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Management of churn along the customer journey in subscription-based video streaming services

Marketing

Bachelor’s thesis

Bachelor's DP in Marketing and Value Chain Management

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Tämä kandidaatintutkielma tarkastelee asiakaspoistuman hallintaa tilauspohjaisissa videon suoratoistopalveluissa asiakaspolun eri vaiheissa. Asiakaspoistuman hallintaa pyritään kehittämään luomalla tehokkaita asiakkuuksien säilytyskehyksiä, joiden tavoitteena on vähentää poistumaa ja edistää pitkäaikaisia asiakkuuksia. Tutkimus pyrkii tarjoamaan paremman ymmärryksen keinoista, joilla asiakastyytyväisyyttä, säilyvyyttä ja uskollisuutta voidaan parantaa data-analyysin, ennustemallinnuksen ja kohdennettujen kannustimien käytön kautta.

Tämä tutkielma perustuu kattavaan kirjallisuuskatsaukseen. Tutkielmassa yhdistetään olemassa olevaa tutkimusta ja teorioita, jotka liittyvät asiakaspoistojen hallintaan tilauspohjaisissa videon suoratoistopalveluissa asiakaspolun eri vaiheissa. Tutkielmassa sovelletaan markkinoinnin, data-analytiikan ja asiakassuhteen hallinnan periaatteita käsitellessä tilauspohjaisten videon suoratoistopalveluiden asiakaspoistuman haasteita. Keskeinen näkökulma liittyy proaktiiviseen ja reaktiivisen asiakaspoistuman hallintaan eri osissa asiakaspolkua, tavoitteena säilyttää asiakkaat ja edistää pitkäaikaisia suhteita kilpailun lisääntyessä suoratoistopalveluiden toimialalla.

Tutkielma korostaa esimerkiksi hintojen, palvelun kätevyyden ja sisällön merkitystä tehokkaassa asiakaspoistuman hallinnassa. Käymällä läpi strategian kehystä ja korostamalla datan ja personoitujen kannustimien merkitystä, tutkielma tarjoaa näkemyksiä asiakaspoistuman hallinnasta tilauspohjaisissa videon suoratoistopalveluissa.

Tutkielmassa tunnistettiin myös teemoja, jotka tarjoavat mahdollisuuksia tulevalle tutkimukselle, jotta data-analytiikkaa voidaan integroida paremmin kampanjoihin ja korostaa suoratoistopalvelualustojen läpinäkyvyyden tärkeyttä tulevaisuuden tutkimuspyrkimysten helpottamisessa.

Avainsanat: asiakaspoistuma, asiakaspoistuman hallinta, tilauspohjainen videon suoratoisopalvelut, asiakaspolku, säilytyskehykset

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This thesis examines customer churn management in subscription-based video streaming services along the customer journey. Creating effective retention frameworks that can reduce churn and foster long-term relationships with subscribers helps to reach the aim of churn management. Through data analysis, predictive modelling, and the implementation of targeted incentives, the research aims to provide actionable insights to enhance customer retention, satisfaction, and loyalty.

This thesis is acomprehensive literature review. It synthesises existing research and theories related to customer churn management in subscription-based video streaming services. The thesis applies principles from marketing, data analytics, and customer relationship management to address the challenge of customer churn in subscription-based video streaming services. The central point revolves around proactive and reactive churn management in different parts of the customer journey, aiming to retain customers and foster long-term relationships while the competition is increasing in the streaming industry.

This thesis underscores the importance of understanding factors like pricing, convenience, and content in managing churn effectively. By going through a framework for retention strategies and highlighting the significance of data analytics and personalized incentives, this thesis offers insights about churn management in subscription-based video streaming.

The study also identified themes that offer opportunities for future research to better integrate data analytics into campaigns and to emphasise the importance of transparency in streaming service platforms for facilitating future research efforts.

Key words: churn, churn management, subscription-based video streaming, customer journey, retention framework

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1 Introduction

During an era where more and more media are consumed digitally in different places with various devices, video streaming has become one of the cornerstones of media consumption (Gupta and Singharia 2021, 36). Video media has a long tradition of being broadcast and viewed through television in the comfort of the home (Bury and Li 2015, 592). Due to new technologies, the ways of consuming media have evolved, and video streaming is one of these new methods. This has encouraged multiple companies to get involved in the emerging video streaming space by launching their own services that offer different types of media to consumers through the internet (Havard, 2021, 40). Subscription-based video streaming is when a service offers customers access to watch their catalogue of media through the internet in exchange for a paid fee. Subscription-based streaming has become a popular business model in the streaming industry. Some of the major forces in the streaming space, such as Netflix, Amazon, and Apple TV+, all offer subscription-based streaming platforms for customers (Grece 2021).

Video streaming which is also known as video on demand (VOD, had its revenues in EU28 (European Union) rise from EUR 388.8 million in 2010 to EUR 11.6 billion in 2020. This rise has been fuelled by the emergence of subscription video on demand (SVOD) and numerous streaming service launches. Subscription video on demand became the leading revenue generator in EU28 in 2020, representing 84% of the EUR 11.6 billion generated in the video on demand market. (Grece 2021.) The number of subscriptions has also been growing year by year reaching a total of 140,7 million subscribers in EU28 by the end of 2020 (Figure 1). The yearly growth rate has slowed down compared to the surge in subscriptions in the beginning of subscription-based streaming services becoming available to the mainstream and has settled to a more steady growth (Grece 2021).

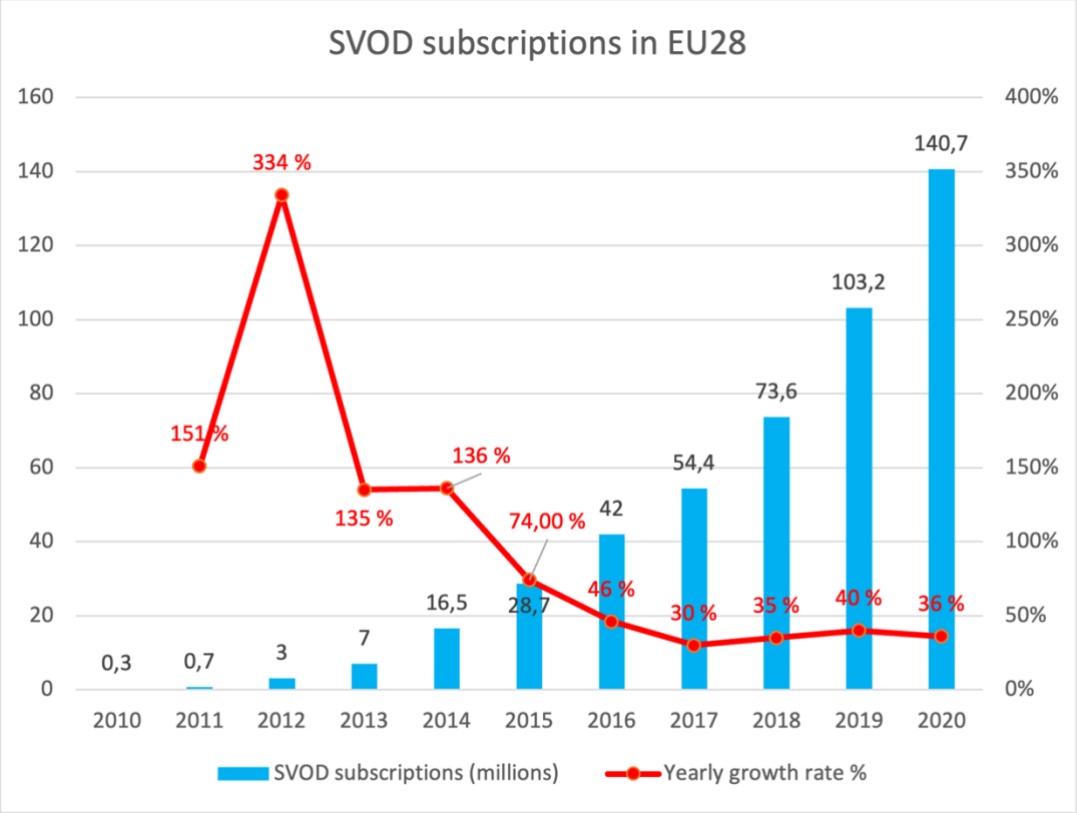

Figure 1 SVOD subscriptions and development (Grece, 2021)

In addition to acquiring new customers, companies need to retain customers subscribed to their services for long-term financial success. The highly competitive field of streaming services makes developing and managing these churn strategies crucial if a company wants to succeed. The phenomenon of customers stopping the use of a certain service by ending their subscription is called "churning" (Deligiannis and Argyriou 2020, 1).

Companies face the challenge of avoiding churn and trying to retain the most valuable customers. Retaining customers, in most cases, is shown to cost less and be more profitable than acquiring new ones and therefore, it is an important strategy for a company which is looking for long-term financial success (Buckinx and Van den Poel 2005).

1.1 Purpose, delimitations, and structure of thesis

The purpose of this thesis is to examine customer churn management in subscription-based streaming services along the customer journey. This will be carried out by analysing the main concepts of streaming services, churn, and subscription services by

utilizing previous scientific literature and finding answers to the following research questions:

- How to recognize and predict customer churn?
- How is customer churn managed through customer journey?

Video on demand, also known as VOD, can be divided into several stricter sub-categories which highlight the main business model that is used in the service. A few examples of these sub-categories are advertising-financed video on demand and broadcaster video on demand. Companies with advertising-financed and broadcaster video on demand services are, for example, YouTube (advertising) and ITV (broadcaster). Subscription video on demand, which can be abbreviated to SVOD, will be the main focus of this thesis (Grece 2021). Many companies can have services that function in two or more of these sub-categories. This does not mean that these companies and their services would be excluded from the examined frame as the focus will be on subscription-based video streaming services as a business model.

This thesis will focus especially on subscription-based video streaming services. Due to the strong competition between streaming services, the need to develop new strategies to attract more customers has become evident. For example, companies can differentiate themselves from competitors by specializing in various types of media, such as sports, movies, or original exclusive content (Havard 2021, 40).

The thesis consists of an introduction and three main chapters addressing different topics, with the last one being a synthesis chapter of the first two chapters. Following the main chapters, the thesis will end with conclusions and a summary.

The first of the three main chapters discusses streaming services. It is divided into sub-chapters that cover the subscription-based nature and specific features of streaming services. The chapter also addresses industry trends and the evolution of media consumption habits. In the second main chapter, customer churn is initially discussed at a broader level. Sub-chapters delve into the occurrence of churn in subscription-based services and focus on the importance of managing customer churn in business. Finally, customer churn is explored through the customer journey, examining the various ways churn manifests at different stages of the customer journey. In the synthesis chapter, previous chapters are combined to address the main question of the thesis: how does the

management of customer churn appear in subscription-based streaming services? Sub-chapters of this chapter review moments of customer churn during the customer journey of subscription-based streaming services and how they are addressed. Overall, these three main chapters provide a comprehensive overview of customer churn in streaming services and its management at different stages of the customer journey. The conclusion and summary chapters summarize the researched content and provide clarity on how customer churn is managed at different stages of the customer journey.

2 Video streaming platforms

The rise of video streaming services has transformed the landscape of modern media consumption. The focus in media consumption has shifted from traditional broadcasting towards on-demand entertainment (Gupta et al. 2023, 2612). A key difference between traditional broadcasting and video streaming is the way that media is offered to customers. Video streaming services deliver media directly through the internet to the customer, which can be accessed with multiple devices simultaneously. These service models are also known as over-the-top media (OTT) (Fudurić et al. 2018, 86).

Accessing streaming platforms is more flexible compared to traditional broadcasting as it is not dependent on the time and place of the consumer. One of the key motivators for the use of over-the-top media is the convenience and ease of using streaming services whenever and wherever they like (Camilleri and Falzon 2020). People prefer services that demand little to no effort from the user, and streaming services can be accessed as long as there is an internet connection. The extensive collections of media that streaming services offer, including series, movies, and other types of content, appeal to many customers as they can access these content libraries with one service (Camilleri and Falzon, 2020). This increases the convenience and practicality of the services, as there is not necessarily a need for multiple different services and operators. However, due to strong competition for content rights, it can be challenging to find a single streaming service with all desired content to watch (Havard 2021, 41).

Because video streaming is distributed differently compared to traditional forms of media, customers have had to learn to use these new technologies (Bhatt 2021, 437). The adoption of online streaming services can be examined with the technology acceptance model, also known as TAM (Davis 1986, 24-25), which has been applied numerous times to different moments of technological acceptance. TAM explains how the overall attitude towards, in this case, a streaming service plays a considerable role in whether the user decides to use or not use the service in question. The attitude is formed by two beliefs: perceived usefulness and perceived ease of use (Figure 2) (Davis 1986, 24-25) When it comes to streaming services, both of these play an important role.

Perceived ease of use is the level at which the user thinks something is easy to use or understand (Basuki et al. 2022, 255). If a user starts to use a new streaming platform and

finds it hard, for example, to find different movie genres or does not know how to change the language of a series, it makes using the platform difficult. This perceived ease of use negatively affects the attitude towards using the platform and lessens the likelihood of the user continuing to use the platform. On the contrary, if the user finds the platform easy to use and understand, it will positively affect the perceived usefulness of the streaming platform (Bhatt 2021, 439). Perceived usefulness is the belief that the user has about the new technology, in this case, the streaming platform, and whether using it is beneficial for the customer's life (Davis 1989, 24-25; Yang and Lee 2018, 8). Price and content have been found out to be the most important usefulness factors for consumers when it comes to streaming services. The more these user preferences are met, the more useful they will find the platform. This will have more positive effects to the behavioural intentions to use the platform. (Yang and Lee 2018.)

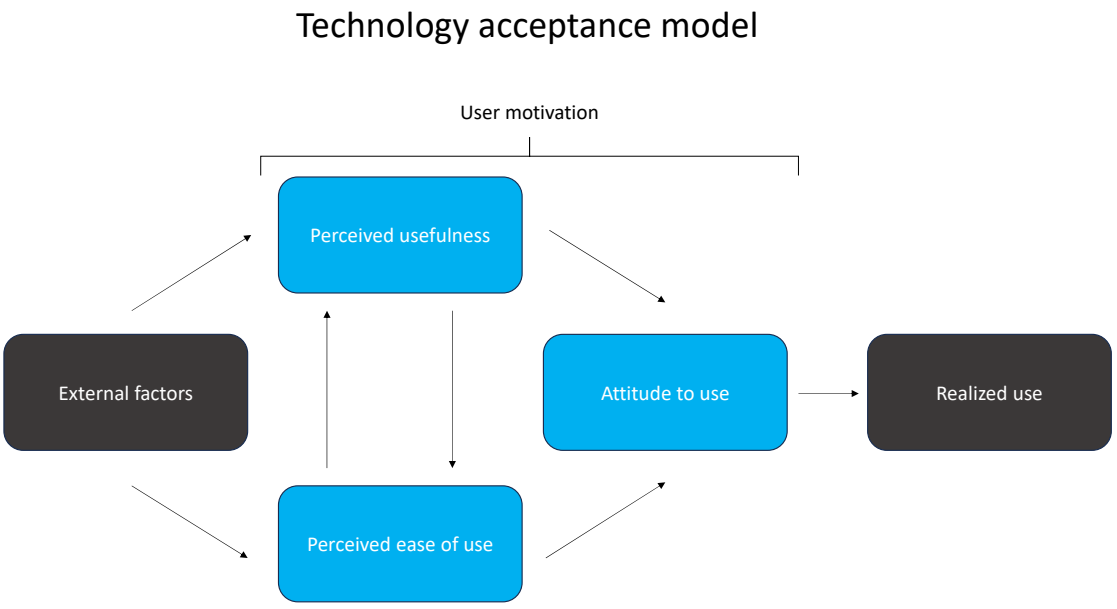

Figure 2 Technology acceptance model (Camilleri and Falzon 2020; Davis 1986)

2.1 Subscription-based video streaming

Subscription-based streaming platforms function by the streaming service giving customers access to their catalogue for a paid fee. These fees recur periodically, for example, every week, month, or year. The streaming service will receive revenues and

access to the customers data which will be used to control and develop the database, which consists of e.g. the content. The content will be made available to the streaming platform which a customer has gained access to by subscribing. (Colbjørnsen et al. 2022, 1271-1272)

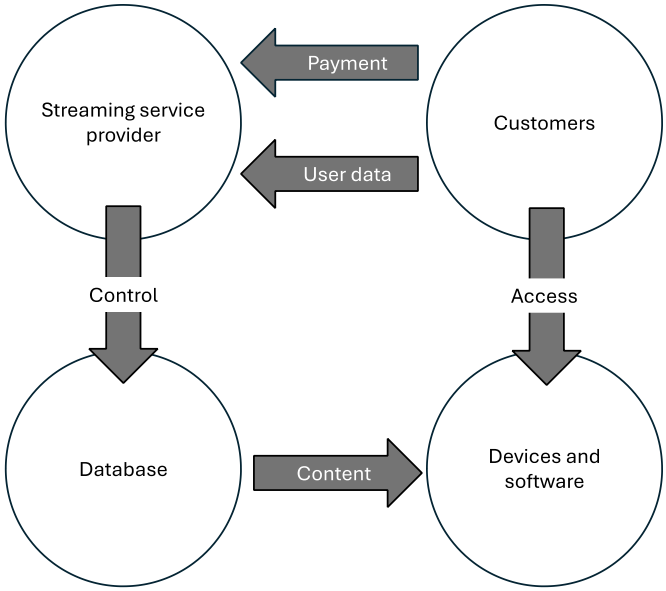

Figure 3 Simplified streaming model (Colbjørnsen 2021)

Many streaming services offer a free trial period, during which, customers can explore the service and come to a decision whether they will continue with the full paid subscription (Gupta and Singharia 2021, 38). Customers will usually get access to the full-service during trial period and they are not restricted in the use of the platform when it comes to watching content. Some subscription-based streaming services do offer a free version of their service, although, these are not as common among video streaming industry as for example in the music streaming space. However, one of the major forces in the streaming space, YouTube, offers a totally free alternative to paid subscriptions. It should be mentioned, that because these kinds of services do not require subscriptions, they do not count as SVOD services by themselves but AVOD services (advertising-financed video on demand) (Grece 2021). Because YouTube also offers paid subscription services, it will be used as an example to give context on different business models used in video streaming space. YouTube's free version has some minor limitations, and it comes with advertising before and between some videos, but it does not have any

requirements for payment. These kind of free services are called fermium services and their goal is to assure customers on the service itself and get them to subscribe for the premium service (Dutta et al. 2021, 6). While majority of streaming services do not offer totally free options, they offer different tiers of subscriptions instead. One of them being familiar from traditional broadcasting industry, advertising. In November 2022, Netflix launched their ad tier subscription in 12 markets, which offered the service for a cheaper price but with advertisement. Other streaming services such as Disney+ and HBO Max have also started to use ad-supported subscription plans as part of their selection. (Arunasalam 2023).

If customers are not satisfied with the service, they can cancel their subscriptions anytime (Gupta and Singharia 2021, 38). When cancelled, the subscription will end, and the customer will lose access to the service but not have to pay the future fees. This gives freedom to user to change easily between services which makes it important for companies to ensure the quality of their service.

2.2 Distinctive features of streaming services

Subscription video streaming as itself is a quite broad term that can be used with many different services that function in different areas of the world with multiple different languages (Lobato and Lotz 2021). The content between streaming services can differ quite dramatically depending on what the service specializes in. The services are built by collecting different types of media together which will form their catalogue. The competition for distribution rights of intellectual property is intense among streaming services and companies use lot of resources to gain rights to certain content (Havard 2021, 40). The amounts companies keep paying for exclusive rights keep rising year by year. In the January of 2024 Netflix paid $5 billion for exclusive rights to professional wrestling promotion W.W.E's wrestling show called RAW for the next 10 years (Sperling and Schmidt 2024). Optionally for buying rights to intellectual property companies can choose to produce their original content which rights would automatically belong to the producing service (Havard 2021 40). Original content is an alternative way to fill out the content catalogue and there is no need for a bidding competition for the rights of existing content. This does not mean that producing original content would be much cheaper than buying existing content as production of original content comes with all the costs of production and promotion. Original content is a popular alternative among streaming

services for differentiating their catalogue from another company's (Prince and Greenstein 2018, 4). Original content also stays with the streaming service for a longer time than bought content as there is no need to renew contracts for rights after certain time periods. Companies can decide to acquire production companies to produce original content for them (Havard 2021, 40). These lucrative amounts paid by streaming companies put a lot of pressure for them to gain users and succeed financially.

Original content is one of the main ways for companies to build their service's brand and differentiate themselves from other streaming services (Palomba 2022). The need to stand out is critical for companies to make their business profitable. While consumers can be subscribed to multiple streaming services at the same time, for example, 30 % of video streaming consumers in the U.S. were subscribed to three or more services at the same time (Spangler 2020), customers tend to stick with brands they get the most positive experiences from (Palomba 2022).

2.3 Customer loyalty

Customer's positive associations to a certain brand start to build up loyalty. Brand loyalty is important for streaming service, as it helps to build longer relationships with customers. Brand loyal customers are customers who have become attached to the brand and thus, created a desire to continue purchasing the service (Oliver 1999, 35). While a regular customer could subscribe to a streaming service for one series only and end their subscription immediately after they finish watching it, loyal customers will stay and seek for new content to consume.

Streaming services have different strategies to try and convert regular customers to loyal customers. One of these, is the personalisation of the streaming platform, where customers can make the platform meet their expectations regarding the content they prefer (Palomba 2022, 3). Customers can choose for example which genres and from what eras they prefer, and the platform will adjust accordingly. This is executed by algorithms within different streaming platforms, which responsibilities are to make the platform feel personal match the customers preferences, and increase easiness of choosing what content to watch. (Gomez-Uribe and Hunt 2016, 1) This will increase the perceived value, quality, usefulness and satisfaction generated by the service, which over time, will lead to loyalty towards the brand (Palomba 2022). It has been indicated that there is a clear relationship between satisfaction, loyalty, and profitability, but this does not mean that every customer

should be served the same, as it would be unsustainable from the company's resources standpoint. It is highly likely that some customers will be too expensive to please or they will never become profitable based on their activity (Hallowell 1996 38).

Companies strive towards longer relationships with loyal customers as the relationship continues the profits tend to grow (Grönroos 1989, 56). Loyal customers are important for subscription-based business models due to the lowered risk of them leaving the service compared to regular customer and the number of resources that can be saved opposed to acquiring totally new customers. On the other hand, loyal customers need to get above a certain level of loyalty for them to have a positive impact on customer profitability. (Helgesen 2006, 245) This means that companies can develop different strategies or programs for loyal customers which will require resources but if implemented successfully, it can increase the customer profitability of the service (Lin and Bowman 2022).

2.4 Customer journey in streaming services

Customers go through a journey with a company over time. The journey starts from the first encounter the customer has with the company and it goes through multiple touch points during the process (Lemon and Verhoef 2016, 74). Customer journey is a collection of experiences gathered in different touch points which if positive, will increase the possibilities of customer continuing with the company, which would also mean that the customer journey continues (Bansal 2023 715). Regarding streaming services, the customer's journey starts when a customer first gain awareness of the brand, which if measured in time, can still be quite far away from the actual decision to purchase. From the company's perspective, this part of the customer journey is called the customer funnel which will ultimately lead to the acquisition decision. (Kübler et al. 2021, 306.)

After subscribing to a streaming service, customers begin to explore and consume content. This stage of the customer journey varies in length depending on if the customer churns or keeps on renewing the subscription. During subscription-phase customers develop attitudes towards the streaming service-based on e.g. expectations, actual experience and perceived value that the customer has got from using the service. (Lemon and Verhoef 2016, 76.) During subscription-phase customers will come to a decision if they continue their subscription to the streaming service. Companies try to retain the customer during this phase by satisfying and serving the customer base in hopes of

creating relationships with customers that will last for a long time. Post-subscription-phase comes after a customer decides to end their subscription. This means the end for the customer's journey with the streaming service unless, the company manages to win-back the customer, which would result the customer going back to the subscription-phase. Even though a customer has decided to churn, they can still encounter touch points with the service, such as the companies offering incentives to try and get them to return with the service (Kumar et al. 2015, 38). Companies can try to collect feedback from the customers on the reasons they decided to churn. Customer feedback is useful data that can be used to predict customer churn in the future and overall improve the customer experience offered by the streaming service (Lemon and Verhoef 2016, 81).

3 Churn management

As the media industry is moving more and more towards service-based business models, are companies trying to create long-term relationships with customers (Gupta et al. 2006, 139). In the case of many modern services, where customers have a contractual agreement for certain period at a time, the cashflow from a customer is generated periodically, e.g. monthly, which means that the value crated by the customer changes after each period. To predict this, companies use customer lifetime value (CLV) to calculate the expected profits created by certain customers (Borle et al. 2008, 100). Customer lifetime value can be calculated by summing together the expected revenues created by a customer minus all the expenses that are going to go into retaining this customer from beginning to the end of the relationship (Gupta et al. 2006, 141).

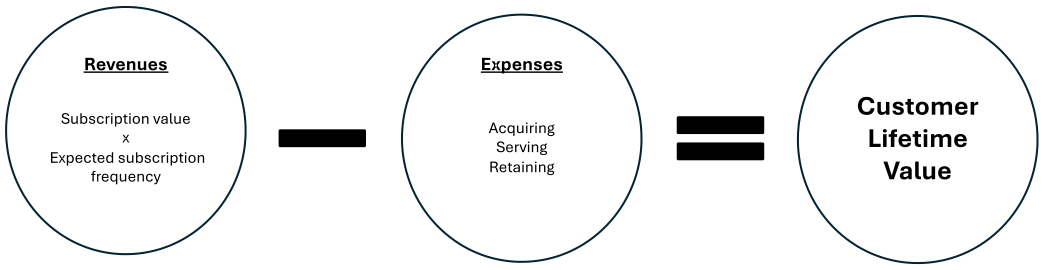

Figure 4 Simplified CLV-model Modelled after Berger and Nasr (1998)

The first cash flow is generated when the customer decides to join the service, in other words, when the company successfully acquires the customer (Berger and Nasr 1998, 20). Acquiring customers is important for any business, but especially for video streaming services because their revenues are mainly dependant on the amount of customers they have subscribed to their service (Bahnsen et al. 2015, 1). While counting customer lifetime value, acquiring expenses are the maximum amount that a company is willing to

spend on an acquisition. If this amount is surpassed by the amount that needs to be spent in reality, can the customer be seen as an unprofitable customer. (Berger and Nasr 1998, 20) These amounts are decided beforehand based on the allocated resources for different areas of marketing strategies.

Customer acquisition turns customers who were previously seen as potential customers into new customers. The attention now turns to retention. Companies to try to retain their customers for longer periods of time in hopes for a larger profits (King et al. 2016, 1332). Longer customer relationships mean that the customer profitability rises. This is due to the continuous payments from the customer and the reduced expenses compared to customer acquisition (Reichheld and Sasser Jr. 1990, 106).

While the relationship keeps on going, the operational expenses get lower as long as the customer stays active. If a customer uses the service or makes purchases regularly there is not a strong need to use resources to this customer. Customer activity can be measured by simply selecting a time limit where within the customer must register some type of activity (Gupta et al. 2006 144-145). While inactive customers are still paying for the service, inactivity raises the probability of the customer churning. The more time that goes on from the previous activity the more likely it is that the customer will churn if the company does not react to this. (Deligiannis and Argyriou 2020, 8-9)

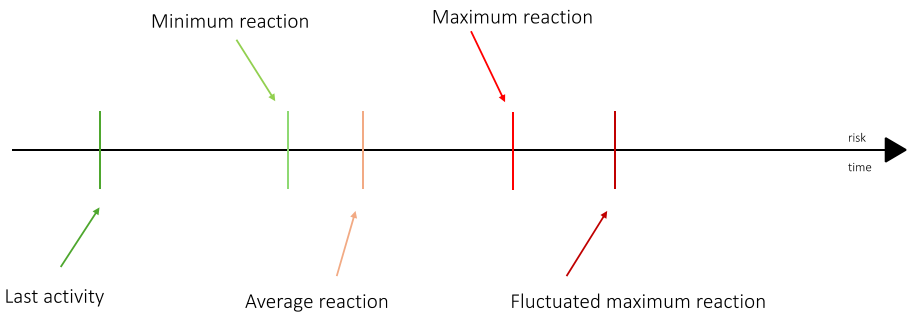

Figure 5 Customer activity and risk Modelled after Deligiannis and Argyriou (2020, 8-9)

Figure 5 shows the development of risk-based on activity. The reaction points portray the time that it takes for a customer to react and become active again. These points differ between customers and they can be calculated to every customer with gathered user-data. The further right the reaction point is the higher the risk of churning is.

Retaining customers is important for companies, not only for it being cheaper than acquiring new customers, but also for the effect it has on company profits. Improving retention rates by 5% has been shown to significantly boost profits anywhere from 25% to 85% (Reichheld and Sasser Jr. 1990, 110). Therefore, even if a customer decides to churn and leave, the companies have planned measures to win back the customer.

Consumers decisions when it comes to deciding whether to continue or end their subscription to certain streaming service, can be observed with the confirmation/disconfirmation paradigm. The paradigm explains how the level of satisfaction is dependent on how the outcome of something compares with the reference level of satisfaction created by expectations. (Oliver 1980) As Brüggemann and Lehmann-Zschunke (2023) pointed out in their article, by following the paradigm, positive disconfirmation increases, and negative disconfirmation decreases customer satisfaction. Thus, customers will use this process of comparing the outcomes to make their decision on continuing the subscription. Customers may have set the reference level based on their earlier experiences with other streaming service or traditional television. While using a new streaming platform the user notices that the content is loading slowly and the picture quality is bad, this experience will generate negative disconfirmation. When the negative outcome is compared to the reference level it will decrease customer satisfaction and possibly lead to increase in customer churn.

Churn management is important for companies as the less users churn the more users will remain as customers. Also, by improving retention, the amount of churn will decrease as more users are successfully kept as customers (Shaffer and Zhang 2002, 1153). Churn management consist of finding the right balance between different strategies on how to reduce churn. These efforts to cut down churn can require companies to use large number of resources especially if the churn management targets the whole customer base. Therefore, focusing on accuracy instead of total reach will save resources (Lemmens and Gupta 2020, 957). Narrowing the churn management target group can also help to identify the right customers and avoid targeting customers who have no intentions of churning.

Customers varying consumption behaviour makes some customers more valuable than others and even if at risk of churning, some customers are not worth retaining (Hadden et al. 2007; Lemmens and Gupta 2020).

3.1 Churn prediction

Companies tackle the challenge of customer churn by developing models to try and predict churning (Figure 6). Churn prediction models are used to make predictions about the possibility of customer churning based on user data (Bahnsen et al. 2015, 2). The predictions are made from the customer base which will be divided into predicted churners and non-churners. The behaviour of active churners tends to be easier to predict than silent customers, as there is more data of the users who actually use the service.

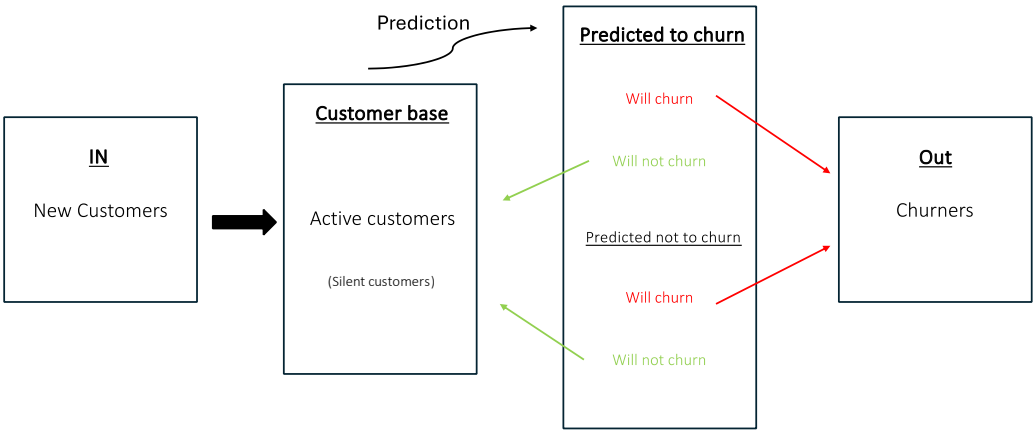

Figure 6 Churn prediction for flow of customers modelled after Verbraken et al. (2012)

The possible churners predicted by the model will be targeted with e.g. offers to prevent them from churning, although, not every customer will accept it because it not being impressive enough or they have already made the decision to churn anyway (Bahnsen et al. 2015). The outcome of the prediction model can be inspected with true or false positive and negative values. Positive values are customers who have been predicted to be churners by the model and negatives are the ones who have been predicted to be non-churners. False and True values present if the prediction was correct. For example if an actual churner was predicted to be a non-churner would it be labelled as False negative or if a customer was predicted to churn and they would end up churning, would it be

labelled as true positive. (Lalwani et al. 2022, 286) The prediction model with these values can be presented with the confusion matrix (figure 7), which helps to conceptualise the meaning and actions to take based on the predictions and their outcomes.

	Predictet not to churn				Predicted to churn		
True negative	TN	Will not churn	Increase	True positive	TP	Will churn	Target
False negative	FN	Will churn	Decrease	False positive	FP	Will not churn	Avoid

Figure 7 Confusion matrix applied to churn prediction (modelled after Bahnsen et al. 2015; Lalwani et al. 2022)

If a company decides to carry out a churn campaign based on previous prediction results, the focus should be in avoiding false negatives, targeting true positives, and decreasing false negatives. By doing these steps, it will improve the accuracy of future predictions and save resources, as for example with false negatives, it would be unnecessary and waste of resources to target customers who are not actually in danger of churning. (Bahnsen et al. 2015; Lalwani et al. 2022)

3.2 Churn prediction models

There are multiple algorithm-based models for customer churn prediction. A few examples of these models are regression analysis, decision tree, Bayes algorithm and support vector machine. (Sabbeh 2018 274). These models process large amounts of data and when it comes to marketing management and churn, most of the data focuses on customer characteristics taken from systems own database such as age, gender, location, and activity. The data used can also be taken from other sources such as advertising and social networks. (Kozak et al. 2021, 4). Sabbeh (2018) explains the four example models as follows:

> Regression analysis: Estimates the relationships between a set of independent variables and a single selected target variable.
>
> Decision tree: Tree like structure consisting of single nodes (variables) that create test points. Test points are followed by branches which lead to leaf nodes which classify results to different categories.

Bayes algorithm: An algorithm that estimates the probability for an event to happen, which is based on prior knowledge of variables that can be associated with the event.

Support vector machine: Supervised Learning technique which tries to find patterns by analysing data. Findings are represented in a high-dimensional space and the different classes of findings are separated from each other with hyperplanes.

These types of models need to be tested to find the most suitable models for the company's needs that are also accurate in their predictions. Models can be trained with historical data and then comparing them by seeing which performs the best (Gattermann-Itschert and Thonemann 2022 134). The accuracy of these models can be evaluated with the proportion of true negatives (TN) and true positives (TP) (Figure 7) in all of the predicted cases which include false negatives (FN) and false positives (FP) as well (Sabbeh 2018, 218),

$$Accuracy = \frac{TP + TN}{TP + TN + FP + FN}$$

The real functionality, however, will not reveal itself before the models are tested in real situations as the constantly changing data and situation of the company can be a lot different from historical data.

3.3 Churn analytics

Churn and retention strategies are built on decisions made by analysing customer churn. With churn analytics, the purpose is to create a model that can predict the possibility of churn accurately (Çelik and Osmanoğlu 2019). Predictive data analytics gives new ways to make decisions and manage churn by processing large amounts of data and developing predictive models that can be used in different companies. Churn analytics uses a number of artificial intelligence (AI) & machine learning (ML) techniques, for example, clustering, decision trees and random forests, regression models and Bayesian networks. (Kozak et al. 2021, 4.) These techniques ease the data collection and processing which makes them useful for digital markets, such as online video streaming.

There are some machine learning frameworks, that have been developed for churn management. However, there is still a lack of frameworks focusing and connecting the ML or AI methods into practice (Kozak et al. 2021, 4). While analytics is a part of customer churn management, the actions taken, and the implementation of retention campaigns are responsible for if a customer decides to churn or not and. The actions taken will also give value to the data collected and reveal the usefulness and success of predictions made (Akhtar et al. 2019). The analysis can basically be seen as the part of the process where the models are used to create a base for the actions that will be made.

4 Management of churn in subscription-based streaming services

Streaming services' revenues are generated by their customer base. New customers are acquired constantly and old customers are serviced to try and keep them from churning (Kübler et al. 2021, 296). Customers tend to become more profitable for the streaming companies over-time, as the expenses to acquire and serve the customers decrease, which makes it important for companies to strive for low churn rates (Lalwani et al. 2022, 272). Subscription-based streaming services face the threat of customers churning every contractual period, for example every month. With traditional subscription-based services, customers can discontinue their subscription whenever they want only having to pay for the current subscription period. Therefore companies need to understand, recognize, and manage customer churn along the entire customer journey (Ascarza et al. 2018).

The churn rates of streaming services differentiate between different countries and economies. In Scandinavia, the churn rates of video streaming services were around 26% in 2023. These rates are quite competitive compared to the rates of the US, which were around 40% in 2023. Churn rate in this instance is the percentage of subscription-based video streaming users who ended at least one of their subscriptions to a streaming service during 2023. However, the video streaming space in Scandinavia and whole of Europe is not nearly as competitive as it is in the US but it is following same steps of development as in the US. (deloitte.com 2024.) Therefore, if the video streaming space in Europe continues to grow becoming more saturated and competitive, the churn rates will most likely continue to rise. As more competition enters the market it gives customers more opportunities to churn to a more satisfying service (García et al. 2017).

4.1 Key factors contributing to customer churn in video streaming.

To reduce churn, there need to also be an understanding in the company about what makes customers choose between different streaming services. These different factors play a big part in creating a successful streaming service. A number of factors have been recognised to play a part in the customer's decision process, such as pricing, content and convenience. (Mulla 2022, 6-7.) This study focuses on three key factors that were selected

as they are all at the centre of how the subscription-based business models function and how they have become successful.

4.1.1 Pricing

As new competitors emerge, pricing becomes more and more important factor for customers. Because there is only so much content available for streaming services to purchase, tend the catalogues of different services overlap for some parts, meaning that there are few possible options to watch certain content. (Kübler et al. 2021, 296) When comparing different options with similar catalogues, the price plays a big role in the choice as many customers are ready to give up on quality or watch content with advertisements if the price is more affordable. To avoid customers churning due to high subscription fees, companies can diversify their pricing plans by creating different priced subscription plans, which have different features depending on the plan. Lower priced plans tend to have less features or more limitations such as, limited amount of devices that can use the service, support to only standard definition content and not HD or 4K content, and ad-supported content. (Kweon and Kweon 2021, 4) Having multiple priced options can be beneficial, If for an instance, a customer thinks they are not getting enough value for their money, they can decide to change their subscription plan to a cheaper one, which would mean that instead of churning and losing the customer entirely, the company has managed to retain the customer and continuing to get revenues from them.

Planning pricing strategies to avoid churn can be seen as relatively simple task, as when it comes to price, customers either accept or reject the price and there is no middle ground between it (Colbjørnsen et al. 2022, 150). However, while price is an important factor for most customers, are there other factors that affect the perceived value of a subscription service. All in all, pricing impacts the perceived monetary value that a customer gains from a subscription service, which has been found to be the second most impactful factor only behind convenience (Singh et al. 2021).

4.1.2 Convenience

Convenience with streaming services is the ease of use and ability to access content from anywhere at any time. Perceived convenience is affected by the easiness, time and effectiveness of the performed task. (Oyedele and Simpson 2018, 298) Convenience can also mean emotional value, which is the satisfaction customers get from using streaming

services (Singh et al. 2021, 2-3). If the customers are satisfied with the perceived convenience of the streaming platform the probability of intention to churn decreases.

The quality of the service factors in the perceived convenience that a customer gets from using a streaming service. Service quality consists of all the technological properties that contribute to generating the end product, such as rendering, resolution and server quality. (Bouraqia et al. 2020, 13342.) Lack of service quality will make the user experience less enjoyable and reduce the satisfaction the customer will get from it. Even the smallest details can be negative factors for the perceived convenience. For example, if the streaming platform suffers with small amounts of latency, it will disrupt the flow of using the service. The functionality or lack of certain features can also affect the service quality. These factors can be called moments of truth for the streaming service, meaning that they play important role on making the customer experience (Bitner 1990, 69). By recognizing and focusing on making sure that customers will not encounter problems in these points companies will improve their streaming platform's quality, convenience of the service and enhance the customer experience.

4.1.3 Content

The reason for customers subscribing to streaming services is the content itself. Therefore, creating content catalogues that will satisfy customers is important for creating value, as this will prevent them from churning (Kübler et al. 2021, 295). The content a streaming service chooses for their platform forms their catalogue, which gives them an opportunity to establish certain type of brand image. Especially the biggest shows and movies, in other words the flagship content of platforms will develop a certain type of brand image for the customers which will help to reach increased use and loyalty among the customer (Wayne 2018). Loyalty to a streaming service is developed by customers identifying themselves with the image a brand is giving with their content, meaning that if a customer finds a platform's catalogue to have a lot of interesting content, will they feel more connected to the brand.

Consumers watch content from streaming services for pleasure, meaning that the content needs to satisfy the user and thereby, create a habit or necessity to use the platform to watch content (Chakraborty et al. 2023, 4). The managing of content libraries is integral for keeping the customers satisfied. The content needs to be updated regularly to avoid boring out the customers as if there is no new content that a customer is interested in,

there is no more need continue subscription, which will lead to those customers churning. One of the main reasons for consumers subscribing to video streaming services is the possibility to access wide-ranging content from all over the world (Nagaraj et al. 2021, 4). Streaming services can offer variety of global content anywhere where the service is available, as the libraries vary between different markets. When compared to traditional TV, streaming services offer the possibility to watch international content on-demand. (Lotz et al. 2022.) Companies can therefore gather content from different areas of the world by either purchasing rights or buying international production houses to appeal more global audiences. This is of course dependant on the size of the streaming service and the market that they have.

4.2 Proactive and reactive churn management

When a customer decides to churn, does the reason for it really matter as the customer has already made their decision. There can be numerous reasons for a customer to churn, so does knowing the reasons affect the company in anyway. The reasons for churning actually matter a lot, especially for the managers whose job is to manage the churn and try to retain at least the current customer base (Braun and Schweidel 2011, 882).

Churn management can generally be divided into two main approaches: proactive and reactive churn management. Companies can wait for the customer to end their relationship with them which then forces the company to react to try and regain the customer. This is reactive churn management. Proactive churn management is when a company tries to recognize the customers who are in a risk of churning and preventing them from doing that by reaching out to them with for example some incentives. (Godinho de Matos et al. 2018.) Proactive churn may seem like it would be a better option in terms of profitability as the customer has not yet decided to leave. However, companies need to recognize the right customers to target, otherwise, some of the resources will be wasted on customers who are really not in a risk of churning (Blattberg et al. 2008, 634).

Customers can churn in multiple different points during their journey with the company. Therefore, companies need to manage churn happening in different parts of customer journey differently. Customer journey's pre-purchase and purchase stages are part of active churn management as the customer is still using the platform and not yet churned (Godinho de Matos et al., 2018, 793). The post-purchase stage on the other hand, is part

of the reactive churn management, as the customer has already churned when the company starts to act and try to regain the customer.

Even though the customer has not decided to subscribe to the service in the pre-purchase stage, there can still happen churn which is included in the reactive churn management. Most of the streaming services offer trial periods which aim to lead to a subscription unless the customer decides to cancel during the trial period (Godinho de Matos and Ferreira 2020, 1340). This can be seen as churning as the customers usually get a full access to the content a streaming service offers, and the companies try to keep them with the service, therefore, practicing proactive churn management. When it comes video streaming services, it has been found that free trial periods can be harmful for future subscriptions, as people use these free trials to watch, also known as binge watch, certain content in a short period of time and after that they have no need to subscribe for the service (Godinho de Matos and Ferreira 2020, 1340). This brings up new challenges for churn management on how to try and get these types of customers to subscribe to the service. One of the ways to catch the consumers attention and get them to subscribe after their trial period is discounted prices, as they are one of the key motivators for purchase decisions. These kinds of discounted prices would get consumers to consider subscribing to the company while also giving more time to assure them to remain subscribed even for a full price (Thøgersen 2009, 335). These price benefits can for example include discounted prices for the first few months if the customer commits to subscribe for a longer time. Another challenge with free trial periods is restricting the use to only one trial period per user. Signing up to streaming services usually requires a working email address, which makes it easy to exploit the free trials by creating new email addresses. Some streaming services also require a phone number to sign up, which makes it harder to exploit the free trial as it is not as easy to get new phone number as it is to create new emails. Companies can try and develop new strategies to tackle these kinds of problems, but it should be remembered that not all customers will be worth retaining, so it could be smart to focus these resources somewhere else (Lemmens and Gupta 2020, 969). If the customer is not motivated at all to continue from trial period to a subscriber by continuously trying to avoid the purchase, they are likely not worth the resources.

In the purchase stage the consumer has decided to subscribe to the streaming service and become a customer (Lemon and Verhoef 2016, 76). Purchase or subscription stage continues until the customer decides to churn from the service. Purchase stage has

multiple touchpoints where the customer can decide to churn as this is the stage where the customer actively uses the service. These touch points require proactive churn management as if they are not taken care of the customer will more likely churn. The content itself is in an integral position in proactive churn management as it keeps customers engaged and active with the service (Kübler et al. 2021, 295). Consumers need to be kept excited about current content and given a reason to keep subscribing with some interesting content in the horizon. Big flagship content or seasonal content can cause a sudden rise in subscribers. Many of these subscribers will however, most likely churn after they have watched the content as they are not necessarily interested about the other content. Therefore, companies need to keep up with the trends and create strategies on when and what to release. Companies could analyse their data about when happens the most churn and what type of content is released at those times. This can help the company in building better strategies for building their content catalogue. During the purchase stage, technical difficulties and outside competition are also examples of touchpoints that can lead to customers churning (Bouraqia et al. 2020, 13342-13343).

Post-purchase stage starts right after a customer has decided to churn. This usually starts the company's recovery. Reactive churn management starts when a churner is detected which is followed by some type of win-back program which aims to get the consumer to return to the service (Kaur et al. 2022, 187). Win-back programs usually target those customers first, who are more worth retaining than others. Customers probability to return, profitability and how long would they stay if they return, are factors that affect the urgency in trying to win-back the customer (Kumar et al. 2015, 39).

4.3 Customer retention framework

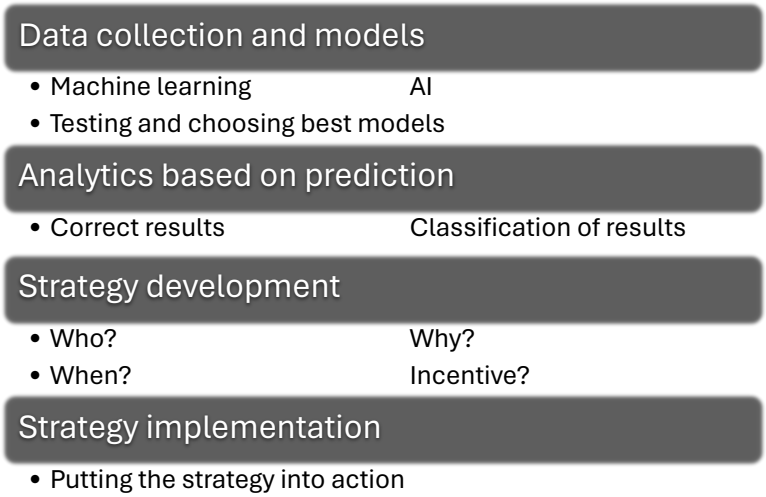

Figure 8 Customer retention framework (modelled after Ascarza et al. 2018)

The churn management campaigns can be made following companies' customer retention strategies. The strategy involves both proactive and reactive churn management as they are used in different parts of the customer journey. The strategy planning starts by choosing and collecting data which will be used to develop, train and evaluate predictive models (Ascarza et al. 2018, 70). The data can be collected from the company's own database or from outside sources such as social media and advertisements. It is important to find the best data available as different sets of data can return very different returns and after that there needs to be an understanding about the context of selected data (Hadden et al. 2007, 2905). Different AI and ML methods, such as decision trees and regression analysis, will then be used to create predictive models which will be tested to find the most suitable model. Analysis of the prediction's results are made to make sure that the results are valid by comparing them with e.g. other existing models' results (Wen et al. 2022, 1). The results can then be classified or put in order to know which results should be prioritised when building the strategy.

The strategy's aim is to tell who are at a risk of churning, why they are at risk of churning and based on those decide who will be targeted with the campaigns. Next the schedule of the campaign needs to be made clear, which answers to the question: when will the customer be targeted. After deciding when the campaign will be carried out, the incentive

with which the consumer will be targeted needs to be decided. After all of the earlier questions are answered, can the strategy be put into action. (Ascarza et al. 2018 70-71.) In order to see the results of the strategy, it needs to be put into action, as it is impossible to know how accurate and effective it would be without it. In order to evaluate the strategy it can be compared with other strategies, as companies tend to have multiple strategies functioning at the same time (Ascarza et al. 2018, 74). Strategies can be compared with each other by using A/B-testing. In A/B-testing, two versions of a strategy will be compared against each other to find out the more suitable strategy the strategies, especially the predictive models, will be tested by importing them with different data sets and metrics. A/B-testing is made in a real life setting, which means that it gives more realistic result compared to the testing made in the developing phase of the models. (Quin et al. 2024, 2.) The results of the A/B-testing will be evaluated and compared, which will help to choose the strategy that suits the needs more.

The incentives of the campaign play a big role as they are the part of the strategy that the customer will see and make their decision with. Incentives can be divided into unconditional and conditional incentives. Unconditional incentives are sent to customers without prior agreements while conditional incentives are provided to customers who have agreed to something e.g. continuing their subscription before receiving the incentive. (Lemmens and Gupta 2020, 958). Unconditional incentives can e.g. include gifts to thank the customer for a long relationship and conditional incentives include e.g. discounts and gifts. The customers will get some value from the incentive received and depending on how they perceive it, it will affect to their intentions to churn. Different customers have different consuming habits and different perceptions of value, which affects the impact incentives have on customers, making personalised incentives an effective way to improve retention campaigns (Tamaddoni et al. 2017, 327-328). Personalised incentives can be designed for different groups of potential churners as it would not be financially sustainable to target each customer with own unique incentives. Because some customers are used to spending more than other customers, they also perceive monetary value differently and the less value they get from the incentive the more likely they are to reject the incentive (Tamaddoni et al. 2017, 333-334). These types of incentives will benefit loyal customers more which is also helpful for the company as these customers are more profitable and worth retaining.

Incentives are an important part of every streaming service's retention strategies and there are a numerous ways and types of incentives that can be used to target customers with different risks of churning. As incentives are dependent on the company and their customers, there is not a one clear way to determine which type of incentives work the best. The following examples of incentives are made on a general level focusing on the different types of incentives and ways customers can be targeted with instead of the profitability or success rate of the incentives.

Email is an easy and affordable way to contact customers as every customer uses an email to sign up for the service. Email can be used proactively and reactively. Proactive churn incentives sent in mail can be recommendations for new and upcoming series, where the aim is to keep the customer interested in current and future content. Reminders can also be sent through email if the customer has not been active in a certain period of time, which will try to encourage the customer continue using the service (Cook et al. 2016). Email can also be used to send compensatory incentives, such as discounts for next purchase, in case of technical difficulties or other issues with the service. Reactive churn incentives sent through email are usually different offers or benefits that are sent to customer to get them to re-subscribe. These types of incentives usually offer price-based benefits and offers such as half price for the next three months if the customer decides to re-subscribe. Customers can however restrict the marketing through email by rejecting any marketing messages which means that email cannot be the only way for companies to connect with customers. Incentives can also be offered directly on-site or in-app, meaning users would get notifications about discounts and other offers while browsing through the platform. This is solely proactive churn management as when the customer churns they will not have access to the platform, and they will not be able to see these notifications. Social media is a way to target customers proactively and reactively as social media can be seen by everyone. Therefore, social media platforms can be a great way to engage with customers and target them with different incentives. Social media incentives tend to advertise the service itself, its new features and information about upcoming catalogue. While customers value monetary value highly when making decisions, the social dynamics play a part in the decision making as well. If the customer feels that the company cares for them by sending personalised unique incentives, it can generate social value which will positively affect the purchase decision (Tokman et al. 2007, 49). If the retention strategy is developed carefully considering all the possible factors that can affect

the outcome, it can improve the customer retention and create more long-lasting relationships with customers.

5 Conclusions

5.1 Theoretical implications

The purpose of this thesis was to examine customer churn management in subscription-based video streaming services along the customer journey. As streaming services continue to rise in popularity, the business model has become more appealing for traditional broadcasting companies as new entrants in the market (Havard 2021, 40). With the surge in popularity of the subscription-based business model comes vast amounts of competition, which means numerous options for consumers to choose from. Therefore, the competition for customers is immense, and companies need to recognize and retain the most valuable customers (Lemmens & Gupta 2020, 969).

To manage customer churn, companies need to develop retention frameworks that address different types of customer churn both proactively and reactively. Understanding the reasons behind customer churn is key when starting to develop a retention strategy (Braun and Schweidel 2011). The correct collection and use of data build a base for the predictive models that will be used to make the strategy. Predictive models based on algorithms, such as regression analysis, decision trees, and the Bayes algorithm, help in identifying the customers who are at risk of churning.

5.2 Managerial implications

By developing predictive models to be as accurate and suitable for the company's needs, they will produce valuable data that can be analysed to make decisions regarding the strategy. The strategy should aim to recognize the correct users to avoid unnecessary use of resources. The strategy should be clear about who is the target, why they are at risk of churning or have already churned, when they will be targeted, and which incentive will they be targeted with. To get answers to these four goals, there needs to be a clear understanding of the context of the results and classification of the results of the analysis (Hadden et al. 2007, 2905). The final step to a customer retention framework is to put the strategy into action. The only way to find out how the strategy works properly is to test it in real life (Kozak et al. 2021).

Managers can leverage data analytics and predictive modelling to identify customers at risk of churning, allowing for targeted retention efforts. By understanding the factors that

lead to customer churn, such as pricing, convenience, and content quality, managers can develop more effective strategies to retain subscribers. Proactive churn management, which involves identifying customers who are at risk before they churn and offering incentives to retain them, is particularly emphasized. This approach is cost-effective compared to reacquiring customers after they have already churned. Personalised incentives, based on user data, can enhance customer satisfaction and loyalty, making retention efforts more successful.

5.3 Limitations and future research

There is a clear lack of research on the connectivity of data analysis and retention campaigns, which would benefit from future research. Future research could focus on how the retention strategies and campaigns can efficiently use data-based analytics together in churn management. This would help make the data and models more applicable to decision-makers by providing more suitable solutions and support in decision-making. It must be noted that subscription-based video streaming companies do not release fully transparent data publicly about their customers or the popularity of their content. This brings up challenges when it comes to researching churn management in subscription-based streaming services. However, a few companies such as Netflix in 2023 have started to publish their own reports about customer engagement with their original content (netflix.com 2023). This is a step in the right direction, which will help future research on this topic.

References

Akhtar, P. – Frynas, J.G. – Mellahi, K. – Ullah, S. (2019) Big Data-Savvy Teams' Skills, Big Data-Driven Actions and Business Performance. *British Journal of Management,* Vol. 30 (2), 252–271.

Ascarza, E. – Neslin, S.A. – Netzer, O. – Anderson, Z. – Fader, P.S. – Gupta, S. Hardie, B.G.S. – Lemmens, A. – Libai, B. – Neal, D. – Provost, F. – Schrift, R. – (2018) In Pursuit of Enhanced Customer Retention Management: Review, Key Issues, and Future Directions. *Customer Needs and Solutions* Vol. 5 (1), 65–81.

Ascarza, E. – Netzer, O. – Hardie, B.G.S. (2018) Some Customers Would Rather Leave Without Saying Goodbye. *Marketing Science*, Vol. 37 (1), 54–77.

Bahnsen, A.C. – Aouada, D. – Ottersten, B. – (2015) A novel cost-sensitive framework for customer churn predictive modeling. *Decision Analytics,* Vol. 2 (5), 1-15.

Bansal, K. (2023) Customer Experience: Creating Value through Transforming Customer Journeys *International Journal of Advances in Engineering and Management,* Vol. 5 (9), 715-725.

Basuki, R. – Tarigan, Z.J.H. – Siagian, H. – Limanta, L.S. – Setiawan, D. – Mochtar, J. (2022) The effects of perceived ease of use, usefulness, enjoyment and intention to use online platforms on behavioral intention in online movie watching during the pandemic era. *International Journal of Data and Network Science*, Vol. 6 (1), 253–262.

Berger, P.D. – Nasr, N.I. (1998) Customer lifetime value: Marketing models and applications. *Journal of Interactive Marketing,* Vol. 12 (1), 17–30.

Bhatt, K. (2021) Adoption of online streaming services: moderating role of personality traits. *International Journal of Retail & Distribution Management*, Vol. 50 (4), 437–457.

Bitner, M.J. (1990) Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses*: Journal of Marketing*, Vol. 54 (2), 69–82.

Blattberg, R.C. – Kim, B.-D. – Neslin, S.A. (2008) Database Marketing, International Series in Quantitative Marketing. *Springer, New York, NY,* Vol. 18

Borle, S. – Singh, S.S. – Jain, D.C. (2008). Customer Lifetime Value Measurement. *Management Science,* Vol. 54 (1), 100–112.

Bouraqia, K. – Sabir, E. – Sadik, M. – Ladid, L. – (2020) Quality of Experience for Streaming Services: Measurements, Challenges and Insights. *IEEE Access*, Vol. 8, 13341–13361.

Braun, M. – Schweidel, D.A. (2011) Modeling Customer Lifetimes with Multiple Causes of Churn. *Marketing Science*, Vol. 30 (5), 881–902.

Brüggemann, P. – Lehmann-Zschunke, N. – (2023) How to reduce termination on freemium platforms—literature review and empirical analysis. *Journal of Marketing Analytics*, Vol. 11 (4), 707–721.

Buckinx, W. – Van den Poel, D. (2005) Customer base analysis: partial defection of behaviourally loyal clients in a non-contractual FMCG retail setting. E*European Journal of Operational Research*, Vol. 164 (1), 252–268.

Bury, R. – Li, J. (2015) Is it live or is it timeshifted, streamed or downloaded? Watching television in the era of multiple screens. *New Media & Society*, Vol. 17 (4), 592–610.

Camilleri, M.A. – Falzon, L. (2020) Understanding motivations to use online streaming services: integrating the technology acceptance model (TAM) and the uses and gratifications theory (UGT). *Spanish Journal of Marketing – ESIC*, Vol. 25 (2), 217–238.

Çelik, Ö. – Osmanoğlu, U. (2019) Comparing to Techniques Used in Customer Churn Analysis. *Journal of Multidisciplinary Developments*, Vol. 4 (1), 30-38.

Chakraborty, D. – Siddiqui, M. – Siddiqui, A. – Paul, J. – Dash, G. – Mas, F.D. (2023) Watching is valuable: Consumer views – Content consumption on OTT platforms. *Journal of Retailing and Consumer Services*, Vol. 70, 103148-.

Colbjørnsen, T. (2021) The streaming network: Conceptualizing distribution economy, technology, and power in streaming media services. *Convergence*, Vol. 27 (5), 1264–1287.

Colbjørnsen, T. – Hui, A. – Solstad, B. (2022) What do you pay for all you can eat? Pricing practices and strategies in streaming media services. *Journal of Media Business Studies*, Vol. 19 (3), 147–167.

Cook, D.A. – Wittich, C.M. – Daniels, W.L. – West, C.P. – Harris, A.M. – Beebe, T.J. (2016) Incentive and Reminder Strategies to Improve Response Rate for Internet-Based Physician Surveys: A Randomized Experiment. *Journal of Medical Internet Research*, Vol. 18 (9), e6318-.

Davis, F.D. – (1989) Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, Vol. 13 (3), 319–340.

Davis, F.D. (1986) A technology acceptance model for empirically testing new end-user information systems: theory and results.

Deligiannis, A. – Argyriou, C. (2020) Designing a Real-Time Data-Driven Customer Churn Risk Indicator for Subscription Commerce. *International Journal of Information Engineering and Electronic Business*, Vol. 12, 1–14.

Dutta, H.S. – Jobanputra, M. – Negi, H. – Chakraborty, T. (2021) Detecting and Analyzing Collusive Entities on YouTube. *ACM Transactions on Intelligent Systems and Technology*, Vol. 12 (5), 1–28.

Fudurić, M. – Malthouse, E.C. – Viswanathan, V. (2018) Keep it, shave it, cut it: A closer look into consumers' video viewing behavior. *Business Horizons,* Vol. 61, 85–93.

García, D.L. – Nebot, À. – Vellido, A. (2017) Intelligent data analysis approaches to churn as a business problem: a survey. *Knowledge and Information Systems*, Vol. 51 (3), 719–774.

Gattermann-Itschert, T. – Thonemann, U.W. (2022) Proactive customer retention management in a non-contractual B2B setting based on churn prediction with random forests. *Industrial Marketing Management,* Vol. 107, 134–147.

Godinho de Matos, M. – Ferreira, P. (2020) The Effect of Binge-Watching on the Subscription of Video on Demand: Results from Randomized Experiments. *Information Systems Research,* Vol. 31 (4), 1337–1360.

Godinho de Matos, M. – Pedro, F. – Rodrigo, B. (2018) Target the Ego or Target the Group: Evidence from a Randomized Experiment in Proactive Churn Management. *Marketing Science* Vol. 37 (5), 793–811.

Gomez-Uribe, C.A. – Hunt, N. (2016) The Netflix Recommender System: Algorithms, Business Value, and Innovation. *ACM Transactions on Management Information Systems,* Vol. 6 (4), 13:1-13:19.

Grece, C. (2021) Trends in the VOD market in EU28. <https://www.oficinamediaespana.eu/images/media_europa/TrendsintheVOMarketinEU28pdf.pdf> , accessed 5.3.2024.

Grönroos, C. (1989). Defining Marketing: A Market-Oriented Approach. *European Journal of Marketing,* Vol. 23 (1), 52–60.

Gupta, G. – Singharia, K. (2021) Consumption of OTT Media Streaming in COVID-19 Lockdown: Insights from PLS Analysis. *Vision*, Vol. 25 (1), 36–46.

Gupta, S. – Hanssens, D. – Hardie, B. – Kahn, W. – Kumar, V. – Lin, N. – Ravishanker, N. – Sriram, S. (2006) Modeling Customer Lifetime Value. *Journal of Service Research*, Vol. 9 (2), 139–155.

Gupta, S. – Shrivastava, P. – Gupta-Rawal, S. (2023) More the merrier!! Understanding the effect of available content choices over willingness to pay for over-the-top subscriptions. *Psychology & Marketing*, Vol. 40 (23), 2612–2626.

Hadden, J. – Tiwari, A. – Roy, R. – Ruta, D. (2007) Computer assisted customer churn management: State-of-the-art and future trends *Computers & Operations Research*, Vol. 34 (10), 2902–2917.

Hallowell, R. (1996) The relationships of customer satisfaction, customer loyalty, and profitability: an empirical study. *International Journal of Service Industry Management*, Vol. 7 (4), 27–42.

Havard, C.T. (2021) Disney, Netflix, and Amazon Oh My! An Analysis of Streaming Brand Competition and the Impact on the Future of Consumer Entertainment. *Findings in Sport, Hospitality, Entertainment, and Event Management*, Vol 1, 40-45.

Helgesen, Ø. (2006) Are Loyal Customers Profitable? Customer Satisfaction, Customer (Action) Loyalty and Customer Profitability at the Individual Level. *Journal of Marketing Management*, Vol. 22 (3-4), 245–266.

Kaur, R. – Gabrijelčič, D. – Klobučar, T. (2022) Churn Handling Strategies to Support Dependable and Survivable Structured Overlay Networks. *IETE Technical Review*, Vol. 39 (1), 179–195.

King, G.J. – Chao, X. – Duenyas, I. (2016) Dynamic Customer Acquisition and Retention Management. *Production and Operations Management*, Vol. 25 (8), 1332–1343.

Kozak, J. – Kania, K. – Juszczuk, P. – Mitręga, M. (2021) Swarm intelligence goal-oriented approach to data-driven innovation in customer churn management. *International Journal of Information Management*, Vol. 60, 1–16.

Kübler, R. – Seifert, R. – Kandziora, M. (2021) Content valuation strategies for digital subscription platforms. *Journal of Cultural Economics*, Vol. 45 (2), 295–326.

Kumar, V. – Bhagwat, Y. – Zhang, X. (Alan) (2015) Regaining "Lost" Customers: The Predictive Power of First-Lifetime Behavior, the Reason for Defection, and the Nature of the Win-Back Offer. *Journal of Marketing*, Vol. 79 (4), 34–55.

Kweon, H.J. – Kweon, S.H. (2021) Pricing Strategy within the U.S. Streaming Services Market: A Focus on Netflix's Price Plans. *International Journal of Contents,* Vol. 17 (2), 1-8

Lalwani, P. – Mishra, M.K. – Chadha, J.S. – Sethi, P. (2022) Customer churn prediction system: a machine learning approach. *Computing,* Vol. 104 (2), 271–294.

Lemmens, A. – Gupta, S. (2020) Managing Churn to Maximize Profits. *Marketing Science,* Vol. 39 (5), 956–973.

Lemon, K.N. – Verhoef, P.C. (2016) Understanding Customer Experience Throughout the Customer Journey. *Journal of Marketing,* Vol. 80 (6), 69–96.

Lin, C. – Bowman, D. (2022) The impact of introducing a customer loyalty program on category sales and profitability. *Journal of Retailing and Consumer Services,* Vol. 64, 102769-.

Lobato, R. – Lotz, A. (2021) Beyond Streaming Wars: Rethinking Competition in Video Services. *Media Industries,* Vol. 8 (1), 89-108.

Lotz, A.D. – Eklund, O. – Soroka, S. (2022) Netflix, library analysis, and globalization: rethinking mass media flows. *Journal of Communication,* Vol. 72 (4), 511–521.

Mulla, T. (2022) Assessing the factors influencing the adoption of over-the-top streaming platforms: A literature review from 2007 to 2021. *Telematics and Informatics,* Vol. 69, 101797-.

Nagaraj, S. – Singh, S. – Yasa, V.R. (2021) Factors affecting consumers' willingness to subscribe to over-the-top (OTT) video streaming services in India. *Technology in Society,* Vol. 65, 101534-.

Netflix.com What We Watched: A Netflix Engagement Report [WWW Document], . <https://about.netflix.com/en/news/what-we-watched-a-netflix-engagement-report> , accessed 5.8.24.

Oliver, R.L. (1999) Whence Consumer Loyalty? *Journal of Marketing,* Vol. 63 (4), 33–44.

Oliver, R.L. (1980) A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research,* Vol. 17 (4), 460–469.

Oyedele, A. – Simpson, P.M. (2018) Streaming apps: What consumers value. *Journal of Retailing and Consumer Services,* Vol. 41, 296–304.

Palomba, A. (2022) Building OTT brand loyalty and brand equity: Impact of original series on OTT services. *Telematics and Informatics*, Vol. 66, 101733-.

Prince, J. – Greenstein, S. (2018) Does Original Content Help Streaming Services Attract More Subscribers? *Harvard Business Review Digital Articles*, 2–4.

Quin, F. – Weyns, D. – Galster, M. – Silva, C.C. (2024) A/B testing: A systematic literature review. *Journal of Systems and Software*, Vol. 211, 112011-.

Reichheld, F.F. – Sasser Jr. – W.E. (1990) Zero defections: Quality comes to services. *Harvard Business Review*, Vol. 68 (5), 105–111.

Sabbeh, S.F. (2018) Machine-Learning Techniques for Customer Retention: A Comparative Study. *International Journal of Advanced Computer Science and Applications*, Vol. 9 (2), 273-281.

Shaffer, G. – Zhang, Z.J. (2002) Competitive One-to-One Promotions. *Management Science*, Vol. 48 (9), 1143–1160.

Singh, S. – Singh, N. – Kalinić, Z. – Liébana-Cabanillas, F.J. (2021) Assessing determinants influencing continued use of live streaming services: An extended perceived value theory of streaming addiction. *Expert Systems with Applications*, Vol. 168, 114241.

Spangler, T. (2020) Streaming Accounts for 19% of Total TV Viewing With Netflix Leading the Pack, Nielsen Says. *Variety.* <https://variety.com/2020/digital/news/streaming-video-netflix-total-tv-viewing-nielsen-1203500634/> , accessed 4.3.24.

Sperling, N. – Schmidt, G. (2024) Netflix to Stream W.W.E.'s 'Raw' in $5 Billion Deal. *N. Y. Times*, <https://www.nytimes.com/2024/01/23/business/netflix-wwe-raw-wrestling.html> , accessed 12.3.2024

Tamaddoni, A. – Stakhovych, S. – Ewing, M. (2017) The impact of personalised incentives on the profitability of customer retention campaigns. *Journal of Marketing Management*, Vol. 33 (5-6), 327–347.

Thøgersen, J. (2009) Promoting public transport as a subscription service: Effects of a free month travel card. *Transport Policy*, Vol. 16 (6), 335–343.

Tokman, M. – Davis, L.M. – Lemon, K.N. (2007) The WOW factor: Creating value through win-back offers to reacquire lost customers. *Journal of Retailing*, Vol. 83 (1), 47–64.

Verbraken, T. – Lessmann, S. – Baesens, B. (2012) Toward profit-driven churn modelling with predictive marketing analytics, 1-10.

Wayne, M.L. (2018) Netflix, Amazon, and branded television content in subscription video on-demand portals. *Media, Culture & Society,* Vol. 40 (5), 725–741.

Wen, X. – Wang, Y. – Ji, X. – Traoré, M.K. (2022) Three-stage churn management framework based on DCN with asymmetric loss. *Expert Systems with Applications,* Vol. 207, 117998-

Yang, H. Lee, H. (2018) Exploring user acceptance of streaming media devices: an extended perspective of flow theory. *Information Systems and e-Business Management,* Vol. 16 (1), 1–27.