broken. On YouTube users may be more inclined to click on videos with a high view count. Attractive thumbnails and click bait titles also catch the eye of the users nudging them to click on it so they don't miss out on any new trends etc.

Using a thorough technique that blends qualitative and quantitative methods, I examined user behavior on social media sites such as YouTube, Instagram, and Snapchat to check for anchoring bias and its effects. After gathering a wide range of content from the three platforms, I analyzed and looked out for the elements that may trigger anchoring bias such as thumbnails, titles, strategic timing, and placement of engaging content at the beginning of feeds or stories. On YouTube anchoring bias is mostly evident from the thumbnails and titles of YouTube videos. As for Instagram and Snapchat, content creators strategically time their posts when the majority of their followers are active.

To investigate confirmation bias and its influence on user behavior on Instagram, Snapchat, and YouTube, I devised a method that combines qualitative approaches along with elements that checked for confirmation bias such as curated feeds, recommended content, and echo chambers in comment sections. Watching content creators and accounts whose content aligns with users' preferences, beliefs, opinions and

values. Instagram is an app known for its curated feeds based on past consumer interactions. YouTube's comment sections and community posts can foster environments where like-minded people reinforce each other's beliefs and value systems. Snapchat's Discover feature provides a curated selection of content based on user preferences and previous interactions.

After analyzing various posts, videos and stories on Instagram, YouTube and Snapchat, I looked out for elements that identified scarcity bias such as time-limited features, exclusive offers, and celebratory milestones. I also noticed patterns of social media influencers and businesses that leveraged scarcity bias to attract and retain consumer attention. Snapchat is known for its disappearing messages, snaps and stories which create a scarcity of time. YouTubers often celebrate reaching specific subscriber milestones. Instagram is a major hub for small businesses and contests or giveaways.

IV. Results and discussion

In this section I first look at all the features noted in the methodology section and how nudges are used to activate our cognitive biases. After that I share the results of the first 30 posts I see on each platform to show how these biases are used. I have summarized these findings in Table 1 titled “Summary of a Subset of the classifications of online content” below. This shows the structured classification methods I have used. The rest of this section will be devoted to discussing these findings.

Table 1: Summary of a subset of the classifications of online content

1	App	Type of Content	Nudge theory	Confirmation Bias	Loss Aversion bias	Anchoring Bias	Scarcity Bias
2	Instagram	Post	No	Yes	No	Yes	Yes
3	Instagram	Post	No	No	No	Yes	No
4	Instagram	Post	No	No	Yes	Yes	No
5	Instagram	Video/Reel	Yes	No	No	No	No
6	Instagram	Video/Reel	No	No	Yes	Yes	Yes
7	Instagram	Video/Reel	Yes	Yes	No	No	Yes
8	Instagram	Unique Feature	Yes	No	Yes	Yes	No
9	Instagram	Unique Feature	No	No	No	No	No
10	Instagram	Stories	No	Yes	No	Yes	Yes
11	Youtube	Video/Shortz	No	No	Yes	No	Yes
12	Youtube	Video/Shortz	No	No	Yes	No	Yes
13	Youtube	Video/Shortz	No	Yes	Yes	No	No
14	Youtube	Video/Shortz	No	Yes	No	Yes	No
15	Youtube	Video/Shortz	No	Yes	No	Yes	No
16	Youtube	Stories	Yes	Yes	No	No	No
17	Youtube	Stories	No	No	Yes	No	Yes
18	Youtube	Stories	No	No	Yes	Yes	No
19	Youtube	Feature	Yes	Yes	No	Yes	Yes
20	Youtube	Feature	No	No	No	Yes	Yes
21	Snapchat	Post	Yes	Yes	No	Yes	No
22	Snapchat	Video	No	Yes	No	No	No
23	Snapchat	Video	Yes	No	No	Yes	No
24	Snapchat	Feature	Yes	Yes	Yes	No	No
25	Snapchat	Feature	Yes	No	No	Yes	Yes
26	Snapchat	Feature	No	Yes	Yes	No	Yes
27	Snapchat	Feature	No	No	Yes	No	No
28	Snapchat	Stories	No	No	No	Yes	No
29	Snapchat	Stories	No	Yes	Yes	No	Yes
30	Snapchat	Stories	Yes	Yes	No	No	Yes

Figure 1: Example of Loss Aversion Bias on Youtube



Figure 2 : Example of Loss Aversion Bias on Instagram

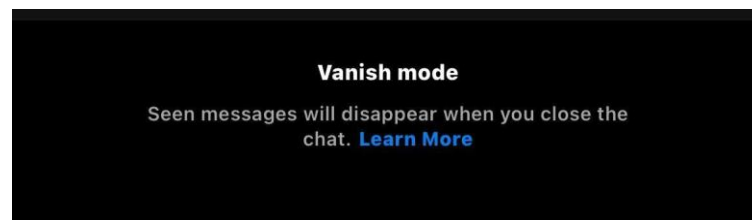
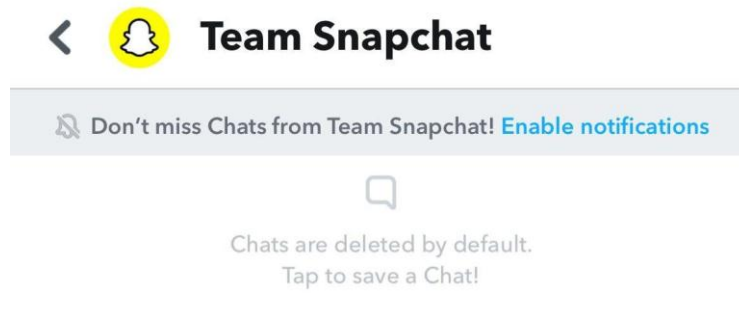


Figure 3: Example of Loss Aversion Bias on Snapchat



Loss Aversion Bias states that the pain felt from losing something is equal to about twice the pleasure of gaining something. The Figure 1 titled “Example of Loss Aversion Bias on Youtube” is an example of loss aversion bias as it shows a video that is popular and has many views which might create FOMO and cause more users to view it fearing they might miss the next big trend . The Figure 2 titled “Example of Loss Aversion Bias on Instagram” is an example of loss aversion bias as the impermanent nature of vanish mode creates loss aversion and encourages the user to view the message as soon as it is sent. The Figure 3 titled “Example of Loss Aversion Bias on Snapchat” is an example of loss aversion as the disappearing messages on snapchat amplifies FOMO and makes users rush,open and reply to the messages and view the stories.

Anchoring bias (Tversky and Kahneman ,1974) is when people rely too much on the first piece of information and make decisions based on pre-existing information. This bias can significantly impact user behavior on social media platforms. On YouTube anchoring bias is mostly evident from the thumbnails and titles of YouTube videos. These visual and textual elements serve as expectations for the video. These thumbnails are generally ‘clickbaits’. Clickbaits are generally exaggerated claims in order to attract the user's attention. Creators strategically design these clickbaits to anchor the viewers into clicking the video and gaining consumer traction. As for Instagram, content creators strategically time their posts when the majority of their followers are active to maximize consumer engagement such as likes and comments. The algorithm in the app also uses anchoring bias for content relevance. The first few posts on the feed act as an ‘anchor’ for the users to decide what content is relevant to them and what is not. Snapchat stories can anchor users' expectations and determine whether they will continue watching. Creators and brands strategically place engaging content at the beginning of the feed to anchor users' interest and keep them engaged.

Confirmation bias is the tendency to search for, favor, and remember information in a way that supports one's beliefs and values. The human brain's natural tendency to look for patterns and make sense of everything around them is one of the main reasons behind confirmation bias. When their thoughts and values align with circumstances around them, they feel comforted and validated. Instagram is known for its incorporation of common bias to increase and gain consumer traction. The app is known for curating the users feed based on their past interactions thereby minimizing exposure to other perspectives. Instagram recognises the hashtags that users use, as well as the posts they like, share, and comment on. Based on this information, comparable posts are recommended to users. Snapchat's Discover feature provides a curated selection of content based on user preferences and interactions. This content generally aligns with the views, judgements and values of the users. This attracts the attention of the users since it gives them more reason to open the app and increases consumer engagement on the app. YouTube's comment sections and community posts can foster environments where like-minded people reinforce each other's beliefs and value systems. A lot of YouTubers tailor their content to match the value and belief systems of their subscribers to gain engagement and reinforce their biases.

Figure 4 : Echo chamber in an instagram comment section

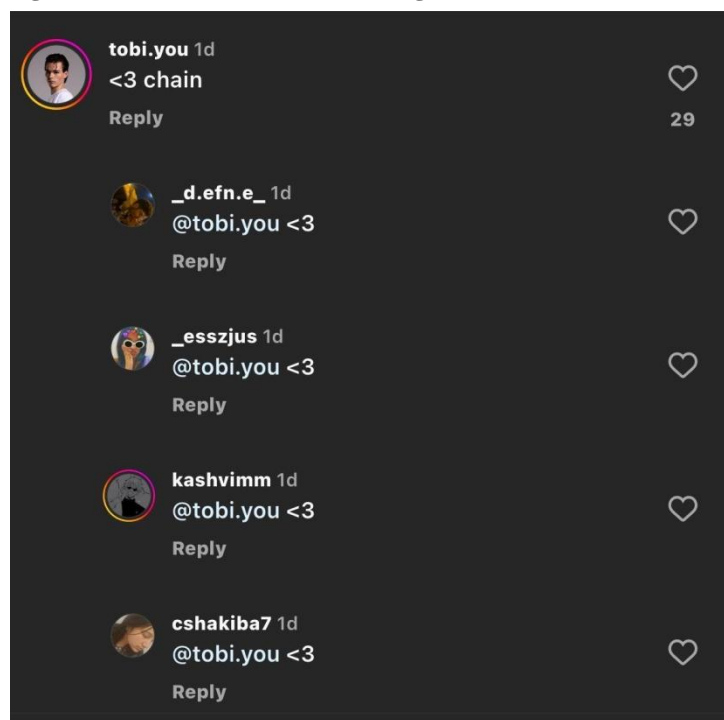


Figure 4 titled “Echo chamber in an Instagram comment section” represents an echo chamber where like-minded people reinforce each other’s beliefs and value systems.

Scarcity bias, a cognitive bias is deeply rooted in the fear of missing out. By creating a sense of limited availability of content and features, these applications are used to catch the attention of users and increase traction. The Figure 5 titled “ Example of the Snap Map feature demonstrating Scarcity Bias” depicts scarcity bias. Snapchat is known for its disappearing messages, snaps and stories. This scarcity of time compels users to check the application at regular intervals so as to not detach from the real world. The Snap Map is a feature on Snapchat where users can share their location for a limited amount of time working on a similar strategy to the disappearing messages. There are certain shows on Snapchats explore page as well where episodes are dropped periodically and can only be viewed for a certain period of time activating the scarcity bias.

Instagram is a major hub for small businesses and contests or giveaways. The scarcity bias can be created through these contests or giveaways because of the limited time deals encouraging users to participate so as to not miss an opportunity. Additionally, Instagram offers a function that allows content providers to publish paid-for exclusive contests. This may raise curiosity and a scarcity bias, which in turn causes the users to pay for this content so as to not miss any new trends. The Figure 6 titled “Example of milestone posts demonstrating Scarcity bias” depicts how YouTubers often celebrate reaching specific subscriber milestones and could provide their audience with exclusive content or freebies. This encourages more individuals to subscribe by evoking a

sense of exclusivity and scarcity around these milestones.

Figure 5 : Example of the Snap Map feature demonstrating Scarcity Bias



Figure 6 : Example of milestone posts demonstrating Scarcity Bias



V. Conclusions & Limitations

5.1 Conclusions

The methodology I used to explore the research question clearly showed how social media platforms use nudges to activate our behavioral biases on a daily basis. The algorithms developed through these social media platforms can be helpful. People can find the content they like but this has the negative effect of pushing people into echo chambers around destructive views. It might be important for people to reflect on how much of their preferences are driven by their true sense of what they like and don't like versus - socially following or

lazy heuristic anchoring. However, it might be challenging for individuals to do and therefore we should think about how it might be possible to build supporting structures into social media. People can avoid getting trapped by their heuristics by taking this action. There may need to be a policy push for this as it is unlikely to come from the social media providers themselves as they prioritize profitability and user engagement.

5.2 Limitations

Conducting this research came with its set of limitations. This research paper only covers three of the larger social media platforms such as Instagram, Snapchat and YouTube. It also looked at only a total of 30 posts across these three platforms. The small sample of posts and apps presents questions as to the extent that the findings of this research can be applied and if the results are generalizable. There was also no field study/ research method that observed user behavior in their natural environment to capture the essence of how these nudges are used to activate our behavioral biases. Moreover, I am aware that this research only offers a snapshot of the full picture. To add value to this research, more posts would have provided a better consensus. Only 4 biases were analyzed, Social media apps employ a wide variety of apps in order to increase screen time and consumer traction on the app so these biases could be explored more widely. Despite this, the methodology proposed here offers a first avenue into conducting this kind of research.

Reference list - Bibliography

- [1]. behavioralecon. "Zurich Behavioral Economics Network (Zurich, Switzerland)." Behavioraleconomics.com | the BE Hub, 25 Nov. 2019, www.behavioraleconomics.com/resources/mini-encyclopedia-of-be/scarcity-heuristic/.
- [2]. Bernazzani, Sophia. "The Scarcity Principle: How 8 Brands Created High Demand." Blog.hubspot.com, 2021, blog.hubspot.com/marketing/the-scarcity-principle.
- [3]. Casad, Bettina J, and J.E. Luebering. "Confirmation Bias." Encyclopædia Britannica, 9 Nov. 2023, www.britannica.com/science/confirmation-bias.
- [4]. Cialdini, Robert B., et al. "Compliance with a Request in Two Cultures: The Differential Influence of Social Proof and Commitment/Consistency on Collectivists and Individualists." *Personality and Social Psychology Bulletin*, vol. 25, no. 10, Oct. 1999, pp. 1242–1253, <https://doi.org/10.1177/0146167299258006>.
- [5]. Eigenbrod, Laura, and Andreas Janson. Association for Information Systems AIS Electronic Library (AISeL) How Digital Nudges Influence Consumers - Experimental Investigation in the Context of Retargeting. 2018.
- [6]. Kahneman, Daniel, and Amos Tversky. *Judgment under Uncertainty : Heuristics and Biases*. Cambridge, Cambridge University Press, 1974.
- [7]. Lieder, Falk, et al. "The Anchoring Bias Reflects Rational Use of Cognitive Resources." *Psychonomic Bulletin & Review*, vol. 25, no. 1, 8 May 2017, pp. 322–349, link.springer.com/article/10.3758/s13423-017-1286-8, <https://doi.org/10.3758/s13423-017-1286-8>.
- [8]. Md Momen Bhuiyan, Michael, and Horning. Sang Won Lee, and Tanushree Mitra. Vol. 427, 2021, <https://doi.org/10.1145/3479571>. Accessed 22 Feb. 2024.
- [9]. Oswald, Margit, and Stefan Grosjean. "Confirmation Bias and the Wason Rule Discovery Test." Explorable.com, 2019, explorable.com/confirmation-bias.
- [10]. Oszi, Tamas. "11 Cognitive Biases in Marketing to Boost Customer Retention - Antavo." Antavo.com, 9 June 2022, antavo.com/blog/cognitive-biases-in-marketing/.
- [11]. Reisch, Lucia A, and Min Zhao. "Behavioural Economics, Consumer Behaviour and Consumer Policy: State of the Art." ResearchGate, Cambridge University Press, Nov. 2017, www.researchgate.net/publication/320260991_Behavioural_economics_consumer_behaviour_and_consumer_policy_state_of_the_art.
- [12]. Ruby, Daniel. "71+ Instagram Statistics for Marketers in 2023 (Data & Trends)." Demandsage, 6 Mar. 2023, www.demandsage.com/instagram-statistics/.
- [13]. Shepherd, Jack. "25 Essential Snapchat Statistics You Need to Know in 2023." The Social Shepherd, 5 Jan. 2024, thesocialshepherd.com/blog/snapchat-statistics#:~:text=Snapchat%20Has%20406%20Million%20Daily.
- [14]. Shewale, Rohit. "YouTube Statistics (2022) — Updated Data, Facts & Figures Shared!" Demandsage, 5 Nov. 2022, www.demandsage.com/youtube-stats/.
- [15]. Thaler, Richard H, and Cass R Sunstein. *Nudge: Improving Decisions about Health, Wealth, and Happiness*. New York. N.Y., Penguin Books, 2009.
- [16]. The Decision Lab. "Anchoring Bias - Biases & Heuristics." The Decision Lab, 2022, thedecisionlab.com/biases/anchoring-bias.
- [17]. ---. "Loss Aversion - Biases & Heuristics | the Decision Lab." The Decision Lab, 2019, thedecisionlab.com/biases/loss-aversion.
- [18]. Volkswagen. "The Fun Theory 1 – Piano Staircase Initiative | Volkswagen." Wwww.youtube.com, 26 Oct. 2009, youtu.be/SByymar3bds?feature=shared. Accessed 19 Nov. 2023.
- [19]. Wang, Yang, et al. *Privacy Nudges for Social Media: An Exploratory Facebook Study*. 2013.
- [20]. Witynski, Max. "Behavioral Economics, Explained." News.uchicago.edu, 2022, news.uchicago.edu/explainer/what-is-behavioral-economics