

The Subscription Trap Economy

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Abstract

The subscription trap economy describes a structural market condition in which recurring-revenue businesses systematically exploit consumer behavioral vulnerabilities through dark-pattern interface design, asymmetric information disclosure, and deliberately obstructed cancellation mechanisms. This paper examines the economic foundations, behavioral mechanisms, documented consumer harm, and regulatory responses constituting this phenomenon. Methodologically, the study employs systematic document analysis of regulatory enforcement records, large-sample consumer surveys, and peer-reviewed behavioral economics literature. The global subscription economy reached an estimated USD 492–593 billion in transaction value in 2024, projected to approach USD 1 trillion by 2028 (Juniper Research, 2024). An ICPEN (2024) sweep of 642 platforms across 26 countries found 75.7% deployed at least one dark pattern. Consumer survey data establish that average households underestimate their monthly subscription expenditure by a factor of 2.5 (C+R Research, 2024). The paper argues that prevailing regulatory frameworks in both the United States and European Union, while expanding, remain structurally insufficient

relative to the scale and sophistication of these practices, and that behavioral exploitation rather than delivered utility sustains a material share of global subscription revenue.

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

1. Introduction

The global economy's structural reorientation toward subscription-based commercial models represents one of the most consequential transformations in contemporary consumer markets. Over the past decade, subscription commerce has migrated from its historical base in software licensing and print media into healthcare, transportation, household goods, professional services, and digital entertainment. The global subscription economy reached USD 492–593 billion in transaction value in 2024, growing at a compound annual growth rate of 13–16%, with projections placing aggregate market value near USD 1 trillion by 2028 (Grand View Research, 2024; Juniper Research, 2024). The subscription model's commercial appeal to firms is well documented: it generates predictable recurring revenue, reduces customer acquisition cost amortization, and builds organizational capacity for data-driven personalization. What has attracted substantially less scholarly attention is the degree to which the model's financial performance depends not on delivered value but on the deliberate engineering of consumer exit barriers.

The subscription trap economy, as the concept is employed in this paper, refers to a structural market arrangement in which the default commercial architecture systematically favors producer retention over consumer autonomy, in which behavioral design tools create durable extraction advantages that persist even after consumer intent to exit has formed, and in which the regulatory environment has historically lagged the sophistication and scale of these practices. This is an analytically distinct phenomenon from ordinary subscription commerce: it identifies a systemic configuration with aggregate welfare effects. The Federal Trade Commission received more than 100,000 consumer complaints related to negative option and subscription practices in

the five years ending 2025, with the daily complaint rate rising from 42 per day in 2021 to approximately 70 per day by 2024 (FTC, 2024), a trajectory that alone establishes the phenomenon's material scale. This paper proceeds through a literature review, methodology, and four substantive analytical sections—covering dark pattern design, consumer harm, regulatory response, and structural market consequences—before concluding with an assessment of the field's central open questions.

2. Literature Review

The theoretical architecture for understanding subscription trap mechanisms is distributed across three bodies of scholarship: behavioral economics, consumer law, and human-computer interaction research. Each contributes analytically distinct explanatory resources that, taken together, constitute a robust framework for the phenomenon under study.

The behavioral economics literature establishes the cognitive foundations of consumer vulnerability. Simon's (1957) concept of bounded rationality demonstrated that decision-makers operate under fundamental constraints of information availability, processing capacity, and available time—conditions that subscription architectures exploit by diffusing billing salience across multiple payment cycles and obscuring cumulative expenditure behind a fragmented portfolio of individually modest charges. Kahneman and Tversky's (1979) prospect theory identified that individuals systematically overweight losses relative to equivalent gains and underweight probable future events relative to certain present ones. Free-trial subscription architectures monetize these properties precisely: immediate access is framed as costless, and the financial obligation is displaced into future periods where it will meet weaker resistance. Laibson (1997) formalized hyperbolic discounting to explain the temporal inconsistency between stated cancellation intentions and observed behavior—the mechanism through which consumers who intend to cancel before a trial expires systematically fail to do so. Thaler and Sunstein (2008) established that default options exert disproportionate influence on outcomes due to status quo bias, providing the foundational theoretical support for the regulatory critique of negative option billing as structurally asymmetric by design.

The human-computer interaction and consumer law literature extends these behavioral foundations into the domain of interface design and legal accountability. Brignull (2010) introduced the concept of dark patterns to describe interface design choices that serve business interests through manipulation rather than persuasion, a conceptual contribution subsequently institutionalized in the OECD's (2022) six-category regulatory taxonomy covering sneaking, interface interference, drip pricing, confirmshaming, forced continuity, and social proof manipulation. Korobkin (1998) established in the legal literature that contractual default rules are not neutral instruments but powerfully shape outcomes, lending doctrinal grounding to the regulatory critique of auto-renewal as a device that exploits rather than reflects consumer preference. Brenneke (2023) provided the most comprehensive legal mapping of European regulatory responses to dark patterns, arguing that effective regulation must adopt consumer autonomy—not rational choice—as its normative standard, since informational disclosure alone is insufficient to address manipulation that operates below the threshold of deliberate deliberation. This conclusion has direct implications for regulatory design: transparency mandates are necessary but not sufficient conditions for addressing the subscription trap economy.

3. Methodology

This study employs qualitative systematic document analysis, supplemented by secondary quantitative data from regulatory enforcement records, cross-national consumer surveys, and published market research. This methodology is appropriate given that the primary evidentiary base for the subscription trap economy consists of institutional documentation—regulatory complaints, enforcement records, legislative proceedings, and policy reports—rather than data amenable to primary experimental collection.

Source selection followed three criteria. First, direct relevance: sources were required to address subscription commerce practices, dark pattern interface design, or consumer behavioral vulnerability in recurring payment contexts specifically, rather than digital commerce broadly. Second, institutional authority: documents from the FTC, ICPEN, and OECD were treated as primary sources given their institutional mandate and direct evidentiary access; peer-reviewed academic literature and large-sample consumer surveys with sample sizes exceeding 1,000

respondents were treated as secondary sources; industry market reports were included only where findings were corroborated by independent institutional data. Third, temporal relevance: sources were restricted to the period 2020–2026 to capture the period of accelerating regulatory engagement with the phenomenon, with the exception of foundational behavioral economics texts (Simon, 1957; Kahneman & Tversky, 1979; Laibson, 1997; Thaler & Sunstein, 2008) retained for theoretical grounding. The OECD (2022) dark pattern taxonomy serves as the primary classificatory framework for analyzing firm-side practices, and the bounded rationality and behavioral bias literature provides the explanatory framework for consumer-side vulnerability. The principal limitation of this methodology is reliance on self-reported consumer survey data, which is subject to recall bias and social desirability effects. A secondary limitation is the absence of firm-level proprietary data on cancellation interface design decisions, which are not publicly disclosed and must be inferred from enforcement complaints and investigative reporting.

4. Dark Patterns: Taxonomy and Documented Evidence

The ICPEN (2024) sweep of 642 subscription platforms across 27 consumer protection authorities in 26 countries found 75.7% deployed at least one dark pattern and 66.8% deployed two or more. The most prevalent categories identified were sneaking practices and interface interference. These findings, drawn from direct platform examination rather than self-reporting, constitute the most comprehensive cross-national empirical assessment of dark pattern prevalence in subscription commerce to date and establish that these practices are the norm rather than the exception in the contemporary subscription market.

Sneaking and forced continuity are documented at the highest institutional level in *FTC v. Amazon* (N.D. Cal., 2023), where Prime enrollment confirmations were positioned proximate to ordinary purchase checkout actions through algorithmically optimized interface design, producing inadvertent enrollment at scale. Amazon's internal project to reduce Prime cancellation rates—referred to internally as "Project Iliad," a reference to the Greek epic's length and difficulty—implemented a multi-screen cancellation architecture calibrated specifically to reduce cancellation completion rates by 14% (FTC, 2024). The FTC's 2020 settlement with *Age of Learning, Inc.* (USD 10 million) documented the same structural pattern: a 12-month autorenewing children's education

subscription enrolled through a minimal two-step flow and exited through a deliberately obstructed multi-page interface containing ambiguous menu options. **Drip pricing** is the subject of *FTC v. Adobe Inc.* (No. 5:24-cv-03630-BLF, N.D. Cal., 2024), where early termination fees amounting to several hundred dollars per subscriber were disclosed only within extended terms that were not surfaced at the enrollment decision point. **Interface friction asymmetry** is quantified by independent research finding that subscription enrollment requires an industry average of 1–2 clicks while cancellation requires an average of 6.7 clicks, with at least one major platform requiring 11 separate actions to complete cancellation (EmailTooltester data cited in ICPEN, 2024). **Confirmshaming**—the practice of labeling cancellation options with guilt-inducing language such as "I don't care about my fitness goals" or "I prefer to pay more"—is addressed explicitly in Article 25 of the EU's Digital Services Act and the 2023 amendment to the Consumer Rights Directive. These are not isolated product design failures; they represent deliberate, optimized commercial strategies whose common purpose is to increase the effective cost of exercising the consumer's legal right of exit.

5. Scale of Consumer Harm

The aggregate financial harm attributable to subscription trap practices is substantial and measurable at both the household and population level. C+R Research (2024) surveyed a representative sample of American consumers and found that respondents estimated their average monthly subscription expenditure at USD 86; when subsequently asked to itemize each active subscription, the mean figure was USD 219—a systematic misperception gap of USD 133 per month. This 2.5x underestimation is not random error; it reflects the deliberate design of subscription billing architectures to diffuse expenditure salience across multiple low-denomination charges distributed through time, rendering the aggregate cost cognitively invisible under ordinary conditions. CNET/YouGov (2025) found mean annual American adult subscription expenditure of USD 1,080, with approximately USD 205 of that sum attributable to services the respondent had not used in the prior thirty days. Self Financial (2025) found that 54.9% of US survey respondents maintained at least one unused paid subscription, at an average cost of USD 127 annually.

At the population level, the United Kingdom's Department for Business and Trade estimated that approximately 10 million of the UK's 155 million active subscriptions were unwanted by their holders, imposing an aggregate cost on British consumers of GBP 1.6 billion annually. Scaled proportionally to the American subscription base, this estimate implies an analogue figure of USD 10–20 billion annually in purely involuntary charges in the United States alone—before accounting for the substantially larger population of subscriptions that consumers would cancel if cancellation were not deliberately obstructed. The FTC's enforcement record provides institutional corroboration: over five years ending 2025, the agency received more than 100,000 complaints related to negative option practices, with the daily complaint volume rising from 42 in 2021 to approximately 70 in 2024 (FTC, 2024). Formal enforcement actions during this period resulted in aggregate monetary relief exceeding USD 30 million, including 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). Deloitte (2025) found that 41% of US streaming subscribers—surveyed in a nationally representative sample of 3,595 consumers—did not believe the content available on their subscribed services was worth the price paid, an increase of five percentage points from the prior year, and that 47% believed they were paying too much for these services. These data collectively indicate that a material portion of global subscription revenue is sustained not by consumer satisfaction but by exit barriers.

6. Regulatory Response

United States. The FTC's Negative Option Rule, enacted in 1973 to address physical goods continuity clubs, governed subscription practices for approximately five decades before the scale and design sophistication of digital subscription commerce rendered its provisions inadequate. A multi-year rulemaking process initiated in 2019 culminated in the October 2024 finalization of the "Click-to-Cancel" Rule—formally retitled the Rule Concerning Recurring Subscriptions and Other Negative Option Programs—which required sellers to disclose subscription terms clearly and conspicuously prior to billing, obtain consumers' express informed consent to the negative option feature separately from other transaction elements, and provide a cancellation mechanism at least as simple as the enrollment mechanism. The rule established civil penalty authority of up to USD

51,744 per violation, a figure that, for firms with subscriber bases in the tens of millions, creates potential aggregate liability of transformative scale (FTC, 2024). Industry groups filed an immediate Petition for Review, and in 2025 the Eighth Circuit Court of Appeals vacated the rule on procedural grounds, finding violations of the Administrative Procedure Act during the rulemaking process. The FTC initiated a new advance notice of proposed rulemaking in March 2026, grounding the restart in its complaint volume data and its history of enforcement actions against Amazon, Adobe, Vonage, Uber, and others. Enforcement under Section 5 of the FTC Act continues in the interim, and California's Automatic Renewal Law—which requires annual renewal reminders and mandates online cancellation mechanisms for digitally enrolled subscribers—provides meaningful state-level floor protection.

European Union. The EU's regulatory response to subscription dark patterns is architecturally more comprehensive than its American counterpart, though it is characterized by jurisdictional fragmentation that creates enforcement ambiguity. Article 25 of the Digital Services Act (DSA), applicable since 2024, constitutes the first express EU-level statutory prohibition of dark patterns, barring online platforms from designing or operating their interfaces in ways that "deceive or manipulate" the recipients of their services or impair those recipients' ability "to make free and informed decisions." The DSA applies to Very Large Online Platforms with monthly active user bases exceeding 45 million within the EU. It operates alongside the General Data Protection Regulation—which prohibits coercive or unclear consent mechanisms—the Unfair Commercial Practices Directive, and the 2023 amendment to the Consumer Rights Directive, which prohibits dark patterns specifically in the formation of financial services distance contracts. As Brenncke (2023) observes, the DSA's express exclusion of practices "covered by" the UCPD and GDPR creates interpretive boundaries that risk under-enforcement where practices cross multiple regulatory categories simultaneously. The European Commission's announced public consultation in preparation for a Digital Fairness Act, anticipated for 2025–2026, is intended to consolidate this fragmented framework and close the identified regulatory gaps.

7. Structural Tensions and Market Consequences

The subscription trap economy embeds a structural contradiction that ultimately threatens its own foundations: the mechanisms most effective at maximizing short-term revenue retention—frictionized exit, behavioral manipulation, and information asymmetry—are the same mechanisms eroding the consumer trust on which the subscription model's long-term commercial viability depends. American households reduced their active paid subscription count by approximately 32% in a single year, from a mean of 4.1 subscriptions in 2024 to 2.8 in 2025 (Self Financial, 2025). Industry data from 2025 found that 90% of US and UK consumers had experienced higher subscription costs in the preceding year, of whom only 58% considered those increases justified. Deloitte (2025) found that 47% of streaming subscribers believed they overpaid for their services—a figure that, if translated into voluntary cancellations, would constitute an existential threat to several major streaming platforms operating on thin per-subscriber margins.

The market data simultaneously reveal that this outcome is not structurally inevitable within the subscription model. Firms that invest in genuine retention mechanisms—service quality improvement, personalization, and flexible plan architecture—demonstrate substantially more durable subscriber relationships than those relying on friction-based lock-in. Annual plan subscribers churn at approximately 8% compared to 18% for monthly subscribers, and bundled service offerings reduce churn by approximately 34% against comparable unbundled alternatives. These empirical contrasts establish that the subscription model is capable of generating commercially sustainable value through delivered utility. The prevalence of behavioral exploitation as the dominant retention mechanism is therefore not a structural necessity of the model but a product of the institutional incentive structures of publicly listed firms whose investor-facing performance metrics—ARR growth, net revenue retention, subscriber count—reward short-term extraction over long-term trust cultivation. The growth of third-party subscription management applications, which externalize the monitoring and cancellation cognitive costs that subscription architectures attempt to impose on consumers, represents the market's self-corrective response to these asymmetries and is itself an empirical signal of the aggregate scale of suppressed consumer demand for frictionless exit.

8. Conclusion

The subscription trap economy is not a collection of discrete deceptive practices but a coherent structural arrangement in which corporate incentive structures, consumer behavioral vulnerabilities, and regulatory lag have combined to produce systematic wealth transfer from consumers to firms through mechanisms that resist classification as either ordinary commercial persuasion or outright fraud. The ICPEN (2024) finding that 75.7% of examined subscription platforms deploy dark patterns, the C+R Research (2024) evidence of a systematic 2.5x expenditure misperception gap, and the FTC's complaint volume trajectory collectively establish that this exploitation is institutionalized at market scale. The behavioral economics literature—from Simon's (1957) bounded rationality through Thaler and Sunstein's (2008) nudge framework—provides the explanatory architecture for why these practices are effective; the regulatory record documents that they are pervasive.

Current regulatory responses in the United States and European Union represent the most significant expansions of the consumer protection framework in this domain since the FTC's original 1973 Negative Option Rule. Yet both face persistent structural challenges: the US clickto-cancel framework has been vacated on procedural grounds and is subject to ongoing rulemaking uncertainty; the EU's multi-instrument approach generates interpretive fragmentation that Brenncke (2023) and the European Parliament Research Service (2025) have identified as a source of under-enforcement risk. The normative case for robust regulatory intervention rests not on paternalistic grounds but on the standard economic case for market failure correction: a market in which behavioral manipulation systematically prevents the effective exercise of consumer choice produces distorted price signals, misallocated resources, and aggregate welfare losses that the market cannot self-correct because the firms generating those losses are the same firms controlling the interfaces through which correction would have to flow. Whether the regulatory responses now in motion will prove sufficient to restructure the subscription economy's incentive architecture—or whether the behavioral exploitation of consumer cognitive limitations will remain the dominant mechanism of subscription revenue retention—constitutes the central empirical and normative question for this field in the coming decade.

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