CASE 2 - Viewer Retention in OTT Platforms: Diagnosing Engagement Patterns

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Why do viewers drop off early in OTT series?

Context

- OTT series attraction at its initial stages are strong
- Yet, a large share of viewers are getting disengaged during/after Season 1
- These Early drop-off directly impacts:
  - Consumer (OTT user) longterm value
  - Content production (Creators) and Investment decisions (Producers)

Hypothesis

- Following Episode-level design choices have high correlation to disengagement:
  - Pacing and Narrative flow
  - Cognitive load and Attention effort
  - Strength of early hooks

Objective

- Using OTT series engagement data to:
  - Identify what drives viewer continuation
  - Segment episodes by design & behaviour
  - Recommend practical actions to reduce early drop-off

Data Driven Insights

What explains differences in viewer continuation?

Cognitive load amplifies disengagement

- High cognitive load episodes show:
  - More pauses and rewinds
  - Lower average watch percentage
  - Significantly higher drop-off
- Impact is **strongest when pacing is low**

Faster pacing consistently reduces drop-off

- Drop-off probability declines steadily as pacing increases
- High-pacing episodes show ~**20% lower drop-off** than slow-paced ones
- Pattern holds across early and later episodes

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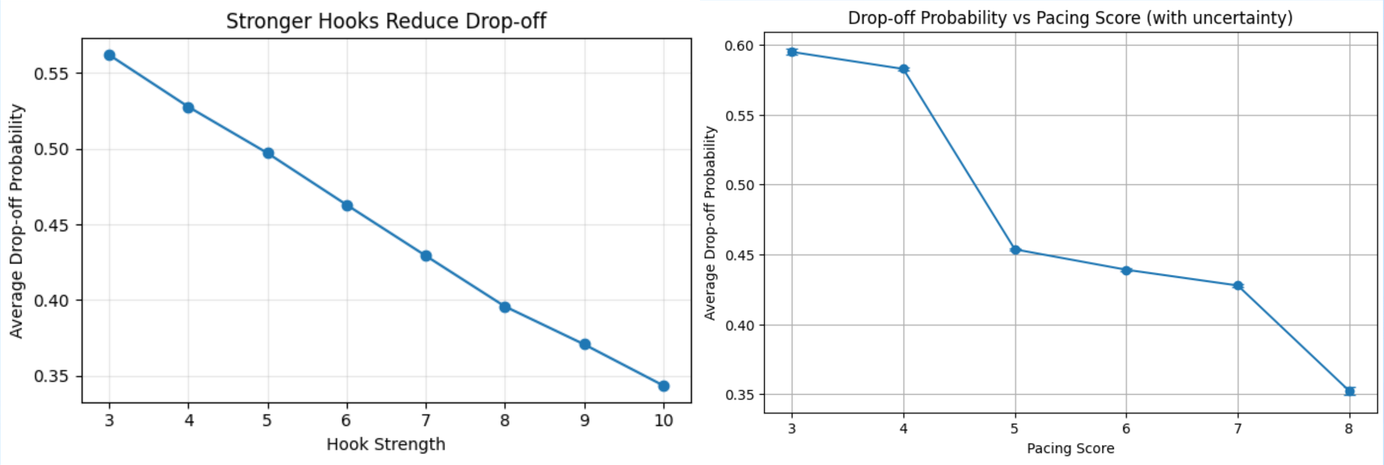

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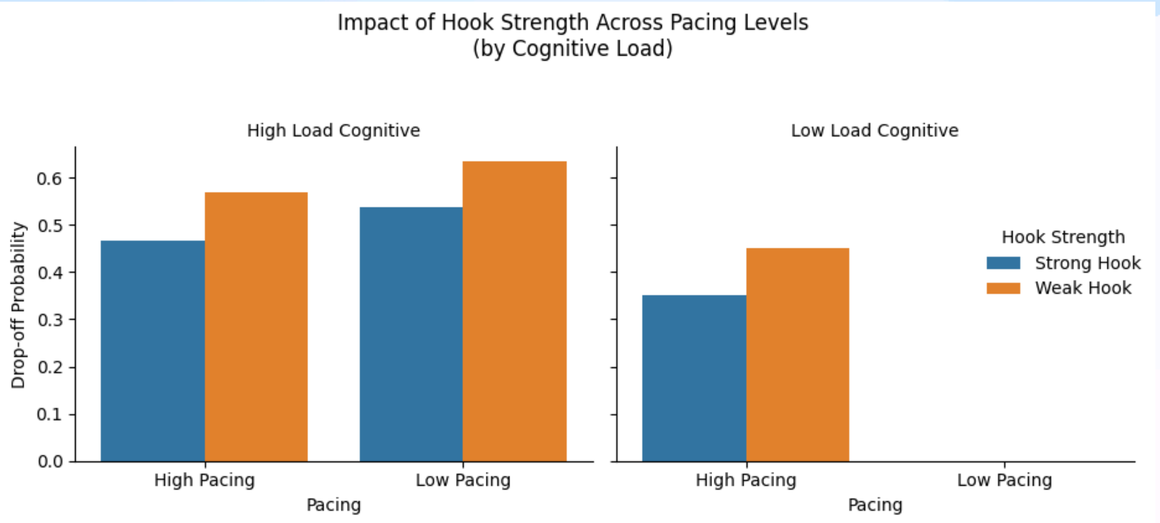


Caption

Episode Segmentation & Engagement Outcomes

Episodes were segmented using **pacing, cognitive load, and hook strength**, combining **content design** and **viewer behaviour**.

Key Segments Identified

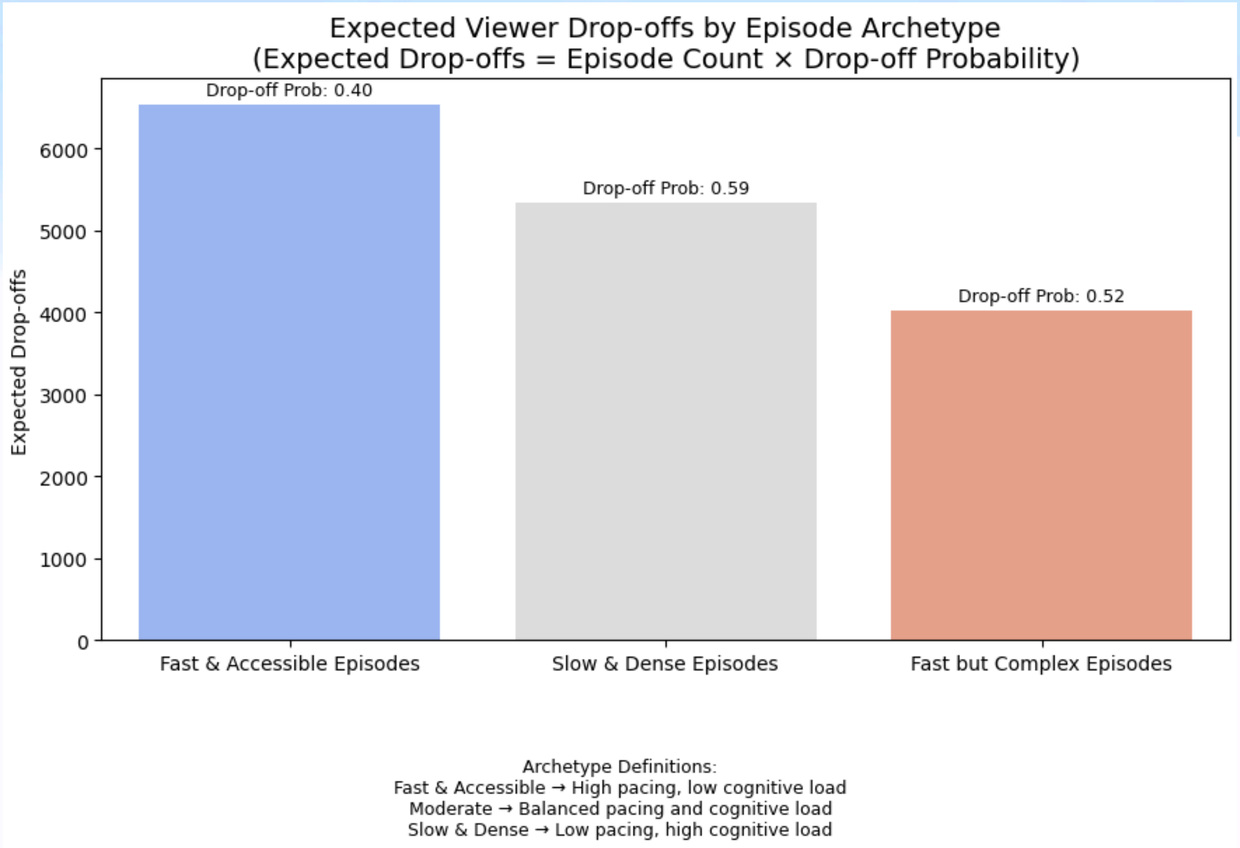
- ***Fast & Accessible Episodes*** —- High pacing, low cognitive load
- ***Fast but Complex Episodes*** —- High pacing, high cognitive load
- ***Slow & Dense Episodes*** —- Low pacing, high cognitive load

Core Insight

- Slow & Dense episodes influence high drop-offs
- Fast & Accessible episodes deliver the strongest retention
- Episode structuring does explain the disengagement

Viewer disengagement is driven by how demanding and slow an episode feels,
not just by how many episodes or the duration of the season.

<u>Reference : Appendix A1, A2</u>



Caption

Key Conclusions

Viewer Drop-off Is Primarily Driven by Episode Design, Not Just Content Volume

Summary of Insights

1. ***Faster pacing reduces drop-off***
   - Drop-off decreases almost linearly as pacing increases
   - Effect consistent across early and later episodes

2. ***High cognitive load increases disengagement***
   - High pause & rewind behaviour
   - Lower average watch percentage
   - Especially impactful when combined with slow pacing

3. ***Strong hooks help, but do not fully mitigate ris***k
   - Most effective when paired with fast pacing and low cognitive load

4. ***Episode archetypes show distinct retention outcomes***
   - Slow & Dense: highest drop-off (~58%)
   - Fast & Accessible: lowest drop-off (~39%)
   - Fast but Complex: intermediate (~52%)

Recommended Actions

Design Interventions to Reduce Viewer Drop-off

Episode-Level Recommendations

1. **Increase pacing where possible**
   - Shortening slow sequences and maintain narrative momentum.
   - Focusing on early episodes of a season to boost binge watching.
2. **Manage cognitive load**
   - Simplifying complex storylines or provide visual/contextual cues.
   - Using recap segments for multi-thread narratives.
3. **Leverage hooks strategically**
   - Introducing strong hooks in critical episodes (especially slow & dense episodes)
4. **Target episode archetypes differently**

Slow & Dense —> Streamline narrative & add hooks. —> High reduction in drop-off
Fast but Complex —> Provide viewer aids (subtitles, recaps) —> Moderate reduction
Fast & Accessible —> Maintain current design —> Already low drop-off

Product-Level Recommendations

- Consider **adapting pacing indicators** or **viewer guidance.**
- Use **analytics dashboards** to monitor drop-off and engagement trends by archetype to resolve them as soon as possible.

Prioritisation

Focus Areas for Maximum Impact

Priority	Action	Rationale
High	Streamline slow & dense episodes (pacing + hooks)	Largest drop-off reduction, early episodes are critical for binge retention
Medium	Simplify high cognitive load segments	Reduces disengagement but less impactful than pacing
Low	Maintain fast & accessible episodes	Already low drop-off; minimal intervention needed

Risk Considerations

Key Risks & Mitigation

1. ***Risk*:** Over-simplifying content may affect creative quality.
   Mitigation: Use viewer testing before changes, apply only to critical episodes.

2. ***Risk*:** Misalignment with genre expectations.
   Mitigation: Customise pacing & hooks based on genre norms. Ex: Hannibal letter & The Office

3. ***Risk:*** Viewer fatigue from excessive hooks or cues.
   Mitigation: Balance hooks with narrative flow & avoid repetitive interventions.

Appendix A1 — How We Defined Episode Archetypes (Methodology)

Episode Archetypes were created by combining three interpretable episode design dimensions :

- **Pacing**
  - High Pacing: pacing_score ≥ median
  - Low Pacing: pacing_score < median
- **Cognitive Load**
  - High Load: cognitive_load ≥ median
  - Low Load: cognitive_load < median
- **Hook Strength**
  - Strong Hook: hook_strength ≥ 6
  - Weak Hook: hook_strength < 6

Resulting Archetypes :

- **Fast & Accessible Episodes**
  → High pacing + Low cognitive load (best engagement)
- **Fast but Complex Episodes**
  → High pacing + High cognitive load
- **Slow & Dense Episodes**
  → Low pacing + High cognitive load (worst engagement)

These categories were chosen for interpretability and actionability, not model complexity.

Appendix A2 — Segment-Level Performance Summary (Supporting Table)

Drop-off probability is averaged at the episode level.
Expected drop-offs = episode count × average drop-off probability.

Episode Archetype	Episodes	Avg Drop-off Prob	Avg Watch %	Avg Pauses
Fast & Accessible	16,293	0.40	64.6%	2.5
Fast but Complex	7,766	0.52	54.4%	3.5
Slow & Dense	9,112	0.59	44.6%	3.8