Analysis of Decision Fatigue influences in Social Media Platforms

Aakash Sreeraj Nair, Subramanya G. Nayak[1*]

[1]Department of Electronics and Communication Engineering, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, Udupi - 576104, Karnataka State, India.

Abstract: The advent of Over-The-Top (OTT) streaming platforms has revolutionized the entertainment landscape, providing viewers with unprecedented access to a vast array of content anytime, anywhere. Subscription Video on Demand (SVOD) platforms, a dominant category within the OTT ecosystem, have become a cornerstone of modern media consumption. As these platforms continue to proliferate, the process of content selection has evolved into a complex and cognitively demanding task. This paper delves into the multifaceted relationship between decision fatigue and content choice on OTT SVOD platforms, employing Partial Least Squares (PLS) regression to analyse survey data.

In an era characterized by information abundance, the rise of OTT platforms has transformed how audiences engage with audiovisual content. Viewers are now presented with an extensive library of movies, shows, documentaries, and original productions, enabling personalized viewing experiences tailored to individual preferences. However, the remarkable diversity of options brings forth a new challenge—decision fatigue. With an overwhelming assortment of choices, users often encounter decision-making exhaustion, leading to suboptimal or even deferred choices. The implications of decision fatigue on content consumption are profound, impacting user satisfaction, engagement, and platform loyalty.

The outcomes of this research hold substantial potential for theoretical advancements and practical implications. From an academic perspective, the findings contribute to the growing body of knowledge surrounding decision fatigue and its manifestation in the digital realm. The study provides empirical evidence that elucidates the role of decision fatigue in shaping content consumption patterns, adding depth to existing theories of cognitive load and choice overload.

In conclusion, this paper advances our comprehension of decision fatigue's intricate connection with content choice on OTT SVOD platforms. By integrating theoretical frameworks, empirical data, and advanced statistical analysis, the research generates a comprehensive understanding of the phenomenon and its implications. As the digital media landscape continues to evolve, the findings of this study contribute to the ongoing dialogue surrounding the optimization of user

experiences in the era of abundant content choices. The proposed work addresses Sustainable Development Goals 4 and 11.

Keywords: OTT, SVOD, CSV, SDG 4, SDG 11.

Introduction:

In an era characterized by rapid technological advancements and shifting consumer preferences, the landscape of entertainment consumption has undergone a remarkable transformation. The emergence of Over-The-Top (OTT) streaming platforms and Subscription Video on Demand (SVOD) services has revolutionized the way individuals' access and engage with digital content. These platforms offer an unprecedented level of convenience, flexibility, and variety, granting users the power to tailor their entertainment experiences according to their preferences and schedules. As the global digital entertainment market continues to expand, the significance of OTT and SVOD platforms becomes increasingly evident, reflecting a dynamic shift away from traditional cable and satellite television models. However, amidst this abundance of choice lies an intriguing psychological phenomenon – decision fatigue – which plays a crucial role in shaping users' interactions with these platforms. This paper delves into the effects of decision fatigue in the context of content selection on OTT SVOD platforms, exploring its implications for user satisfaction, engagement, and overall viewing experiences.

The motivation behind studying the effects of decision fatigue when choosing content to watch on OTT SVOD platforms stems from the evolving landscape of entertainment consumption and its profound impact on individuals' cognitive and emotional experiences. As digital technologies reshape the way we access and engage with media content, understanding the psychological processes that underline content selection becomes paramount. Several key motivations drive this research:

Rising Popularity of OTT SVOD Platforms: The widespread adoption of OTT SVOD platforms has revolutionized how we consume media. As users are empowered with an unprecedented level of choice, the implications of decision fatigue become more pertinent. By investigating decision fatigue in this context, we can enhance our understanding of how individuals navigate vast content libraries and make selections that align with their preferences.

Psychological Insights: Decision fatigue is a complex psychological phenomenon that affects a wide range of decision-making contexts. Studying its manifestation within the realm of content selection on OTT SVOD platforms can contribute to our broader understanding of decision fatigue and its implications for human behaviour in an increasingly digital and choice-rich

environment.

Business and Economic Implications: Decision fatigue can impact user retention rates, subscription renewals, and the overall financial success of OTT SVOD platforms. By identifying strategies to alleviate decision fatigue, this research can potentially contribute to improved user loyalty, longer engagement periods, and sustained revenue growth for platform providers.

Guiding Future Research: As the digital entertainment landscape continues to evolve, new challenges and opportunities will arise. Understanding decision fatigue in the context of OTT SVOD platforms can serve as a foundational study that inspires and informs future research exploring related cognitive phenomena and their implications.

In the rapidly evolving landscape of modern entertainment consumption, Over-The-Top (OTT) streaming platforms have emerged as a dominant force, revolutionizing how individuals access and engage with audiovisual content. Over the past decade, these platforms, commonly referred to as OTT Streaming Video on Demand (SVOD) services, have garnered immense popularity, fundamentally reshaping the way people interact with movies, TV shows, documentaries, and other forms of digital media. This paradigm shift is not only indicative of technological advancements but also reflects the changing preferences and behaviours of contemporary audiences.

In today's digital landscape, OTT SVOD platforms hold undeniable relevance. Empowered by high-speed internet and diverse digital devices, these platforms democratize content consumption, granting users unprecedented control over their viewing. Freed from rigid schedules and physical media limitations, audiences now relish the liberty to explore a vast, culturally rich content library. This surge in consumption prompts discussions about the societal and psychological impacts of this digital shift.

This paper delves into the background theory that underpins the relationship between decision fatigue and content selection on OTT SVOD platforms. By exploring the cognitive mechanisms that drive decision fatigue and investigating its implications on audience behaviours, The primary objective of this research is to offer a thorough comprehension of the obstacles and possibilities brought about by the digital entertainment milieu.

Literature Review:

In this study, Google Scholar database, ProQuest Central and ResearchGate were used. Journal articles, research papers, dissertations etc. that included the terms “decision fatigue”, “choice overload”, “OTT”, “SVOD”, “peer recommendation”, “churn rate”, “Netflix”, “Amazon”, “user fatigue” were selected.

The internet is an essential part of people's lives, and video streaming is becoming increasingly important. Anticipatedly, the consumption of worldwide videos is projected to represent 82% of total internet traffic by 2022, exhibiting growth from the 75% recorded in 2017. [1].

Numerous providers of content, including entities like YouTube, Netflix, Amazon, and Hulu, have introduced an alternate approach through subscription-oriented video-on-demand services (SVoD). This allows users to watch videos without having to wait for them to load, and it saves money compared to buying DVDs or streaming them on the internet.

OTT: Over-the-top, or OTT, is an innovative method of streaming movies & TV shows over the internet at any time and on a variety of devices, in accordance with the needs of the consumer.

The word “over-the-top” itself denotes that the content provider is going over the top of what is already offered on the internet. It symbolizes the entertainment industry's impending future. The accessibility convenience offered by OTT platforms has led to the obsolescence of traditional broadcast, cable, and satellite pay-TV providers. It can be accessed on smartphones, tablets, personal computers or connected TV devices with an internet connection. Although there are some exceptions, most OTT platforms are monetized through paid subscriptions. Some services might offer advertising or in-app purchases. The OTT market is experiencing tremendous growth, with SVOD being the most popular type.

SVOD or Subscription Video On Demand : As the name suggests, SVOD platforms are content aggregators (also, creators) that provide its users unlimited access to their entire content library for a monthly or annual subscription. Adsupported services, pay-per-view models, and pay-TV subscriptions are not embraced by them. In recent times, these platforms have initiated the provision of exclusive video content produced in-house to their subscribers, aiming to maintain a competitive edge [2].

SVOD platforms are more profitable compared to other revenue models such as AVOD (Ad Supported Video On Demand) and TVOD (Transactional Video On Demand).

Growth of OTT SVOD Services in India: Within a swiftly expanding and diverse nation like India, ranked second only to China concerning online market dimensions, there's an upward trend in digital consumption projected to persist in the coming times. This trajectory is particularly pronounced as India continues its rapid economic advancement. Consequently, a growing number of individuals are progressively becoming acquainted with and at ease using digital tools. This surge is bolstered by the escalating availability and cost-effectiveness of top-notch digital infrastructure for highspeed access, effectively supplanting traditional media outlets like television, radio, and print within the nation.

In the present day, the Internet serves not just as a technological factor that could potentially influence business operations in specific industries, but also functions as a marketplace, evident from the remarkable achievements of OTT providers [3]. The influence of Reliance Jio in expanding the reach of the Internet and OTT platforms has been noteworthy. Jio's telecommunications network is responsible for facilitating more than 55% of India's total OTT traffic and over 65% of OTT usage on smartphones [4]. The duration rural users allocate, which currently ranges from 15 to 30 minutes per day, is poised to expand due to enhanced bandwidth and a substantial 98% reduction in data expenses. Following Jio's influence, competing telecommunication providers such as Vodafone and Airtel have also reduced their pricing structures and introduced budget-friendly data packages. \

Currently, India is served by a broad spectrum of over 40 OTT providers, encompassing both domestic and international contenders like Netflix, Amazon Prime, Disney+ Hotstar, Zee5, and Eros Now. As supported by a reputable research entity, Price Waterhouse Coopers Global Entertainment and Media Outlook 2019-23, the over-the-top (OTT) sector is projected to witness a growth trajectory of 21.8% CAGR, progressing from Rs. 4,464 crores in 2018 to Rs. 11,976 crores in 2023 [5]. Concurrently, the FICCI-EY Report of 2019 indicates that the market is anticipated to attain a value of Rs 24 billion by the year 2021[6]. Given the rapid pace at which emerging entrants are appearing, it is projected that the count could escalate to 100 by the year 2023. Amid this trend, domestic contenders like Hotstar and Jio Cinema have solidified their presence in the local market, while international giants such as Netflix and Amazon Prime have also experienced a gradual expansion of their market portion.

As reported by Counterpoint Technology Market Research, Hotstar maintains the forefront of market share in user engagement, even in the face of the arrival of international heavyweights like Amazon Prime and Netflix. The details are in Table 1 [7].

Table 1: Market share of OTT platforms in India

OTT Platforms	Usage Share (in %)
Hotstar	20
Amazon Prime Video	20
Netflix	15
SonyLIV	5
Zee5	5
ALTBalaji	5
Viu	5
Hungama Play	5
Eros Now	5
Others	15

Source: Counterpoint Technology Market Research

Based on findings from the October 2019 Statista Global Consumer Survey, approximately 70% of the overall user base comprises individuals under the age of 34 in India. The 35-44 age demographic contributes around 21.7%, while the 45-54 age category contributes an additional 1.8% to the viewership of OTT platforms within the country [8].

It is interesting to also note that in a survey conducted by Mediasmart, Affle over 65% of respondents subscribe to more than one OTT app. With about 40% of respondents also subscribing to the leading eight OTT apps in India: Disney+Hotstar, Amazon's Prime Video, Netflix, Zee5, MXPlayer, Sony LIV, VOOT and Alt Balaji [9]. However, the inclination to regularly use these apps in a fixed manner is not visible.

As outlined in a report collaboration between Eros Now and KPMG, the typical OTT viewer in India dedicates around 70 minutes daily to video streaming platforms, engaging with content approximately 12.5 times per week [10].

Furthermore, users that own connected "Smart" TV devices, (whose current market share is about 1/10th of all TVs or about 20-22 million homes in India [11]) this figure jumps up significantly, with 70% of respondents spending 1 to 4 hours watching content on OTT SVOD Platforms that either come preinstalled or can easily be downloaded via the included App

Marketplace on the TV.

When considering the evaluation of platform offerings, it's worth emphasizing the considerable expanse of Netflix's catalog. In the year 2019, their US platform alone provided a total of 5932 titles globally, while simultaneously introducing 371 new titles across the world during the same period. To illustrate the scale, even if a subscriber aimed to view each new release from 2019 - entertaining the hypothetical notion of watching one per day - an entire year wouldn't suffice to cover the complete production, not to mention delving into the extensive collection of over 5000 licensed and older original content titles already available within the catalogue.

Amazon Prime Video similarly offers 26300 movies and 2700 TV shows in its catalogue worldwide while indigenous players such as Hotstar (Disney+) for example offers 3,624 of which Indian content reigns supreme with over 994 Hindi Language movies and 2,910 Regional Language movies.

This massive array of content for audiences is both a source of attractiveness and cause for discomfort, since its vastness makes it impossible for individuals to properly evaluate the validity of each available alternative in rational terms.

Choice Overload: It refers to how people tend to get overwhelmed when offered a plethora of options to choose from. While we commonly believe that having more alternatives is a good thing, research has shown that in many instances, this makes it more challenging for us to make a decision. The choice overload theory implies that although people are drawn to large option sets, this availability of numerous alternatives prevent people from making the careful comparisons that rational choice requires of all the information available [12]. This overabundance has a negative effect on decision-makers and the results of their decisions [13][14].

In his book, The Paradox of Choice: Why More Is Less (2004), Barry Schwartz puts forth his claim that choice overload impedes decision making and lowers satisfaction and well-being [15].

Decision Fatigue: Over a significant period of decision-making, our capacity to make good judgement begins to decline [16]. Decision fatigue is the way in which decision-making deviates from the expected norm due to fatigue brought on by prolonged decision-making [17].

Making a decision can be difficult when there is a lot of information available, which drains mental energy. The likelihood of selecting the best choice lowers, satisfaction is reduced, and greater regrets may be felt as a result of the decisions made when the mental resources are depleted [18].

Most streaming platforms, including Netflix in particular, prioritise serialised content as a deliberate tactic to lessen decision fatigue through binge-watching [19]. A viewer who commits to a particular series does not have to deal with content discovery for quite some time, in contrast to watching movies, which compels a fresh decision and a new content discovery session every two hours or less.

Chiara Longo and Abayomi Baiyere put forth a negative aspect of algorithmic recommendations that the system becomes increasingly monotonous from the very first unbiased choice onwards, as suggestions are not produced from a genuine, independent interaction between the user and the platform [14]. The downside of depending too much on data prediction is that the algorithm may fail to forecast the viewer's actual preferences, and the usefulness of its recommendations would inevitably deteriorate.

Regrettably, the extensive literature review conducted across both the Google Scholar and ProQuest databases yields a notable absence of studies addressing decision fatigue within the realms of SVOD and OTT platforms. Delving into the findings, a significant 41.9% of the surveyed research pertains to the domain of health, while psychology trails closely behind with 12.9%. Consequently, the investigation unveils that the concept of "decision fatigue" has primarily garnered attention in recent years, particularly between 2018 and 2020, predominantly within the health sector. Furthermore, the interrelation between Decision Fatigue, Choice Overload, and other intrinsic factors, such as Discovery Time, remains ambiguously explored. Recognizing this gap, the present study endeavours to address this methodological void.

Methodology:

However, to comprehensively investigate the effects of decision fatigue on OTT SVOD platforms, this study adopts a quantitative research approach, employing a questionnaire survey method. Quantitative research is chosen for its ability to gather structured and measurable data that enable rigorous analysis and statistical inference. This approach facilitates a systematic examination of user perceptions and behaviours, shedding light on the intricate relationship between decision fatigue and content selection.

The survey instrument will involve a structured questionnaire designed to capture participants' experiences, preferences, and decision-making processes within the context of OTT SVOD platforms. Responses will be elicited using a 5-point Likert Scale, allowing participants to indicate the extent to which they agree or disagree with specific statements. This scale offers a nuanced understanding of respondents' sentiments, enabling the study to discern subtle variations

in user attitudes and perceptions.

The collected data will then undergo a sophisticated statistical analysis technique known as Partial Least Square-Structural Equation Modelling (PLS-SEM). PLS-SEM is particularly suited for complex models and exploratory research, making it an ideal choice for studying the multifaceted interplay between decision fatigue and OTT SVOD content selection. By analysing the relationships between variables, PLS-SEM will provide insights into the underlying factors that contribute to decision fatigue, highlighting its impact on user behaviour, content preferences, and platform engagement.

This quantitative research approach, combined with the utilization of a well-established statistical method like PLS-SEM, ensures a robust investigation into the effects of decision fatigue on OTT SVOD platforms. The findings generated through this methodological framework will contribute to a deeper understanding of the psychological mechanisms at play in content selection, offering valuable insights for both academia and industry stakeholders seeking to enhance user experiences in the digital entertainment landscape.

Objectives:

The primary objectives of this research are to quantify the average time users take to discover and select a title on an OTT SVOD platform, shedding light on the dynamics of decisionmaking in a content-rich environment. Furthermore, the study seeks to explore the correlations between decision fatigue and choice overload, drop-off rates, and churn rates, providing empirical insights into how these factors interplay and potentially impact user experiences and platform engagement. In addition, the research examines the potential alleviation of decision fatigue through peer recommendations, aiming to uncover the effectiveness of social input in mitigating the cognitive strain associated with content selection. Through these objectives, the study endeavours to contribute to a deeper understanding of decision fatigue's role in shaping user interactions and preferences on OTT SVOD platforms.

These are related in a conceptual model consisting of latent constructs (Discovery Time, Choice Overload, Decision Fatigue etc.) which is outlined in Figure 1.

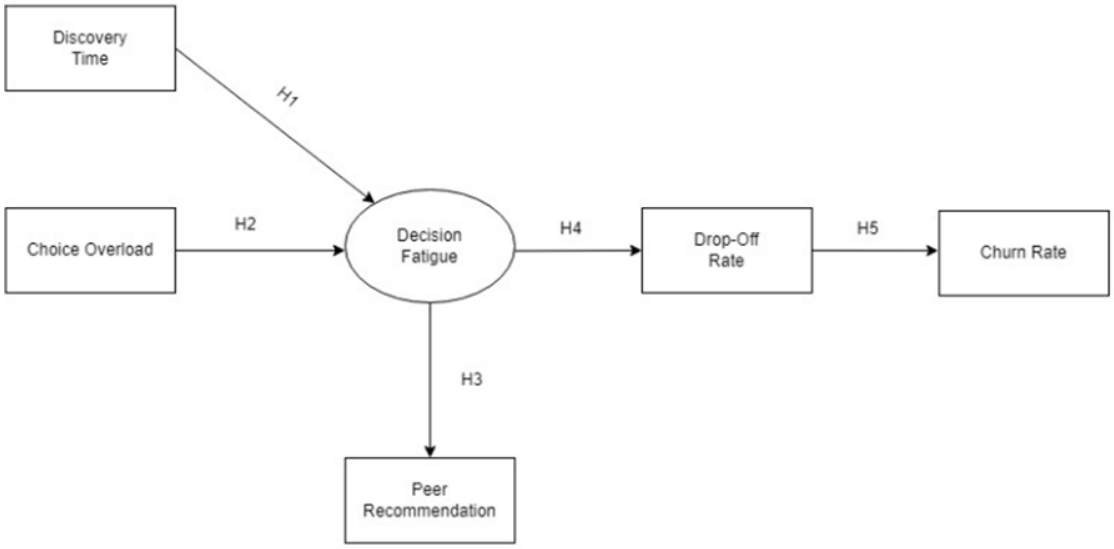

Figure 1: Initial Framework of Study

A model consisting of the relationship between latent constructs plays a crucial role in Partial Least Squares Structural Equation Modelling (PLS-SEM) by providing a comprehensive framework to analyse complex relationships and dependencies among multiple variables. PLSSEM is a statistical technique used for exploring and validating theoretical models, particularly in situations where there may be limited prior knowledge about the underlying relationships.

Data collection:

The data collected from the Google Form circulated was saved to an Excel spreadsheet as shown in Figure 2 and further cleaned as shown in Figure 3. This was then converted into CSV format for PLS-SEM analysis as shown in Figure 4.

Figure 2: Collected Data(raw)

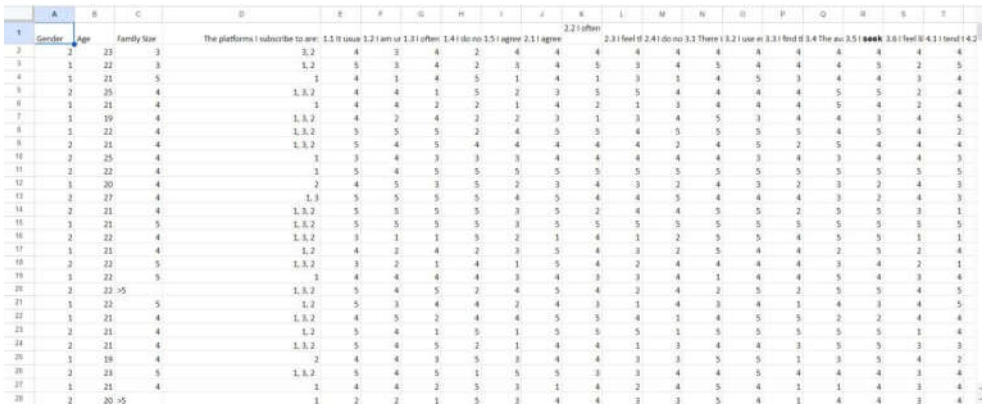

Figure 3: Collected Data (clean)

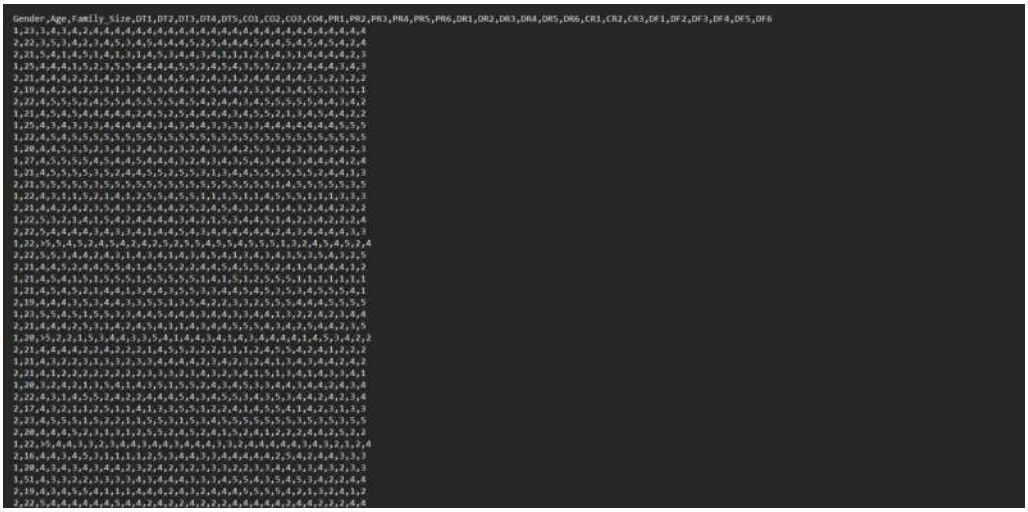

Figure 4: Data converted to CSV format

Result analysis:

The culmination of the Partial Least Squares Structural Equation Modelling (PLS-SEM) analysis unfolds in the realm of PLS bootstrapping and R^2 value estimation. These pivotal stages provide a rigorous assessment of the robustness and explanatory power of the formulated models. PLS bootstrapping, a resampling technique, offers a compelling means to validate the stability of path coefficients and to ascertain the statistical significance of relationships. Concurrently, the estimation of R^2 values further enrich the analysis, shedding light on the proportion of variance captured by the latent constructs, thus unravelling the explanatory prowess of the model.

PLS bootstrapping underscores the reliability of the identified path coefficients. By repeatedly resampling the dataset, confidence intervals are generated for each path coefficient, enabling researchers to gauge their precision and inferential validity. This technique accentuates the veracity of the relationships and bolsters the confidence in the reported results.

Complementing the insights garnered from bootstrapping, the estimation of R^2 values serve as a crucial yardstick of model fit. R^2 values illuminate the extent to which latent constructs account for the variability observed in their corresponding indicators. This metric, synonymous with explanatory power, not only endorses the predictive capability of the model but also elucidates the latent constructs' impact on observed variables.

In synergy, PLS bootstrapping and R^2 value estimation offers a comprehensive appraisal of the PLS-SEM model's performance. These results signify a crucial juncture in the analysis, aligning theoretical constructs with empirical evidence and thereby bestowing confidence upon the inferences drawn from the study. As we delve into the outcomes of these analyses, a deeper understanding of the model's robustness and explanatory prowess comes to light, enhancing the validity and significance of the research findings.

The data collected has been classified based on the basis of Gender, Age Group and OTT SVOD Platform used.

Classification on the basis of gender and ageand subscription to OTT platforms are shown in Table 2,3 and 4. Initial Framework (Post-Bootstrapping) is shown in Figure 5.

Table 2: Classification based on Gender

Category		**Number**	**Percentage**
Female		94	47%
Male		105	52%
Others		1	1%

Table 3: Classification based on age

Age Category (years)	Number	Percentage (%)
16-20	29	14
21-25	106	53
26-30	17	8
31-35	31	16
36-40	7	4
>40 or 41-50	10	5

Table 4: Classification based on subscriptions to OTT SVoD platforms

OTT SVOD Platform	Number	Percentage (%)
Amazon Prime Video	145	37
Netflix	140	35
Hotstar	98	25
Others	13	3

Analysis of Framework:

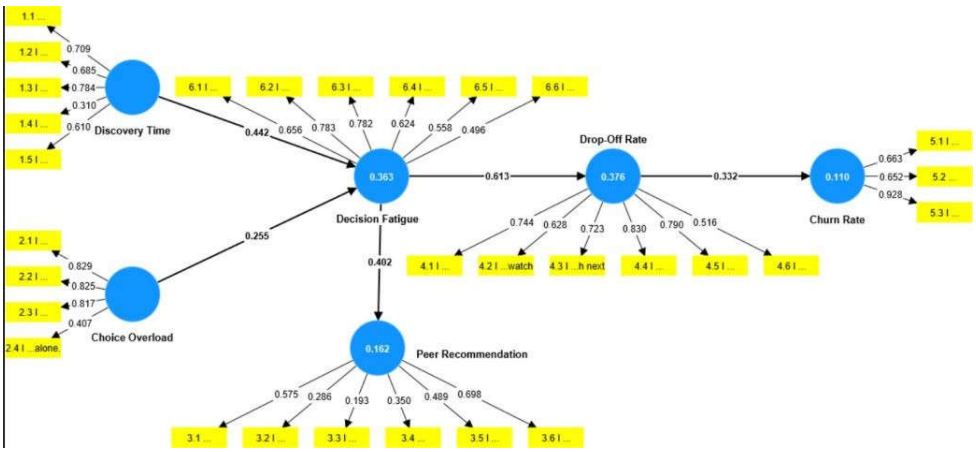

Figure 5: Initial Framework (Post-Bootstrapping)

Table 5: Construct Reliability and Validity

Variables	Cronbach's alpha (a)	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Choice Overload	0.697	0.74	0.822	0.55
Churn Rate	0.691	1.074	0.798	0.575
Decision Fatigue	0.742	0.774	0.817	0.434
Discovery Time	0.613	0.662	0.765	0.411
Drop-Off Rate	0.806	0.843	0.859	0.508
Peer Recommendation	0.425	0.291	0.588	0.216

Construct Reliability and Validity details is in Table 5. Cronbach's Alpha quantifies the internal consistency of a construct, evaluating how well the observed variables measuring the construct align with one another. A higher Cronbach's Alpha value (closer to 1) indicates better internal consistency and reliability. According to many studies, a value above 0.7 generally shows a good internal consistency. [17]

Composite Reliability assesses the overall reliability of a construct by accounting for the variance captured by the latent variable relative to the measurement error. A higher Composite Reliability suggests greater overall reliability of the construct. Generally, values above 0.7 or 0.8 are to be considered as valid. [18]

Rho C considers the weights assigned to each observed variable in a construct, as well as their correlations with other variables. Higher Rho C values indicate better reliability by considering the relationships among observed variables. Generally, values above 0.7 are to be considered as valid. [19]

Average Variance Extracted measures the proportion of variance in the observed variables that is explained by the latent construct. A higher Average Variance Extracted suggests that the latent construct is effectively capturing the variation in the observed variables. Generally, values above 0.5 are to be considered as valid. [20]

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