Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics

Master's Thesis

College Students Behaviour on Subscription Fee Services

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

David Muroň

World Economy

Thesis title

College Students Behaviour on Subscription Fee Services

Objectives of thesis

The aim of the diploma thesis is to determine and to evaluate behaviour of college students on subscription fee services.
The aim will be fulfilled based on the partial aims. Then, several hypotheses will be defined and verified. Based on the results of and empirical analysis the final conclusions will be introduced.

Methodology

The diploma thesis will cover both theoretical and empirical part. Theoretical part will contain theoretical background of the selected topic as well as the methodological framework. Scientific literature will be used to prepare the literature overview. The empirical analysis will be based mainly on the time series analysis. Other suitable methods will be employed as well. Based on the empirical analysis the results will be presented and some recommendations will be suggested.

To fulfill the aim of the thesis the selected methods and indicators of time series analysis will be employed as following:

– regression analysis (trend function)

– index analysis (base index, chain index)

– survey based on own questionnaire

The proposed extent of the thesis
60 – 80 pages

Keywords
Fee, services, students, time series, survey.

Recommended information sources
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DE VAUS, D A. *Surveys in social research.* London: Routledge, 2014. ISBN 978-0-415-53018-7.
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MONTGOMERY, D C. – PECK, E A. – VINING, G G. *Introduction to linear regression analysis.* Hoboken, N.J.: John Wiley and Sons, 2012. ISBN 978-0-470-54281-1.

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Declaration

I declare that I have worked on my master's thesis titled "College Students Behaviour on Subscription Fee Services" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the master's thesis, I declare that the thesis does not break any copyrights.

In Prague on 30.11.2022 _____

College Students Behaviour on Subscription Fee Services

Abstract

This research is aimed at assessing the perception of college students on the use of subscription fee services. More accurately, subscription-based platforms which serve to provide digitalized content. The targeted demo graphic is college students and their recent graduates. In order to assess the current situation and a literature review is presented in the first part of this thesis. Second part of the thesis is dedicated to research and data collection, followed by an assessment by a series of statistical methods. Tool used for data collection is a customized survey containing both open ended and close ended questions aiming to assess the perception of the targeted demographic on these platforms, their period of use, number of platforms that they are subscribing to and analysis of how much financial resources they are spending in order to maintain these platforms. Gathered data is then used in order to answer a series of research questions. The statistical tools used are index analysis, time series analysis and regression analysis. Final outcomes are then compared with the literature overview. A conclusion of the research with its respective recommendations for future research is stated at the end of the thesis.

Keywords: subscriptions, consumer, behaviour, analysis, digital content, fee, services, students, timeseries, survey

Chování vysokoškolských studentů u předplatných platforem

Abstrakt

Tato diplomová práce se zabývá analýzou spotřebního chování studentů u předplatných platforem. Konkrétně takových, které poskytují služby nebo digitální obsah uživatelům za např. kontinuální měsíční poplatky. Mezi demografii vysokoškolských studentů jsou zahrnutí i čerství absolventi. Specificky je zkoumána jejich tendence v používání online platforem založené na měsíčních poplatcích, jejich preference a frekvence používání. V první části této práce byla uvedena literární rešerše, vycházející z knih, odborných článků a studií. Druhá část práce se věnovala praktické části, která byla složena z analýzy primárních a sekundárních dat. Primární data byla získána pomocí dotazníkového šetření (provedené ve fyzické a digitální formě, obsahující jak otevřené, tak uzavřené otázky). Sekundární data byla získána z veřejných internetových zdrojů vztahující se k jednotlivým platformám (primárně se jedná o jejich vývoj vzhledem k počtu uživatelů a poplatků). Následně byly použity statistické analýzy (indexní, korelační, analýza časových řad). Všechny zmíněné metody byly využity k průzkumu této problematiky jako celek. Výsledky dotazníkového šetření primárně sloužily k zodpovězení výzkumných otázek a nastolení možných výstupů. Poslední část práce obsahuje shrnutí získaných výsledků a případná doporučení.

Keywords: předplatné, spotřebitel, spotřební chování, analýza, digitální obsah, poplatky, student, časová řada, dotazník

Table of content

1 Introduction

At the crossing of the millennium, between the 90s and early 2000s, we were able to witness the quick and widespread adaptation of the Internet. This adaptation can be considered as a beginning of the globalization era, which we are currently part of. Nowadays, it is hard to imagine what would the present look like without it. Because of it, we currently possess the ability to access immense amounts of information and knowledge, which are at any point in time only a few clicks away on our smartphones, tablets and computers. This but a sliver of advantages that the internet can bring us. Thanks to it, we are also now able to share and store various amounts and types of content, without having to possess it in a physical form. There is not only a plethora of advantages to support this fact, but also disadvantages. As an advantage, the lack of need for physical space required to store physical copies (of for example movies, music, photograph or videos) can be considered. A disadvantage for such service is an obvious one and it lies in the question of ownership and a possible lack of long-term access. With the ever-increasing use of cloud platforms (which are run on massive data servers of big tech companies) the question of ownership becomes quiet worrying. Can data be considered one's own if it is stored and ran on hardware that is owned by a different party? Considering a music streaming platform in the likes of Spotify or Apple Music, users are at mercy of the service providers of such platforms to provide a certain content with its respective quality and quantity, preferably for an infinite amount of time (or at least for a period of paid subscription). However, there is no reassurance that such provider will or will want to allow access to *specific* content forever (i.e., that one favorite song played during graduation, or a wedding might not be accessible in a few years).

Subscription platforms are not only used as a medium to provide digital content. They can also serve to provide physical goods or other services. Examples being Amazon Prime, which on top of its video streaming services, provides same day delivery for its internet marketplace. Dollar Shave Club has been of the western success stories when it comes to subscription platforms. DSC started offering to send men's grooming tools for a fixed monthly fee. The western countries overall have been pioneers and quick adapters of this "virtual renting" phenomenon, where its major user base is the today's younger generation. For this reason, the target audience of this diploma thesis research has been College students and their recent graduates. Intention of this thesis is to indirectly follow up on my bachelor

thesis, where I analyzed financial literacy of the same demographic. I believe that mass subscription to these services is not used responsibly or effectively from the target's demographic perspective. Subscription base platforms tend to get its customers to join by offering them a free trial, usually for a period of one to three months. They also offer them at a lucrative price point, which are usually deducted more by student discounts. From a certain standpoint, a small monthly fee for an almost infinite amount of content seems like a bargain. The hypothetical question now is, if such price over a period of several months is adequate to its actual use and retainment of value. In other words, are users using the services which they are paying for, or were the more likely lured by a lucrative small monthly fee which can have the tendency to stack up to major long-term expense?

2 Objectives and Methodology

2.1 Objectives

The main objective of this thesis is to describe, explain and evaluate the stance and use of subscription platform services within the demographic of college students. Its aim is to analyze their perception of these services along with their actual use, money spent and future intentions. Along the demographic of college students, recent graduates will also be included.

A survey was developed in order to extract and analyze relevant data regarding this topic. Based on a selection of assumptions and hypothesis a relevant outcome will be stated and described.

In order to get a concise outcome of the thesis intended research, several broad assumptions were constructed beforehand. These were formulated based on the literature review and personal observations. List of these assumptions are as follows:

- Subscription services are now widely used, especially among the demographic of young people, who generally, tend to be quick adopters of new technologies and trends
- In the case of digital content, users do prefer renting digital content rather than having their alternative in a physical form.
- There is a wide space for error regarding a smart, financially literate use of these services. People tend to pay for these services under the guise of low price of entry, which can later snowball into a major financial expense without its respective added value
- Students or graduates of economically oriented study programs will be aware of the previous assumption and will be the ones that use them responsibly (from a financial perspective)

From these assumptions a series of research questions were formulated in order to get a concise result:

- How widely are subscription services used within the demographic of college students (What percentage of students are subscribed to at least one service?)
- Do college students prefer paying a monthly fee over a single time purchase
- Does a study major impact responsible use of subscriptions?
  - Economy students are more likely to give an estimation on their spendings
  - Economy students on average have less simultaneous subscriptions
- What is the average number of subscriptions per student?
- How much has a student paid for these services on average?
- What is the average time frame of a subscription to be held?
- For how long students intend to keep these subscriptions?

Results will later be described and will undergo a series of statistical methods in order to find relevancy.

2.2 Methodology

First part of the master thesis is dedicated to a literature review which aims to describe and define relevant topics and terms regarding the issue of consumer behavior and subscription platforms (or alternatively described as subscription services).

Second part of the thesis is dedicated to its practical research and analysis of relevant data gathered from a constructed survey, which will then be used to answer the relevant research questions. The tools used to analyze relevant data will be a combination of certain statistical methods. The methods in questions are a time series analysis, regression analysis and an index analysis. All three respective tools will be used for achieving relevant answers for goals described as research questions. The survey used to gather primary data will be described in detail in its respective chapter.

Data that have undergone following statistical and analytical methods have been primarily company data of respective subscription platform. The source of the data has been public company data that has been publicized on public accessible websites[1].

2.2.1 Time series

Time series models are one of the basic tools used in econometrics to analyze presented data and come with a logical conclusion within their relevance. As described, the use of time series is to equip the individual with a tool to develop reasonable models capable of forecasting, interpreting and testing hypothesis concerning economic data. Previously, the use of time series was to aid in forecasting. In result, the methodology was developed into analyzing a trend. Now we consider a variety type of trends such as seasonal, cyclical, and irregular (Enders, 2014).

Another description of time series is that of a function, with an irregular or random variable orders in time. Also called a stochastic process (Gujarati, 2014).

There are generally the types of time series. Those being a stationary time series and a non-stationary time series. A non-stationary time series is described as one that can only be used with data under a constrained time period. In other words, in a one specific period (like with a currency exchange). If a regression function is used on a non-stationary time series a high R^2 is most likely to be received, as well as a phenomenon of spurious regression. A stationary time series is considered an opposite if the other, meaning that it does not depend on a fixed time period (Gujarati, 2014). Regression analysis will be further described in following chapters.

One of characteristics is that data in time series is perceived as not independent. Meaning that a particular value at a particular timepoint is expected to be related to data points preceding it and succeeding it (even in a far future time frame). The components consisting of a time series are usually as follows:

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[1] https://www.businessofapps.com/data/app-data/

$$Y_t = T_t + C_t + S_t + R_t$$

- T_t – represents the overall trend present at the time
- C_t – represents the cyclical effect meaning the fluctuations of a trend happening due to outside conditions (ie. An economic cycle)
- S_t – represent the seasonal effect, meaning the fluctuations due to a particular time of year
- R_t – represents a residual error which occurs after the above-mentioned effects have been taken into account. It can for example contain random effects for which could have not been accounted for (Boslaugh, 2013).

Periodicity describes the time period or interval over which data has been collected. For example, a year, month, week or a day. From a practical view subjects like companies tend to report and portray data as annual, quarterly or monthly, where annual is an observation once per year, quarterly is 4 observations a year and monthly is 12 observations per year (Doane, Seward, 2015). Research of this thesis (particularly the analysis of subscription platform data) will primarily analyze quarterly data.

2.2.2 Regression and correlation analysis

Regression analyses are also used as a statistical and econometrical tool. In other words, as a statistical technique for investigating and modelling the relationship between variables. Their application can be used in variety of fields ranging from engineering, sciences to economics and social sciences. The regression analysis has several specific uses. Data description, Parameter estimation, prediction and estimation and lastly control. Other, more practical use of regression analysis is to predict a response of a variable on a statistical model (Montgomery, 2012).

Linear regression model is a model which describes the linear relationship between variables (for example X) that has a certain relationship with another variable (for example Y). The abstract, graphical depiction of this relationship between variables is a straight line (Montgomery, 2012).

The term correlation describes association between variables, that can be readily displayed by (for example) a scatterplot. A positive relationship describes two both ever increasing variables, while a negative relationship describes two decreasing variables. Least-squares is one of common methods when describing correlation. Method itself minimizes squared deviations from an expected value and hence proving an ideal linear model data. In simple terms, the more of a representation to a straight line (of the observed data) the more correlated these values tend to be (Boslaugh, 2013). Formula for calculation is as follows:

$$r = \frac{\sum_{i=1}^{n}(\frac{x_1 - \bar{x}}{s_x})(\frac{y_i - \bar{y}}{s_y})}{n - 1}$$

The formula describes the sum of differences of mean for each variable, divided by their respective standard deviation, which is further divided by degree of freedom n-1.

Resulting variable r then always ranges from -1 to 1, with values approaching zero representing weak relationship and high values representing the opposite (i.e., strong relationship). Correlation of 1 describes complete correlation, -1 describes perfectly negatively correlated values and 0 representing no relation.

2.2.3   Index analysis

Index analysis is a simple statistical way to measure a difference between two measurements over time (or a comparison of two or more differences over time). It is a method of converting a time-series data into a state of index numbers. The standard method is to create and index at a base period in order to see relative changes in data regardless of original data units. This method of indexation is primarily used in financial and economic data representation (turnover, profit, costs etc.). However, it can be used in order to represent any other numerical data (units sold, daily users, etc.) (Doane, Seward, 2015).

Formula for calculation indexes can be simple when a value represents a single variable. Result displays a change in a hand-picked time period and represent a change in that particular time period. Steps for calculation are as follow:

- Finding relevant data and values for a particular variable
- Selecting a base period for the observed variable and its value
- Performing the calculation for each following period by a formula.

$$I_t = \frac{Y_t}{Y_0} \times 100$$

Where *It* = the index at time *t*, *Yt* = the price or quantity at time *t*, and *Y0* = the price or quantity in the base period (Boslaugh, 2013).

Similar explanation of indexes is described as numbers which are comparing their change of a common variable, which tend to be spread out over a longer time period. These are referred to as basis index. However, indexes referring values that are divided by each continuing value are called chain indexes (Souček, 2007).

2.2.4   Questionnaire based survey

A survey can be described in simplicity as a collection of questions within a certain topic or problematic, to receive a stance, attitude, point of view or information and data in general from the individuals that are answering or participating in that survey. Those subjects are generally known as respondents. There are two types of survey, qualitative and quantitative. The types of survey questions are generally open ended and closed ended questions.

It is more helpful to distinguish between two stages of the research process: collecting data and analyzing data. (De Vaus, 2013).

Qualitative series are the types of surveys (or questionaries) that focus on a smaller subset or quantity of respondents to focus on specific detail and quality of information from respondents. Generally, it focuses on in depth opinions or views of a research. In other words, qualitative research is used to provide rich data about individuals and situations that

give more clarity concerning a specific behavior and to understand it within a wider context (De Vaus, 2013).

Quantitative surveys focus on achieving a high quantity of respondents rather than the quality of responses. Quantitative surveys tend to be easier to form and spread out to reach a wide number of respondents. The possibility of corrupted response (meaning an unrealistic, obviously rushed filling of the survey form) is offset by the sheer number of other respondents. These types of questionnaires tend to have more of closed ended questions, however that is not a rule. These forms tend to be easier to analyze (their respective responses) by analytic tools like Google Forms.

Quantitative research is also described as method of questioning which can be conducted by forms of personal interviews, surveys in varying forms or telephone calls. Regarding surveys (and specifically close ended questions) a particular disadvantage has been recognized, where respondents are forced to answer a specifically constructed question, leading to less place for expression. Further leading to a possible distortion of data (Machková, 2009).

Another description of survey is described as follows. It is a particular technique of collecting information, with the intended use of a specific form of data and its method of analysis. The output of a survey is described as a form of data, where a one or two (but in more cases far more) collections of data about a certain topic or variable are form into a data grid. Since same information (or a set of possible information) is collected for each case are directly comparable, the result we end up with is comparable data (De Vaus, 2013).

2.2.5   Data collection and data processing

The survey that was used during this research has been published and given to respondents in both digital and physical form to the targeted demographic of college students and recent graduates. The data collection process was started in July 2022 up until October 2022. Response rate can be overall considered as high, especially within the digital form.

The main objective of the formed survey questionnaire was to overall assess the state of use and perception of subscription platforms services on the demographic of college students and recent graduates. More thoroughly their current perception on quality and perceived value, the number of platforms that they are using and an assumption of their total spending. As a part of the practical part, the formed survey-form questionnaire was constructed and sent out in order to gather relevant primary data to answer the research questions and assumptions. The survey itself consists of 23 questions separated into two main survey sections.

The first section of the survey was aimed at gathering general information of respondents regarding age, gender, their college major, highest level of achieved education, employment status and their respective universities.

The second section of the survey was solely aimed at assessing the stance, point of view and use of subscription platforms. This section contains questions asking what platforms in particular the respondents are using, how often or how much they assume they have paid for them, how satisfied are they and if they see any added value in them. Hence assessing their subjective evaluation and satisfaction.

They survey was sent out in both physical and digital form, where the physical form has been handed to the targeted demographic of college students and recent graduates on college campuses, dormitories and places of social gathering respective to their age group. Majority of the respondent data was gathered through the digital form which also led to the possibility of gathering a higher count of respondents from foreign countries.

The digital form of the survey has been posted on internet forums of websites and social media, requesting their completion with adequate description and instructions. This form of survey was also directly sent through email, and direct message channels of certain social media platforms.

The response rate of the survey could be considered as high. There was no negative feedback given when sent out in a digitalized form on forums, direct messages or social media groups.

Specifically due to the fact that, members of these sources are willing to fill surveys out in exchange of filling out one of their own.

However, there were singular negative replies when potential respondents were subjected to fill out the form in person, however not in such manner which would negatively impact the process of collecting required data. Main reasons for showing refusal were due to unwillingness for answering at the time of approach. Overall, digital form of a survey is more pleasurable and efficient for respondents due to possible environment or time-frame restrictions.

To create, form, share and gather respective data regarding this survey, the tool "Google Forms" was used. A later of modification of collected data was performed in order to achieve a format of data that is capable of undergoing respective data analytics methods and retrieve relevant data representation in the form of graphs (column, line or pine charts).

Data modification performed on the data was in the form of grammar correction, variable specification and variable unification into a singular group of datasets, in order to achieve an efficient workflow for further statistical analyses. The tool used for achieving these described methods was Microsoft Excel and Gretl.

2.2.6 Survey structure

In the respective chapter of practical part, the exact questions of the survey and its results will be presented. These results will be portrayed in a combination of tables, graphs or descriptions.

The survey itself contains both open ended and close ended questions or a combination of both. No advanced conditional formatting was used during the construction of the survey, due to the limitations of the tool used.

The exact form, questions and available answers are thoroughly detailed in the following chapter of this thesis, where the finalized structure of the questionnaire is contained. Full form of the survey is present as Attachment 5.

3 Literature Review

This thesis chapter will be dedicated to analyzing the topic of consumption, consumer behavior and subscription platforms form a theoretical perspective. It will analyze already established principles, past performed experiments and studies on the topic. This section will be further split into two sections. First section will investigate the description of most used, relevant terms in this thesis and a literature overview from books, scientific papers and publications to further familiarize with the topic at hand.

3.1 Terms and their description

First chapter of the theoretical part of the thesis will be dedicated to establishing terms regarding the topics of "consumer behavior" and "subscription platforms". As these topics tend to have a lot of synonymous descriptions, a few will be mentioned in order to closely familiarize with their respective topics. If applicable, in addition to their description a mention of interesting facts or past studies will be mentioned and described.

3.1.1 Consumer

Consumer is generally described as an entity which stands at the end of delivery chain (hence the term end-consumer). It is an entity which "consumer goods" are aimed at. It stands as an entity to which primarily uses products or services. A description of a consumer can be as follows: *"A person who purchases goods and services for their own use".[2]*

A consumer can be seen differently form an economic perspective or a marketing perspective. The economic perspective describes consumer as a number of orders or as an amount of platform users.

From marketing perspective, a consumer is seen more as an individual. For example, in marketing (or in psychology, since these two are more tied in marketing) it is more prominent

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[2] https://dictionary.cambridge.org/dictionary/english/consumer

to look at habits and tendencies of a customer or customers. It tries to biologically understand their "trains of thoughts" which can be later used in business environments.

3.1.2 Behavior

Behavior encompasses combinations of processes and patters which result into conscious or unconscious actions. Behavior, as described by the Cambridge Dictionary is *"the way that a person, an animal, a substance, etc. behaves in a particular situation or under particular conditions".*[3]

3.1.3 Consumer behavior

Consume behavior is a specialized discipline which specifically focuses on the wants and needs of consumers. It then analysis how these aspects influence their purchasing decisions or preferences. The book "Introduction to Consumer behavior" describes it as a field which studies consumers in different situations and their respective purchases, usage and disposal. (Ling, 2015)

The book also notes the importance of consumer behavior, saying that it influences us during all stages of life and keeps evolving over time. The notably improvements in recent technology in the fields of algorithms plays a role here. Especially their specific deployment in today's products, which aim to analyze and predict our behavior for specific targeting of advertisements. A study that was conducted, was using a machine learning algorithm to predict consumer behavior during the COVID-19 pandemic. This machine learning system was able to predict consumer behavior during a pandemic with a 94.6% accuracy (Safara, 2020).

3.1.4 Purchasing behavior

Purchasing behavior is closely tied with consumer behavior (Purchase preferences, decisions are considered as synonyms). The only difference that could present is, that it tries to describe the *exact* moment when a person performs a purchase (i.e. the moment where the

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[3] https://dictionary.cambridge.org/dictionary/english/behaviour

monetary exchange occurs). It does not necessarily describe the aspects of consumer described before (preferences, selections, purchases, disposal, etc.)

3.1.5 Algorithms

In today's modern era, are to be consider as a key tool to build and maintain audience of customers to provide an adequate experience and maintain a competitive advantage. Algorithms are complicated mathematical and computing tools to automate certain processes. Today, any competitive company on the market uses some sort of an algorithm in order to maintain their market position and successfully run their businesses. Algorithms can be used to track users' past inputs, to be analyze for example to be used as a suggestion for their next purchase, or what genre of music an individual listens to.

3.1.6 Subscription platforms

Is considered as a product of a business that uses a subscription-based business model. Such business can provide either physical or digital outputs. Even though that there are numbers of businesses which provide physical goods as part of their subscriptions, this thesis will be predominantly focused on such platforms which provide digital content. Investopedia describes this business model as follows: "S*ubscription business models are based on the idea of selling a product or service to receive monthly or yearly recurring subscription revenue. They focus on customer retention over customer acquisition.*"[4]

3.2 Literature Review continued

Second chapter of the theoretical part will be aimed at concluding and analyzing the published literature (books, magazines, websites, scientific papers etc.) on the topic of consumer behavior and subscription platform model as a whole.

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[4] https://www.investopedia.com/ask/answers/042715/how-do-subscription-business-models-work.asp

3.2.1 Consumer behavior

To pick an according strategy of selling a product or service, it is required to fully understand our customers consumer behavior. It is crucial to identify and describe what is perceived under such category and how it can be used in practice. Consumer behavior itself includes the customers decision making tied with making a purchase, the use of a product or service and its environment in which it belongs to. Furthermore, it is defined as a "change in persons behavior - end consumers, which is tied to acquirement and use of consumer products" (Koudelka, 2006).

When evaluating consumer preferences and their usage of subscription platforms, there are many variables to take into consideration. These variables in question are the user interface of the platforms, the core service and supplementary service. In a study of consumer behavior of subscription platforms results showed that all these three played an important role, however one of the dimensions seemed to have a prevalent effect - the effect of supplementary product over the core product (Van Riel, 2001). In practice, it means that it is not important what product is being offered, but what the added value on top of that product can be provided. It can be stated that a varied product portfolio might lead to enhanced user satisfaction, user experience an overall interaction on an online platform. If consumers deem that they are getting more value for the money, they are more likely to be using the services of such platforms for a longer period of time.

Driving force behind consumer behavior seem to be varied. One way of thinking about the actions that consumers decide to act on, is said to be from a clearly rational and logical standpoint. Economist generally believe that all consumer decisions stem from all information, costs and benefits in mind. However, these assumptions seem to differ from one school of economics to another. Another viewpoint for consumer behavior seems to assume, that individuals act solely with their best self interest in mind. Which means that consumers are only looking to find a way, which will benefit them in the best way possible. (Mill, 2016).

Subscription platforms are a relatively new and with every new technology a generally small percentage of customers are going to try them out. This is known as a product cycle. In these

cycles a group of people, who are more prone to attempt to use them are known as early adopters. Younger generations are generally those who seem to have interest in new technologies (Hsiao, Chen 2017). Not only from their genetic predisposition, where younger demographics are less risk averse and more curious but also due to the fact most of them were growing up alongside new technologies we use nowadays. 98% of people ageing from 23-28 use some sort of a smart device (tablet, smartphones, laptop or a personal computer) which has access to the internet. 86% of millennials have an account on at least on social media platform.[5] Adoption of these technologies is crucial regarding subscription platforms, because its these devices that are used to access them. In the countries of European Union, one in five young people (aged 16 -29 years of age) used a computer daily in 2017. Among these a 90% of daily computer use was reported in the country of Czech Republic, and 89% in Poland and Slovakia.[6]

The area of consumer behavior is a topic which reaches into a variety of other fields of research. There are many ways to describe in detail what encompasses consumer behavior. One way to describe consumer behavior is as a collection of actions, reactions and their outcomes - a dynamic between affect and cognition, behaviors in their respective environments and events in which they take place. (Ling, 2015) It does not only study the reason why consumers choose and purchase certain products or services, but also why they do NOT.

The models that explain the behavior of consumers is described in two distinct ways. Psychological model, which attempts to explain consumer behavior as the consequence of psychological processes and sociological model, which attempts to explain consumer behavior on the basis of pressure from social environment.

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[5] https://www.pewresearch.org/fact-tank/2019/09/09/us-generations-technology-use/

[6] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today_-_digital_world

The psychological model predominantly focuses on the stimulus of consumer behavior and how the consumer responds to external stimulus, how we learn about his consumer behavior and how his motives are portrayed in his purchase decisions. It is described based on the behavioral approach of stimulus and response. (Koudelka, 2006).

The sociological model focuses on the process of consumer behavior and how it is influenced by the social environment of the consumer and his social groups. Reasons for this approach stems from the basis that humans are conditioned to follow social norms. As an example, clothing fashion was mentioned (Koudelka, 2006).

The connection of consumption and consumer behavior is further tied with the field of psychology. At one point, the behavioral economics was represented as an analogy to apply the scientific observations of Skinner. Several points of connections between economics and behavioral psychology were pointed out as a common interest in value of goods, scarcity and an interest in the process of choice (Hursh, Roa, 2015).

In a modern point of view, an important part that plays role within consumer behavior is a decision-making process. Such is a process which assesses the potential benefits or losses while undergoing a purchase. A purchase is essentially a trade between money for goods and services. (Petcharat, Leelasantitham, 2021).

Attitudes were mentioned as a substance that influences consumer behavior as well as consumer preference. Attitudes are formed as the consequence of our belief and also, they are as a crucial part of the expectancy-value model. The model itself describes the relation between a motivation for success at a task and its satisfaction with the result. However, it was met with a series of drawbacks due to psychological abstractions taking place (desires, subjective norms, perceived behavioral control and intention). An answer to these drawbacks was presented. A tool that utilizes underlying structure of among beliefs, known as a means-end theory. (Baggozi, Gurhan-Canli, Priester, 2002). The means-end theory describes the hierarchical categorization of content of associations, ranging from product or service characteristics to personal values. (Reynolds, Guttmann, 1984).

Consumer decisions are mostly described as ubiquitous, where individuals are mostly unaware that they are making the actual decision. Most of the decisions, which are not being made consciously are those performed on a daily basis. Wänke described that many of our daily (consumer) decisions do not even require an intentional decision. A typical day of a stereotypical person is filled with countless minor consumer decisions or the consequences of previous decision, starting with what brands of products one uses or what search engine is used to find out information. It was described that for most, being a consumer is not part of their personal identity (Wänke, 2008).

One of the presumptions for consumer behavior research is, that individuals tend to purchase products and services not for the actual added value, but for the value that they perceive as added. This shows that products can exceed its actual value, not that its value is not important. (Salomon, 2017). It is stated that consumers can form different attitudes toward certain products. These attitudes can be formed from classical conditioning or instrumental conditioning.

One of the most important advances in the field of behavioral psychology was aimed at the observation of daily consumption. The total daily consumption of reinforcers was compared against the cost of reinforcers, where the outcome was measured as the reinforcer's value. In that case, the response is regarded as a secondary dependent variable, which is an important instrument in controlling the consumption of valued commodities. The cost and consumption of reinforcers was portrayed in the form of a demand curve where the increase of a commodity's cost result in a decrease of the commodity's consumption (Hursh, Roa, 2015). Such observation would be considered rational in the position of a consumer. The consumer's marginal utility of such consumption of a product or service would continue to decrease if he had to provide more of his disposable income to acquire the aforementioned product type or service.

In a traditional sense, a salesperson is providing information, presenting product information to the buying party. Upon assessing the information provided a customer then makes a purchase decision. Due to the improvement and interconnection of modern technologies in the day-to-day life, the adoption of these technologies now plays a significant role in the

field of consumer behavior. (Petcharat, Leelasantitham 2021). It can be safe to assume that the use of subscription platforms and virtual rentals will increase. With the rising preference of online shopping and virtual lending. The modern western customer prefers to use online services. Platforms like Amazon have reported that 44% of their sales accounted for the whole online sales in the United States. (Petcharat, Leelasantitham 2021).

In order to correctly assess reasons for consumption (or from the view of a company, how to give a reason for customers to consume) we need to analyze what are the needs and wants of our target audience - it is necessary to understand their reasons and willingness to trade. Hence it is crucial to know the influencing factors which are affecting the consumers. Every individual consumer has a unique way of thinking but share some common predispositions - ways of thinking - with others. These predispositions are deeply tied within the human biology and the way that we as species think and act. Some of these predispositions are consumer predispositions, cultural predispositions, social predispositions, psychic predispositions (Koudelka, 2006).

As for consumer behavior in an online environment they seem to follow these particular steps. First being the decision-making process, where consumer decides that a purchase needs to be made. Information search, where the analysis of available information is assessed about a product. Follow by choice of a particular product and its respective experience of satisfaction or dissatisfactions (Nguyen, 2016). A respective study analyzing these steps showed, that a wide portfolio of products with a detailed product description can influence these steps in a way which consumer is more likely to undergo a purchase.

3.2.2 Subscription platforms

With certain products or services, it is not always obvious which business model to choose to create and maintain a lucrative and profitable business over a long-term period. Out of all possible business models a subscription-based model is one of the options. Many businesses seem to be not able to generate a constant revenues stream, some of those businesses seem to be news publishers. "Many publishers see the subscription model as a last resort for survival although little evidence suggests users are ready to pay for online news at this moment (Chyi, 2005)".

In the beginnings of the internet era, the world wide web has become a reliable source of news. Some companies at first opted for an advertising revenue model. Such model produces revenue from seen or clicked advertisements by the site's visitors. At the turn of the century, this model started seeing a decline, however number of news sites reconsidered the subscription fee model as a last resort to maintain profits (Chyi, 2005).

Factors which were considered as willingness to pay for online services tend to be abstract. They are ranging from an individual perception of value, convenience, some proportion of added value to quality of the product or security. (Wang, Zhang, Ye, Nguyen, 2005).

There are two models of subscriptions presented, a pay per use and a per unit-time fee. The former considers the customer to be charged for every actual need to use a product, while the latter assumes a fee paid in a single measure of time. Be it daily, weekly, biweekly, monthly or yearly. A rational costumer will calculate their costs and uses and act accordingly, expending money for such model. On the other hand, the company's objective is to maximize the difference between revenues from costumers and its costs associated with providing the services or products to them. (Randwaha, 2008)

Payment for subscription platforms can be described in variety of ways. A platform needs a way to differentiate payment for itself, from a standard perishable goods. Its pricing is also considered as a key element for customer relationship. In the current marketplace a plethora of methods of payment are present. The most notable being a one-time activation or installation payment, a subscription fee which is an ongoing payment paid continually, a usage fee paid for specified usages in addition to standard service and an exit payment. Exit payment is used as a fee for early termination of a contract, traditionally present in mobile service providers.

A rise in use of subscription platforms can be accompanied with the increase in online consumption. There are several motivators which help drive the conspicuous online consumption. It has been found that such consumption is practiced by majority of users, but

within varying degrees and purposes. Motivators included envy, materials, narcissism and comparison. (Qattan, 2020)

The recent rise of online shopping, and overall rise of online environment, has threatened the physical business environment. Due to the increase in aspects like time and convenience, more costumers decide to adopt the virtual environment instead of the physical. Online environment is vastly more focused on customer experience than traditional stores. Such reality is even more prevalent when aspects like personalization and customization are considered. Online retail platforms like Amazon apply a policy, which allows customers to execute their purchase as seamlessly as possible. Their initial purchase is later followed by a customer review, which in turn helps Amazon and its following customers to screen for good products, resulting in a higher number of performed purchases. (Chivu, Stoica, Orzan, Radu, 2018.)

Due to the improvement and interconnection of modern technologies in the day-to-day life, the adoption of these technologies now plays a significant role in the field of consumer behavior. It can be safe to assume that the use of subscription platforms and virtual rentals will increase. With the rising preference of online shopping and virtual lending. The modern western customer prefers to use online services. Platforms like Amazon have reported that 44% of their sales accounted for the whole online sales in the United States. (Petcharat, Leelasantitham 2021). Reason these statistics are important in assessing the position of subscription platforms is, that as internet usage becomes more and more dominant, the impact and importance of these platforms will be more apparent.

From a practical perspective, it makes sense that such "virtual renting" has been on the rise. It can resolve in a decrease in spending and save time. It is also worthy to mention the possibility of saving physical space of a consumer. One downside that can be mentioned, to renting digital products is the lack of resale value and the absence of owning it physically. By paying a monthly fee, the customer is only in the position of the borrower. At this point, the person can't demand the product once it is discontinued. A long-term adoption for example of music streaming services might result in a higher use and play count by up to 49%. Such adoption can lead to a further improvement of the user experience by improving

the algorithm with millions of inputs at once. Such algorithm is then able to suggest tailor made content for the users. Such ability is not possible with physical copies, only to an extent of recommendations from pear groups which can generally be considered limited and ineffective. Such pattern is not only applicable in the field of music, but the rest of digital media as well (be it books, movies or other). (Datta, Knox, Bronnenberg, 2017)

When people were asked about future paying intent for online news services, those who had not been paying for subscriptions were not very convinced of the usefulness. The results of the study found out that a significant number of respondents said that it was unlikely that they would ever get involved with a subscription service for news. A mere one percent of respondent said that it's very likely that they would pay for online news in the future. The reasons for lack of paying intent were that they prefer free alternatives or traditional media sources. Key criteria for those interested to pay were price and the situational need for such service. (Chyi, 2005).

Other concerns for online services were stated. It was debated if customers would be open to pay for online content in the future, even if it was provided to them as free before. There is a level of skepticism present with the idea that customers would now pay for content that was previously provided to them for free. There were some categories of products that saw significant growth. Such content was mainly entertainment. More precisely it was music, adult content, gaming and sports. [7]

According to the book Subscription Boom. The adoption of subscription model was inevitable, due to a very limited potential of traditional retail stores. One of the early and successful adopters of subscription platform was Dollar Shave Club. It is an American company delivering shaving products via mail to its customers which started in the year 2012. After an apparent wide success, a similar model was adopted across a plethora of other companies. The author of the book states, that some of the most successful companies have one similarity, and that is a subscription model. The book states that in the modern consumer

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[7] https://digitalcontentnext.org/wp-content/uploads/2002/08/OPA-paid-content-report-mar2006.pdf

era, a costumer is not enough. *"They must be a true follower, a subscriber"*. In order to start a profiting business, there is no need for a huge starting capital, but a base of true loyal people, who are willing to purchase a product (Levinter,2020).

The beginning of century was very sceptic about the implementation and usefulness of subscription fee services. It was suggested, due to the lack of paying intent, that subscription model is not a viable option and may not work well in the future. A caution was advised when implementing such models. The availability of free alternative sources either online or offline were considered as a main reason why consumers are hesitant to get involved, hence seeing no value in them. However, a point was made that consumers have no issues with paying for printed newspapers, which cost more than the online fee-based alternative, indicating other factor connected to the lack of interest. (Chyi, 2005).

Despite the increasing popularity and implementation of subscription services within consumers, the field has yet to receive a proper research attention. However, it was defined that depending on the type of subscription, consumers can perceive purchase risk differently. Such risk is dependent on the platform service provider and how he manages it. Furthermore, the level of risk perceived seem to be unimportant in situations where surprise subscriptions are taking place (Bischof, Boettger, Rudolf, 2020).

In terms of online media usage, studies shown a positive gain in the form of increasing willingness to pay for them. The critical factor for increasing motivation seems to be user-perceived value and positive attitude. Another factor to account for a positive increase in media consumption was the topic of environmental impact, specifically in the domain of eBooks. Consumers seem to be more likely to subscribe to an online eBook platform in order to bring a positive impact to the environment (Hsiao, Chen 2016).

3.2.3   Inflation aspect of subscription platforms

An ever-increasing trend in popularity of usage and market impact of subscription platforms and services overall is well documented and proved by the output of further research, i. e. attached survey based on defined questionnaire. However, it is important to note that due to

their increasing popularity and with it, tied an ever-increasing monetary spendings, it can be argued that they have a certain impact on econometric measurements such as consumer price index. With the increasing popularity a certain shift is notable. A consumer side shift from ownership to ownership. As was mentioned by Zuora, Inc. in 2021 (which is a provider in subscription management platform provider) subscription-based businesses have grown six times faster than standard, product-based businesses in S&P500 over the last 9 years. On behalf of this institution a survey of around 13,500 adults across 12 countries reported a growing increase in preference of subscription services over ownership of physical products.[8]

As is the general knowledge of inflation, it describes the amount of goods and services that can be bought for a certain amount of money. With an ever-increasing inflation the results are that individuals can purchase less and less amount of goods for the same amount of money. However, considering the prices for subscription (and their amount of available content) a certain conundrum is encountered. Prices of subscriptions have rarely increased. And if, they did so by not a substantial margin (as will be seen in later parts of this thesis).

The consumer price index, also known as CPI is a measurement which measure rise and fall of inflation for certain products. The index consists of a basket of goods and services that households purchase. Content of this basket is updated annually, in order to avoid potential biases which can develop over time (Gooding, 2014).

Upon closer investigation of the CPI basket, there is no exact category which would cover subscription services. However, some of them could potentially be included: internet services or recreational – video and audio services. However, there still seems to be a lack in exact definition for subscription platforms.

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[8] https://www.zuora.com/press-release/subscription-economy-index-level-reaches-437-over-nearly-a-decade-as-consumer-buying-preferences-shift-from-ownership-to-usership/

By the US Bureau of labor statistics internet services exclude the possibility, hence their description: "*Fees for online activities such as music or video downloads, streaming media (both music and video), fees for online gaming, and subscriptions to online newspapers or magazines are all excluded. Fees to access additional information or services provided by particular websites, such as those offered by popular sporting websites are also excluded. Pre-recorded video on demand subscription streaming services are excluded. "*[9]

Furthermore, the "Recreation" section also explicitly does not include subscription services by its definition. *"Includes items such as audio visual and photographic equipment, computers, music and DVDs, sports and recreation goods, games and toys, items connected with gardening and pets, recreational, sporting and cultural activities and events, newspapers and other reading material, package holidays and other items connected with recreation and culture. "*[10]

CPI overall measures the prices of goods and services per year. The index itself consists of a basket of around 200 units.

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[9] https://www.bls.gov/cpi/factsheets/telecommunications.htm

[10] https://www.cso.ie/en/methods/surveybackgroundnotes/consumerpriceindex/

4 Practical Part

4.1 Statistical analysis of subscription platform data

In order to perform the practical part of research, it was decided to split it into two main parts

- Time series, statistical analyses
- Survey analysis

This chapter will be dedicated in analyzing available data of *certain* subscription platforms (which were also part of the survey questionnaire) and undergo a series of statistical analyses. Mainly a time series correlation analysis and index analysis (which were thoroughly described in the previous chapters

Each of these platforms were undergone these analyses within their same respective variables and indicators, mainly their evolution of user count (or subscriber count) and price for subscription. In the following chapters, these statistics will be approximated, described and analyzed.

Subscription platforms that have been chosen to undergo these analyses were picked based on a number of factors. Mainly their representation of occurrence in the formed survey, overall reach and popularity, amount of available data and clarity of available data.

4.1.1 Netflix

The platform Netflix was chosen to be analyzed, due to the fact that it has been reported as the most used platform service, according to the survey which was sent out as a part of the research. Figure 1 below shows the total yearly user count from the period of years 2011 – 2021. Further, the total user count is reported per quarter to its respective year.

Number of USERS(mm)
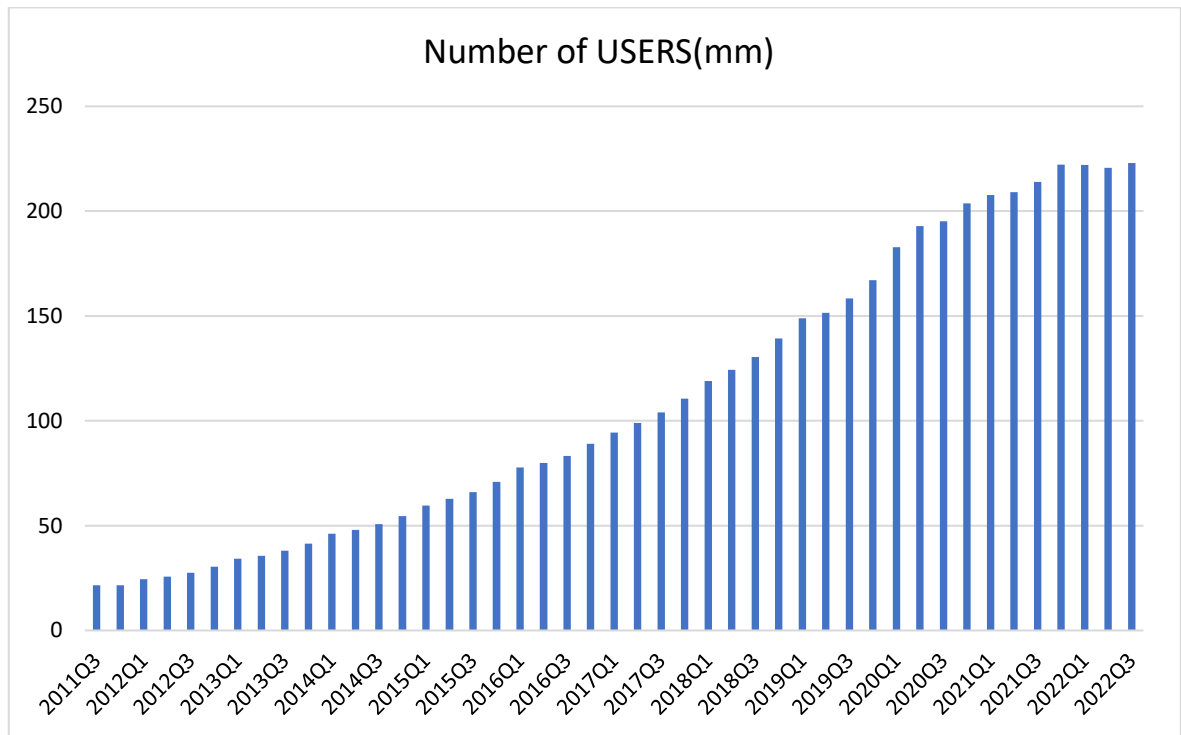
A steady upward trend of total users is to be observed with a potential linear future trend. A steady overall growth is to be observed. However, a difference is present when it comes to yearly growth rate. Table 1 lists yearly difference of users from same quarterly periods. More accurately, from Q3 2013 to Q3 2022. The growth is calculated by comparing state of users from a previous year to number of users in the upcoming year. The state of users regarding their respective period is described in following table.

Table 1: Netflix - Change in subscribers

Period	Change in users (growth)
2012Q3	5,99
2013Q3	10,52
2014Q3	12,64
2015Q3	15,37
2016Q3	17,26
2017Q3	20,74
2018Q3	26,4
2019Q3	27,91
2020Q3	36,82
2021Q3	18,85
2022Q3	9

Source: company data, own making

Following data has been represented in the form of a linear graph. If Figure 2 is observed, there is an apparent rising trend with a steady year to year increase in user growth. Up until the point of Q3 2020 there is no decreasing tendency, however a fifty percent decrease in subscriber growth is then to be observed, followed by a growth of only 9 million users in Q3 2022 (which was the second lowest growth in the observed period). The represented data is as follows.

Figure 2: Netflix- Yearly change in growth
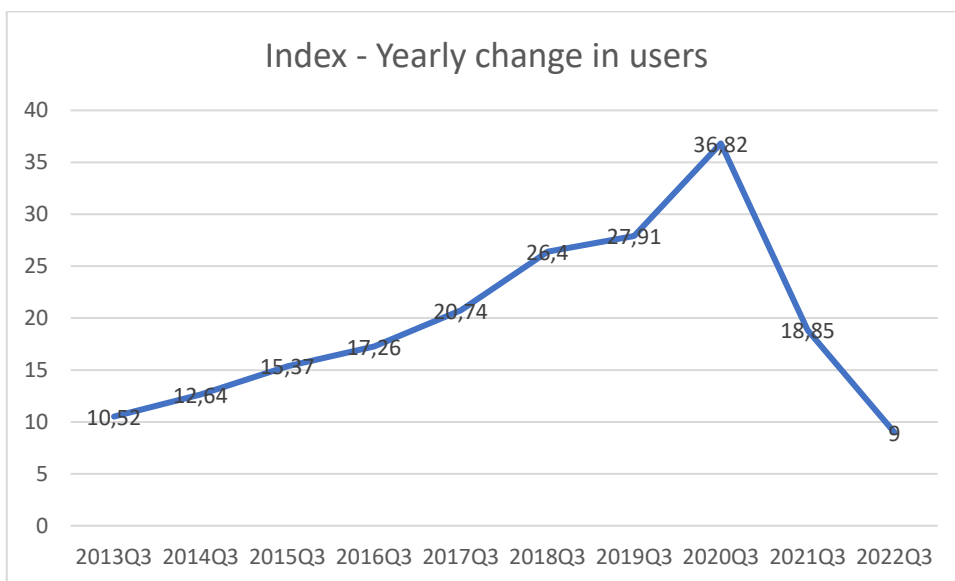
Source: company data, own making

One of the possibilities in the aforementioned decrease, and also a rapid increase happening around Q3 2020 could be due to the situation of lockdowns and curfews which were put into effect globally due to the pandemic of Covid-19. Respectively, people were overall more prone to spend time at home and find leisure activities in watching digital content. In the year 2021 we were able to witness the easing of these curfews, which could be considered as coinciding with lowering of the user base. Percentual changes are portrayed below in Figure 3.

Figure 3: Netflix - Change in users

Index - Yearly change in growth of subscribers
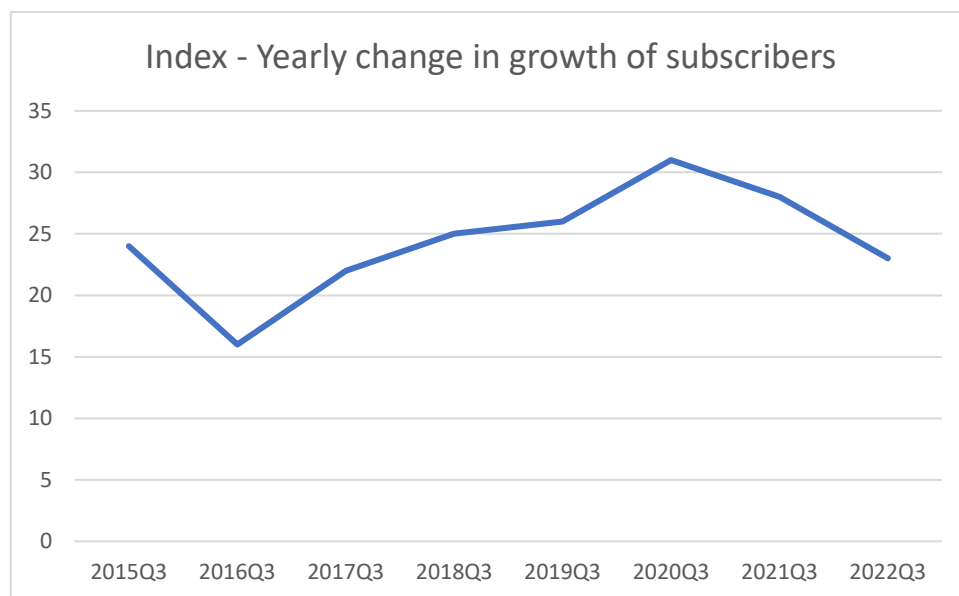
Source: company data, own making

Netflix does not offer any form of free model to access its content. It does offer a free trial period, in which a potential user is required to enter credit card information. After a successful registration a one-month free period starts, and the content is unlocked to that account. However, if the user does not decide to manually revoke the subscription before the 30th day after registration, that user will be automatically charged a monthly fee and still keep access to all available content.

Netflix itself offers subscription at three price levels. Basic, Standard and Premium[11], where the difference between them is defined by the maximum playback quality available and simultaneous connected devices. More accurately the respective subscription tiers, their benefits and prices are described in Table 2.

Table 2: Netflix - Available subscription tiers

Basic	Standard	Premium
1 supported device	2 supported devices	Up to 4 supported devices
Downloads available for 1 device	Downloads available for 2 devices	Downloads available for 4 devices
HD video quality	Full HD video quality	Ultra HD video quality
10 USD/month	15 USD/month	20 USD/month

Source: company data, own making

Note that the price of individual subscription tiers is varied across different countries, and they do not resemble a unified exchange rate. As an example, the different price levels for different currencies are shown in Table 3.

Table 3: Netflix - Pricing of individual tiers by currency

Currencies Netflix	Basic	Standard	Premium
CZK	199	259	319
EUR	7.99	12,99	17,99
USD	10	15,5	20

Source: company data, own making

Regarding the development of subscriptions of Netflix (USD) the price levels have been raised in the past. The price for each individual subscription level however was not linear. The following development of prices is described in Table 4 and its respective graph. The date represents the respective quarters in which the company has decided to change the price for their monthly subscription.
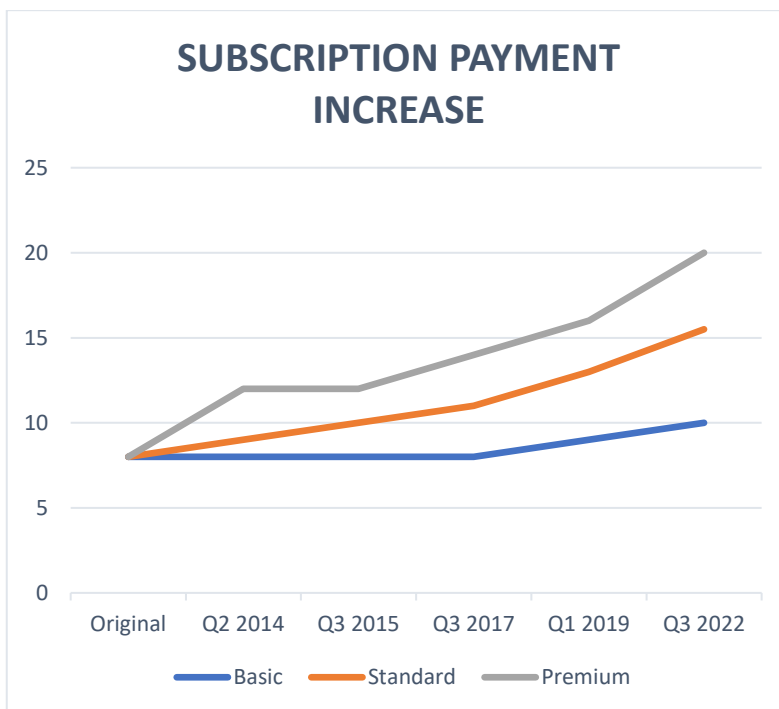
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[11] Source: Company information

Date	Basic	Standard	Premium
Original	8	8	8
Q2 2014	8	9	12
Q3 2015	8	10	12
Q3 2017	8	11	14
Q1 2019	9	13	16
Q3 2022	10	15,5	20

Source: company data, own making

Figure 4 shows the change of price levels in USD to their respective price increases at certain dates.

Figure 4: Netflix - Changes in pricing

Source: company data, own making

As is apparent from the Figure 4, the least amount of change spotted was at the basic tier, which only had two slight price increases. The standard subscription tier followed a significant upwards trend but had more incremental prices changes. The priciest and most

inconsistent was the Premium which had two steady price levels and also managed to have the sharpest increase afterwards.

4.1.2 Spotify

Spotify ranked as the second most used platform within the respondents. Spotify, compared to the rest of music streaming platforms (like Apple Music, YouTube Music and Amazon Music) is leading in terms of daily streams and number of users. As to why Apple Music has a lower number of users even though that it is one of the biggest tech companies could simply be explained by the limiting factor, that their platform is available only to consumers using devices from the Apple Ecosystem (meaning devices with Apple's operating system). Whereas Spotify is an application compatible with variety of operating systems across all modern devices.

It is important to note, that Spotify does also operate under a "free" model, where users are able to use the Spotify platform, without paying a subscription. However, this membership offers users only limited playback capabilities and plays advertisements in-between sessions.

As shown in Figure 5 below, the growing difference of total users of both platform is shown from years 2016-2021.
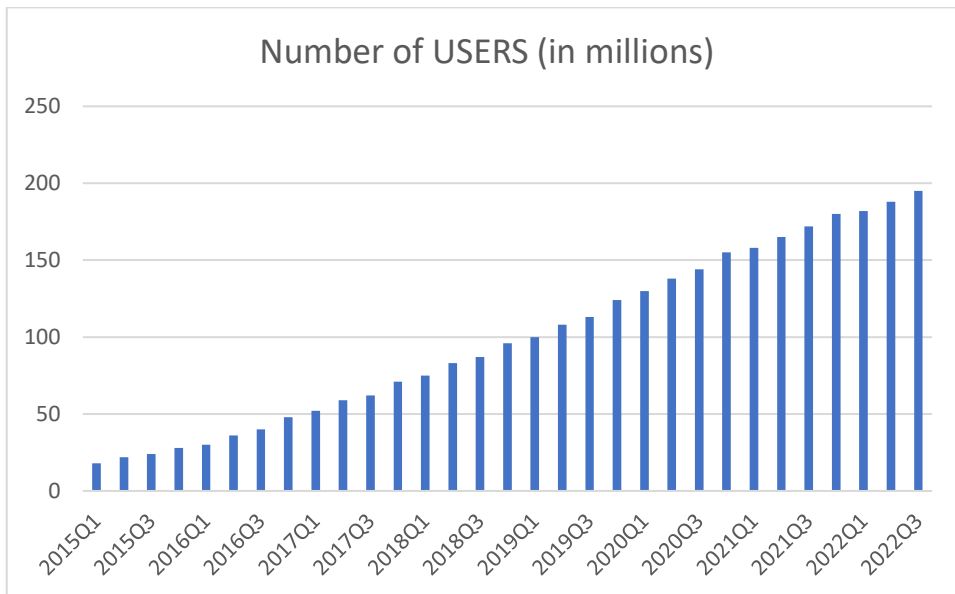
Comparison of Total users
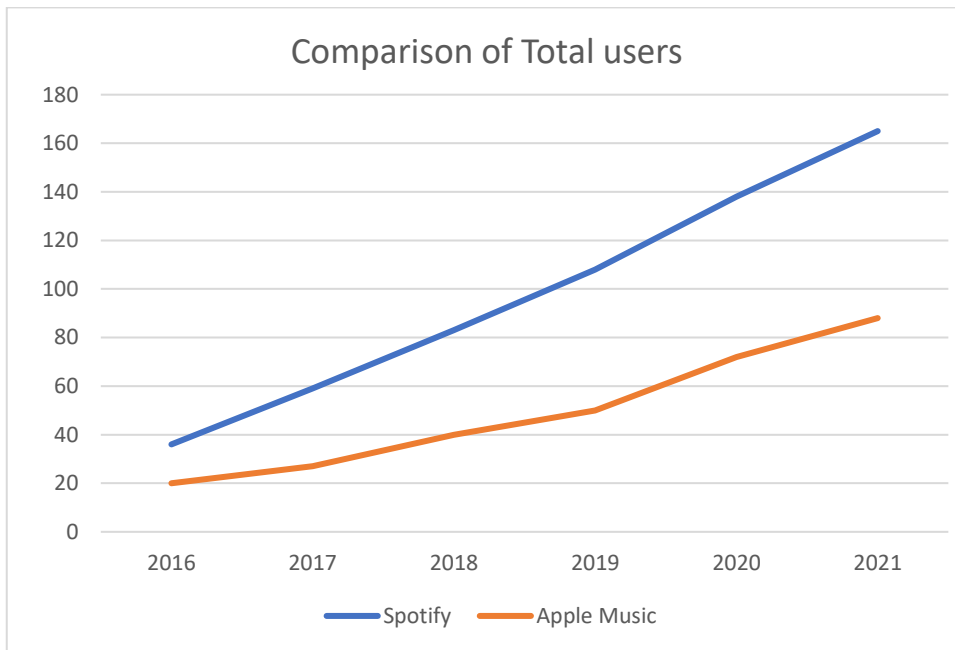
Source: company data, own making

The total development of Spotify userbase is portrayed in Figure 6 which shows quarterly development begging in Q1 2015 with 15 million users up to Q3 2022 with 195 million users. An overall trend of steady growth is to be observed.

Figure 6: Spotify – Number of subscribers

Number of USERS (in millions)

Source: company data, own making

However, if the yearly growth of users is to be observed an uneven, nonlinear trend is becoming present. Table 5 states and compares the differences in growth, by subtracting number of users in Year X to Year X-1 and comparing these values at a yearly period of same quarters. The specific yearly quarter changes in user growth are described in Table 5.

Table 5: Spotify - Change in subscribers

Period	Change in users (growth)
2015Q3	24
2016Q3	16
2017Q3	22
2018Q3	25
2019Q3	26
2020Q3	31
2021Q3	28
2022Q3	23

Source: company data, own making

Following data in Figure 7 describing the change of yearly user's growth has been mapped out in the form of graph, showing the inconsistency in subscriber growth. However, an

overall rising trend can be observed. It can be stated that Spotify tends to have a positive growth of subscribers.
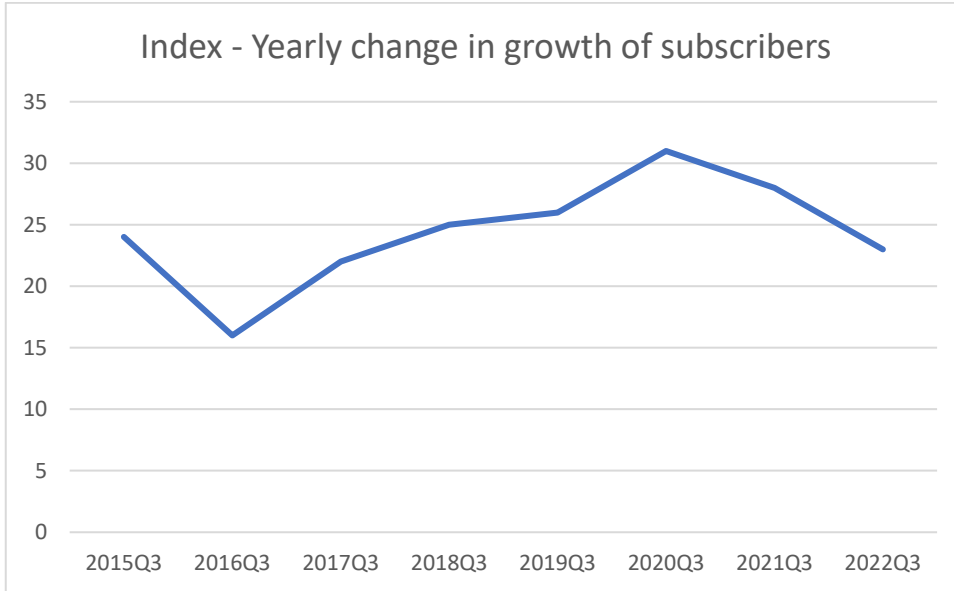
Spotify apart from its free version offers two main price levels for its subscription. Its main subscription is called "Spotify premium" which removes advertisements between sessions and unlocks additional features. This premium is also offered under a discounted price for users who are students. The exact price levels for these tiers and their price changes are stated in Table 6. The price change of year 2023 for "Premium" is an expected price increase announced by the company itself.
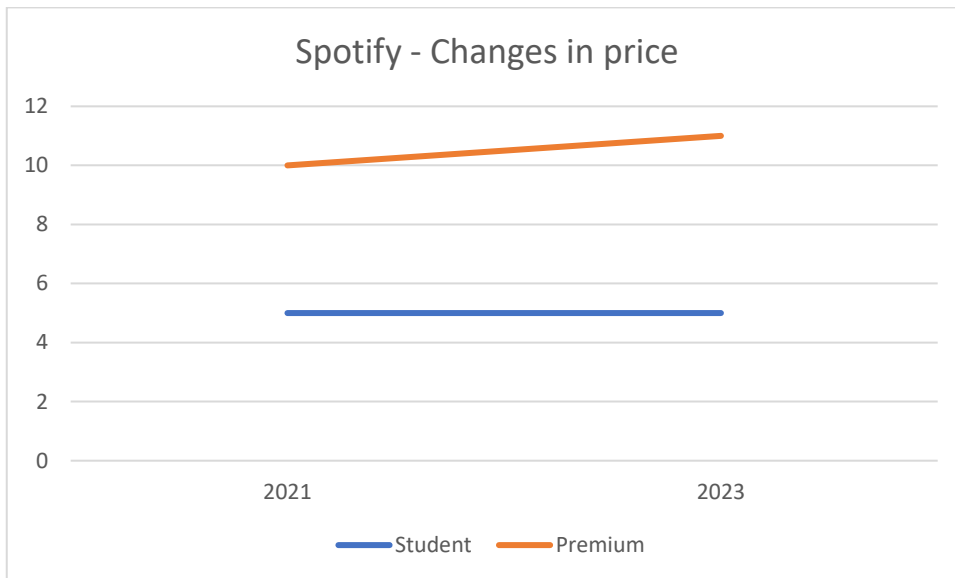
YEAR	Student (USD)	Premium (USD)
2021	5,00	10,00
2023	5,00	11,00

Development of prices are demonstrated in Figure 8. A single price increase can be noticed, however not as significant. A mere increase is present only by a dollar at the not-discounted tier "Premium".

Spotify - Changes in price

4.1.3 HBO Max

HBO Max is one of the youngest streaming platforms within this comparison and in general as well. Following analysis only works with its limited data, dating to its release in Q1 2020. HBO Max offers two price tiers, where both tiers require a payment in order to access its content, in other words it does not offer any form of free (unpaid) tier. Importantly, it is the only platform in this analysis that contains advertisements in one of their subscriptions. Spotify has advertisements in its free version and Netflix does not have any form of advertisements in its paid subscription.

Figure 9 shows the development of total subscribers starting from the period Q1 2020 to Q2 2022.

Figure 9: HBO – Number of subscribers
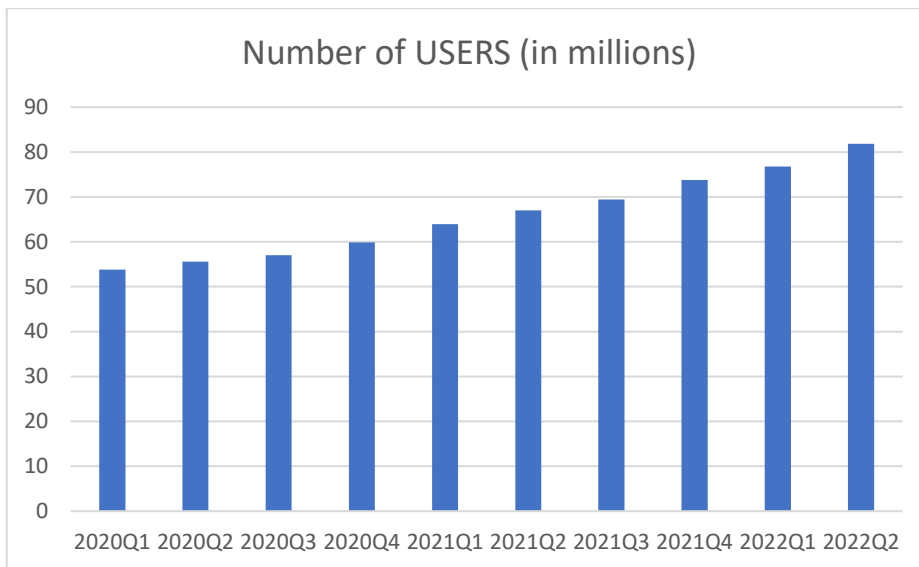
Source: company data, own making

A steady increasing linear trend can be observed throughout the platform's lifetime. Compared to the other platforms the rate of growth is not as steep, mainly due to its young nature. Figure of yearly change in growth are represented in Table 7.

Table 7: HBO - Change in subscribers

Period	Growth
2020Q2	55,6
2021Q2	11,4
2022Q2	14,8

Source: company data, own making

Figure 10 represents a linear chart of yearly subscriber growth. Initial high change in subscribers is due to first wave of users subscribing to the platform for the first time ever. A later rising trend can be observed.

Figure 10: HBO - Change in subscribers
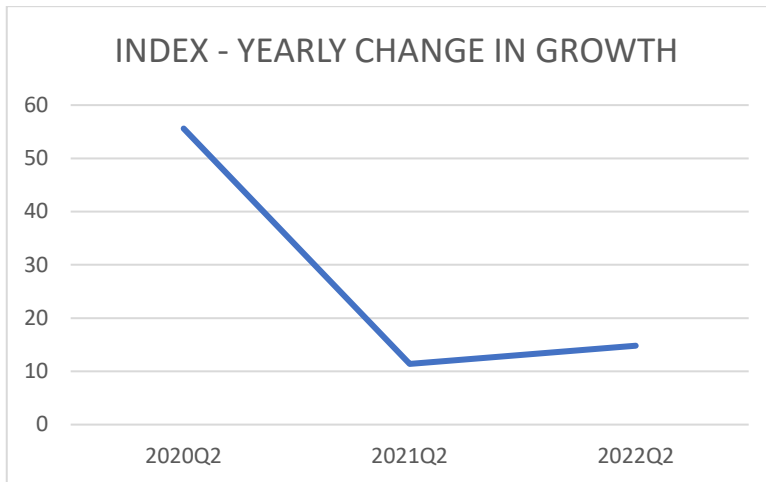
Source: company data, own making

Table 8 represents the available subscription tiers and their respective prices. HBO offers a cheaper subscription with advertisements and a more expensive tier with no advertisements at all. Prices mentioned in the table are in USD currency.

Table 8: HBO - Available subscription tiers

HBO Max with advertisements (USD)	HBO Max without advertisements (USD)
9.99	14.99

Source: company data, own making

4.1.4 Analysis of correlation

Following chapter is dedicated to describing correlation of aforementioned platform's subscriber growth and inflation. Inflation specifically will be compared with Netflix's price changes regarding its price tiers of subscriptions.

Correlation of subscriber's growth is performed in order to compare each platform growth tendencies. The presented data of total subscriber count of each platform has been plotted into Gretl's correlation matrix, individually per each platform. Results are mentioned in Table 9. Screenshots from Gretl's output are to be found in Attachment 1,2 and 3.

Table 9: Results of correlation

Name of platform	Correlation
Netflix	0.984
Spotify	0.996
HBO Max	0.999

Source: own making

As seen from the results the highest correlation has been achieved with the platform HBO Max with correlation of 0.999. Reasoning could be explained due to limited data available due to the platforms recent release. Lowest correlation of 0.984 is observed within the platform Netflix. Overall results show similar tendencies with all platforms regarding their subscriber growth.

Following analysis of correlation was performed on subscription tiers of Netflix and inflation through the years mentioned in Table 4. Rate of inflation was then also compared with the base year of 2014 and within other years respective to individual price changes in the subscription. Reasoning for picking Netflix's price changes was due to historical data and changes that were publicly available. The results of correlation matrix are as follows.

Table 10: Correlation - Netflix price changes and inflation

Subscription tier	P value
Basic	0.965
Standard	0.925
Premium	0.891

Source: own making

As seen from the result of Table 10, the highest correlation with inflation was observed with the "Basic" tier, meaning that this tier has the closest development to overall inflation. The lowest correlation was observed with the "Premium" tier with p value of 0.891. Reasoning for these results could be that most of users are under the subscription of "Basic" tier, hence the company's decision to raise its price to match inflation. The "Premium" tier however could be portrayed as more luxurious adaptation with less percentage of users partaking in it, hence not seeking the necessity to adapt it to developing inflation, but rather raising its price above it.

Results were performed on 0.01 level of significance. Overall, they can be considered as statistically significant, where individual prices of Netflix subscription do follow the rate of inflation. Screenshot of Gretl's output can be found in Attachment 4.

4.2 Survey questionnaire

### 4.2.1 Results of questionnaire

Gender of respondents

Information in the Table 11 shows the representation of males and female respondents. The minor overrepresentation of one gender however does not play a crucial role in the outcome of this research. It can be argued, due to the minimal difference that respondents have been equally represented. Following data is graphically represented in Figure 11.

Table 11: Survey - Gender of respondents

Gender	Amount	Percentage
Male	74	51%
Female	70	49%
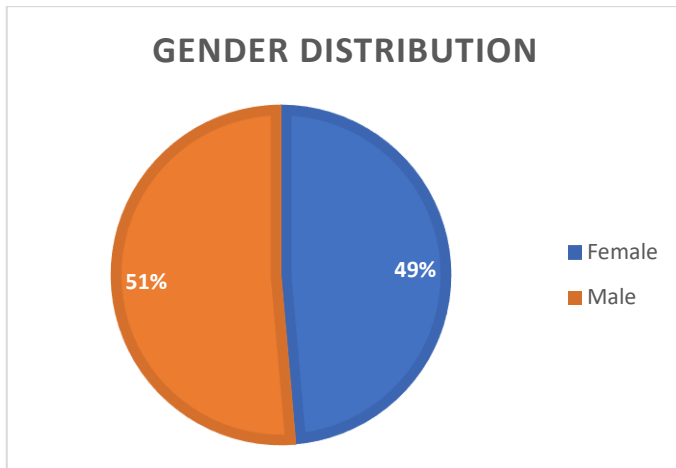
Source: own making

Age of respondents

Table 12 contains information representing the age of respondents participating on the study. The target demographic of this research is college students and recent graduates. Since no age limitation was settled, the later term can also be applied on respondents of the upper end of the collected data, which from the result were apparent that these individuals were finishing their college education in later stages of life (in comparison to the traditional age range from 19-25 which represents the standard post graduate education).

Hence the highest age value being the age of 35. The possible age difference has no impact on the results of this research, because the majority of respondents fall into the area-range of typical post-graduate education level.

The initial collected data was in the form of singular value representing respondent's age. For the sake of simplification and efficient data presentation, respondents were categorized by age groups, described below.
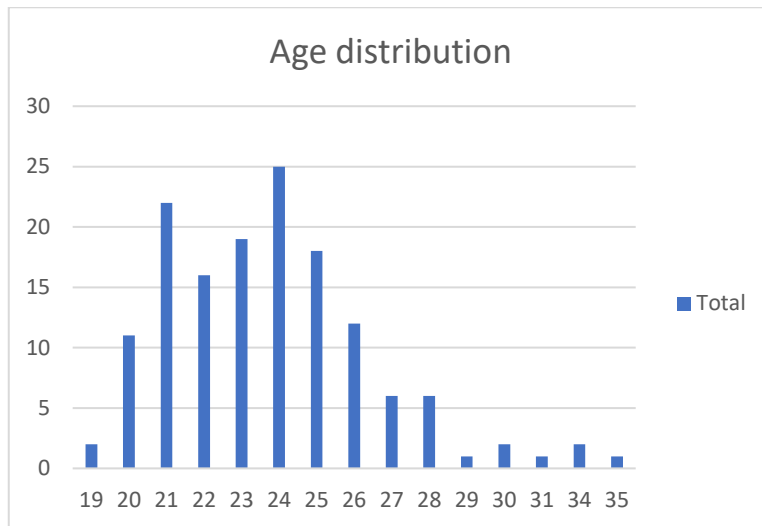
Age	Amount	Percentage
19-21	35	24%
22-24	60	42%
25-27	36	25%
28+	13	9%

Source: own making

Figure 12 shows ages per individual respondent partaking in the survey.

Figure 12: Survey - Age distribution

Source: own making

Study major of respondents

Study major of respondents is considered as of the key variable of this research. All respondents asked to participate in the survey were of variety study-major types and study specializations.

In order to properly organize and represent the collected data regarding respondent's study major, the study majors were put into following categories – economics, engineering, IT, law, mathematics, philosophy, psychology and other. This categorization was done in order to simplify the research procedure and its interpretation of results. For example, IT category consists of respondents studying computer science and IT security. Similar case was done regarding business administration and economics. Study major will later be analyzed if it

has an effect on the use of subscription platforms, total subscription count and total money spent. Table 13 shows study major categories of respondents.

Table 13: Survey - Study major of respondents

Study major category	Amount	Percentage
Economics	54	37%
Engineering	16	11%
IT	30	21%
Law	10	7%
Mathematics	3	2%
Philosophy	1	1%
Psychology	17	12%
Other	13	9%

Source: own making

Highest level of education

Results show the highest achieved level of education. It can be used to assess what percentage of respondents is currently starting their college education, if they finished it or are potentially continuing their postgraduate studies. For clarification definitions are as follows:

- Undergraduate – Study major ending with a bachelor's degree title
- Postgraduate – Study major ending with master's degree title

From the results shown in Table 14, 33% of respondents are currently studying their undergraduate degree. Out of the 45% of respondents have either finished their studying

completely or are continuing with their post graduate education. 22% of respondents have reported to have achieved a post graduate degree.

The evaluation of education level will be used in order to assess, if it influences responsibility of use (i.e., total assumed spending on subscription platforms and total amount of subscriptions).

Table 14: Survey - Highest level of education

Education	Amount	Percentage
Highschool	48	33%
Undergraduate	65	45%
Postgraduate	31	22%

Source: own making

Origin of respondents

Respondents were asked to state their college and(or) faculty that they are currently getting their education. These answers were then processed and categorized by the country of origin of each respondent. Due to the variety of continents, countries or individual states, the respondents were then categorized into two major groups.

- European (EU)
- United states of America (USA)

Results are shown in Table 15.

Table 15:Survey - Origin of respondents

Place of Origin	Amount	Percentage
EU	85	59%
USA	59	41%

Source: own making

Employment status

Table 16 describes the employment status of respondents. From the results it can be clearly seen that 30% of respondents fall into the category of recent graduates, and also that almost half of students are a having a part time employment.

Table 16: Survey - Employment status of respondents

Employment status	Amount	Percentage
Full-time student	53	37%
Student with part-time job	51	35%
Full employment	40	28%

Source: own making

Familiarity with the term "Subscription platform"

Following question was aimed in order to assess, how (or if) are the respondents familiar with the term "Subscription platform". From the presented results in Table 17, it is obvious that an overwhelming majority of respondents are fully aware and familiarized with the term. An overwhelming 92% of respondents have said that they are knowledgeable of the term. Following result coincides and further supports the fact that younger generations tend to adapt and use new trends quickly. [12]

Minority of respondents (7%) have reported that they have at least once heard the term, and one respondent mentioned that is unfamiliar with it. It can be assumed that even outside the current pool of respondents, people are probably aware of this trend, even when they are not using it.

Table 17: Survey - Familiarity with the term "Subscription platform"

Answer	Amount	Percentage
Yes, I am	133	92%
I have heard of it before	10	7%

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[12] https://www.pewresearch.org/fact-tank/2019/09/09/us-generations-technology-use/

I have no idea	1	1%

Source: own making

<u>List of used subscription platforms</u>

Table 18 contains number of platforms present in the survey, with the addition of the option "Other". Reasoning for the last option was to gather data about what platforms are respondents using apart from the ones listed. The amount of available subscription services is very broad and would be counter-intuitive to listing all of them.

The preset list of services was decided to contain mainly content-oriented platforms (music, movies, videos) and paid services which are available within operating systems of most popular smart devices. Overall, the aim of the list was to contain the most used and popular platforms.

Table 18: Survey - Popularity of platforms

Subscription platform	Amount	Percentage
Microsoft OneDrive	51	35%
Google drive	54	38%
Apple iCloud	82	57%
Spotify	115	80%
Netflix	127	88%
HBO Max	38	26%
Amazon Prime	38	26%
Hulu TV+	25	17%
Disney+	29	20%
Other	19	13%

Source: own making

As seen by the results, the most used platforms are Netflix (88%) and Spotify (80%), with a significant difference to the rest of the platforms. Followed by Apple iCloud (57%), possibly due to the popularity of Apple smart devices among young adults. Overall nature and content

of the two most popular platforms could be explained by their ability to be used daily and replace leisure time activities.

Open ended option "Other" was meant to gather other subscriptions that respondents are paying for, which were not listed on the list and potentially find out if there are other significant, very popular platforms. Most of other reported platforms were of other content streaming services, particularly YouTube Premium. Other widely reported platform was the online dating app Tinder. There were mentioned subscriptions for services other than content consuming platforms. Specifically licenses for productivity tools from Adobe Suite, primarily Adobe Creative Cloud. This subscription offers access to range of creativity tools for digital illustration, photo editing, animation and video editing.

<u>Individual paying for these subscription platforms</u>

Results from Table 19 are aimed to assess if respondents are identical with the person, investing financial assets for the aforementioned services. Some of these platforms offer various price tiers which offer multiple simultaneous logins, or group and family plans that allow multiple accounts to use the respective service. The ability to benefit from this is quite apparent, hence why this question was present in the survey.

The majority of respondents (51%) said that they are not the one paying for these services, further showing that they are being shared between family members, partners or group of friends. 42% of respondents have answered that they are paying for these services themselves. This figure could be potentially alarming, considering that due to known struggles of college students having lower financial budgets, they would still decide to undergo subscriptions which add up over a long period of time. Only mere 7% are not putting any financial resources into these platforms.

Table 19: Survey - Individual paying for subscriptions

Answer	Amount	Percentage
Yes, all these services are paid by me	61	42%
No, SOME of these services are paid by somebody else	73	51%
No, ALL of these services are paid by somebody else	10	7%

Source: own making

Specific platforms not paid by respondents

Due to the nature of platforms offering either group subscriptions or ability to share one account between more than one device, there is a possibility of users sharing benefits of a single account without the other paying. This question was aimed at assessing what percentage of respondents are sharing an account while not paying for it at all and what type of platforms are the most shared. Reasoning could be that parents are paying for a video streaming service that is shared among all family members where respondents usually log in to consume content.

About 48% of respondents have reported at least one service that they are not paying for. With the most reoccurring being Netflix and Spotify with Amazon Prime being the third most mentioned.

Period of payment

And overwhelming majority of respondents have reported that they are undergoing a monthly form of payment (as shown in Table 20). With such results there can be an implication set that a lot of these respondents could possibly be paying more, than if they would undergo a payment for a full yearly period. Such statement can be further supported by comparing if some of these platforms offer a discount on a yearly payment and compare it to reported length of use by respondents. Reason for zero responses to "Weekly basis"

could be that either because some services do not offer such form of payment, or that at the end of a free trial a monthly payment is automatically deducted.

Table 20: Survey – Usage frequency of subscription platforms

Answer	Amount	Percentage
Weekly basis	-	-
Monthly basis	137	95%
Quarterly basis	1	1%
Yearly basis	6	4%

Source: own making

<u>Satisfaction with subscription platforms</u>

Respondents were asked to rank their overall satisfaction with services that they are using. The subjective satisfaction was meant to be represented by a scale from 1-10, where 1 being the least satisfied and 10 being the most satisfied. Overall results are numerically represented in a Table 21. The graph seems to copy a form of bell curve with a peak at 8th level of satisfaction. Considering the results, and the majority of results being around 7-10, it can be assumed that respondents are very satisfied with the state of the platforms and what they can offer.

Overall, 43% have stated satisfaction of 8, followed by 2 most reported answers 7 (20%) and 9 (21%). The higher satisfaction is supported due to the fact that more respondents have reported the highest level of satisfaction of 10 (10%) than the two lowest levels of 5 and 6 (2% and 4%). Results are further supported by Figure X, further showing the apparent bell curve.

Table 21:Survey - Satisfaction with subscription services

Scale	Amount	Percentage
1	-	-
2	-	-
3	-	-
4	-	-
5	3	2%
6	6	4%
7	29	20%
8	62	43%
9	30	21%
10	14	10%

Source: own making

Figure 13: Survey - Satisfaction with subscription platforms
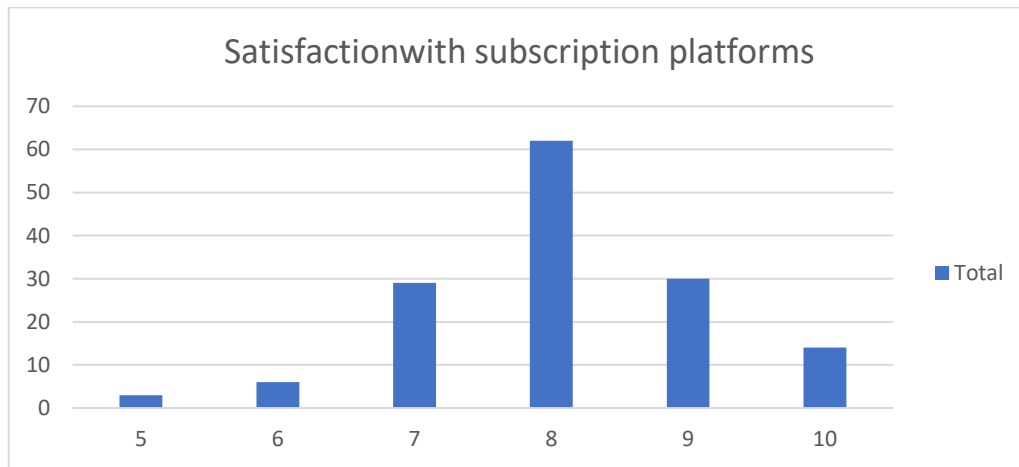
Source: own making

Assumed "Value for money"

The intention was to find out if respondents are finding any added value or benefit in comparison to their money spent. This part of the survey to an extent coincides with the previous question. A majority (52%) of respondents have mentioned that they are somewhat satisfied with the value that they are getting from their paid subscriptions, however, are expecting something more. The ability to respond with any recognized benefits is described

in a further survey question. It can be stated that respondents are conclusively satisfied with the platforms. 42% of them are perceiving an added value for their subscription and only 7% of them are not sure. In the survey no respondent has checked "no added value" option which is found to be of a great significance. Exact results are portrayed in Table 22.

Table 22: Survey - Perceived added value

Answer	Amount	Percentage
Yes, I do feel like I am getting an extra value	63	42%
Yes, sort of, but I expected more	73	51%
Maybe, I am not sure	11	7%
No, I do not see the added value	-	-

Source: own making

First time subscribing to a platform

Table 23 shows results regarding the first time that a subscription of platform was made. From the results it is apparent that the respondents have been undergoing payments for more than a year (85%). 12% of respondents have said that they made their first subscription about a year ago. It further seems that more students are already established, due to 3% of respondents having their first subscription about 6 months ago. No recent subscriptions within the timeframe of a week to a month have been reported.

Answer	Amount	Percentage
More than 1 year ago	122	85%
About a year ago	4	12%
About 6 months ago	18	3%
About 1 month ago	-	-
About a week ago	-	-

Source: own making

Usage of platforms

The frequency of use seems to be another driving force to why subscription services are so popular (as seen from results in table 24). Specifically with the platform Spotify, which can be access during any time of day, due to it being a music and podcast streaming service. 64% percent of respondents are using these platforms on a daily basis. 33% are only using them during a few days a week, which could be assumed are platforms with video streaming capabilities. Only 3% of respondent are using their subscriptions once a month.

Table 24: Survey - Frequency of use

Answer	Amount	Percentage
Daily	92	64%
Once a week	-	-
More than once a week	48	33%
Once a month	4	3%
I do not remember	-	-

Source: own making

How long have been these platforms paid for

Following results in Table 25 can be at first apparent as duplicate of a previous question. Reason for implementing this question was to find out if respondents are actually aware of the time period that their subscriptions have been paid for. Compared to the previous question (results in Table 23), the reported answers are mostly similar, resulting in awareness of respondents about their time frame of kept subscriptions. Differentiating results could be

explained in a way, where the respondents have removed, added or refreshed one of their subscriptions.

Table 25: Survey - Length of maintaining subscriptions

Answer	Amount	Percentage
More than a week	4	3%
More than a month	4	3%
More than 6 months	19	13%
More than 1 year	117	81%

Source: own making

Occurrence of subscription cancelation

Table 26 shows the occurrence of recent cancellation of subscriptions. 79% of respondents have reported that they are intending on no cancelling their subscriptions and further keep paying for them. These results further prove their popularity and satisfaction.

Table 26: Survey – Occurrence of subscription cancelation

Answer	Amount	Percentage
Yes, I did this week	15	10%
Yes, I did this month	15	11%
No, I am intending on keeping them	114	79%
Other	-	-

Source: own making

Recognized subscription platforms benefits

Following question was meant to represent the subjective feeling about subscription platforms from respondents. Specifically what type of benefits they perceive from using and paying for these platforms. Considering the fact that these answers are complicated to put in a specific list, and open-ended question option was chosen. All answers from respondents have then been assessed and put into following conclusion.

Only 23% of respondents have stated that they do not see any additional value to using these services. Remaining responses regarding perceived benefits could be categorized as:

- Ease of use
- Value for money
- Ability to access content without internet due to offline option (where content is downloaded into a device)
- Efficiency
- Ease of use
- Absence of commercials
- Accessibility to a wide range and amount of content

Estimated amount paid for subscriptions in total

Results in Table 27 provide information about crucial data and outcome of this research. The aim was to assess how much respondents assumed they have spent for their subscriptions in total (i.e., throughout their whole period of usage). Or even if they have an estimate. Overall, from the results 67% of respondents did not have an estimate, and only 33% have responded with an estimated figure. What is important to note, is that even if respondents have given a figure, it cannot be considered as a realistic figure. Reasoning being that reoccurring monthly subscription throughout multiple platforms tend to be hard to track, especially along a prolonged time of use.

Table 27: Survey - Total price spent estimates

% of respondents having an estimate of their spending	% of respondents NOT having an estimate of their spending
67%	33%

Source: own making

These shocking results show that more than a majority of respondents do not have an idea about their total spendings, which further supports the fact that this business model can be considered as beneficial to businesses due to a seemingly lucrative price point in a short-term timeframe.

Of those respondents who have given an estimate, a portrayal of data was made by categorizing total spending into certain price ranges. Due to varying currencies reported, the total values were recalculated into Euros with an exchange rate taken from Czech national bank as of month November. The price points are represented in Table 28 and graphicaly represented in Figure 14.

Table 28: Survey - Estimated price ranges

Price ranges in USD	Amount
1 to 50	5
51 to 100	9
101 to 200	11
201 to 300	2
301 to 400	2
401 to 500	3
501 to 800	10
801 to 1000	3
1001 to 1500	2
2000+	1

Source: own making

Figure 14: Survey - Estimated amount spent on subscriptions

Estimated amount spent on subscriptions (in USD)
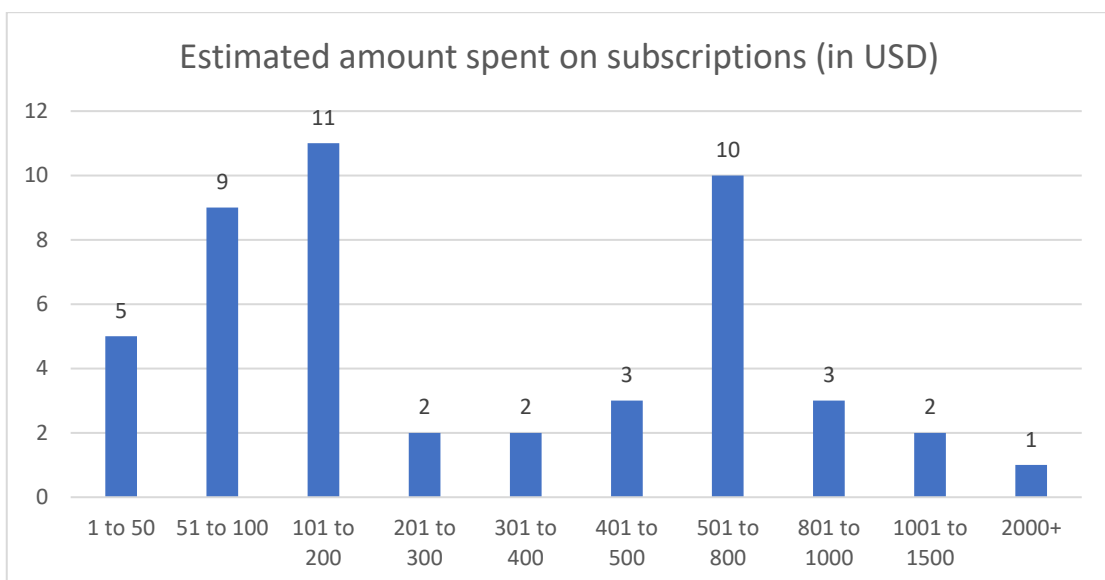
Source: own making

Most often respondents estimated that they have spent from 101-200 USD and 501-800 USD. The highest two brackets were 1001-1500 USD and 2000 USD and more. These could

be considered as most accurate, regarding the average time frame of subscription being more than one year.

Recognized subscription platforms disadvantages

As an opposite to the previous question of perceived advantages, this question was regarding to assess the respondent's perceived disadvantages of these platforms. As was the case with previous question, the option for an open-ended question was chosen to be adapted. From the results, 53% of respondents have not recognized any disadvantages. Overall disadvantages mentioned were due to how expensive they are, and their potential to be cheaper. Other disadvantages were the indecision due to wide amount of content, where respondents have said that they do not know what content they should consume (most reoccurring with the platform Netflix) and a perception of unfair monetary reciprocity to original authors.

Intention to keep respective platforms

Table 29 represents the answers regarding the intention to keeping paying for subscriptions. This data could be theoretically tied and respective to overall satisfaction of respondents with these services. An overwhelming 89% of respondents have reported that they are intending on paying their subscriptions. Reason being could be due to the subjective satisfaction with the overall services. Only 11% of respondents have mentioned to cancel some of their subscription. No reports of cancelling all subscription have been submitted.

Table 29: Survey - Intention to maintain subscriptions

Answer	Amount	Percentage
Yes, I am	128	89%
No, I am planning on cancelling ALL my subscriptions	-	-
No, I am planning on cancelling SOME of my subscriptions	16	11%

Source: own making

Reasons for cancelation

As a response to the previous question asking, if respondents have recently cancelled any of their subscription, this question was aimed to state their exact reasons for cancellation. Only 11% of respondents have mentioned that the reason for their cancelation was mainly due to either lack of original content, rising financial burden connected with paying long term for these platforms or realization that their utilization of their subscriptions was not adequate to the money they have spent.

Preferation of paying a reoccurring fee and buying singular items

Last question was aimed to find out the preference of respondents. Specifically, if they prefer paying a reoccurring fee for access or pay money for specific pieces of media or content. As presented in Table 30, results have shown that the majority of respondents would rather pay a reoccurring fee for a wider access of content (55%). 33% of respondents reported that it would depend on the exact item in question. Only 8% prefer to buy a single item and 4% of respondents they do not mind, one way or the other.

Again, from the results, the popularity and willingness to continue using subscription services is quite apparent. The obvious benefit lies in the fact, that these platforms offer almost unlimited amount of content which seems to be lucrative for consumers, however the

main possible disadvantage could be in the lack of ownership of the digital content. Hence, we can assume that ownership is not a key indicator for consumers.

Table 30: Survey – Preferences

Answer	Amount	Percentage
I would prefer buying a single item	11	8%
I would prefer to pay a reoccurring fee for a wider access	80	55%
It depends on the exact item	47	33%
I do not really care	6	4%

Source: own making

4.3 Answering research questions

Methodology part has described the methods used to gather and analyze relevant data. It has also named and described particular research questions, which are aimed at setting and describing the overall research of this thesis. Survey results themselves showed a more defined consumer tendencies in regards to subscription platforms. Following chapter will organize collected findings and put them into perspective in relation to the set research questions.

First research question was "*How widely are subscription services used within the demographic of college students?*". Following question will be supported by results of the questionnaire (Table 17), specifically by question assessing if they have heard about the term "subscription service". 92% of respondents have answered that they are familiar with the term and 7% have heard of it before but are not sure. In total 99% of respondents do in fact know what this term means and represents.

Another supporting results can be found from survey question regarding how many platforms each respondent usually has a subscription to. As seen in Figure 15 he most often

reoccurring statistic is that the most student have around 3 platforms, followed by 2, 4 and 6 subscription per person. Only 9 respondents have 1 ongoing subscription. 11 people have reported to have 7 and more subscriptions total. This data will be further used in another research question.

Figure 15: Number of platforms per respondent
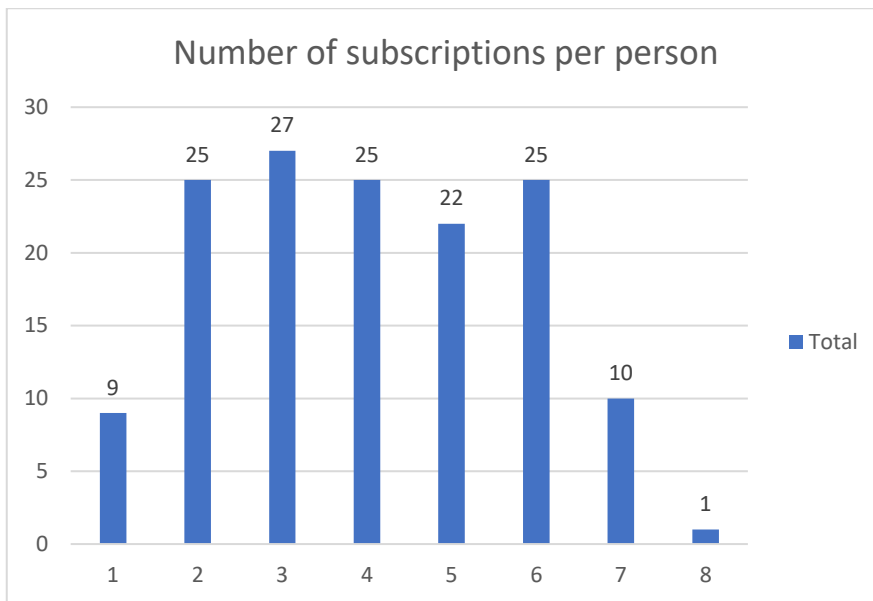
Source: own making

Conclusion: Based on familiarity with the term, students are aware of its existence. This is further supported by the number of ongoing subscriptions per person, reaching as high as 6 simultaneous ongoing subscriptions. Overall, it can be stated that the targeted demographic is indeed familiar with the field and are big adopters.

Second question was aimed at finding out if students prefer paying a reoccurring monthly fee over a single time purchase. This exact question was stated in the formed survey, where 55% of respondents confirmed this statement and 33% would potentially prefer a single fee depending on the exact item in question. Only 8% reported that they would rather prefer to pay a singular fee.

Conclusion: In majority, students do prefer to pay reoccurring monthly fees for digital content.

Third research question was aimed at finding out, if study major affects responsibility of use. This was defined by two subgoals. Specifically, that economics students are more likely to give an estimate of total spending and on average have less subscriptions. Intention was to examine, if students of an economics major tend to use these platforms responsibly and are aware of their spendings. Results are portrayed in Table 31 and exact amounts of price estimation are graphically represented in Figure 15.

Table 31: Estimations of economic students

Students of economic major		
Average amount of subscriptions	**% of respondents reporting and estimated figure**	**Average amount spent (EUR)**
4,3	26%	133

Source: own making

Figure 16: Estimated spendings of students of economic majors
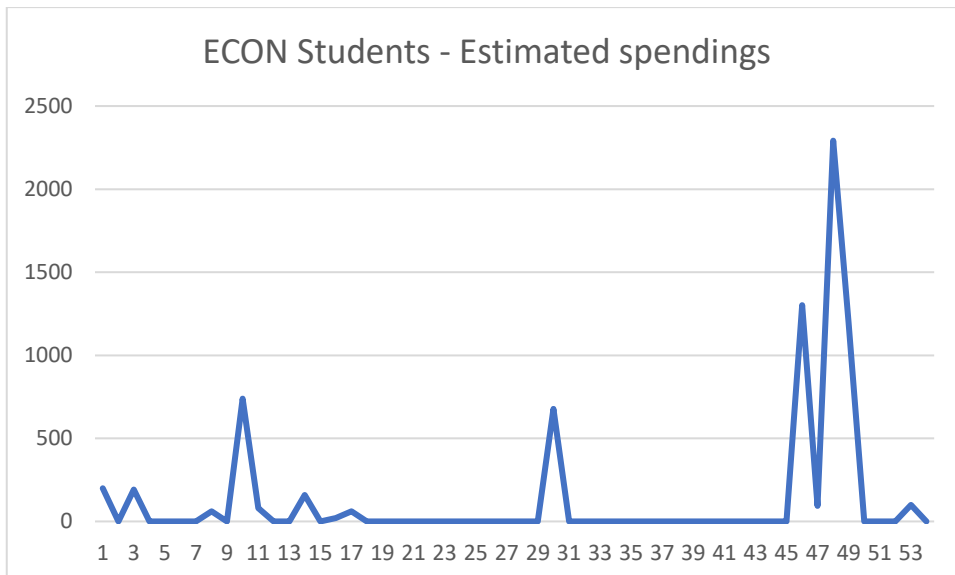
Source: own making

On average, students of economic major have 4,3 simultaneous subscriptions and on average have estimated 133 EUR of total spendings. Also, only 26% of economic students have been able to give a figure of estimation. As seen from Figure 16, respondents of an economic

background were the only ones to report a high estimation, hinting at a more accurate (realistic) estimation.

Table 32: Estimations of non-economic students

Students of non-economic major		
Average amount of subscriptions	**% of respondents reporting and estimated figure**	**Average amount spent (EUR)**
4,1	38%	161

Source: own making

As seen in Table 32, students of non-economic background had a lower average simultaneous subscription of 4,1. Of this group, more people were able to give an estimate on their total spending, specifically 38% of respondents. Compared to economics students their average of assumed total spending is higher (161 EUR). Estimations are graphically represented in Figure 17.

Figure 17: Estimated spendings of students of non-economic majors
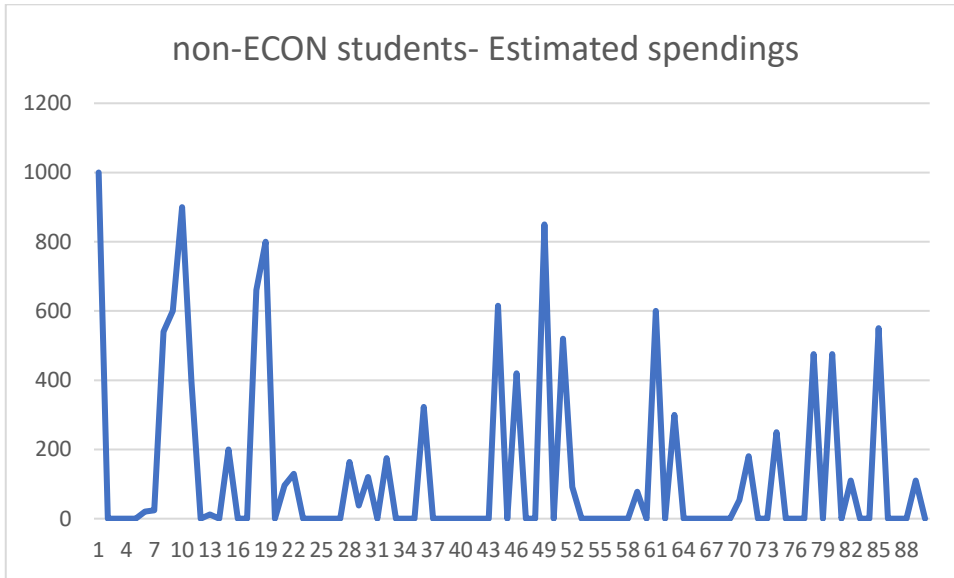
Source: own making

Considering these metrics, it can be assumed that economic students do not have a better perception of their total spending, because:

- On average, they have a higher amount of ongoing, simultaneous subscription. Meaning that they are less aware of the financial burden that they bring.

- On average they reported having spent less money. This metric is however skewed due to the extremes, where some of the estimations were those of higher numbers. However, those can be interpreted as those individuals being more aware of the actual impact.

- Lower percentage of economic-major students were able to provide an estimation, meaning they can't, at worst give a general assessment, compared to other study majors.

Conclusion: Study major does not impact the responsibility of usage of subscription platforms.

Fourth question was aimed to assess an average amount of subscriptions per individual respondent. As shown in Table 33, the average number of subscriptions per respondent is 4. However, 3 simultaneous subscriptions were the most reoccurring result within the survey. Supporting information is mentioned in Figure 15.

Table 33: Average and mean number of subscriptions per respondent

MODE subscriptions	AVERAGE subscriptions
3	4

Source: own making

Conclusion: Most often, students and recent graduates tend to have three simultaneously running subscriptions, while the average number of subscriptions per respondents is 4.

Fifth question aimed to assess the average amount of money spent on these subscriptions across all study majors. Point of this question was to assess how much students perceive that they have spent on the above-mentioned subscriptions. Factually, 67% of respondents reported no assumption of how much they have spent. It can then be stated that students

generally have no idea how much they are spending on their subscriptions in total. Results from those that have given an estimate are described as follows:

The average of all estimates given by respondents was 397 EUR, with lows of 12 EUR and highs of 2292 EUR. Unaccounted for these two extremes, the average estimations of all respondents are 364 EUR.

Considering some of the reports (as described in figure 15 and 16), being of low value, it can be considered that those estimates are illogical and non-representative of reality. This can be further compared to a report performed to analyze average spendings of US citizens on subscription platforms. Considering the report on subscription platforms (in B2C model), an average of 43% spent from 25-49 USD per month and 23% spent from 15-24USD per month. [13]

Conclusion: Average estimated spendings on subscriptions is 364 EUR. Moreover, an overwhelming part of students cannot recognize the exact monetary amount of how much they have spent on upkeeping their access to content. Further supporting the fact that the business model of these platforms lies in people forgetting to either unsubscribe from them or just keeping them with hopes of accessing them at later points in time. Considering the survey results (where majority of students reported having subscriptions for longer than one year and average amount of 4 subscriptions per student), results seem illogical, meaning respondents are not aware of their total spendings.

Lastly, research questions focused on assessing how long have subscriptions been used and how long are students planning on maintaining them. The survey data can be used to further analyze this. First and foremost, majority of students reported that they have first subscribed and have been paying for subscriptions for more than a year (Table 23,25). Lastly, it was reported that overwhelming majority of students intend on keeping their subscriptions in the future. (Table 29).

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[13] https://profitpermonth.com/how-to-price-your-membership-subscription/

Conclusion: Average time of held subscription is more than one year, with a long-term intention of usage.

5   Results and Discussion

Following diploma thesis was aimed at analyzing not only subscription platforms as a whole, but more importantly their use, perception and style of consumption. Specifically, within the domain of college students and recent graduates. The reason for selecting this demographic was due to college students being those of the younger generation that often does not shy away from not only trying but using and adopting new trends and technologies.

Specific area of the demographic were not only college students, but their recent graduates (meaning graduates that have recently joined the work force). Reasoning for this was that members of society who are now part of the workforce have more accessible financial resources to adapt and use these services. Subscription platforms themselves have been chosen to be part of this research, due to the fact that there is an observable increase of popularity in this trend, be it due to globalization, accessibility of internet or adaptation from the view of business and marketing goals. As was stated in the literature review, subscription platforms are beneficial in ways where they offer serious advantages not only to the businesses and companies providing them, but also to end consumers. Companies are assured to receive a steady, periodic form of income and consumers are offered an always accessible service and wide amount of content with the benefit of ease of use and a singular platform to which they tend to and like returning.

First part of this thesis was dedicated to describing and familiarizing with the problematic of consumer behavior, subscriptions, subscription services and platforms overall, where the most used terms and key words were described. A literature overview of this topic was then performed to compare past trends in the era of wide adaptation of internet as well as information on the current state of consumption and uses of subscription platforms. From the review itself a developing trend of popularity can be observed where subscriptions were considered very speculative and used only in certain niches such as newspapers and news.

It can be observed nowadays (not only from the information in literature) but from personal experience that subscription business models are more and more prominent. We were able to be witnesses the rise of the most popular platforms such as Netflix or Spotify that can now be considered as leading companies in providing digital content. More importantly these business models are now not restricted solely to digital content but to activities tied to day-

to-day functioning, such as Amazon prime, which offers faster delivery for members from its marketplace.

Furthermore, the literature overview attempted to describe subscription platform with regards to consumer behavior. The overall field was described both from a perspective of businesses, psychology and how they all interact and affect decisions of consumers. Some examples of what consumer react to positively and how they interact with products is also described.

Second part of this thesis was aimed at practical research regarding this specific topic and demographic. A list of statistical, analytical and data collection method were described, followed by their implementation to publicly available consumer data of platforms for instance Netflix, Spotify and HBO Go, which were picked due to either data availability itself but also due to their popularity based on survey results. The data available from these platforms have undergone a time series analysis, index analysis and correlation analysis. Second part of practical research was aimed at describing the process of forming, implementing and reaching a formed survey to the targeted demographic (of college students and recent graduates). The survey itself was aimed at gathering data about respondents (such as age, gender, study major and country of origin) and data about their use of subscription platforms, where the structured question (either in closed-ended or open-ended form) served to gather information about exact platforms used, period of use, frequency of use and assumed monetary cost spend on them.

The results of this survey confirmed a wide popularity and overall satisfaction of these services. More specifically that these platforms are mostly considered to be used as a daily part of life for majority of younger generation. Frequency of use was not the only factor supporting the popularity of subscription platforms. The time period in which respondents have first subscribed to a platform was in most instances in over more than one year. The from the survey also showed a very low rate of cancellation for platforms and statement of the fact that students intend on keep paying for their subscription. Arguments for continuing with their services was reported to be due to easy access to a variety of content, ease of use, possibility of offline access, and in certain cases lack of advertisements. The intention to

keeping these benefits was reported in almost 90% of cases. Subscriptions however do not seem to be the end-all-be-all solution or the perfect solution when dealing with marketing or business strategy. Even though 5% of respondents would rather keep paying a monthly reoccurring fee for a wider access to content, one third of them have expressed that it would depend on the exact item in question, where they would rather resort to paying a single fee for that exact item in question. Popularity was also expressed by analyzing if students are planning on cancelling their subscriptions. From the results no expression and intention to cancel all current subscriptions were stated and mere 11% are planning on unsubscribing from some of their subscriptions. Reasons for performing cancellation of some platforms were usually due to financial reasons, lack of time, disinterest with current content or even procrastination. An interesting observation can be made when asked about value for money. Indeed, no respondent has expressed a total disinterest, however about half of them expected more, even when they do seem to be getting their value for money. Overall satisfaction with subscription services have further been expressed, where and overwhelming majority have ranked their satisfaction with a mark 7 and higher, with almost half respondents ranking it 8 out of 10. Last 31% where found at the higher ends of scale at 9 and 10. From these results, the satisfaction and willingness of using subscription platforms is seen not only in the present, but also expected to be in the upcoming years.

A crucial part of research and perhaps the most important outcome to consider even at a later, future research was about pricing. Specifically, within the approximation from the side of consumers. The reason why subscription platforms are widely favorable is due to seemingly innocent, lucrative and affordable pricing. What a majority of people see at first is an immense amount of content for a "next to nothing" price. However, what the majority does not always see, is the other side of the coin. A single month of payment may not financial burden anyone, however at a longer period of months, or even years these subscriptions in total can rise up to very high prices. Combined with automatic subscription renewals, a person might even forget that he or she is still paying for them. As was also seen from the research, many people tend to have more than one subscription at a time. The main point was to assess how much do respondents think they have paid for their subscription in total. The results can be found as shocking where XX of respondents expressed that they do not have an estimate on the amount of their actual spending. Considering a point where a

person has sustained three subscriptions for a period of 24 months (with average 7 EUR per subscription) the total price after two years can rack up to 500 EUR in total. We have concluded the trend based on our survey showing the phenomenon of subscription platforms is not "going away" (at least) for the nearest time period and the total sum amount can rise into a substantial amount of money.

It can be stated, that with the current climate of the situation, respective to the above fact that subscription services are to be present even in the future, and that people in general are spending substantial sums of money (specifically as a total sum for all individuals) subscription platform fees could potentially have substantial impact on the economy per se. However, these prices and their spendings are currently not described in the current form of econometrical tools, like the consumer price index. Also regarding to inflation, they are currently hard to track and are potentially developing in a very specific way. In a simplistic explanation, a lot of money is being spent and not monitored or transposed in a proper way. A total overhaul of current econometric tools is not being proposed, but rather a slight modification or at least a proposal for consideration of future research (especially in the econometric effect and measurements) – in this regard it is rather questionable that these types of services are not covered in the consumer basket and also data provided by these services are not used in setting and calculating the inflation index. Following improvements can then protentional reform the way consumption is measured, which can then influence a need for updated and more precise metrics and understanding of societal and economic processes which can then result in a better process of predicting economy and key players' behavior (especially by having a better way to measure important metrics like GDP and inflation index among others).

In summary, subscription platforms can be considered as very popular, especially among young people and students, perhaps even their parents. Their advantage and added value seem to be due to combination of seemingly low price and a relative ease of access. This field of study and research is suggested to undergo future investigating especially in a broader scale and with more advanced, deeper analytical tools. Perhaps even more qualitative approach to research can lead to interesting findings which would help to improve

either services and platforms themselves or help to raise awareness in consumers' behavior in order to manage the services' use towards financial responsibility and sustainability.

6 Conclusion

Main goal of this thesis was to explain consumer behavior of college students on subscription platforms. A literature review was performed on this topic describing both consumer behavior and subscription platforms. As a part of practical research, a series of statistical analyses were performed. Specifically index analysis, regression analysis (trend function) and analysis of correlation. A survey was also formed in order to gather data about perception and use of subscription platform within the targeted demographic.

Statistical analyses were performed on selected platforms, specifically on Netflix, Spotify and HBO Max. User growth of these platform showed a similar rising trend across all three of them, without an apparent difference.

Netflix's development of prices (its subscription tiers) was compared to development of inflation by using a correlation matrix. All tiers showed a statistically relevant correlation with inflation, with "Basic" tier having the highest p value.

Based on presented research questions, the popularity of subscription platforms was mostly confirmed. 92% of respondents are aware of the term "subscription platform. 55% of respondents do prefer paying reoccurring monthly fee for accessing a wide amount of digital content. On average respondents are paying for 3 simultaneous subscriptions. Majority of students (85%) have been maintaining their subscriptions for over a year and 89% reported their intention to keep them.

Crucial part of research was aimed at assessing total expenditures of students on subscription platform. It was confirmed that a study major does not influence a responsible use of subscription platforms. Economics student on average had more simultaneous subscriptions and were less able to give a price estimate on their spending. Key takeaway being, that overall (across all respondents), 67% were not at all able to give any form of assumed spendings.

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9 Appendix

Appendix 1: Netflix - Correlation of subscriber growth

gretl: correlation matrix

```
corr(ofUSERSmm, time) = 0.98470294
Under the null hypothesis of no correlation:
 t(43) = 37.0585, with two-tailed p-value 0.0000
```

Source: Gretl, own making

Appendix 2: Spotify - Correlation of subscriber growth

gretl: correlation matrix

```
corr(ofUSERSmm, time) = 0.99661282
Under the null hypothesis of no correlation:
 t(29) = 65.2618, with two-tailed p-value 0.0000
```

Source: Gretl, own making

Appendix 3: HBO Max - Correltion of subscriber growth

```
corr(ofUSERSmm, time) = 0.99242515
Under the null hypothesis of no correlation:
 t(8) = 22.8489, with two-tailed p-value 0.0000
```

Source: Gretl, own making

Appendix 4: Correlation matrix - Inflation and Netflix subscription tiers

```
Correlation Coefficients, using the observations 1 — 6
5% critical value (two-tailed) = 0.8114 for n = 6

       Basic netflix__Stand~ netflix__Premi~      inflation
       1.0000         0.9296         0.8783         0.9654 Basic
                      1.0000         0.9777         0.9253 netflix__Stand~
                                     1.0000         0.8911 netflix__Premi~
                                                    1.0000 inflation
```
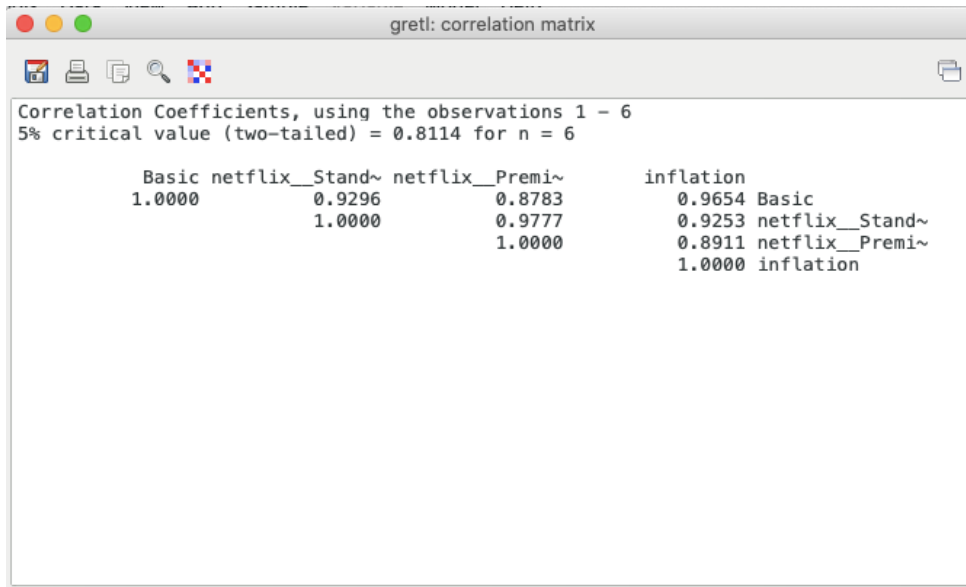
Source: Gretl, own making

Appendix 5 - Survey

1. State your gender
    a. Male
    b. Female

2. State your current age.

3. What is your area of study (college major)?

4. What is your current highest level of education
    a. Highschool
    b. Undergraduate (Bachelor's degree)
    c. Postgraduate (Master's degree)

5. State the name of college that you are attending or have attended.

6. What is your employment status?
    a. Full-time student
    b. Student with a part-time job
    c. Full employment

7. Are you familiar with the term "Subscription service platforms"?
    a. Yes, I am
    b. I have heard of it before, but I am not sure
    c. I have no idea

8. Do you use any of the subscription platforms listed below?
    a. Microsoft OneDrive
    b. Google Drive
    c. Apple iCloud
    d. Spotify
    e. Netflix
    f. HBO Max
    g. Amazon Prime
    h. Hulu TV
    i. Disney+
    j. Other:

9. Are you the one paying for these platforms?
    a. Yes, all of these services are paid by me

b. No, some of these services are paid

c. No, all of these services are paid by somebody else

10. Which of these services are not paid by you personally?

    a. Microsoft OneDrive

    b. Google Drive

    c. Apple iCloud

    d. Spotify

    e. Netflix

    f. HBO Max

    g. Amazon Prime

    h. Hulu TV

    i. Disney+

    j. Other:

11. What type of payment are you undergoing for these services?

    a. On a weekly basis

    b. On a monthly basis

    c. On a quarterly basis

    d. On a yearly basis

12. How are you satisfied with your overall subscriptions?

    a. Scale of 1-10 (going from not satisfied at all to completely satisfied)

13. Do you think that you are getting your "value for the money" from these subscriptions?

    a. Yes, I do feel like I am getting an extra value

    b. Yes, sort of, but I expected more

    c. Maybe, I am not sure

    d. No, I do not see the added value

14. When did you first subscribed to a platform?

    a. More than a year ago

    b. About a year ago

    c. About six months ago

    d. About a month ago

    e. Last week

15. How often are you using these platforms

    a. Daily

    b. More than once a week

    c. Once a week

    d. Once a month

    e. I do not remember

    f. Other:

16. For how long have you been maintaining these subscriptions?

    a. More than a week

    b. More than a month

    c. More than six months

    d. More than a year

    e. Other:

17. Have you recently canceled one of your subscriptions?

    a. Yes, I did this week

    b. Yes, I did this month

    c. No, I am intending on keeping them

    d. Other:

18. Do you recognize any benefits of using these platforms?

    a. (Open ended question)

19. Do you have an estimate of how much money you've you spent for these subscriptions in TOTAL? (If so, please state the amount in your national currency)

    a. (Open ended question)

20. Do you recognize, or are you aware of any disadvantages of these platforms? If so please state them.

    a. (Open ended question)

21. Are you intending on keeping these subscriptions?

    a. Yes, I am

    b. No, I am planning on cancelling ALL my subscriptions

    c. No, I am planning on cancelling SOME of my subscriptions

22. Have you recently cancelled any of your subscriptions? If so, please state why.

    a. (Open ended question)

23. In case of movies, songs etc. Would you consider paying a single fee for owning that particular item or stick to paying a periodic fee for access to more items, without actually owning them?

    a. I would prefer buying a single item

    b. I would prefer to pay a monthly fee for a wider access

    c. It depends on the exact item

    d. I do not really care