Research Overview

1ST DEGREE SURFACE SEARCH

Business Model Responses to Digital Piracy – Paolo Aversa, Andres Hervas-Drane, Morgane Evenou (2019, *California Management Review [B]*):

This study examines how **firms adapt** when **consumers use unlicensed** channels (e.g. P2P networks) to bypass content restrictions. A key insight is that users prize *free, on-demand access to huge catalogs* and the ability to "bypass release windows and geographical restrictions in commercial distribution". The authors note that despite legal actions against Napster and Grokster, open‑source P2P networks flourished, and even today "users are rerouting their Internet traffic to bypass monitoring, with virtual private networks (i.e., VPN) flourishing". In response to these pressures, innovative entrants like Spotify and Netflix redesigned their business models: they offer large licensed catalogs via subscription (including free/ad tiers) and consumer‑friendly streaming on any device. For example, Aversa et al. show that Spotify's subscription model provides an "all-you-can-eat" content menu that directly matches the appeal of piracy, and that its free tier "further erodes the comparative attractiveness of digital piracy". Incumbent studios responded by improving convenience (shorter release windows, simultaneous launches) and user experience, but as one executive notes, the key is to enhance the customer experience to rival with piracy" e.g. Netflix aimed to be "everywhere, just like piracy". This paper illustrates a business‑model‑innovation perspective: platform firms deploy dynamic capabilities (flexible licensing, analytics, UX) to appropriate value and pressure incumbents to evolve.

- **Countering "Free" with "Freemium" and Subscriptions:** The primary allure of piracy is its lack of a price tag. Spotify's "freemium" model (a free, ad-supported tier) and Netflix's free trials directly compete with this by offering legal, free access. Their core subscription models provide an "all-you-can-eat" experience for a simple monthly fee, which removes the transactional friction of paying for individual items and matches piracy's perceived benefit of a vast, open library.[1]
- **Superior Convenience and User Experience:** Piracy often requires technical skill, involves slow downloads, and results in inconsistent quality. Spotify and Netflix offer instantaneous, high-quality streaming through intuitive interfaces that work

seamlessly across a wide range of devices. This focus on immediate gratification and ease of use makes them more convenient for the average consumer.[1]

- **Enhanced Content Discovery and Curation:** Pirated content is difficult to navigate, with discovery being a major challenge. Spotify and Netflix have invested heavily in sophisticated recommendation algorithms that provide personalized content suggestions. This not only helps users find new content but also keeps them engaged with the platform.

- **Building Community and Social Interaction:** Piracy is a largely anonymous activity. In contrast, legal streaming services integrate social features, allowing users to share playlists, see what friends are watching, and engage in discussions. This adds a layer of community value that piracy cannot replicate.[1]

- **Global Access and Reduced Release Windows:** A significant driver of piracy has been the delayed release of content in different geographical regions. By negotiating global licensing deals and pushing for simultaneous worldwide releases, Netflix and Spotify reduce the incentive for consumers to seek out pirated versions.

"Freemium vs. Deterrence: Optimizing Revenue in the Face of Piracy Competition" – Wu, Chamnisampan, & Sin (2025, *Journal of Business Research [B]*)

Wu et al. develop a model of a digital firm offering a core product and add-ons under three strategic regimes: no action, deterrence, or freemium. They find that heavy deterrence (e.g. strict anti-piracy measures) can backfire by driving users toward pirated copies, especially when piracy penalties are low. Conversely, a freemium model (free basic product plus paid upgrades) often yields higher profit when deterrence is weak. In some cases, taking no action also boosts legitimate adoption by attracting price-sensitive consumers. Wu et al. further show that network effects matter: strong multi-version or multi-product network effects favor freemium strategies. In short, this study uses dynamic capabilities and pricing theory to show that firms may prefer business model innovation (freemium pricing) over strict deterrence to counteract piracy

"Piracy in a Two-Sided Software Market" – Rasch & Wenzel (2013, *Journal of Economic Behavior & Organization [B])*. Using two-sided market theory, this paper models a software

platform serving both developers and users. It shows that software piracy affects the **pricing structure**: increased protection raises fees charged to developers but has an ambiguous effect on user prices econstor.eu. A key insight is that platform owners and software developers may **conflict over piracy protection**: one side (typically developers seeking high royalties) benefits from stricter DRM, while the other (platform owners seeking more users) may lose revenue. If platforms are compatible (users can multi-home across platforms), this conflict dissipates. This work uses platform strategy and transaction-cost logic to show how **business model choices** (e.g. degree of openness or DRM enforcement) influence circumvention. It suggests platforms may strategically adjust compatibility or DRM to balance developer incentives versus broad user adoption.

Does Piracy Lead to Product Abandonment or Stimulate New Product Development? – Milan Miric, Lars Bo Jeppesen (2020, *Strategic Management Journal [A+]*). From a platform‑strategy viewpoint, this empirical study examines how mobile app developers react to a major piracy shock on their platform. The authors find that after piracy strikes, developers *reduce incremental updates (e.g. bug fixes)* but *increase investment in new product features or entirely new apps*. In their words, piracy "leads to a decrease in the release of incremental innovations, such as bug fixes, but does not decrease more substantial revisions. Additionally, it is associated with subsequent new product development". In other words, firms reallocate their development efforts under digital‑piracy pressure – a classic dynamic‑capabilities response. This aligns with platform theory: on a multi‑sided digital platform, high piracy shifts the innovation "type" (toward new offerings) even if overall innovativeness is not destroyed. Thus Miric & Jeppesen show that developer firms use the agility and reconfiguration allowed by digital platforms to counteract circumvention threats.

Platform Strategy: Managing Ecosystem Value Through Selective Promotion of Complements. - Rietveld, J., Schilling, M. A., & Bellavitis, C. (2019). **(**Organization Science [A+] 30(6): 1232–1251**).** This research develops **platform strategy theory** for multi-sided ecosystems (e.g. gaming consoles, app stores, potentially VPN/P2P networks). It shows that platform sponsors do **not** simply push the "best" partners, but **strategically promote** complementary offerings to balance ecosystem value. In practical terms, it implies that VPN or P2P platform providers (viewed as "platform owners") can orchestrate the ecosystem – for example, by highlighting certain content sources – to shape usage and loyalty. This connects to thesis point (3) by illustrating how **platform strategy frameworks** explain the behavior of

digital infrastructure providers managing value creation and capture across user and provider sides

Online piracy, innovation, and legitimate business models. Choi, D. Y., & Pérez, A. (2007). Technovation [B] 27(4): 168–178. This article examines how peer‑to‑peer file‑sharing technologies (e.g. the Napster era) spurred **technological and strategic innovation**. The authors show that "online piracy has shown to be an important source of technological and strategic innovation" for both incumbents and newcomers. In our context, this suggests that VPNs or P2P platforms – by enabling users to bypass restrictions – can similarly drive industry innovation and new business models, as content firms are forced to adapt to the informal distribution networks.

Pricing Strategy of Competing Media Platforms (Amaldoss, Du & Shin, 2023, *Marketing Science*, [A+]) – This theoretical article models how two competing digital media platforms set consumer and advertiser prices under network effects. It shows that platforms may adopt asymmetric, tiered pricing strategies to target different consumer segments (e.g. high- vs low-ads dislike) and soften competition when consumers can multi-home. These insights into platform pricing (especially tiered prices and multi-homing) can inform how digital service firms might adjust subscription and ad tiers in response to VPN-driven arbitrage across regions.

International Business in the Digital Age: Global Strategies in a World of National Institutions (Meyer, Li, Brouthers & Jean, 2023, *Journal of International Business Studies*, [A]) – This conceptual article argues that digital strategies and internationalization strategies are interdependent and must account for national institutional differences. The authors propose a framework linking external (country-level) and internal (firm-level) factors in global digital strategy. For a thesis on geo-arbitrage, this implies that any pricing or service adaptation (e.g. unified versus segmented pricing) must be aligned with local market conditions and regulations. In other words, it highlights that VPN-enabled arbitrage cannot be understood outside the context of cross-border regulations and institutional constraints, and supports using a platform/international strategy lens to analyze firm responses.

Backward Literature Search

1. **Shapiro, C., & Varian, H. R. (1998). Information Rules: A Strategic Guide to the Network Economy. Harvard Business Press. (Book)**

2. Relevance: This is the foundational text on the economics of information goods. It explains concepts like versioning, lock-in, network effects, and price discrimination in digital markets. It's the theoretical bedrock for why firms engage in geo-pricing in the first place.

3. **Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management.** Strategic Management Journal [A+], 18(7), 509-533.

4. Relevance: This is the canonical paper on dynamic capabilities. When you argue that firms like Netflix innovate their business models in response to threats like geo-arbitrage, you are describing a dynamic capability. Miric & Jeppesen's work is a direct application of this theory.

5. **Rochet, J. C., & Tirole, J. (2003). Platform competition in two-sided markets.** Journal of the European Economic Association [A], 1(4), 990-1029.

6. Relevance: A foundational text for platform strategy, cited by papers like Rasch & Wenzel. It explains the core pricing logic in markets with network effects between two distinct user groups (e.g., users and developers, or in your case, streamers and content owners). This helps explain why DSPs might tolerate some arbitrage to grow their user base.

7. **Sinha, R. K., & Mandel, N. (2008). Preventing digital music piracy: The carrot or the stick?.** Journal of Marketing [A+], 72(1), 1-15.

8. Relevance: An early and highly cited empirical study that directly tests the effectiveness of deterrence (legal action) versus incentives (offering a superior legal alternative) in combating piracy. This provides a direct empirical predecessor to the modeling work of Wu et al. and is central to your "piracy vs. VPN" comparison.

9. **Peitz, M., & Waelbroeck, P. (2006). Piracy of digital products: A critical review of the economics literature.** Journal of Economic Literature [Not on VHB list] Offers a structured economic lens to compare piracy's broad impacts on pricing, welfare, and innovation with the more specific effects of VPN-enabled geo-arbitrage.

10. **Rochet, J. C., & Tirole, J. (2006). Two-sided markets: a progress report.** The RAND Journal of Economics [A] Provides the foundational platform framework for analyzing both VPNs and streaming services as multi-sided markets, explaining their complex pricing and governance strategies.

11. **Casadesús-Masanell, R., & Hervás-Drane, A. (2010). Peer-to-Peer File Sharing and the Market for Digital Information Goods.** Management Science [A+] Models how consumers substitute between legal and "free" channels like piracy. Its logic is core to understanding how consumers substitute their domestic streaming subscription with a cheaper, international one via a VPN.

12. **Bustinza, O. F., Vendrell-Herrero, F., & Parry, G. (2013). Music business models and piracy.** International Journal of Arts Management [Not on VHB list] Shows how piracy forced the music industry to innovate its business models (e.g., shifting to streaming), providing a direct historical analogy for the pressures that VPN usage now places on streaming video firms.

13. **Conner, K. R., & Rumelt, R. P. (1991). Software piracy: An analysis of protection strategies.** Management Science [A+] This classic analysis maps the "deterrence vs. adaptation" logic that mirrors VPN enforcement dilemmas, providing a foundational framework for analyzing the strategic choices of streaming services.

14. **Boudreau, K. J. (2010). Open platform strategies and innovation: Granting access vs. devolving control.** Management Science [A+] Investigates platform governance, which is directly applicable to how VPN providers orchestrate their ecosystems. It provides a lens to analyze their marketing and technical decisions as strategic choices about controlling their user base and technological complements.

15. **Eisenmann, T., Parker, G., & Van Alstyne, M. W. (2011). Platform envelopment.** Strategic Management Journal [A+] Introduces a key platform strategy that explains how platforms react to competitive threats. It is relevant for understanding the "arms race" as a competitive dynamic where streaming and VPN platforms may try to neutralize each other's advantages.

16. **Oberholzer-Gee, F., & Strumpf, K. (2007). The effect of file sharing on record sales: An empirical analysis.** Journal of Political Economy [Not on VHB list] This seminal empirical study illustrates how a form of consumer circumvention (file-sharing) concretely impacts market sales, providing a model for analyzing the potential revenue impact of VPN arbitrage and shaping firm enforcement incentives.

Forward Literature Search (Recent Developments)

1. **Hagiu, A., & Wright, J. (2020). When data creates competitive advantage.** Harvard Business Review [B], 98(1), 94-101.
   Relevance: Cites platform strategy literature (like Rietveld et al.). It discusses how platforms leverage data to create value and competitive advantage. This is critical for your thesis, as DSPs use location data to enforce geo-blocking, while consumers use VPNs to obscure that same data. The conflict is fundamentally about data control.

2. **Chen, H. Q., Yu, Y., & Zhou, S. X. (2025). Digital goods reselling and price discrimination.** Management Science [A+] Models the resale of digital goods, which is directly relevant to international price arbitrage. It provides the economic framework to understand the cannibalization effects when consumers use VPNs to "resell" a service to themselves across borders.

Targeted New Search (Marketing & Discourse)

1. **Lobato, R. (2016). The cultural logic of digital intermediaries: YouTube, Netflix, and the politics of platformization.** Convergence [Communication Journal], 22(4), 349-363.
   Relevance: This paper analyzes the discourse of platforms like Netflix, arguing they present themselves as neutral utilities while actively shaping markets. This is perfect for analyzing Netflix's official statements on geo-blocking, framing it as a matter of "licensing obligations" rather than a strategic choice. It helps you deconstruct their marketing and PR.

Second degree Literature research with ChatGPT

Backward Citations

Forward Citations

Coding scheme:

Code Category	Code Name	Description	Example Text
Framing	[Frame: Legal Compliance]	Presenting geo-blocking as a non-negotiable legal or contractual necessity.	"We strive to offer a global catalog, but our licensing agreements with content producers vary by region."
	[Frame: User Freedom]	Presenting circumvention as a user's right to access content or an open internet.	"Your subscription, your rules. Access the content you paid for, no matter where you are."
	[Frame: Privacy/Security]	Justifying VPN use primarily through the lens of data protection, with streaming as a secondary benefit.	"Protect your digital life from prying eyes and unlock a world of entertainment."
Justification	[Justify: Protecting Partners]	Explaining enforcement as necessary to protect the interests of content creators.	"We must enforce regional blackouts to honor the agreements we have with our partners."
	[Justify: Maximizing Value]	Framing VPN use as a smart consumer choice to get the most out of a paid subscription.	"Don't let your subscription go to waste while traveling. Use our service to watch your home library."
Action	[Action: Deterrence]	Language related to blocking, detecting, or punishing circumvention.	"The use of a VPN to circumvent geo-restrictions is a violation of our Terms of Service."
	[Action: Adaptation]	Language related to business model changes that reduce the need for circumvention.	"We are thrilled to announce the global premiere of our new film, available to all subscribers on the same day."
Tone	[Tone: Regretful/Forced]	A tone suggesting the company	"We know it can be frustrating…

	wishes things were different but its hands are tied.	we are working to secure global rights for more content."
[Tone: Neutral]	A tone without given extra information about why it has been made that way	It is not allowed to… You may not use…
[Tone: Empowering/Defiant]	A tone suggesting the user is taking back control from restrictive corporations.	"Break down the digital borders and take control of your internet experience."

TOS CATEGORY 1 (THE ENFORCERS):

Streaming & Media Services

- **YouTube Premium:**
  - **URL:** https://support.google.com/youtube/answer/6307365?hl=de#zippy=%2C youtube-premium-mitgliedschaft-auf-reisen-nutzen
  - **Key Statement:** *"Damit wir dir die richtigen Mitgliedschaften und Preise anbieten können, musst du bei der Registrierung und der Nutzung deiner YouTube Premium-Mitgliedschaft das Land deines Wohnsitzes korrekt angeben. Wenn du deinen Standort falsch angibst (z. B. über ein VPN) oder versuchst, Zugriffs- und Verfügbarkeitsbeschränkungen zu umgehen, wird deine Mitgliedschaft möglicherweise gekündigt."*
- **Netflix:**
  - **Source 1 (Help Article on VPNs):** Netflix Help Center - "Watching TV shows and movies through a VPN"
    - **URL:** https://help.netflix.com/en/node/114212
    - **Key Statement:** *"Using a VPN to access Netflix will hide your region and only allow you to see TV shows and movies available to all regions globally."*
  - **Source 2 (Terms of Use):** Netflix Terms of Use
    - **URL:** https://help.netflix.com/legal/termsofuse
    - **Key Statement (Section 4.3):** *"You may view the Netflix content primarily within the country in which you have established your*

account and only in geographic locations where we offer our service and have licensed such content."

- **Disney+:**
  - **Source (Subscriber Agreement):** Disney+ Subscriber Agreement
    - **URL:** https://www.disneyplus.com/legal/subscriber-agreement
    - **Key Statement (Section 3c):** *"You <u>may not</u> use any <u>technology</u> to <u>obscure or disguise your location</u>... <u>We</u> may use technologies to <u>verify your geographic location</u>."*

- **Amazon Prime Video:**
  - **Source (Terms of Use):** Prime Video Terms of Use
    - **URL:** https://www.primevideo.com/ww-av-legal-home/terms-of-use
    - **Key Statement (Section 4g):** *"<u>Amazon will</u> use technologies to <u>verify your geographic location</u>. <u>You may not</u> use any <u>technology</u> or technique <u>to obscure or disguise your location</u>."*

- **Apple Music:**
  - **URL:** https://www.apple.com/legal/privacy/data/de/apple-music/#:~:text=Einige%20Funktionen%20von%20Apple%C2%A0Music%2C%20etwa,und%20die%20Verf%C3%BCgbarkeit%20zu%20bestimmen
  - **Key Statement:** „Apple kann die IP-Adresse deiner Internetverbindung verwenden, um deinen ungefähren Standort und die Verfügbarkeit zu bestimmen."

- **Spotify Premium:**
  - **Source (Support Page):** Spotify Support - "Change your country or region setting"
    - **URL:** https://support.spotify.com/us/article/change-country-region/
    - **Key Statement:** *"To change your country or region, you need to update your <u>payment method</u> to one that's <u>issued there</u>."*

Gaming Services

- **Steam:**
  - **Source (Subscriber Agreement):** Steam Subscriber Agreement
    - **URL:** https://store.steampowered.com/subscriber_agreement/

- - - **Key Statement (Section 3a):** *"You agree that you will not use IP proxying or other methods to disguise the place of your residence, whether to circumvent geographical restrictions on game content, to purchase at pricing not applicable to your geography, or for any other purpose."*
- **PlayStation Plus:**
  - **Source (PSN Terms of Service):** PlayStation Network Terms of Service
    - **URL:** https://www.playstation.com/en-us/legal/psn-terms-of-service/
    - *"You may make transactions only with the designated SIE regional company that is determined by the country/area of residence to which your account is registered."* **(8.15)**
    - (Circumventing regional pricing is considered fraudulent).
- **Xbox Game Pass:**
  - **Source (Microsoft Services Agreement):** Microsoft Services Agreement
    - **URL:** https://www.microsoft.com/en-us/servicesagreement/
    - **Key Statement (Section: "Using the Services & Support"):** *"Don't circumvent any restrictions on access to or availability of the Services."* and *"Providing false, inaccurate, or misleading information... may result in suspension or termination of your access to the Services."*

SaaS & Utility

- **Microsoft Office 365:**
  - **Source (Microsoft Services Agreement):** (See Xbox link above, as it covers most Microsoft services).
    - **URL:** https://www.microsoft.com/en-us/servicesagreement/
    - **Key Statement:** This agreement governs the use of Microsoft accounts and forbids providing false information (like country of residence) or circumventing restrictions.
- **Adobe Creative Cloud:**
  - **Source (Terms of Use):** Adobe General Terms of Use
    - **URL:** https://www.adobe.com/legal/terms.html

- - **Key Statement (Section 3.2):** *"You must be honest with us. You may not provide any false, inaccurate, or misleading information (including that you are a minor when you are not)..."* This is the clause used to enforce regional purchasing rules.
- **Tinder:**
  - **Source (Terms of Use):** Tinder Terms of Use
    - **URL:** https://www.gotinder.com/terms
    - **Key Statement (Section 9):** *"Tinder operates a global business, and our pricing varies based on a number of factors... We also frequently test new features and payment options."* This acknowledges the price discrimination strategy.

SECURITY & VPNS (THE ENABLERS)

- **NordVPN:**
  - **Source 1 (Homepage - Privacy Frame):** NordVPN Homepage
    - **URL:** https://nordvpn.com/
    - **Key Slogan:** Often features slogans like "Get secure and private access to the internet" or "Protect your online traffic." no information in TOS about streaming or geoarbitrage in general
- **McAfee+ Premium:**
  - **Source (Product Page):** McAfee+ Product Page
    - **URL:** https://www.mcafee.com/en-us/home-security.html
    - **Key Statement (Under "Secure VPN"):** The primary feature listed is "Bank-grade encryption." A secondary feature is often listed as "Access geo-restricted content and apps" or similar wording.