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VIEWER RETENTION IN OTT PLATFORMS: DIAGNOSING ENGAGEMENT PATTERNS

CASE STUDY | WINTER CONSULTING CAPSTONE PROJECT 2025

INTRODUCTION

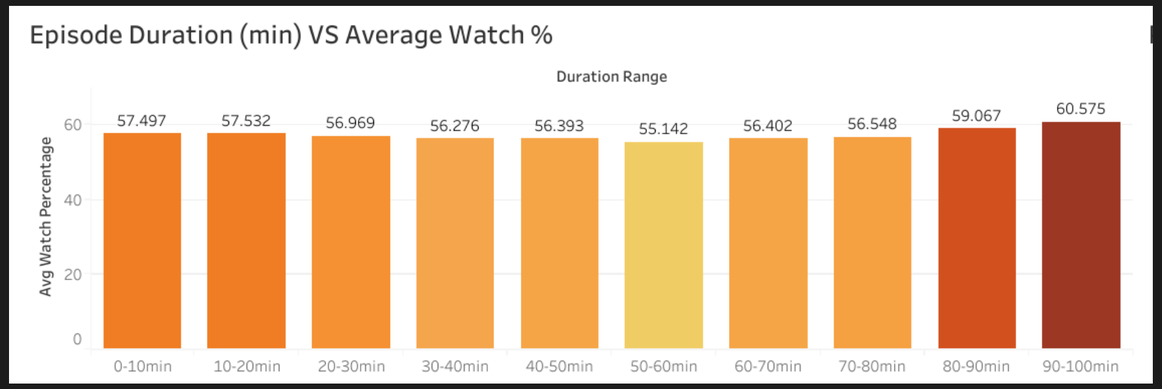
PROBLEM & DATASET OVERVIEW

Column Type	Column Name
Episodes related columns	episode_number
	episode_duration_min
	hook_strength
	dialogue_density
	visual_intensity
	attention_required
	night_watch_safe
Viewer behavioral columns	avg_watch_percentage
	pause_count
	rewind_count
	skip_intro
	cognitive_load
Target (output) columns	drop_off
	drop_off_probability
	retention_risk
Unimportant columns	night_watch_safe
	dataset_version
	skip_intro
	drop_off

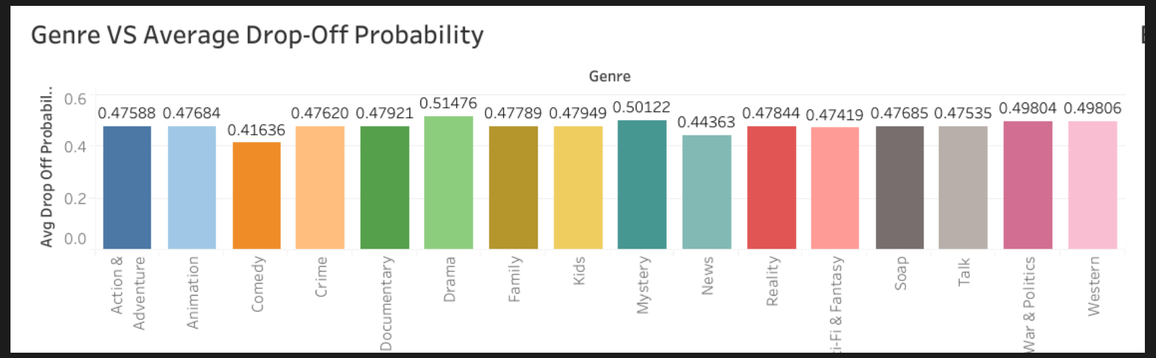
THIS DATASET CONTAINS DATA REGARDING USER - BEHAVIOUR AND CONTENT QUALITY. OUR OUTPUT VARIABLES ARE MAINLY THE FEATURES RELATED TO DROP-OFF AND RETENTION

- **Episodes related columns: -** These are one of the best indicators for the potential drop-off happening across OTT platforms. Many of these are mostly directly correlated to each other so we will not take into consideration all these columns.
- **Viewer behavioral columns: -** These are also best for predicting user behavior and tell us how user is interacting with the episodes. These are also mostly correlated with each other, so we will look them collectively not individually.
- **Target (output) columns: -** "drop_off_probability" is the main target column here (as retention_risk is directly correlated).
- **Reductant or unimportant columns: -** Many columns here don't contribute much to the problem. Other columns could be used for grouping for aggregation operations and better informative data visualizations.

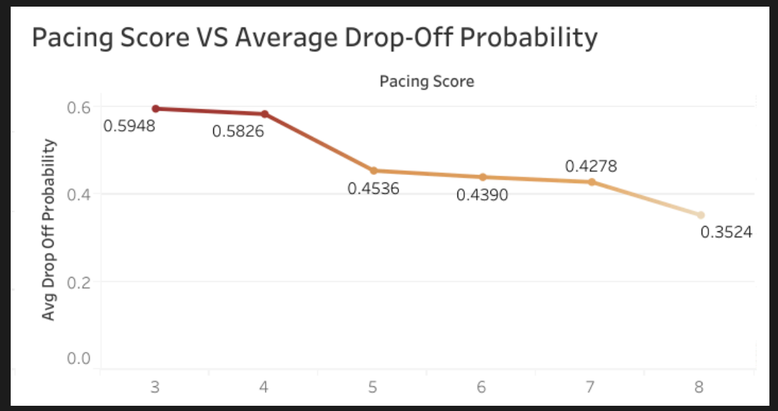
WHERE DROP-OFF HAPPENS?



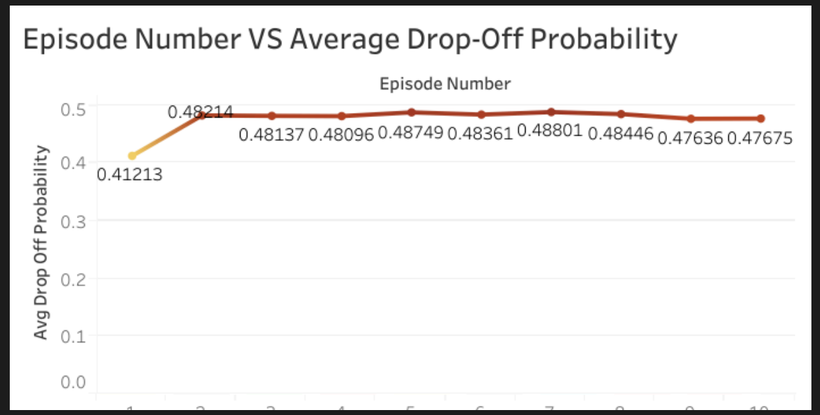
THIS SHOWS THAT AN AVERAGE USER USUALLY HAS AN ATTENTION SPAN UPTO 55 MINUTES



ACROSS GENRES WE COULD SEE, PEOPLE ARE LESS LIKELY TO SEE DRAMA AND MORE LIKELY TO SEE COMEDY



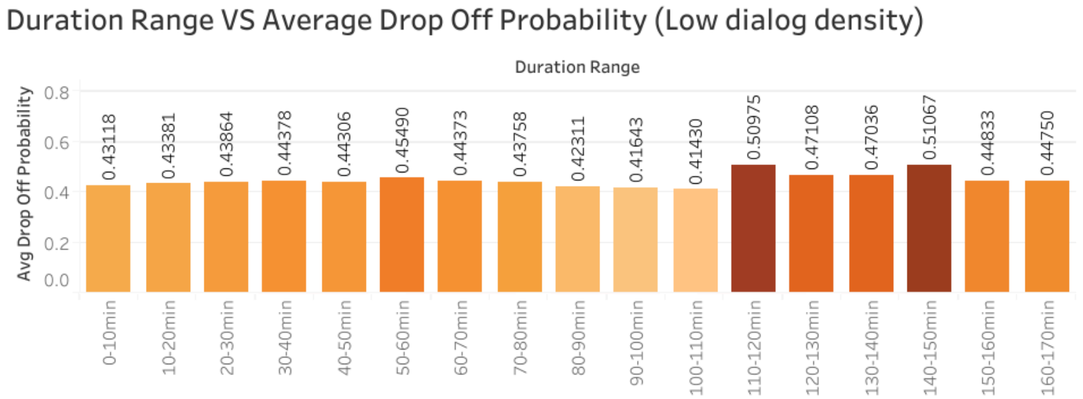
FASTER THE PLOT MOVES WITH QUICK CAMERA CUTS, LESSER THE DROP-OFF HAPPENING (LESSER ATTENTION SPAN, USER GETTING BORED AT SLOW SCENE EPISODES)



USERS ARE DROPPING OFF AT THE LATER EPISODES MORE THAN THE FIRST EPISODE (THIS MAY BE THE INDICATOR THAT PEOPLE ACTUALLY DON'T PREFER THE CONCEPT OF WEB SERIES AND SEQUELS)

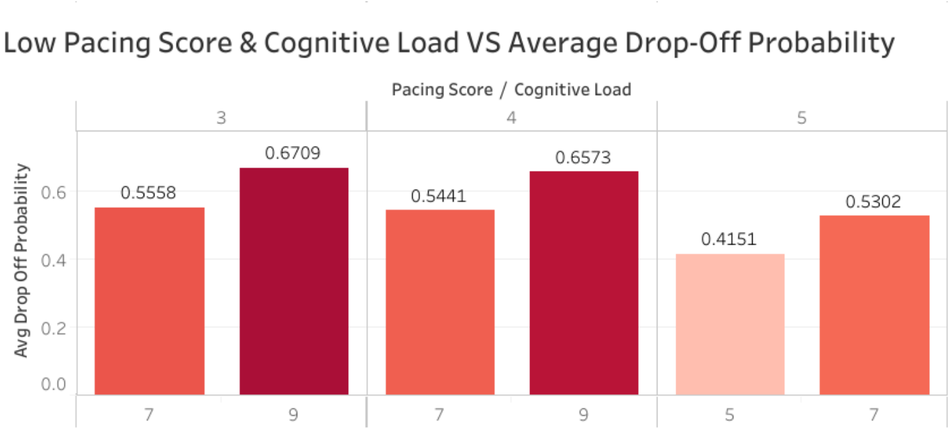
WHY IT HAPPENS?

SEGMENTATION OF USERS



DURATION RANGE VS AVERAGE DROP-OFF PROBABILITY (FOR LOW DIALOG DENSITY)

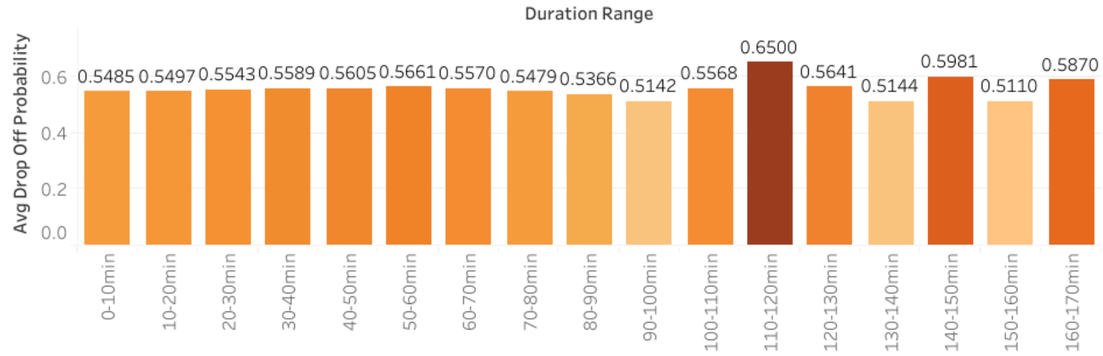
As the duration increases, the drop-off increases (as seen earlier). The difference here is that for lower dialog heavy episodes, the drop is fairly between 41-51% which is a lot.



LOW PACING SCORE & COGNITIVE LOAD VS AVERAGE DROP-OFF PROBABILITY

As the pacing increases, the drop-off decreases (as seen earlier). Higher the cognitive load for a particular pacing score, higher the drop-off (increase of around 10% in each case which is a highly significant jump).

Duration Range VS Average Drop Off Probability (High dialog density)

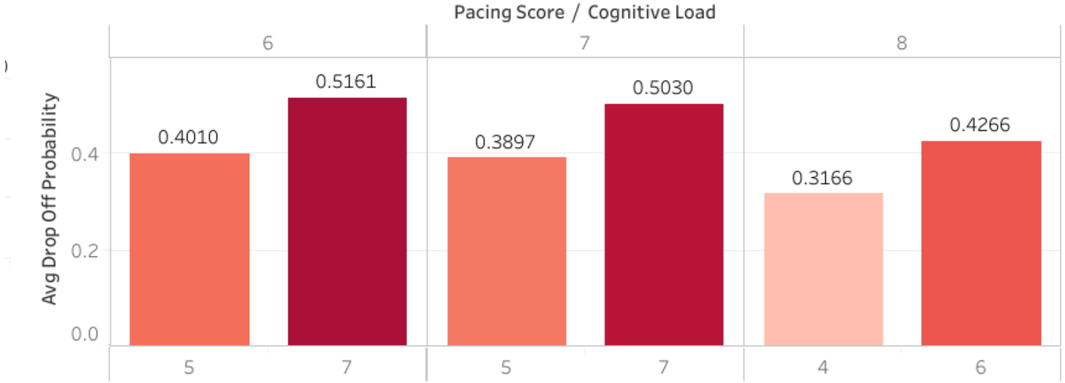


DURATION RANGE VS AVERAGE DROP-OFF PROBABILITY (FOR HIGH DIALOG DENSITY)

As the duration increases, the drop-off increases (as seen earlier). The difference here is that for high dialog heavy episodes, the drop is fairly between 51-61% which is a lot and is around 10% higher than the low dialog heavy episodes

THE CONCLUSION IS USERS DISLIKE LONGER EPISODES AND FAIRLY SHORTER ONES TOO (HAVING A SWEET SPOT AT 100-110MINS). THEY EVEN DISLIKE HIGH DIALOG HEAVY ONES (SIGNIFICANT JUMP OF 10% IN THE DROP-OFF PROBABILITY).

High Pacing Score & Cognitive Load VS Average Drop-Off Probability



HIGH PACING SCORE & COGNITIVE LOAD VS AVERAGE DROP-OFF PROBABILITY

Higher the cognitive load for a particular pacing score, higher the drop-off (increase of around 10% in each case which is a highly significant jump). Here in higher pacing scores, the drop-off of every data here has decreased to 10% from the lower pacing scores one.

THE CONCLUSION IS USERS DISLIKE SLOW EPISODES (PLOT NOT PROGRESSING MUCH) AND THE ONES WHICH REQUIRE HIGH INTELLECT (USERS WANT TO GIVE THIER BRAIN'S SOME REST)

KEY INSIGHTS & RECOMMENDED ACTIONS

INSIGHT : SIGNIFICANT JUMP IN DROP-OFF FOR HIGH COGNITIVE LOADED EPISODES

Action: Pushing more of the overall low cognitive load rated episodes and series in the recommendation section (Home Page)

Reason: Respecting the creative control of the makers, it is best not to limit them but change the recommendation algorithm in our end for the better results

INSIGHT : MORE PACING SCORED EPISDOES ARE PREFERED BY THE USERS

Action: Two recommendations could be, first is that we will push more to the users these fast paced series/movies in the suggestion section and second is we can include fast foward options (like 2x, 3x etc.).

Reason: Again for the respect of creative control and another is that every user have thier own taste of pacing so better we include these fast forward options.

INSIGHT : SWEET SPOT FOR EPISODE DURATION IS AROUND 100-110MIN HAVING LOWER DIALOG DENSITY

Action: Eventually the makers of the series have to change their future episode's length to around this duration with lower dialogs. They may increase the number of episodes as per their needs.

Reason: More the number of episodes doesn't create much of the increase in drop-off

PRIORITIZATION & RISKS

Action	Impact	Effort	Priority	Risk	Mitigation
Pushing more of the overall low cognitive load rated episodes and series in the recommendation section	High	Low	High	This eventually discourages creative freedom for the creators as only the light low "quality" series will only get pushed on the platform.	Low cognitive loaded are mostly having "comedy" as the genre, therefore we will divide the suggested section as per different genre section but the genre like "comedy" will be at the top.
To include fast foward options (like 2x, 3x etc.).	High	Medium	Medium	May take time to roll-out this feature (depends on the tech team)	A dedicated developer team will be made in order to roll-out this feature as soon as possible. Other less important platform requirements could be paused for sometime.
To change the maker's future episode's length to around 100-110mins duration with lower dialog density	Medium	High	Low	Creator's will resist change and this is direct attack on their creativity	First targetting on the creator's who are directly depended on the OTT platform (who don't put their content in theaters). They will change in order to benefit the most. Mostly not targetting on their creative core but in their series structure.

SUCCESS METRICS & CONCLUSION

KEY INSIGHTS :

- MORE PACING SCORED EPISDOES ARE PREFERED BY THE USERS .
- SWEET SPOT FOR EPISODE DURATION IS AROUND 100-110 MINS HAVING LOWER DIALOG DENSITY

RECOMMENDED ACTIONS :

- TO INCLUDE FAST FOWARD OPTIONS (LIKE 2X, 3X ETC.).
- TO CHANGE THEIR FUTURE EPISODE'S LENGTH TO AROUND THIS DURATION WITH LOWER DIALOGS.

SUCCESS METRIC:

IMPROVEMENT IN THE USER CONTINUATION RATE AND REDUCTION IN THE DROP-OFF PROBABILITY

THANK YOU

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2024-2028
WINTER CONSULTING 2025

TOOLS USED

- TABLEAU
- POSTGRESQL (PGADMIN4)
- MICROSOFT EXCEL

SPECIAL THANKS TO "CONSULTING AND ANALYTICS CLUB, IIT GUWAHATI"