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The Subscription Trap Economy

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Abstract

The "subscription trap economy" refers to a structural market dynamic in which recurring-revenue businesses systematically exploit consumer behavioral vulnerabilities by creating an interface that is "dark" (intentionally obscure), by withholding a significant amount of information from consumers to make cancellation appear difficult or unattainable, or by making it very difficult to cancel the subscription. This paper provides a discussion of the economic underpinnings, behavioral underpinnings, actual consumer damage, and regulatory reactions to this phenomenon. The study is methodologically underpinned by systematic document analysis based on regulatory enforcement records, large-scale surveys of consumers, and peer-reviewed behavioral economics literature. In 2024, the subscription economy's estimated transaction value was USD 492 to 593 billion, and Juniper Research predicts it will exceed USD 1 trillion by 2028. According to the ICPEN sweep of 642 platforms from 26 countries, 75.7% of the platforms included at least one dark pattern. The average household overestimates its monthly subscription spend by 2.5 times (According to consumer survey data, C+R Research, 2024). It claims that the regulatory regimes in the United States and European Union, despite growing, are structurally under-equipped for the scope and sophistication of these practices and that, counterintuitively, behaviour, not utility, is the source of a significant portion of global subscription revenue.

Keywords: subscription economy, dark patterns, negative option billing, behavioral exploitation, consumer protection, FTC, Digital Services Act, recurring revenue

1. Introduction

One of the most impactful shifts in today's consumer landscape is the structural restructuring of the global economy towards subscription-based business models. Subscription business has expanded from software licensing and print to professional services, digital entertainment, household goods, transportation and health care over the last decade. According to Juniper Research, the global subscription economy transaction value market is valued nearly USD 1 trillion in 2024 and is projected to grow at a CAGR of 13–16% until 2028, while Grand View Research estimates this figure to be USD 492–593 billion in 2024. It's no secret that the subscription model is a lucrative business strategy for companies: it ensures consistent, recurring income, lowers the customer acquisition cost amortization and empowers organizations to develop capacity for data-driven personalization. Less researched, however, has been the extent to which the financial success of the model is driven by the conscious creation of consumer exit barriers.

For the purposes of this paper, the subscription trap economy is a structural market condition in which the commercial structure is implicitly designed to give the producer an extraction advantage over the consumer, in which the tools that shape consumer behaviour, such as algorithms, can provide such an advantage over time, and in which the regulatory framework has historically been less developed and less sophisticated, and is incapable of keeping pace with the practices. This is a different phenomenon from regular subscription trade, as it is analytically distinct, and has aggregate welfare consequences. It has a material scale as well: the Federal Trade Commission (FTC) received over 100,000 complaints from consumers regarding negative option and subscription practices in the five years ending 2025, rising from a daily average of 42 complaints in 2021 to 70 per day by 2024 (FTC, 2024). The paper is organized as follows: Literature review, methodology, substantive empirical analysis (Dark pattern design, Consumer harm, Regulatory response, Structural market consequences), and a substantive analysis of the main open questions in the field.

2. Literature Review

The theoretical framework for the understanding of subscription trap mechanisms is spread over three areas of scholarship – behavioral economics, consumer law, and human-computer interaction research. Each provides analytically different types of explanatory resources that, collectively, provide a comprehensive framework for the phenomenon studied.

The behavioral economics field lays the groundwork for consumer vulnerability. The idea of bounded rationality developed by Simon (1957) was used to explain the fundamental constraints on the information available to decision makers, the capacity of their brains to process that information and how much time it takes for them to make a decision; all of these elements can be exploited by subscription architectures as they spread the billing salience over multiple billing cycles, and ensure that the important expense is hidden behind a bunch of small bills. Kahneman and Tversky's (1979) prospect theory revealed that people tend to overestimate the amount of loss compared to an equivalent gain, and underestimate the likelihood of an event happening in the future compared to that of the same event occurring in the present. These attributes are monetized exactly: immediate access is presented as free, and the payment is pushed into future time when it will be less objectionable. Laibson (1997) formalized the hyperbolic discounting concept to account for the fact that consumers who say they intend to cancel before the end of the trial actually do not cancel—an explanation for the tendency of consumers to be inconsistent across time in their cancellation decisions. The regulatory criticism of negative option billing as structurally asymmetric by design was substantiated by Thaler and Sunstein (2008), who found that default options heavily sway the outcome because of status quo bias.

These behavioral bases are extended to the realm of interface design and legal responsibility in the literature of human-computer interaction and consumer law.The human-computer interaction and consumer law literature continues this line of thought to the level of interface design and legal accountability. The concept of dark patterns emerged in the design of interfaces when Brignull (2010) described interface design decisions that exploit business goals by manipulation, rather than persuasion, which was later institutionalized in the OECD's (2022) taxonomy of six categories: sneaking, interface interference, drip pricing, confirmshaming, forced continuity, and social proof manipulation. The legal literature makes it clear that contractual default rules are not neutral, but

rather have a powerful influence on outcomes (Korobkin 1998) and provide doctrinal support for the regulatory critique of consumer-exploitative devices such as auto-renewal. While providing a more detailed analysis of European regulatory approaches to dark patterns, Brenncke (2023) concludes that regulation must take consumer autonomy, rather than rational choice, as its normative basis for regulation, as informational disclosure is not enough to counter the manipulation that takes place below the level of conscious thinking. The conclusion has direct implications for regulatory design: Transparency mandates are conditions but not sufficient solutions to the subscription trap economy.

3. Methodology

This study uses a qualitative systematic document analysis methodology as well as secondary quantitative data from regulatory enforcement data, cross-national consumer surveys, and published market research. This approach is suitable because the subscriptions trap economy is primarily supported by documentation of institutional activities such as regulatory complaints, enforcement documents, legislative processes, and policy reports, which are not necessarily collected as primary data in experiments.

Three criteria were used to determine the source. First, direct relevance: sources had to speak directly to subscription commerce practices, dark pattern interface design and/or consumer behavioral vulnerability in the context of recurring payment specifically, not digital commerce generally. Second, institutional authority: documents from the FTC, ICPEN, and OECD were considered primary because they have a mandate from their institutions and direct evidentiary access; peer-reviewed academic literature and large sample consumer survey (n>1000) were secondary sources; industry market reports were secondary sources unless corroborated by independent institutional data. Third, temporal relevance: Sources were selected to cover the time period 2020-2026, set to reflect the time of increased regulatory interaction with the phenomenon, unless they were foundational texts in behavioral economics (Simon, 1957; Kahneman & Tversky, 1979; Laibson, 1997; Thaler & Sunstein, 2008) which were retained for theoretical grounding. The taxonomy developed by OECD (2022) for firm-side analysis is used as the principal classificatory framework, while the theory of bounded rationality and behavioral bias is used as the explanatory

framework for the vulnerability of consumers. Self-reported data from consumer surveys is the major drawback of the approach. Another drawback is the lack of any proprietary data at the firm level regarding cancellation interface design decisions, which are not made public and can only be divined from enforcement complaints and investigative reports.

4. Dark Patterns: Taxonomy and Documented Evidence

According to ICPEN (2024), the sweep of 642 subscription platforms, involving 27 consumer protection authorities from 26 countries, 75.7% of the platforms implemented one or more dark pattern and 66.8% two or more. The most common types of sneaking practices and interface interference were detected. Based on direct examination of platforms and not self-reporting, these results are the most complete empirical cross-national evaluation of the extent and prevalence of dark patterns in the subscription commerce market to date and reveal that dark patterns are not an outlier in today's subscription marketplace.

At the highest institutional level, the fact of sneaking and forced continuity is documented in FTC v. Amazon (N.D. Cal., 2023) in which, in the process of ordinary purchases, users were prompted to subscribe to Prime; the confirmations for these subscription were placed in a position that was shown to be "optimal" by algorithms, resulting in an "adverse effect" of these confirmations. Amazon's internal initiative to lower Prime cancellation rates, known as the "Project Iliad" after the epic's long and arduous nature, made use of a multi-screen cancellation architecture that was tuned specifically to the task of reducing the number of Prime cancellations by 14% (FTC, 2024). The FTC's 2020 settlement with Age of Learning, Inc. (USD 10 million) outlined the same structural pattern: A 12-month children's education subscription that was entered via a short, simple process and was cancelled via an intentionally confusing multi-page process with confusing menus. One example of drip pricing is the FTC v. Adobe Inc. (No. 5:24-cv-03630-BLF, N.D. Cal., 2024), in which the early termination fees were only revealed in a long list of terms not presented at the point of enrollment decision. The proportion of clicks it takes to subscribe as compared to canceling is a matter of independent research, with the average for subscription ranging from 1-2 clicks to 6.7 clicks for cancelation, and some of the biggest platforms requiring 11 clicks to cancel (Data from EmailTooltester cited in ICPEN, 2024). The practice of confirming with words like "I

don't care about my fitness objectives" or "I would prefer to spend more money," is explicitly targeted in Article 25 of the EU's Digital Services Act and the amendment to the Consumer Rights Directive from 2023. These are not single product design errors – they are deliberate, carefully designed commercial strategies for raising the effective cost that consumers may be expected to bear in exercising the rights they have under the law to leave.

5. Scale of Consumer Harm

Household and population-level estimates of the total monetary damages caused by the subscription trap are significant and quantifiable. C+R Research (2024) polled a representative sample of American consumers and determined their average monthly spend on subscribing to a new service was USD 86, yet when they were asked to break down each of their active subscriptions into USD, the average came out at USD 219, creating a misperception gap of USD 133 per month. This underestimation is not a random error it is intentional design of subscription billing systems to spread the cost of spending out over lots of low denomination charges which are spread across time; the overall cost is cognitively invisible unless one is looking for it. According to CNET/YouGov (2025), Americans spend a median of USD 1,080 each year on adult subscription services, of which the respondent had only paid for services he or she did not use in the last 30 days, accounting for USD 205 of that amount. Overall, 54.9% of respondents in the US survey said that they had at least one paid subscription that they had not used, with an average expense of USD 127 per year.

The United Kingdom's Department for Business and Trade estimated that some 10 million of the 155 million subscribers in the UK were not wanted by the subscribers, costing the British consumers GBP 1.6 billion per year. This scale-up is based on the number of people who would cancel a subscription if they did not have to pay for the cancelation, and would mean that there are USD 10–20 billion in involuntary charges in the United States alone each year. Evidence from the FTC's enforcement actions supports this: since 2021, the FTC has been getting over 100,000 complaints annually about negative option practices and the volume of these complaints has increased from 42 per day in 2021 to 70 per day by 2024 (FTC, 2024). During this time, formal enforcement efforts have led to monetary relief of more than USD 30 million, such as settlements

with Age of Learning, Inc. (USD 10 million, 2020), Publishers Clearing House (USD 18.5 million, June 2023) and Credit Karma (USD 3 million, December 2023). According to Deloitte (2025), 41% of all US streaming subscribers surveyed – representing a nationally representative sample of 3,595 consumers – felt the content they were getting for their paid subscription was not worth the price they paid, marking a five-point rise from the previous year, and 47% felt that they were paying too much for these services. Putting it all together, these facts suggest that a significant share of subscription revenue is not due to consumer satisfaction, but rather from "exit barriers.

6. Regulatory Response

United States. Subscription practices were widely used for some 50 years before the FTC's Negative Option Rule was found to be too outdated by the expansion and sophistication of the digital subscription commerce model. The "Click-to-Cancel" Rule—also known as the Rule Concerning Recurring Subscriptions and Other Negative Option Programs—was the result of a multi-year rulemaking process that began in 2019, and which was finalized in October 2024. For firms with tens of millions of subscribers, the rule would allow for civil penalty authority of up to USD 51,744 per violation, making for potential liability on a scale that's transformative (FTC, 2024). Immediately, industry groups filed a Petition for Review, and in 2025, the Eighth Circuit Court of Appeals overturned the rule on procedural grounds after discovering violations of the Administrative Procedure Act during the rulemaking process. In March 2026, the FTC launched a new advance notice of its proposed rulemaking based on its complaint volume data and its prior enforcement action against Amazon, Adobe, Vonage, Uber, and others. Section 5 of the FTC Act enforcement remains in place in the interim, and California's Automatic Renewal Law also offers state floor protection, including by requiring reminders of annual renewals and cancellation provisions for digitally-enrolled subscribers.

European Union. The EU regulatory approach to subscription dark patterns is structurally more complex than in the USA, but also suffers from jurisdictional fragmentation which adds some ambiguity to enforcement of the rules. Article 25 of the Digital Services Act (DSA) which entered into force in 2024 is the first time the EU at the statutory level has prohibited the design or operation of online platforms that would "deceive or manipulate" recipients of online services or

reduce their capacity to make "free and informed decisions. The DSA aims to cover Very Large Online Platforms (VLOPs) in the EU that have more than 45 million monthly active users. It is in addition to the General Data Protection Regulation, which bans any form of forced or opaque consent, the Unfair Commercial Practices Directive and the 2023 amendment to the CDR, which outlaws dark patterns in the creation of financial services distance contracts. However, as Brenncke (2023) notes, the DSA's specific definition of practices "covered by" the UCPD and GDPR provides interpretive boundaries that could lead to regulatory under-enforcement when practices fall into more than one category. This is to be complemented by the European Commission's planned public consultation to be conducted by 2025-2026 to come up with a Digital Fairness Act that will unify this fragmented system and fill the gaps in the regulatory landscape.

7. Structural Tensions and Market Consequences

The subscription trap economy contains a structural contradiction that will ultimately undermine its very foundations: frictionized exit, behavioral manipulation, and information asymmetry are all the mechanisms that maximize short-term revenue retention, but also undermine consumer trust that is the basis for the model's long-term commercial viability. The number of active paid subscriptions per household in the U.S. dropped by around 32% from a mean of 4.1 subscriptions in 2024 to 2.8 subscriptions in 2025 (Self Financial, 2025). According to 2025 data from the industry, 90% of consumers in the U.S. and U.K. had seen their subscription prices rise over the last 12 months, with only 58% saying that was a fair price. A recent survey by Deloitte (2025) revealed that 47% of streaming subscribers felt they paid too much for their streaming service, which would have represented a serious existential risk for some of the larger marginal streaming services.

The market data, at the same time, indicate that this is not an inevitable outcome of the subscription model. Companies which invest in real, sustainable retention strategies, such as enhancing service quality, personalizing the customer experience and developing flexible plan architecture, have significantly longer-lasting subscriber relationships than companies that make it easier users to lock in. The churn rate is about 8% for annual plan subscribers versus 18% for monthly plan subscribers and about 34% lower for bundled service offerings versus similar unbundled offerings.

These empirical comparisons show that the subscription model is able to create commercially sustainable value by the delivery of utility. The fact that behavioral exploitation is the preferred retention method is therefore a consequence of the institutional incentives of publicly listed companies, who are measured by performance metrics oriented towards investors, such as ARR growth, net revenue retention, and subscriber count, which motivate short-term extraction over the long-term building of trust. These asymmetries find their own corrective in the rise of third party subscription management apps that externalize the cognitive cost of monitoring and canceling, which subscription architectures try to impose on consumers, and are an empirical indication of the magnitude of suppressed consumer demand for frictionless exit.

8. Conclusion

The subscription trap economy is a structural model in which a variety of consumer vulnerability to deception, a variety of corporate incentive systems and a failure of regulators have converged such that consumers find themselves systematically and over time transferring wealth to firms, through processes that are not easily identified as mere commercial persuasion or outright fraud. The data from ICPEN (2024) showing that 75.7% of subscription platforms examined use dark patterns, the evidence from C+R Research (2024) that there is a systematic 2.5x expenditure misperception gap, and the growing number of complaints filed with the FTC all paint a picture of this form of exploitation being institutionalized at market scale. These practices are ubiquitous and are explained by the behavioral economics literature, ranging from Simon's (1957) bounded rationality to the theory of the nudge (Thaler and Sunstein 2008).

The current rules, which in the EU are adopted by only a few EU regulators, represent the most notable developments in the consumer protection regime in this area since the FTC's initial Negative Option Rule in 1973. However, both have structural problems: the EU multi-instrument approach is characterized by interpretation fragmentation, which is a risk to under-enforcement, and Brenncke (2023) and the European Parliament Research Service (2025) reported on the ongoing rulemaking uncertainty in the EU. The "paternalistic" rationale behind strong regulatory intervention is absent: the case for markets is a market failure – one that is all too predictable because the unexpected gains from behavioral manipulation can be explained by the same kind of

failure that makes the market the source of the unexpected losses. Finally, the question of the future of the incentive structure for the subscription economy is at the heart of the empirical and normative debate in the coming decade: will the regulatory measures being taken now be enough to shift this structure, or will cognitive limitations of consumers still be the primary source of behavioral exploitation for subscription revenue retention?.

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