

Loss Aversion and Psychological Retention: A Behavioral Study of Subscription Models in Digital Platforms

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ABSTRACT

The paper explores the role of loss aversion and related behavioral biases in driving user retention across digital subscription platforms. Popular media services including Netflix, Spotify, and EdTech providers are increasingly using behavioural design techniques to drive user engagement on their platforms. This study uses key concepts from behavioral economics including prospect theory, the endowment effect, sunk cost fallacy, status quo bias, nudging, and fear of missing out (FOMO) to analyze how the influence on cognitive patterns influence the cancellation decisions for users.

For this analysis, the study employs a mixed-method approach including a literature review, case study analysis and primary survey data collected from users of various subscription services. This paper aims to highlight how loss perception and behavioral inertia contribute to the subscription 'stickiness' for its users. The results of this study are expected to improve the understanding of psychological retention and offer broader insights into ethical design in the subscription economy.

Keywords: Behavioral economics, Endowment effect, FOMO, Loss aversion, Subscription retention

Introduction

Have you ever kept paying for a subscription long after you stopped using it just in case you might return to it someday? You aren't alone. Millions of users remain subscribed to platforms like Netflix, Spotify, and online learning services not purely out of utility, but due to subtle psychological tricks. In an increasingly digitized economy, subscription-based platforms have become a reliant business model in entertainment, music, education services and much more. These companies rely not just on the quality of their services, but also on precise behavioral

strategies to retain users over time. The decision by customers to continue subscribing is then frequently influenced by these cognitive biases and emotional patterns that therefore shape consumer behavior.

This research aims to investigate how psychological factors affect user retention in subscription models through the lens of loss aversion. Referencing behavioral economics, the study focuses on six key concepts: prospect theory, endowment effect, sunk cost fallacy, status quo bias, nudging, and FOMO (fear of missing out). By analysing real world case studies and primary survey data, this paper aims to unpack how these biases contribute to "subscription stickiness", and what this means for the future of user experience design in a rapidly digitizing landscape.

Literature Review

To better understand user retention in digital subscription models, it is fundamental to examine how behavioral economics shapes consumer decision-making in the face of uncertainty. Amongst the 6 concepts which will be explored in this paper, one of the most influential is loss aversion, a concept introduced in Prospect Theory by Kahneman and Tversky (1979), which suggests the idea that people experience the pain of losses more intensely than the pleasure of equivalent gains. This theory is also connected to subscription services where users tend to stay subscribed longer than needed to avoid the perceived 'loss' of access or even their 'progress' and effort invested into the platform.

Similar to this theory is the endowment effect, where individuals start to value something more once they feel a sense of ownership over it. Platforms including Spotify and Netflix encourage this by allowing users to curate playlists or personalized watch lists. In educational platforms, there are saved course progress or custom dashboards which foster a sense of digital ownership and also a feeling of progress for the user, hence increasing the psychological cost of cancellation.

Another key concept is the 'Sunk Cost Fallacy' that further pushes consumer retention by causing individuals to irrationally continue paying for services they've already invested time or money into (similar to the idea of progress and opportunity costs). Users justify the continued payment on the platform because of their past usage of the service such as watching several seasons of a show or completing part of a course, rather than evaluating the realistic usage and effectiveness of their subscription.

Pairing with this, is the defining factor of Status Quo Bias, where users prefer staying in their current state instead of making a change (even if the change may be beneficial to them). This bias is exploited majorly by subscription services in their automatic subscription renewal

settings, since users tend to often avoid the slight effort required to cancel, and rather opt to “let it be as it is.”

Modern digital platforms also make strategic use of Nudging, a concept developed by Thaler and Sunstein (2008), which refers to subtle design changes that influence behavior without limiting choice. Some instances include reminders like “Only 2 days left to finish your course!” or “Your subscription is about to expire soon. Renew NOW to keep your data,” which uses time based diction to highlight the urgency and cognitive ease.

Finally, Fear of Missing Out (FOMO) helps seal the deal by tapping into social and emotional cues. Shuffling content libraries, trending playlists, and time-limited access cues all create a psychological fear of being left out for the user, making sure there is continuous engagement even if there isn't an actual need.

Overall, a blend of these concepts help in exploring why subscription platforms create environments that captivate the audience and reinforce constant engagement. Rather than acting purely on rational evaluation and dependency of quality of services, users are influenced by defining behavioral patterns - many of which are deliberately crafted by these digital platforms.

Methodology

Research Design

This study uses a mixed-method research design to understand the psychological mechanisms and strategies behind user retention in subscription models. This approach will combine the qualitative analysis from already published behavioral economics literature and case studies of major digital platforms with quantitative primary data gathered through a structured user survey conducted by myself.

The study examines how behavioral biases like loss aversion, sunk cost fallacy, and status quo bias function in the everyday subscription decisions made by customers. The research data will serve as a reference point into the behavioral patterns influencing subscription “stickiness.”

Sample and Participants

The survey conducted (for primary data) targeted users of digital subscription services, particularly in the areas of entertainment (like Netflix), music (like Spotify), and education (like Coursera or Duolingo). The sample size is conveniently sampled in a digitized community, where almost everyone has one or more subscriptions in these services. The sample size is useful in providing accurate quantitative data, hence making interpretations and conclusions more reliable.

Participants for the survey are selected using convenience sampling conducted through my school networks, social media, peer sharing, social circles, general neighbourhood and more.

The target demographic includes:

- Students & young adults (aged 15 to 30), since they form a major share of the digital subscription economy.
- Young parents, since they might also be financially responsible for subscriptions used by their children or family households.
- No prior behavioral economics knowledge is required to participate which ensures accessibility and inclusivity in the response patterns.

Data Collection Methods

This study has both primary and secondary data sources.

Primary data is gathered through a structured online survey. This would help in capturing user behavior, attitudes, and decision-making patterns related to digital subscriptions. The survey is a mix of multiple-choice questions and Likert-scale ones. It will be distributed via Google Forms and will be shared through school channels, peer networks, and social media platforms to reach a large audience of students, young adults, and young parents.

Secondary data is collected through online published literature reviews and platform-specific case studies. Sources like academic journals, behavioral economics publications, publicly available data on subscription trends and retention strategies help in better understanding these techniques and their impact on customer behaviour.

An overall triangulated approach [quantitative and qualitative] allows for greater insight in comparing theoretical predictions and actual user-reported behavior in the real world.

Ethical Considerations

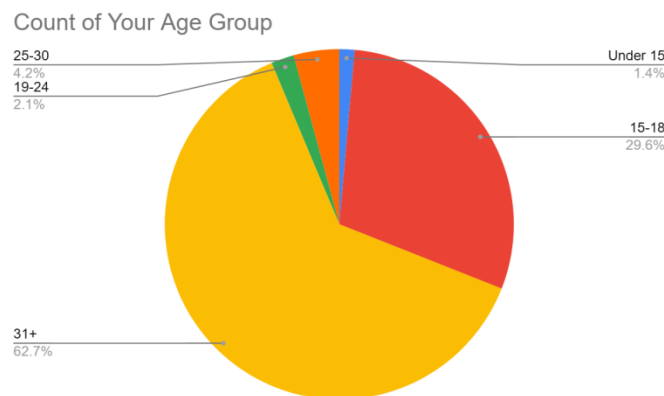
All participants in the study will be informed that their participation is voluntary, anonymous, and confidential. The survey will have a brief consent section at the beginning to make sure that participants understand the purpose of the research and their right to withdraw at any time. No personal or identifying information will be collected.

The survey questions are designed to minimize psychological risk and also avoid sensitive topics. All responses will be used strictly for academic purposes and analyzed as a whole. This

study follows ethical research standards appropriate for non-experimental behavioral studies which are conducted at the high school level.

Data Analysis

The survey was conducted with a sample size of 142 participants [Random, Wide age group] to assess the role of psychological biases in user retention within subscription models. It was analysed through multiple metrics. The survey contained both multiple-choice and Likert-scale questions to grasp the responses with greater accuracy.



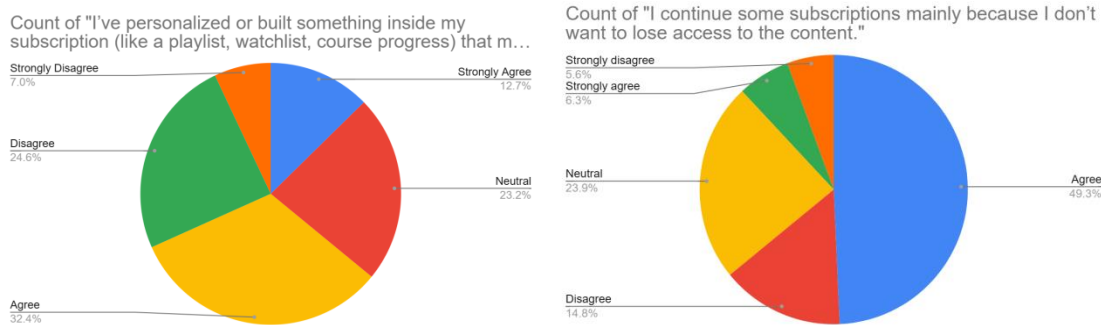
Sample Size for the survey

I. Subscription Usage Trends

A majority of respondents (over 85%) indicated they were currently subscribed to at least one digital service for over 1 year, most commonly in entertainment platforms (Netflix, Amazon Prime), music (Spotify, YouTube Premium), or education (Coursera, Duolingo). Interestingly, nearly half of these participants admitted to having continued a subscription even when their usage had significantly declined, solely to prevent losing access to content. This is a clear early indicator of behavioral inertia.

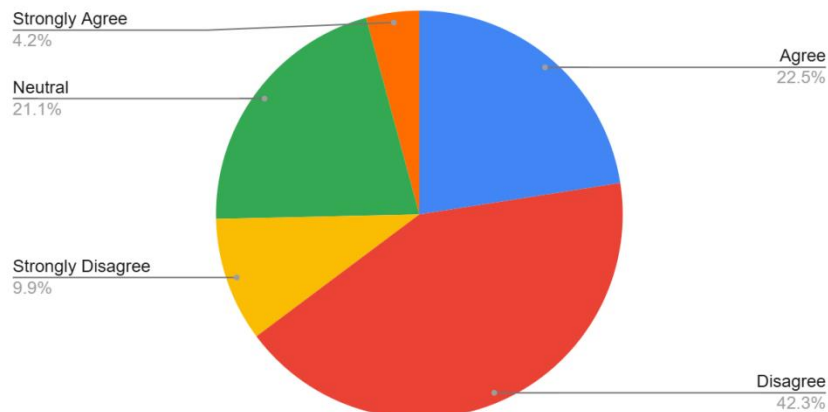
II. Behavioral Patterns and Bias Indicators

Loss Aversion & Endowment Effect: Half the respondents admitted that they felt hesitant to cancel subscriptions due to fear of losing progress or saved features like playlists and course dashboards. This aligns with the theoretical predictions of both loss aversion and endowment effect where users treat digital ownership as valuable (or something that is their own).



Sunk Cost Fallacy: A notable 42.3% indicated that past time or money spent on a platform (e.g., watching multiple seasons, partially completed courses) made them feel compelled to continue paying even if they no longer needed the service.

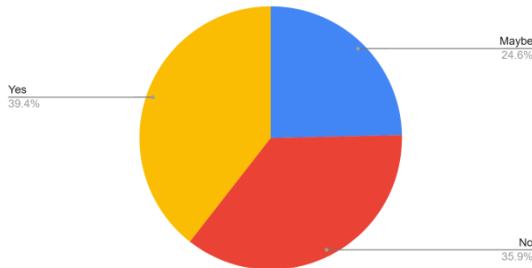
Count of "Even if I don't use the platform much now, I stay subscribed because I've already spent time or money on it in..."



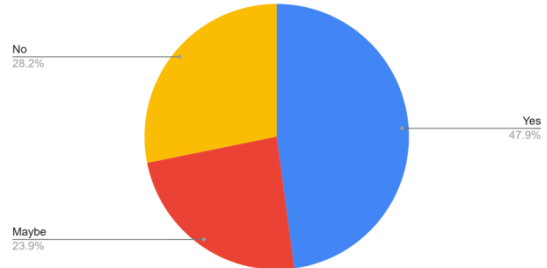
Status Quo Bias: 49% agreed that automatic renewal made them more likely to continue a subscription simply out of convenience. This status quo bias ensures user retention not based on utility but on the friction of change.

Nudging & FOMO: Questions involving urgency cues ("Only 3 days left to renew!") had a more dispersed answer selection showing that 39.4% of respondents had been nudged into continuing a subscription via notifications or limited-time offers, and 24.6% of these respondents believe the urgency cues could be a primary reason amongst others, for renewing their subscription. Additionally, a striking 49.7% of participants acknowledged staying subscribed due to fear of missing trending content or updates.

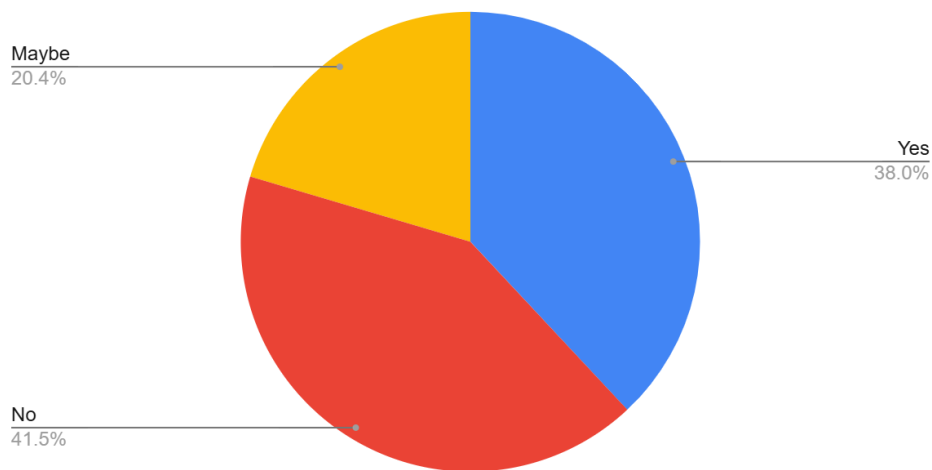
Count of "I've renewed a subscription after receiving a reminder, countdown or a discount offer"



Count of "I've kept a subscription because I didn't want to miss out on new content or trending shows"



Count of "Seeing friends talk about a show or course has influenced me to stay subscribed to a platform"



III. Correlation Observations

A trend also emerged among younger users who showed higher susceptibility to FOMO and nudging tactics. Meanwhile, young parents showed a stronger inclination toward sunk cost fallacy especially with educational tools used by children.

IV. Open-Ended Responses

Qualitative feedback supported this qualitative trend. Many users expressed that while they were aware of 'barely using' a service, canceling felt like abandoning something they had emotionally invested in. Some said they feared losing their 'personalized space,' again validating the psychological value platforms create.

Conclusion from Data

The data is a great primary source to confirm that a combination of behavioral biases significantly contributes to user stickiness in subscription models. While not every user falls prey to every bias, the general patterns of reluctance to cancel, emotional attachment, and susceptibility to default settings were widely observed. These findings provide strong empirical support and general reliance on the hypothesis and the theoretical framework presented in the literature review.

Discussion

Understanding the Research and Its Implications

This overall study takes a comprehensive investigation into the psychological factors behind subscription bias through the lens of loss aversion and other behavioral biases. The mixed-method approach (literature review, case study, and primary survey data) ensures a broader and more reliable view of the phenomenon. The findings from the study strongly suggest that retention in subscription services is not purely a result of product utility but is significantly influenced by cognitive biases that alter rational decision-making. This has important implications for both business ethics and consumer awareness. For businesses, it validates the profitability of behavioral design strategies and for consumers, it raises questions about autonomy and informed consent, and the subtle ways in which choice development (and architecture) can steer our decisions.

Besides the content of the research paper, there is also a set of strengths and limitations for the research. In terms of strengths, this paper integrates behavioral economics, psychology, and digital business strategies which provides a robust theoretical foundation. There is also a combination of primary and secondary data which strengthens the credibility of the findings. The primary data was taken with ethical considerations thoroughly addressed. However, there are also minor limitations in this exploration.

Firstly, although the sample size (142 respondents) is substantial for research, it is only limited to my own networks, which might potentially introduce a sampling bias. Another potential drawback is that the survey represents a snapshot in time and does not necessarily capture longitudinal behavioral changes. However, these limitations aren't too pivotal in changing the course of the paper as trends suggest these behavioural changes might remain quite consistent even in the longer run.

Opportunities for Future Research

The following are some ideas which I could also consider additionally taking on if I were to carry out this research in the future -

1. Tracking subscription behavior over LONGER periods (months or years) could reveal more evident and reliable patterns.
2. Expanding the study to different geographic and cultural contexts (identifying variations in bias susceptibility).
3. Controlled experiments can also be conducted to measure the causal effects of nudging or FOMO cues on retention.

Conclusion

This research was set to explore “**how loss aversion and related behavioral biases contribute to user retention in digital subscription models**” with a focus on understanding the balance between cognitive psychology and commercial strategies employed. The research draws on six key behavioral economics concepts: prospect theory, endowment effect, sunk cost fallacy, status quo bias, nudging, and also FOMO. The study examined both theoretical insights and real-world evidence from subscription services such as Netflix, Spotify, and Coursera.

The survey findings confirmed this central role of psychological factors in making consumer decisions. Loss aversion is evident in users’ reluctance in cancelling their subscription due to a sense of ‘fear’ of losing progress. The sunk cost fallacy and status quo bias kept subscribers locked into services even after usage declined. Nudging and FOMO are used to further amplify this retention (it is more evident among a younger age demographic who are more active on social media platforms).

The results acquired in this primary data also align strongly with already established behavioral theories which demonstrates the practical application of concepts in modern business models.

This research can be potentially applied in refining retention strategies for ethical subscription design, developing consumer education programs to reduce susceptibility to cognitive biases, and even guiding regulations on default settings and renewal processes for firms. And this paper is also useful from a consumer standpoint, to better aware themselves of the subconscious factors that go into play when making these decisions for subscriptions.

By illuminating psychological retention, this study advocates for ethical design in the subscription economy, as evidenced by 49.7% of the FOMO-driven retention.

Acknowledgements:

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