Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Information Technologies

Bachelor Thesis

Factors affecting Vietnamese people on using movie streaming services

Tung Bui Le Son

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akad. Tung Bui Le Son

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Factors affecting Vietnamese people on using movie streaming services

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Objectives of thesis

The main objective of the bachelor thesis is to measure the importance and evaluate the motives and characteristics of users when deciding to use or pay for movie streaming services in Vietnam.

A few partial objectives can be achieved during the process of this bachelor thesis are:
1. To review comprehensively the literature on the current trends of movie streaming services in Vietnam
2. To propose some of the most important and attractive features or benefits which can eventually persuade users to decide on using or paying for a streaming platform in Vietnam

Methodology

The first part is researching relevant literature and online sources to build knowledge of the topic and current trends in movie streaming platforms. The methodology of this study is based on the analysis and synthesis of scientific information resources dealing with selected issues. The next part is to complete data using possible existing sources combined with data from a questionnaire survey based on predefined research questions. Finally, the data will be elaborated using descriptive statistics and appropriate hypothesis testing procedures to provide conclusions on the research questions.

The proposed extent of the thesis

30 – 40 pages

Keywords

streaming service, movie streaming service, consumer behavior, Vietnamese consumer

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The Bachelor Thesis Supervisor

Ing. Zuzana Pacáková, Ph.D.

Supervising department

Department of Statistics

Electronic approval: 7. 3. 2023

Ing. Tomáš Hlavsa, Ph.D.

Head of department

Electronic approval: 13. 3. 2023

doc. Ing. Tomáš Šubrt, Ph.D.

Dean

Prague on 14. 03. 2023

Declaration

I declare that I have worked on my bachelor thesis titled "Factors affecting Vietnamese people on using movie streaming services" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 14/03/2023 _____Tung_____

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I would like to thank Professor Zuzana Pacáková, my friends, and my family, for their advice and support during my work on this thesis.

Factors affecting Vietnamese people on using movie streaming services

Abstract

The Internet opens many doors of opportunity for businesses and one of them is the industry of movie streaming services. People went from consuming content physically from cinemas or with hardware devices such as videotapes or DVDs, to online platforms such as Netflix, Hulu, or HBO+. In Vietnam, the use of legal movie streaming services however has not been widely accustomed as the problem of piracy content and the mindset of people still holding back the growth of the industry, this thesis aims to evaluate factors and characteristics of movie streaming services and users respectively which affect the use of such services. This may result in helping current or future service providers get a glimpse of what would or would not benefit their model. Furthermore, this thesis provides some insights into which characteristics of the services are highly valued by the users. The survey distributed in the course of this thesis received 167 respondents and with the implementation of a few statistical methods such as descriptive statistics or hypothesis testing, a few assumptions relating to the users' characteristics and their relationships with spending on movie streaming services have been verified such as occupation, monthly income, and time spent a day on average on these services having a significant relationship with the amount of possible pay rate by the users. Genders, age, and device used when watching are factors in which the thesis failed to find any significant relationship. The analysis also found that users are having positive feedback on sound quality as well as the resolution quality of their in-use services.

Keywords consumer behavior, movie streaming service, streaming service, Vietnamese consumer

Factors affecting Vietnamese people on using movie streaming services

Abstrakt

Internet otevírá mnoho příležitostí pro podniky a jednou z nich je odvětví filmových streamovacích služeb. Lidé přešli od fyzické konzumace obsahu z kin nebo pomocí hardwarových zařízení, jako jsou videokazety nebo DVD, k online platformám, jako jsou Netflix, Hulu nebo HBO+.Ve Vietnamu však používání legálních služeb streamování filmů nebylo příliš zvyklé, protože problém s pirátskými kopiemi a myšlení lidí stále brzdí růst tohoto odvětví, tato práce si klade za cíl zhodnotit faktory a charakteristiky služeb streamování filmů a uživatelů respektive které ovlivňují využívání těchto služeb. To může vést k tomu, že současným nebo budoucím poskytovatelům služeb pomůžete nahlédnout, co by prospělo nebo neprospělo jejich modelu. Dále tato práce poskytuje některé poznatky o tom, které vlastnosti služeb uživatelé vysoce oceňují. Průzkumu v průběhu této práce se zúčastnilo 167 respondentů a implementací několika statistických metod, jako je popisná statistika nebo testování hypotéz, bylo ověřeno několik předpokladů týkajících se charakteristik uživatelů a jejich vztahu k výdajům za služby streamování filmů jako je povolání, měsíční příjem a průměrný čas strávený den na těchto službách, které mají významný vztah k výši možného platu uživatelů. Pohlaví, věk a zařízení používané při sledování jsou faktory, ve kterých se nepodařilo najít žádnou významnou souvislost. Analýza také zjistila, že uživatelé mají pozitivní zpětnou vazbu na kvalitu zvuku i na kvalitu rozlišení jejich používaných služeb

Klíčová slova chování spotřebitele, služba streamování filmů, služba streamování, vietnamský spotřebitel

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1 Introduction

The advent of the Internet has brought great changes to mankind. The number of Internet users in the world is increasing day by day. As of 2021, the population of Internet users has reached 4.66 billion, equivalent to nearly half of the people living on Earth.

With such a large number of Internet users, there are no surprises that business models will have to adapt or else they will be forgotten in the dust. One of the businesses that evolved to adapt to the era of information technologies is the change from movie renting stores such as Blockbuster to online streaming services such as Netflix, HBO Max, Hulu, or Disney+. These streaming services allow people to get rid of the need to physically go to a store, rent a movie, and return it. They can now „borrow“ such movies instantly, from everywhere, anytime they want with any devices they possess. With the constant growth of this industry, more and more big and small companies are joining to get a piece of the billion-dollar industry. In Vietnam, the exposure for this industry is still relatively small due to the popularity of piracy streaming services and the mindset of wanting to get everything at the most cost-efficient or preferably free of the Vietnamese. This article may be an aid to anyone or any company looking to get a glimpse of what might motivate the young Vietnamese – dominating in the proportion of internet users in Vietnam, to use or pay for legitimate streaming services.

2 Objectives and Methodology

2.1 Objectives

Main Objectives

The main objective of the bachelor thesis is to measure the importance and evaluate the motives and characteristics of users when deciding to use or pay for movie streaming services in Vietnam.

Partial Objectives

A few partial objectives can be achieved during the process of this bachelor thesis are:

1. To review comprehensively the literature on the current trends of movie streaming services in Vietnam
2. To propose some of the most important and attractive features or benefits which can eventually persuade users to decide on using or paying for a streaming platform in Vietnam

2.2 Methodology

The first part is researching relevant literature and online sources to build knowledge of the topic and current trends in movie streaming platforms. The methodology of this study is based on the analysis and synthesis of scientific information resources dealing with selected issues. The next part is to complete data using possible existing sources combined with data from a questionnaire survey based on predefined research questions. Finally, the data will be elaborated using descriptive statistics and appropriate hypothesis testing procedures to provide conclusions on the research questions.

2.2.1 Descriptive Statistics

Descriptive statistics are often used to describe, explore, and compare data sets (Hlavsa, Statistics I, 2016). They can help formulate basic features of the data in a study (Trochim, 2001). With the data being summarized in an organized manner, they can often describe the relationship between variables in a sample or population (Yellapu, 2018).

Hlavsa (2016) defined variables as the characteristics or properties of individuals within the population. The population is "the collection or set of all objects or measurements that are of interest to the collector" according to Ramachandran & Tsokos (2009) while a sample is a

subset derived from a such population. The variables in the statistical study are divided into two types: Categorical and Numerical.

- Categorical variables can also be known as qualitative variables can be classified into three subtypes: nominal, ordinal, and dichotomous (Yellapu, 2018). The ordinal variables have groups that should be listed in a specific order (Ramachandran & Tsokos, 2009) while the nominal variables are classified as having no specific order. The dichotomous nominal variables are variables that lack intrinsic order but contain only two categories instead of two or more as nominal ones (Yellapu, 2018).
- Numerical variables or quantitative variables are defined as the variables which provide numerical measures of individuals. With this variable type, Hlavsa (Statistics I, 2016) classified them into discrete and continuous variables with one countable number of possible values and one uncountable number of possible values respectively.

There are a few statistical values of the descriptive statistics which can describe some of the basic features of the studied dataset. These values can be measures of frequency, central tendency, dispersion/variation, etc (Yellapu, 2018).

Frequency is known as the number of times something occurs (Stewart, 2016). There are two types of frequency: absolute and relative. While absolute frequency is the number of times a particular value occurs in a dataset, relative frequency is relative to the absolute frequency and the total number of values for that variable (Yellapu, 2018), and this relative frequency is further classified as percentages, ratios, rates, and proportions.

  - Percentages and Proportions: Proportions are fractions of a total sample while Percentages are the values of Proportions as a fraction of 100.
  - Rates: Rates are Proportions used to describe the number of events (Stewart, 2016).
  - Ratios: Ratios are used when comparing two values of a variable.

- Central tendency values are often used to describe the whole data set as a single measurement (Yellapu, 2018). These central tendency measurements are: mean, mode, and median. Between them, the mean is the average value of the observed values in the data set. It is calculated as the sum of the variables' values divided by the total number (Sharma, 2019). The mean is often used to summarize data (Field, 2009). The mode measurement is corresponding to the exact middle of the set of values and the mode is the most frequently occurring value (Trochim, 2001).

- Dispersion or Variation is the spread of the values around the central tendency according to Trochim (2001). Among these, there are measurements such as Range, Variance, Standard Deviation, and Skewness
    - Range: The largest value of the data set minus the smallest value (Sharma, 2019).
    - Variance: The mean of the squares of the deviations of the values from their mean (Seemon, 2014).
    - Standard Deviation: The square root of the variance is defined as the standard deviation. The more homogenous the values, the smaller the variance (or standard deviation; the more heterogenous the values, the larger the variance (or standard deviation) (Hlavsa, Statistics I, 2016).
    - Skewness: The skewness occurs when the observations in one data may spread unsymmetrically (Seemon, 2014) thus resulting in positive skewness when mean > mode and negative skewness when mean < mode (Sharma, 2019).

2.2.2 Hypothesis testing

To further study and form conclusions on various topics, there are often assumptions and hypotheses being formed. To either confirm or reject such hypotheses, there must be a set of procedures when doing research to protect the integrity and deliver the most precise conclusions.

Assumptions or hypotheses according to Stewart (2016) are unproved theories formulated at the starting point for research. When testing a hypothesis, there are often two hypotheses formulated, one being a null hypothesis and the other being an alternative hypothesis. The null hypothesis is often the negative hypothesis of what we assume (alternative hypothesis) (Massey & Miller, 2006).

The procedure to test whether to reject or fail to reject the null hypothesis according to Privitera (2017) consists of 4 main steps:

- State the hypothesis: In this step, there will be a null hypothesis and an alternative hypothesis stated.
- Set the criteria for a decision: In this step, there will be a decision on the level of significance for the test. The level of significance, denoted by α is the level of judgment and it is often 5% or 0.05.

- Compute the test statistic: In this step, There will be an implementation of suitable test statistics for the hypothesis.
- Make a decision: Based on the level of significance, we will be comparing it with the p-value achieved from the test statistic. If the p-value < α, we can reject the null hypothesis and accept the alternative hypothesis, and while p-value > α, we fail to reject the null hypothesis (Hlavsa, Statistics I, 2016).

To test the dependency between variables in statistics, the methods explained below can be used:

- Chi-squared test and Fischer's exact test: The tests are often used when we want to examine the relationship between two categorical variables (Field, 2009). These tests work with a contingency table which is a data-presenting table in the form of frequencies for each variable being tested. The test statistics will be testing if the expected frequencies were corrected with the observed frequencies, then the null hypothesis will be true. To calculate the Chi-squared statistics, Stewart (2016) purposed a formula as follows:

$$X^2 = \sum \frac{(O - E)^2}{E} \qquad 2.1$$

In which:

O is the observed frequency of the selected cell in the contingency table

E is the expected frequency of the selected cell in the contingency table

There is a requirement of testing using Chi-squared being 80% of the expected frequencies should be greater than 5 and all of them should be more than 1 (Field, 2009). However, McHugh (2013) also mentioned "The value of the cell expected should be 5 or more in at least 80% of the cells, and no cell should have an expected of less than one". If these conditions are not met and the contingency table is 2x2, (if not then consider merging tables), we may use Fischer's exact test and the probability of this test can be calculated with the observed frequencies as figure 1 shows a contingency table and the formula in equation 2.2 (Hlavsa, Statistics II, 2016).

Figure 1 Contingency table

A	B		
	a	b	a+b
	c	d	c+d
	a+c	b+d	n

Source: Hlavsa (2016)

$$p = \frac{(a+b)!\,(c+d)!\,(a+c)!\,(b+d)!}{n!\,a!\,b!\,c!\,d!} \quad 2.2$$

2.2.3 Forming hypotheses

To determine the motivations of Vietnamese young people on using or paying for movie streaming services, there can be some assumptions being made to be further analysed and making conclusions on its accuracy:

H1: There is a significant relationship between spending on movie streaming services monthly and gender.

H2: There is a significant relationship between spending on movie streaming services monthly and age group.

H3: There is a significant relationship between spending on movie streaming services monthly and occupation.

H4: There is a significant relationship between spending on movie streaming services monthly and monthly income.

H5: There is a significant relationship between spending on movie streaming services monthly and average amount of watching time per day.

H6: There is a significant relationship between spending on movie streaming services monthly and most used device for consuming content.

2.2.4 Questionnaire for collecting data

One of the first steps when conducting an analysis is to collect information or data. There are two methods of collecting data: Quantitative and Qualitative (Athukorala, 2009), but due to the time constraint for the qualitative methods, this thesis will only be focusing on quantitative methods such as questionnaires, interviews, focus groups interviews, etc.

Among them, the questionnaire appears to be the most viable option due to its advantages over other methods. It offers cheap solutions and can be distributed over multiple platforms such as emails, faxes, online forms, etc. It can also cover a large number of people and organizations as well as offer geographical coverage and unbiased opinions of the interviewer when interviewing (Athukorala, 2009).

According to AfriAlliance Handbook (2018), there are three big steps when working on a survey:

- Step 1: Sample design: In this step, there must be the sample and target population being defined. According to the CIA (2023), there are over 60 million Vietnamese people from the age group of 15-54 and since this thesis will be studying on motivations of Vietnamese people using movie streaming services, this age group will be its primary target for the population. Next, there will be the requirement for sample size and by following the formula recommended by SurveyMonkey (n.d.) as in figure 2 and the z-score for each confidence level, we can conclude that at 85% confidence level, 208 is the required sample size, at 90% it is 273 and at 95% it is 385. After that, there should be a decision on the sampling technique: random or non-random. However, it is also possible to calculate the margin of error for a specific number of observations in a sample compared to a certain population size. The margin of error is explained by Surendran (n.d.) as the degree of error in results received from surveys. A higher margin of error value results in the true result may vary larger than the collected samples. Figure 2 also presents the formula for calculating the margin of error.
- Step 2: Survey design. In this step, AfriAlliance (2018) recommends that the easiest questions should be at the beginning, a grouping of the questions on the same topic is also necessary, and leaving difficult or sensitive questions near the end of the survey with logical or natural order of the answers. There are also many types of questions: multiple choice, open-ended, and rating scales.

Figure 2 Sample size calculator and margin of error formula

$$\text{Sample size} = \frac{\frac{z^2 \times p\,(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p\,(1-p)}{e^2 N}\right)}$$

N = population size • e = Margin of error (percentage in decimal form) • z = z-score

Desired confidence level	z-score
80%	1.28
85%	1.44
90%	1.65
95%	1.96
99%	2.58

$$\text{Margin of error} = z \times \frac{\sigma}{\sqrt{n}}$$

n = sample size • σ = population standard deviation • z = z-score

Source: SurveyMonkey

3 Literature Review

3.1 Definition and current trend of movie streaming services

3.1.1 Definition of movie streaming services

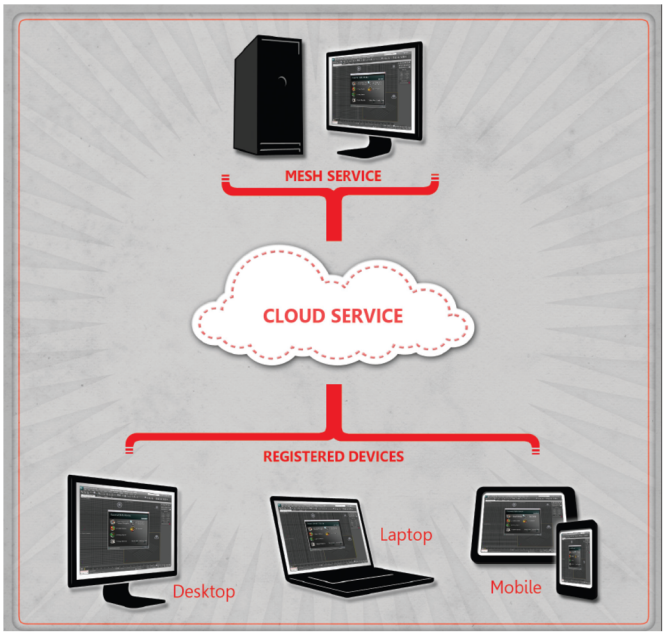
Streaming services overall refer to providers of entertainment such as (movies, music, etc.) to users on the internet. These services can provide their content to users' digital devices such as laptops, smartphones, tablets, etc. anywhere and anytime the user prefers. Movie streaming services often focus on movies, TV shows, or TV services as their primary content. A few popular movie streaming services worth mentioning are Netflix, HBO Max, Hulu, Amazon Prime, Disney+, etc.

In the era of the Internet, it is estimated that 30% of internet traffic is consumed for video streaming activities (West, 2014). The demand for such activities is rising day by day and big streaming platforms such as YouTube, Netflix, Hulu, and Amazon are working hard to supply such needs. According to West (2014), 40% of American users rely on mobile phones use exclusively which marks the importance of having such services on multiple platforms in general and on mobile devices specifically. In the older days, users had to download their content to their devices, but it would take a relatively long amount of time to be able to watch this content and that is where streaming platforms emerged (Lawton, 2012). Streaming technology is based on two types of computing: Traditional vs Cloud-based. Traditional streaming technology relies on the platform's infrastructure and requires no additional expertise or training for IT staff but one of its biggest disadvantages is the sole support of the progressive download (Austerberry, 2004). Cloud computing on the other hand based on the definition of NIST (Mell & Grance, 2011) refers to "a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction". Cloud-based computing has proved to be the superior type due to its advantages (dms):

- On-demand self-service
- Broad network access
- Resource pooling
- Rapid elasticity
- Measured service

Austerberry (2004) also points out the security of outsourcing hosting but it may be dangerous if the data stored should be confidential to the firm.

Figure 3 Basic concept of cloud streaming



Source: Lawton (2012)

With cloud computing, companies have reliable technology to deliver content to users with the utmost comfort. Figure 3 shows the basic concept of cloud streaming. One of these uses is the implementation of OTT or Over-the-top services for streaming platforms. Ofcom (2015) defines OTT services as "a range of services, including messaging services, voice services (VoIP), and TV content services" while Berec (2016) refers to OTT services as "content, a service or an application that is provided to the end user over the public Internet". Its example can be Netflix, Skype, and WhatsApp for content and messages; Robinhood, Uber, or Venmo for services; and Apple TV, Roku, or Solar Panels as devices. OTT platforms according to Chauhan, et al. (2022) are web-based services offering video and audio-streaming content. These platforms allow you to pay for the type(s) of content you want to watch. The best advantages of OTT platforms are multi-platform: meaning the availability of consuming content anywhere, anytime, on any device (Majlis, 2022), and subscription-based: meaning the availability of stop using for users at any moment (Chauhan, et al., 2022).

There are a few models of OTT streaming platforms according to MaginePro (2019) currently in use by big firms such as Netflix, HBO, Hulu, Amazon, etc.:

- Subscription (or subscription video on demand – SVOD): The go-to monetization model for fresh OTT services. It ensures a steady revenue and has a lock-in effect on customers MaginePro (2019).

- Transactional (or transactional video on demand – TVOD): This model of monetization allows users to buy or rent content (film, TV content) into the digital landscape (Grece, 2021).
- Advertising-financed (Advertising-financed video on demand – AVOD): The users will get access to the platform for free in exchange for the consumption of advertisements which is the main revenue source of the service (Pradsmadji & Irwansyah, 2020).

A report made by KPMG (2019) suggests that consumers prefer a broad mix of content with 72% of respondents deciding to subscribe to a video streaming service if it offers enough content for them. One of the key factors considered to be important for young consumers from the age of 18-24 is the ad-free option but they would welcome the idea to sit through a commercial in order to reduce the price.

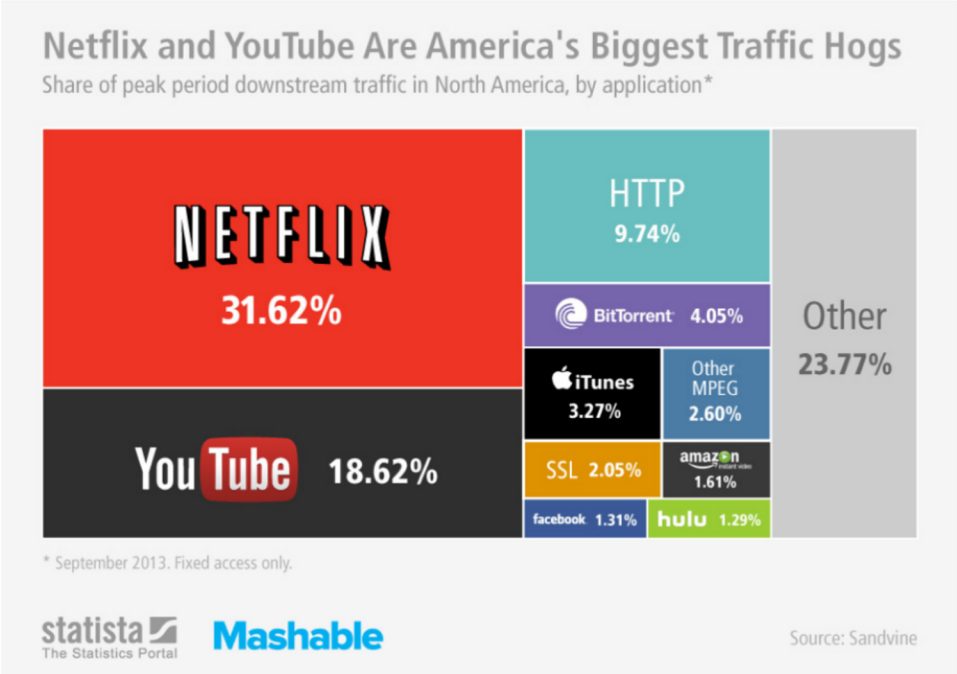
Current streaming services study in Vietnam

Movie streaming services in Vietnam have been growing since the popularity of the Internet for Vietnamese started rising. However, most of the services started from an illegal or pirated-content background which nurtures the mentality of browsing entertainment for free without the concern of copyrights and overall resulting in difficulties for the development of legitimate movie streaming services or adaptation of international brands in Vietnam.

Current status and market share of legitimate movie streaming services in Vietnam

People use digital devices every day, from a laptop used at work to mobile phones on day to day basis. By 2014, Netflix takes over 34.9% of America's traffic hogs according to Statista, making it one of the biggest used services on the internet by that time. In a report made by Visual Capitalist in 2021, 49% of mobile traffic worldwide was used for video streaming and nearly half of it went to YouTube with its vast variety of video content and only 4% of that 49% is going to Netflix (Wallach, 2021). Figure 4 shows the traffic hogs by Americans in 2014 (Richter, 2014).

Figure 4 USA traffic hogs share



Source: Statista

According to World Bank, by 2019, 56.7% of Earth's population are using the internet. This may imply that one in four people is consuming video streaming content regularly and this percentage might be even much higher in developed and developing countries such as Vietnam. In Vietnam, by 2022, 73.2% of the Vietnamese population are using the Internet, and this figure has doubled the number of users in the span of 10 years (from 31.1M in 2012 to 72.1M in 2022), with 97.7% of them owning any kind of mobile devices, according to Kemp (2022). On average, Vietnamese people spend 6 hours and 38 minutes a day using the internet, and in that period of time, 2 hours and 47 minutes were spent watching television (both broadcasting and streaming) and 1 hour and 12 minutes were consumed on music streaming services. It is also reported that 552.1M dollars were spent annually by 2022, and 208.6M was for video-on-demand.

In 2017, Q&Me Vietnam made a survey on Vietnamese online video-watching behaviors. Out of 321 respondents, only 12% of them have ever paid for video streaming services and 61% of them pay less than 100k VND per month (Q&Me, 2017).

After 4 years, in 2021, another survey made by INFOQ Vietnam shows that of 412 respondents, 67.96% are paying for legitimate movie streaming services with 41.99% of them going to Netflix, 24.27% for FPT Play and VietON in the third place with 14.56%. Out of those respondents, 46.36% were willing to pay from 100k-200k VND a month for a monthly subscription to streaming services. The Vietnamese favorite devices when using movie streaming services are smartphones and smart TVs, with percentages of 39.81% and 35.92% of the respondents respectively (InfoQ, 2021). This shows that in just a few years, the percentage

of people using and willing to pay for movie streaming services is increasing rapidly and it is a big opportunity for this industry in Vietnam.

A few big legitimate movie streaming services in Vietnam can be mentioned are:

1. FPT Play: provides films, shows, sports, cartoons, etc. With full Vietnamese subtitles, mobile applications, and the price of 50k+/month.
2. Galaxy Play (or Film+): provides Vietnamese and International films and shows with Vietnamese subtitles, mobile applications, and the price varies from 15k-450k VND/month.
3. Netflix: provides films, shows, cartoons, exclusive original contents with Vietnamese subtitles on selected contents, mobile applications, and the price range is between 180k-260k VND/month. However, in November 2021, Netflix announces its plan to release a free plan in Vietnam market, without any ads but with limited content (Conk, 2021). This marks one big step from a giant in the industry in trying to adapt to the needs of Vietnamese consumers.
4. ZingTV: provides shows, cartoons, music, news with Vietnamese as the main language, mobile applications, and the price of 93k VND/month.

The problem of piracy streaming services in Vietnam

The world has been dealing with piracy problems for many years. According to Petrosyan (2022) the total amount of visits to piracy sites worldwide from the 1st quarter of 2020 to 3rd quarter of 2021 raised from 36.31 billion to 47.99 billion while according to Chatterley (2022), 50.3% are TV media and 11.2% are movies. More than 80% of global online piracy can be attributed to illegal streaming services, pirated video material receives over 230B views a year according to Spajic (2023) and 29.2B dollars is lost in revenue each year to the US economy due to the global online piracy (Blackburn, Eisenach, & Harrison Jr., 2019).

In Vietnam, according to the Asia Video Industry Report in 2020, 66% of consumers admit to using illicit streaming devices for viewing piracy content, the highest in Southeast Asia, and 61% of Vietnamese admit to having accessed piracy streaming websites (avia, 2020). Vietnam ranks third only after Indonesia and Philippines in the South East Asia in terms of accessing pirated content but ranks first on a per capita basis according to Dang (2022). This has resulted in 348M dollars lost in the digital content industry because only 4% of users subscribe to legal content.

According to Tran (2022), there are three main reasons for the high percentage of use of pirated content in Vietnam:

- Limitations on official content: While there are only a dozen of officially legitimate streaming services in Vietnam, according to Wise (2022), by 2022 there are over 200 streaming services worldwide.
- Vietnamese users' mindset: The general mindset of the Vietnamese is to choose everything economically since it is still a developing country and has been at war up until the end of the 20th century. With such a mindset, Vietnamese consumers tend to choose cheaper to free alternatives on almost everything. But with the growing economy and the GDP growth forecast to be 7.5% in 2022 from 2.6% in 2021 (The World Bank, 2022), personal finance is becoming better thus opening more opportunities for the consumer market and better life styles choices.
- Laws: By 2021, there are over 400 movie streaming sites in Vietnam and 60-70% of them do not own or have a license to copyrights. One of the most well-known piracy websites to the Vietnamese is phimmoi.net, at its peak ranked in the country's top ten most popular websites and receiving over 100M monthly visits. This site had been operating from 2012 until 2021 when the Vietnamese public security prosecuted its owner for criminalizing infringing upon "copyrights and relevant rights". It is believed that the owner of this website earns an estimation of 10M dollars per month from selling advertisements on phimmoi.net but the maximum fine he would be paying is just 131,000 dollars and a maximum sentence of three years of non-custodial probation (Nguyen, 2021).

3.2 Consumer Behaviour Theory and the motivation of consumers on using movie streaming services

3.2.1 Consumer Behaviour theory

Consumer behavior relates to the totality of consumers' decisions. This includes three phases: acquisition, consumption, and disposition of goods, services, etc (Hoyer & MacInnis, 2007). The study of such behaviors is focused on the process of individuals, groups, or organizations on how they select, use, and dispose of products, services, experiences, or ideas to satisfy needs (Hawkins & Mothersbaugh, 2019). Those three stages of the process can be defined as follows:

- Acquisition (or select/purchase): There are many ways of acquiring including buying, trading, renting, gifting, stealing, etc.
- Consumption (or use): The activities of using or organizing the goods, services, etc. relate to how, what, and why they act in such ways.
- Disposing: The consumers may decide to get rid of the goods, services, etc. temporarily (via renting or lending) or permanently (throwing away, recycling, trading, giving away, trading, or stopping using) or find a new use for it (Hoyer & MacInnis, 2007).

The acquisition phase is one of the most important studies because it relates directly to how the consumer decides on using or purchasing a product or service (or streaming service in particular).

Sheth, Newman, and Gross (1991) proposed a model of five consumption values influencing consumer choice behavior.

These five values consist of:

- Functional value: A measure of choice attributes (functional, utilitarian, physical attributes).
- Social value: Associated with positively or negatively stereotyped demographic, social-economic, and cultural-ethnic groups.
- Emotional value: Relates to the arousing feelings or affective states.
- Epistemic value: The value of curiosity arousal or desire for knowledge
- Conditional value: This value often comes from specific situations or circumstances which the choice-making is facing.

3.2.2 Motivation of consumers on using movie streaming services

Among the model defined by Sheth, Newman, and Gross (1991), functional values which may affect a consumer's choice when deciding on a movie streaming service may be related to its features or what a specific platform can offer. Based on a study from Statista (Stoll, 2022), such attributes can be:

- The ability to watch content on different devices
- The availability of desired content
- The ability to binge-watch content
- New content on a regular basis
- The availability of watching from everywhere
- The option to bundle different services under one account
- The ability to share what the consumer is watching

The report from MaginePro (2019) also pointed out the importance of functional values as 70-80% of streaming takes place through web clients, smartphones, and tablets making it particularly important for a service to be available on multiple platforms.

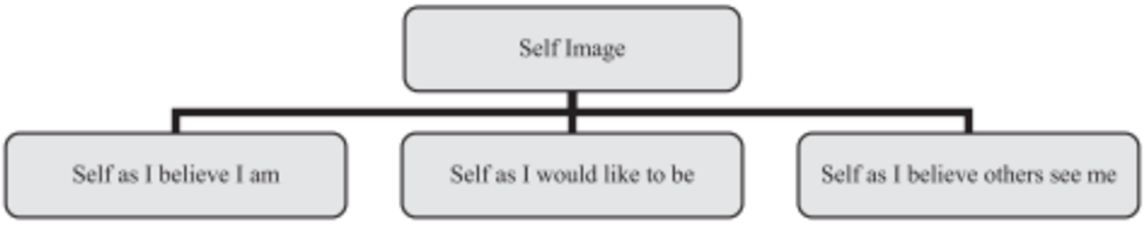
Social values on the other hand may increase for a certain service from various sources. Hoyer & MacInnis (2007), proposed a few influential factors such as:

- Marketing sources: Advertising, sales promotions, publicity, special events, and social media posts. Marketing sources can also be delivered to consumers personally – salespeople, service representatives, and customer service agents.
- Non-marketing sources: News, reviews/blogs, program content, external endorsements, cultural heroes, organizations, virtual communities, social media. Non-marketing sources can also be delivered personally as the marketing source – family, friends, neighbors, acquaintances, classmates, co-workers, etc. Hoyer & MacInnis (2007). Such information sources can be listed as reference groups. Hawkins (2019) divides reference groups into three subcategories: Information influence – when consumers use this reference group members as an information source, Normative influence – when consumers decide based on the reference group's expectations, and Identification influence – when consumer's values and norms are internalized with the group's. According to Chang, Yang, Xu, & Xiong (2021), social interactions and interpersonal relationships could positively impact a person's decision and contribute to his or her intention to subscribe to a platform.

Emotional values relate directly to how a consumer feels about a particular streaming platform. These can be influenced by their self-image and values (Laurent & Kapferer, 1985). Self-image relates to the idea of what we possess reflects who we are (Kotler & Armstrong, 2011).

According to Batey (2008), the self-image of a person consists of three elements: the self that I believe I am, the self that I would like to be, and the self that I believe others see me. Figure 5 shows the elements which affect the self-image.

Figure 5 Elements of self-image



Source: Batey (2008)

Consumers attempt to express their self-image by conveying impressions that lie between their accurate self-image which they believe they are and an ideal image which they would like to be. They often do this by consuming products or services with a particular pattern that fits their desire to establish an identity (Batey, 2008). Such consumption pattern pairing with a suitable brand will affirm the consumer's goal to idealize their identity image (Wicklund & Gollwitzer, 1982). A study conducted by Hasan, Jha, & Liu (2018) points out that low self-control and self-esteem are believed to be leading to excessive use of video streaming services. Motives such as information seeking, killing time, avoiding boredom, and keeping self-entertained or psychological factors such as feeling like a failure, lack of self-discipline, or needing pleasures are all contributing to the use of video streaming services excessively.

Values are" enduring beliefs about abstract outcomes and behaviors that are good or bad." (Hoyer & MacInnis, 2007). According to Hoyer (2007), values are influenced by culture, social class, ethnic origins, and age. Cultural influences can be divided into four dimensions:

- Individualism vs collectivism: the culture is more focused on the individual or the group
- Uncertainty avoidance: the culture prefers structured or unstructured situations
- Masculinity vs femininity: the culture nurtures masculine values (assertiveness, success, and competition) or feminine values (quality of life, personal relationship, and caring)
- Power distance: the level of distance between society's members in terms of status

However, Hawkins (2019), divided values by their orientation. Self-oriented values focus on the self-beliefs of the consumer, environment-oriented values, or other-oriented values such as individuality or collectiveness, diversity or uniformity, masculinity or femininity, etc. Environment-oriented values can be gained for a streaming service in a way such as a live-events – sports or news since the consumers would want to be part of a social conversation (MaginePro, 2019).

4 Practical Part

4.1 Case study overview

To provide a deeper understanding of the factors affecting the Vietnamese people when deciding to use a movie streaming service, this thesis takes a market report conducted by InfoQ Vietnam (2021) as a reference to compare when analyzing the questionnaire result collected by the author. The survey distributed by the author has the same questions as the one from InfoQ Vietnam to better notice the changes between the two periods.

The survey from InfoQ Vietnam divided the questionnaire into two parts: The first part is to collect the respondent's background information including gender, age, occupation, and monthly income. This information can provide a brief picture of who are the main consumers of the streaming market and potentially reveal the behavior of each group.

The second part of the survey focuses on detailed information regarding their behavior and preferences when using movie streaming services. This part consists of 8 questions: whether the respondent is using a paid movie streaming service; the amount of time they spend watching movies online per day; their most used device; their assessment of various aspects of in-use service; factors influencing the decision on using services; possible rate of spending; favorable genres; and most used watching device.

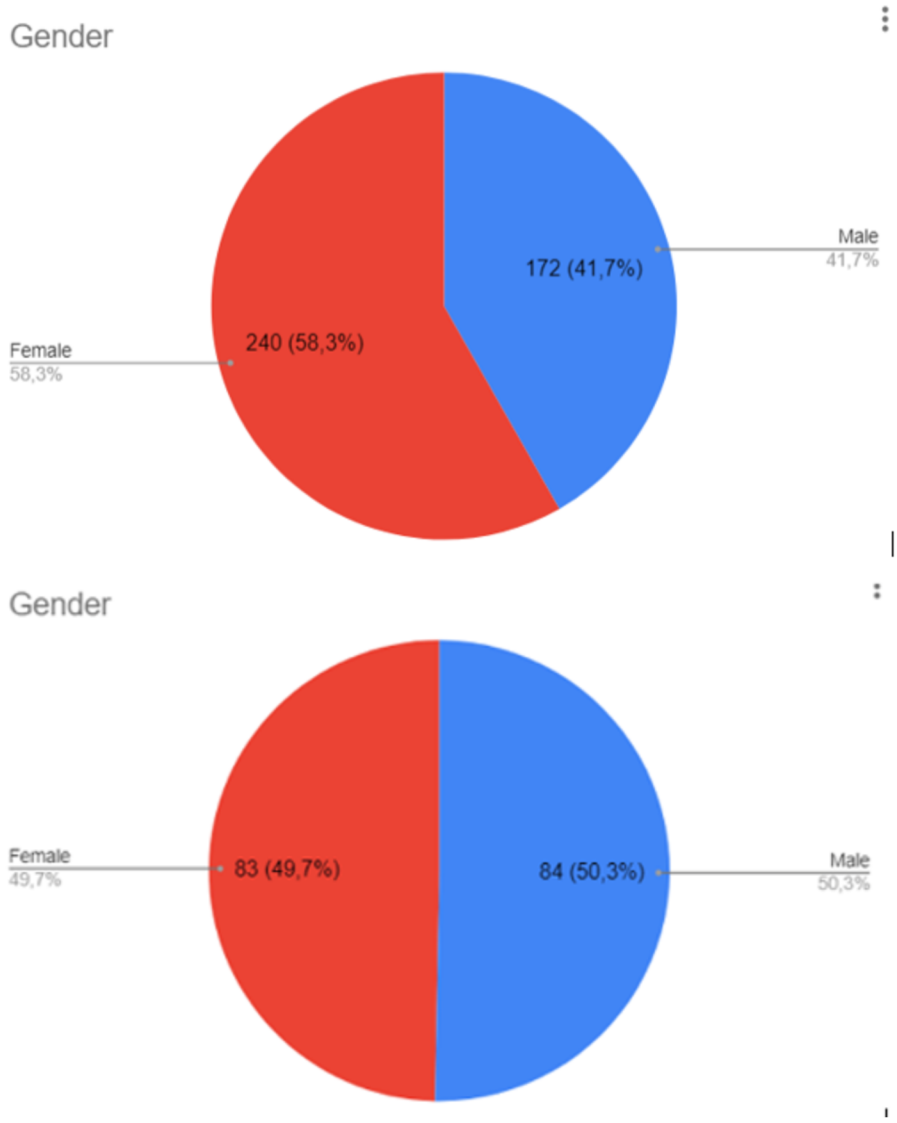
The surveys were distributed online by InfoQ Vietnam and the author through various platforms such as Facebook, Whatsapp, Discord, Zalo, etc., to optimize the advantages of online communication services compared to the traditional methods such as quicker responses-collecting speed, responses were collected based on member's registration information and filtered by the system with correct characteristics, lower cost, and more comfortable for respondents to do the surveys on their time and place.

4.2 Respondents' descriptive information from questionnaire and comparison with the case study

The survey conducted by the author received 167 respondents, and the survey from InfoQ Vietnam received 412 respondents, and out of those respondents, 172 were males which takes up 41.75%, and 240 females accounted for the other 58.25% of the result. In the survey conducted by the author, out of 167 respondents, the proportions between genders shift to be more balanced when 84 respondents were male which takes up to 50.3% and 49.7% were

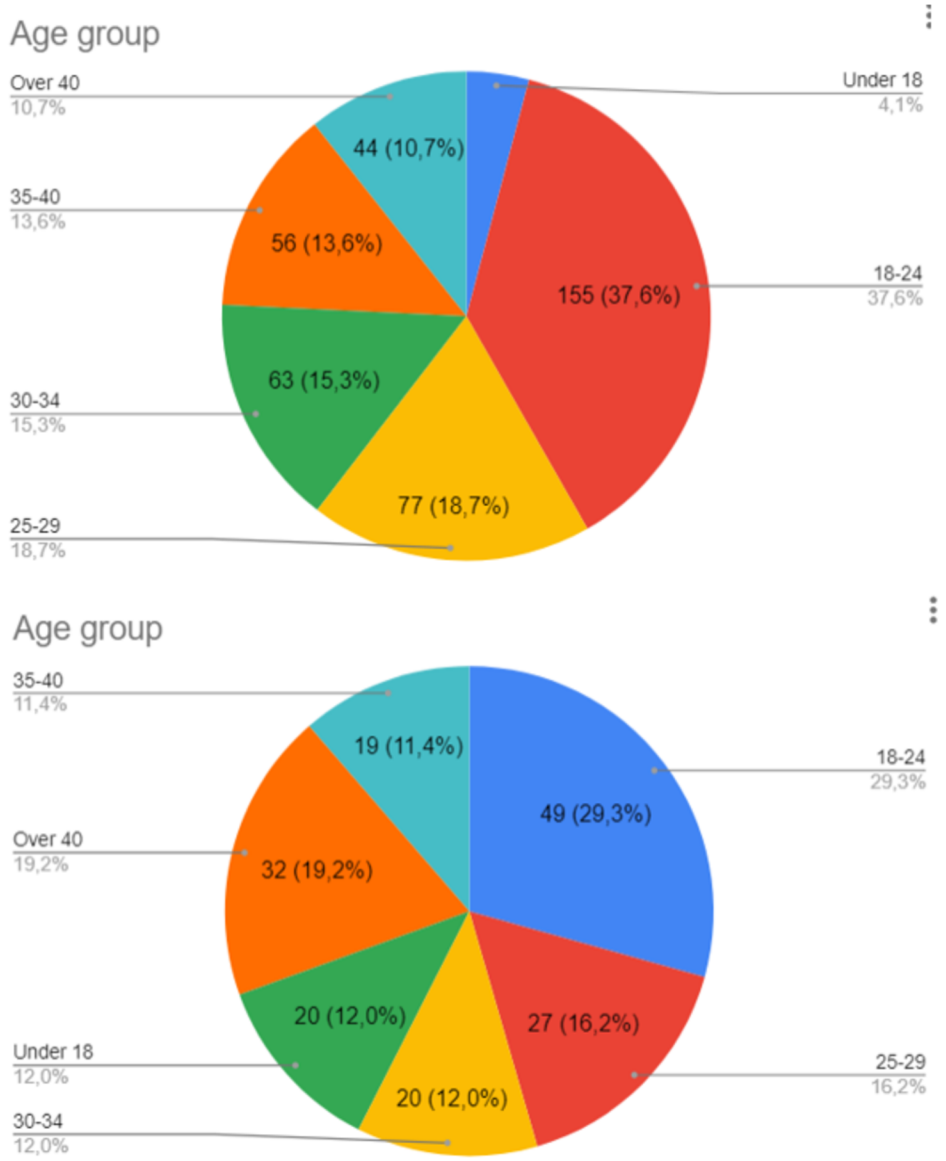
females resulting in 83 women answering the survey. Taking this sample, the preference of people using movie streaming services is unbiased by gender as the proportions almost hit an equal 50-50 scale. Although the age group proportions are more equally divided in the survey conducted by the author, the majority of people taking interest in movie streaming services as in 2022 compared to 2021 by InfoQ Vietnam is still 18-24 with 37.62% and 29.3% in the result of InfoQ Vietnam and the author respectively. This may happen due to the popularity of movie streaming services is still mainly focused on the younger generation with their access to digital platforms.

Graph 1 Gender distribution in survey 2021 (top) and 2022 (bottom)



Source: InfoQ Vietnam (2021), and author, made with Google Forms

Graph 2 Age distribution in survey 2021 (top) and 2022 (bottom)

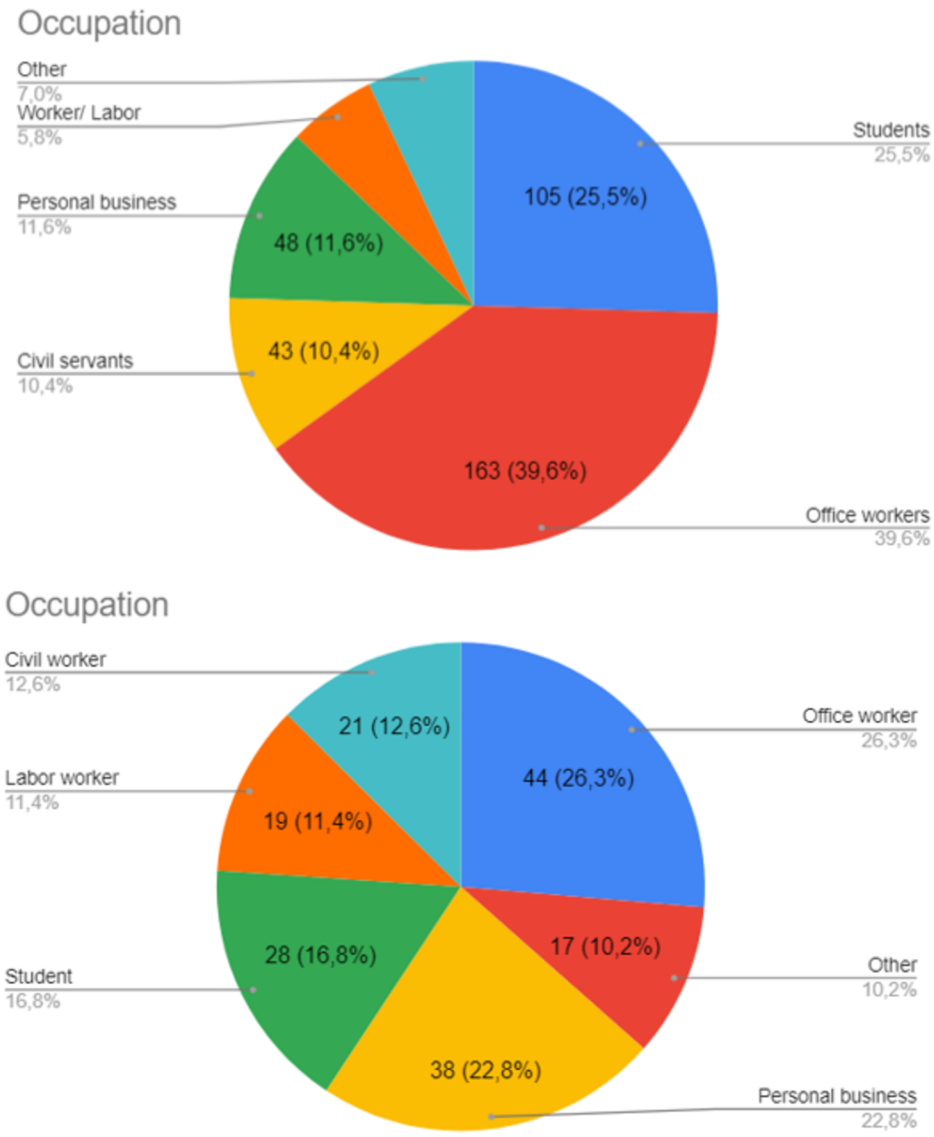


Source: InfoQ Vietnam (2021), and author, made with Google Forms

The occupation of respondents in the survey supplied by InfoQ Vietnam is mostly office workers and students accounting for 39.56% and 25.49% respectively. From this graph, in 2021, the respondents' preferences when it comes to using movie streaming services were mostly influenced by the choices of people who were having the previously mentioned occupation. However, in the survey conducted in 2022 by the author, the distribution of occupation is more impartial with the highest percentage being office workers with 44 people accounting for 26.3%. The second highest occupation is people having personal business with 38 respondents accounting for 22.8% and the third highest is 28 students taking up 16.8%. Although the distribution of occupation has been more unbiased, the top percentages of respondents in both

2021 and 2022 are still either students, office workers, or people with the personal business resulting in a potential bias in further study.

Graph 3 Occupation distribution in survey 2021 (top) and 2022 (bottom)

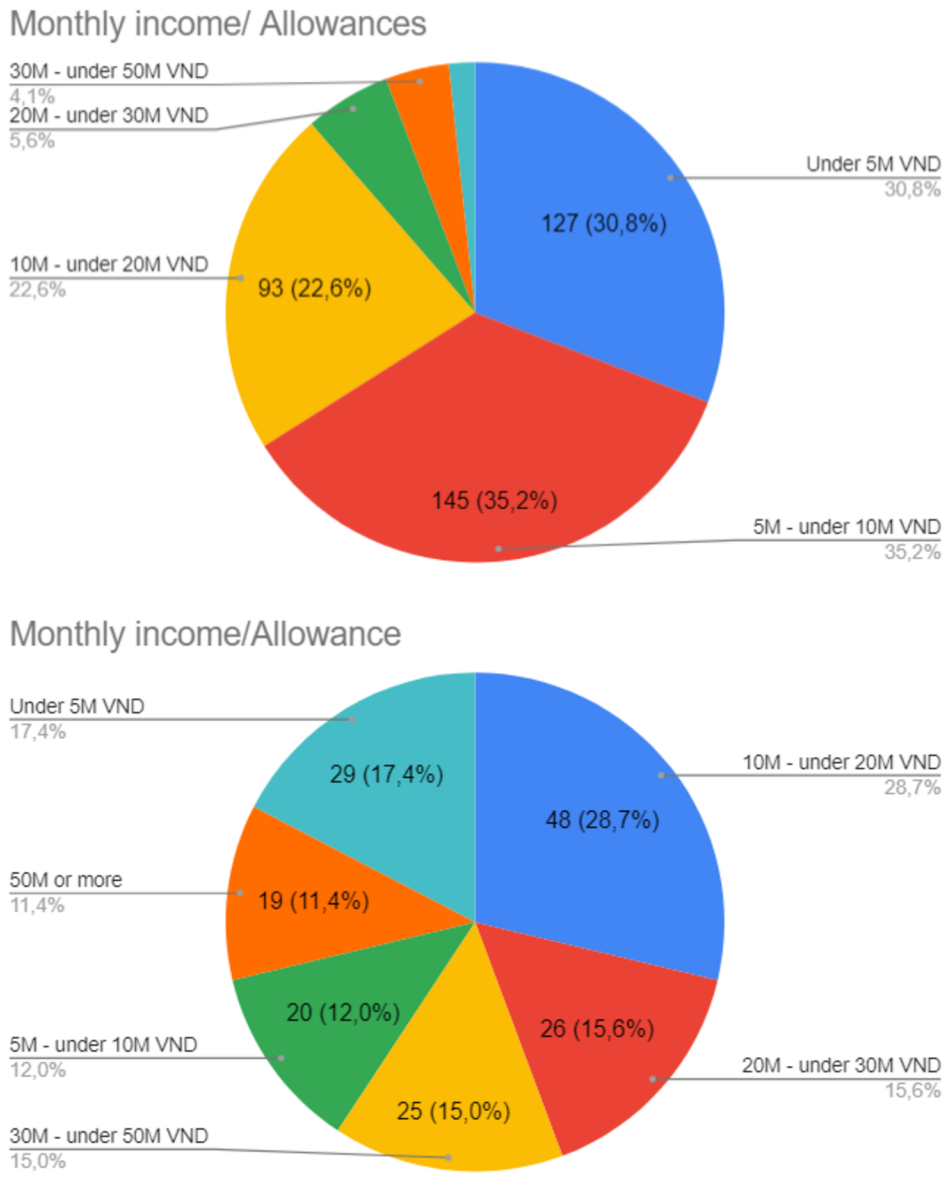


Source: InfoQ Vietnam (2021), and author, made with Google Forms

The next indicator studied in both surveys was the respondent's monthly income or allowance. In 2021, most people answering the survey from InfoQ Vietnam had a monthly income of under 20 million VND with 30.83% being under 5 million, 35.19% with 5 to under 10 million a month, and 22.57% receiving between 10 to under 20 million every month. This may result in the favoritism of choices due to the high percentage of respondents having relatively the same amount of income monthly. In the author's survey, the spread of the result is more even when the highest percentage of a group only takes up to 28.7% which was people earning 10 to under 20 million VND. The next groups respectively are under 5 million (17.4%), 15.6% between 20 million to under 30 million, and 15% making 30 million to under 50 million a month. This

nearly balanced ratio may result in a reliable result when conducting further analysis of the use of movie streaming services.

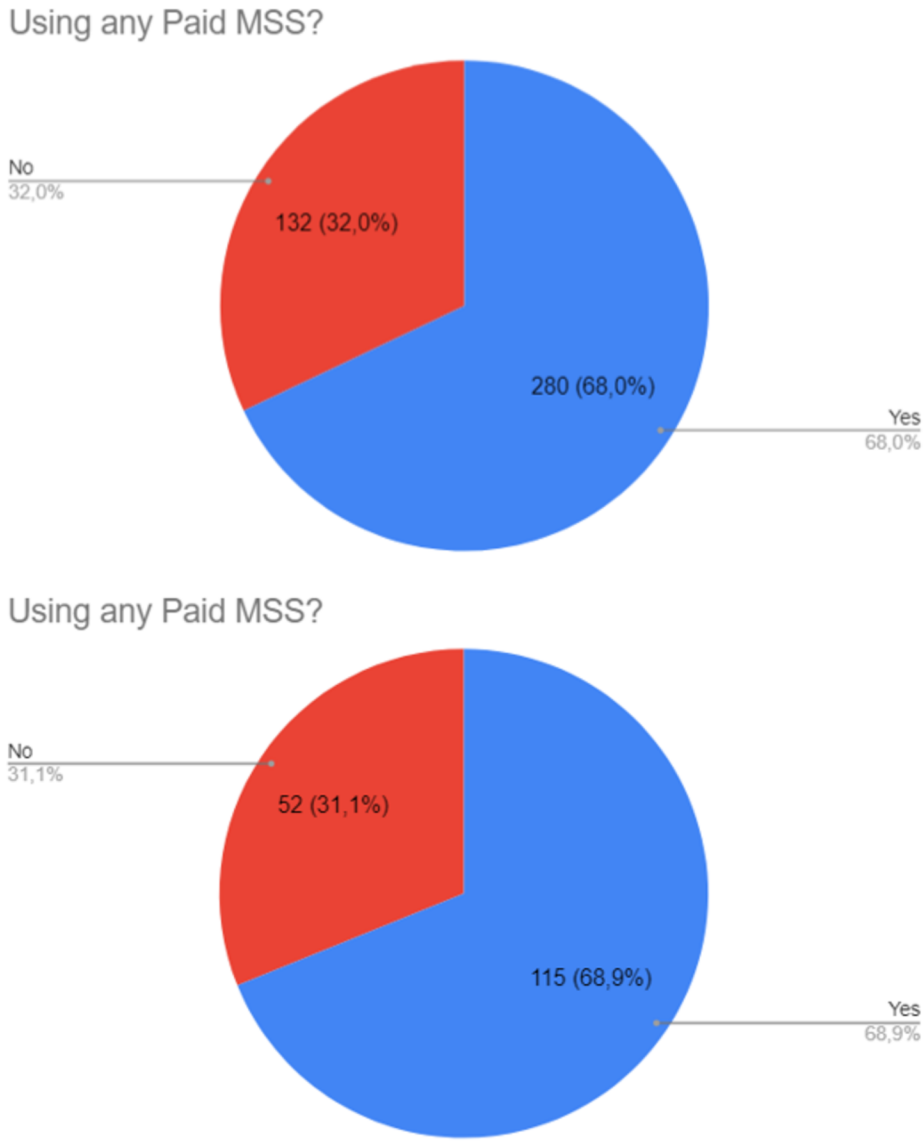
Graph 4 Monthly income distribution in survey 2021 (top) and 2022 (bottom)



Source: InfoQ Vietnam (2021), and author, made with Google Forms

With the most people responding to the survey in 2021 having an income level below 20 million VND, the level of respondents saying Yes to the question of whether they were using any paid movie streaming service was 67.96%. However, in the survey made by the author in 2022, the percentage of Yes has not increased by much with the result of 68.9% of the respondents. This reveals the mindset of paying for a legal movie streaming service has not changed significantly in a span of one year between 2021 and 2022 in the Vietnamese community.

Graph 5 Percentages of users using paid MSS in survey 2021 (top) and 2022 (bottom)



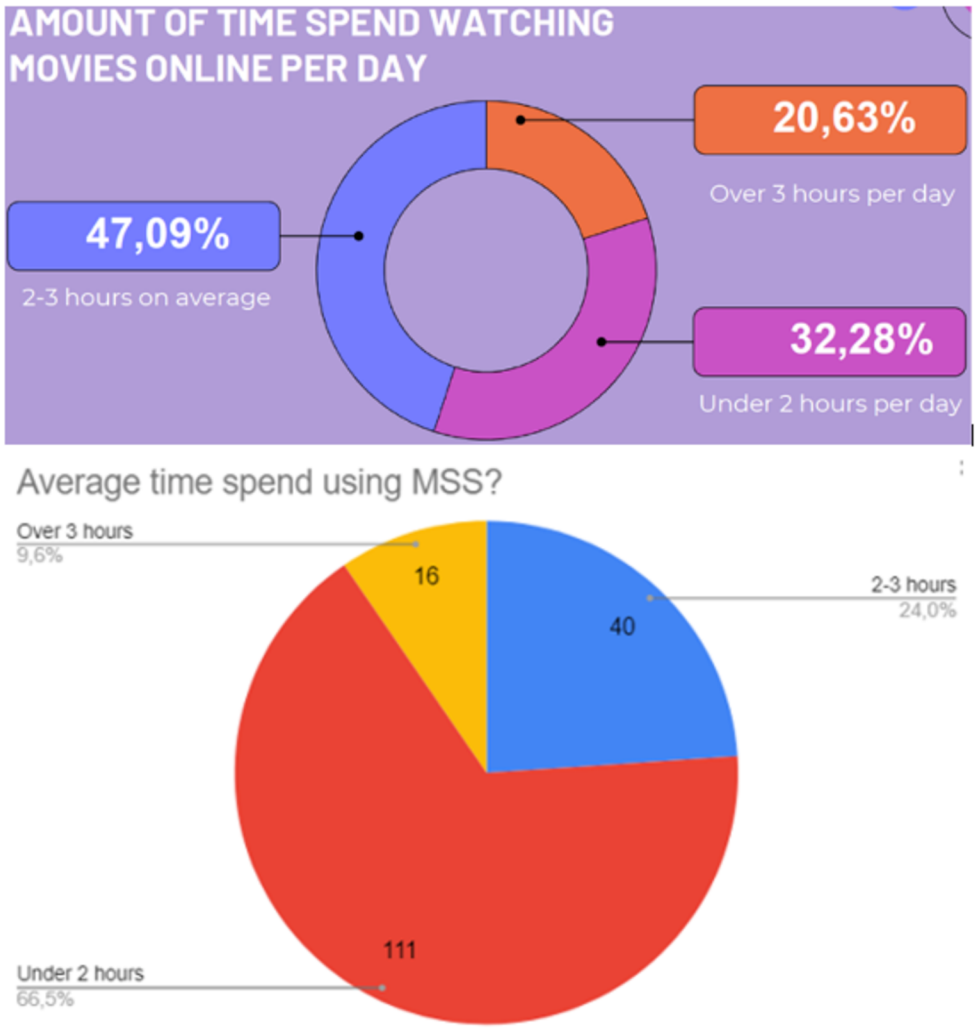
Source: InfoQ Vietnam (2021), and author, made with Google Forms

The result received from InfoQ's question of the average amount of time spent on movie streaming services each day was fairly distributed between three time spans with 47.09% as the highest being 2 to 3 hours per day; under 2 hours per day is the second most with 32.28% and the last was 20.63% of people spending over 3 hours every day for consuming content.

However, there has been a drastic change in the result received from the questionnaire by the author when the respondents overwhelmingly picked under 2 hours per day with 111 people accounting for 66.5%. 40 respondents answered the question with 2 to 3 hours per day which result in 24% and 16 people spending over 3 hours each day watching content on movie streaming services. From these two graphs, it can be seen that the majority of the time people spend on movie streaming services has shifted from 2 to 3 hours per day to under 2 hours but

this may result from the distribution of other respondents' characteristics being more balanced in the author's survey.

Graph 6 Average time spent distribution in survey 2021 (top) and 2022 (bottom)

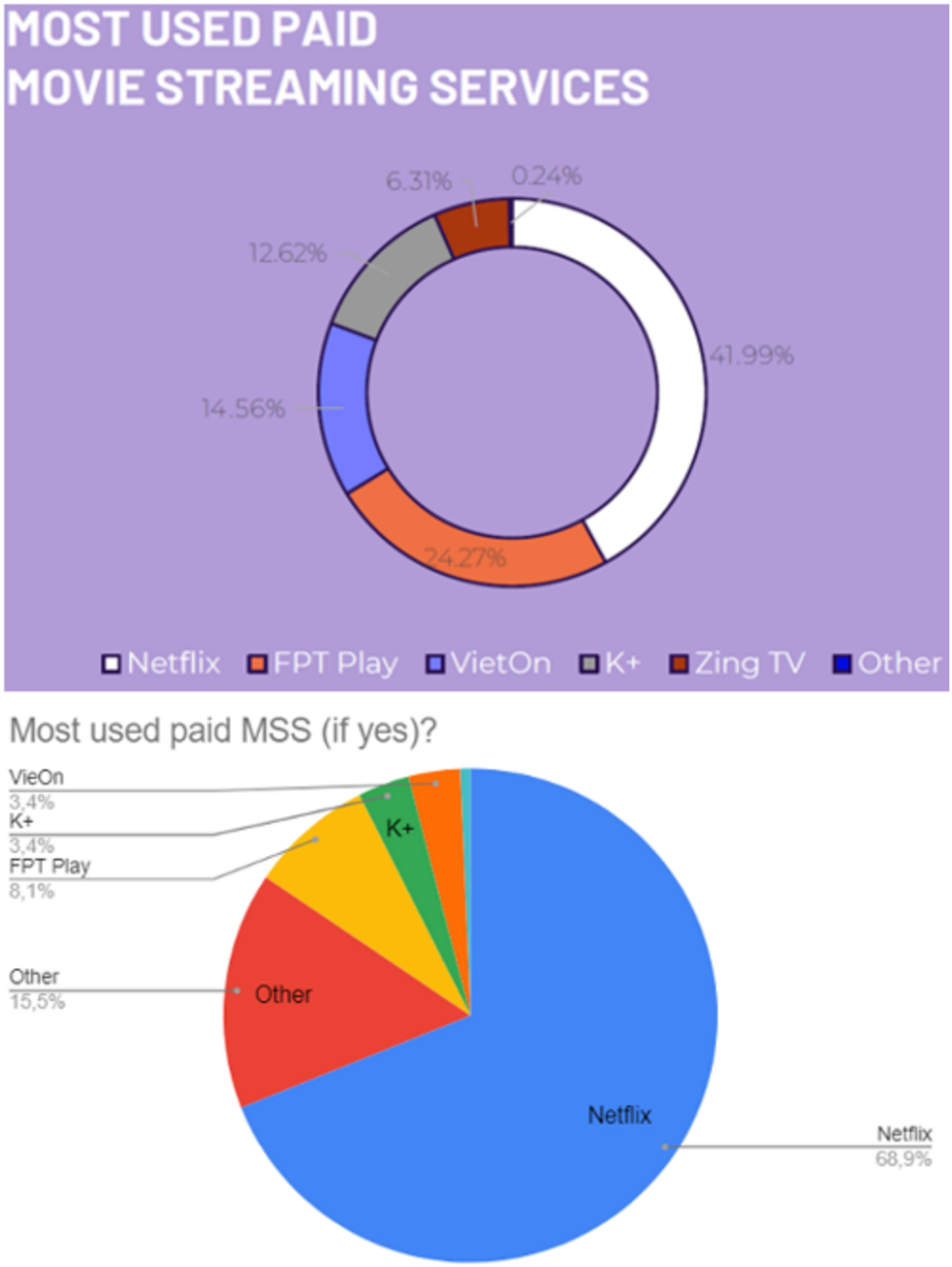


Source: InfoQ Vietnam (2021), and author, made with Google Forms

The most used streaming service has not changed between 2021 and 2022 with Netflix dominating in both years. However, in InfoQ's survey in 2021, only 41.99% of respondents chose Netflix as their service provider to pay for monthly and the second highest ranking was FPT Play accounting for 24.27%. The rest people chose either VieOn, K+, ZingTV, or other services as their monthly paid movie streaming platform. In 2022, the dominant service – Netflix takes up 68.9% of the respondents which equals nearly 30% more in the distribution of movie services. It can be concluded that either Netflix is doing better at getting users to change to their platform or other competitors such as FPT Play – now only 8.1%, VieOn, and K+ - both being 3.4%, are doing worse resulting in losing percentages of users in the market. Other paid

movie streaming services have also received more attention as the questionnaire from 2021 only received 0.24% of people picking this option but has raised significantly in 2022 with 15.5%.

Graph 7 Most used MSS distribution in survey 2021 (top) and 2022 (bottom)

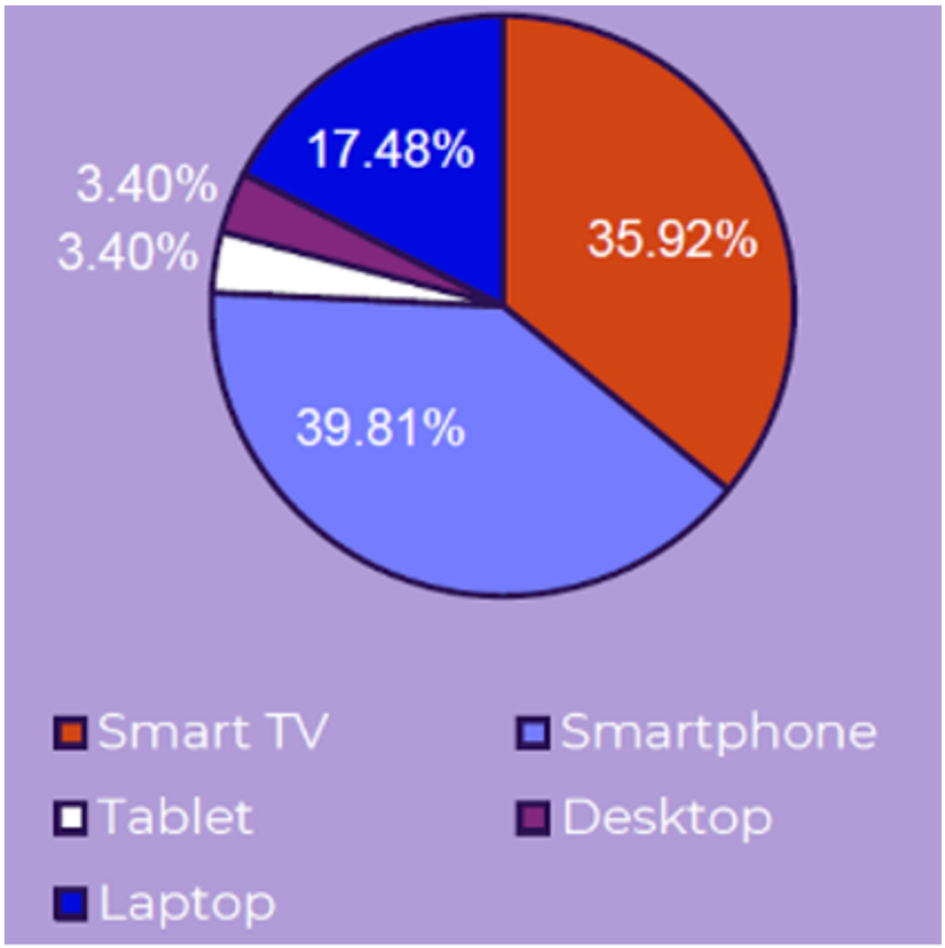


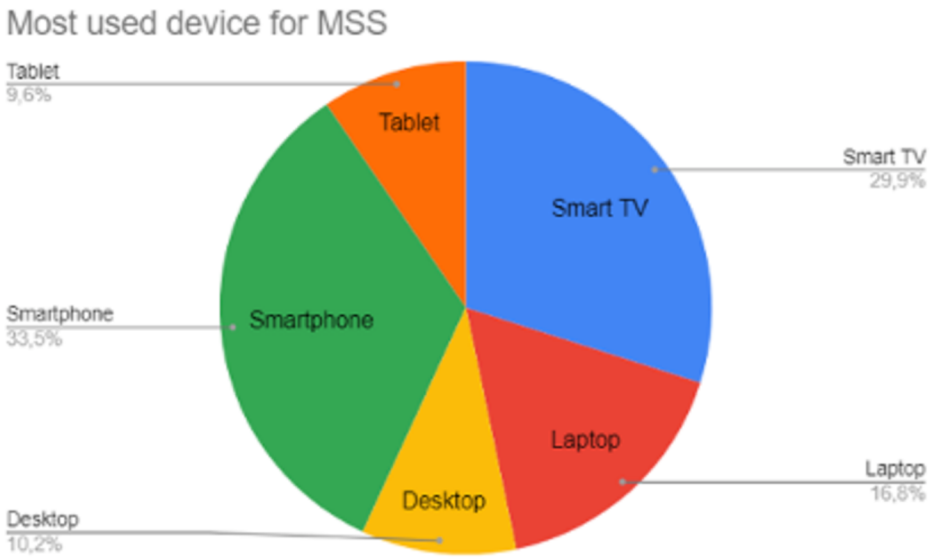
Source: InfoQ Vietnam (2021), and author, made with Google Forms

Smartphones are still the most used device when people watch content on movie streaming services. In 2021. Smartphones take up 39.81% of respondents' choice when in 2022, this number is still 33.5%. The second most used device in both years is SmartTV with 35.92% and 25.9% respectively. The third place of the most used device has not changed as well as 17.48% and 16.8% have been picked for Laptops each year. One noticeable piece of information is how

Desktop and Tablet users have been increasing in 2022 as the percentages raised from 6.8% for both devices to 19.8% in 2022.

Graph 8 Most used device distribution in survey 2021 (top) and 2022 (bottom)

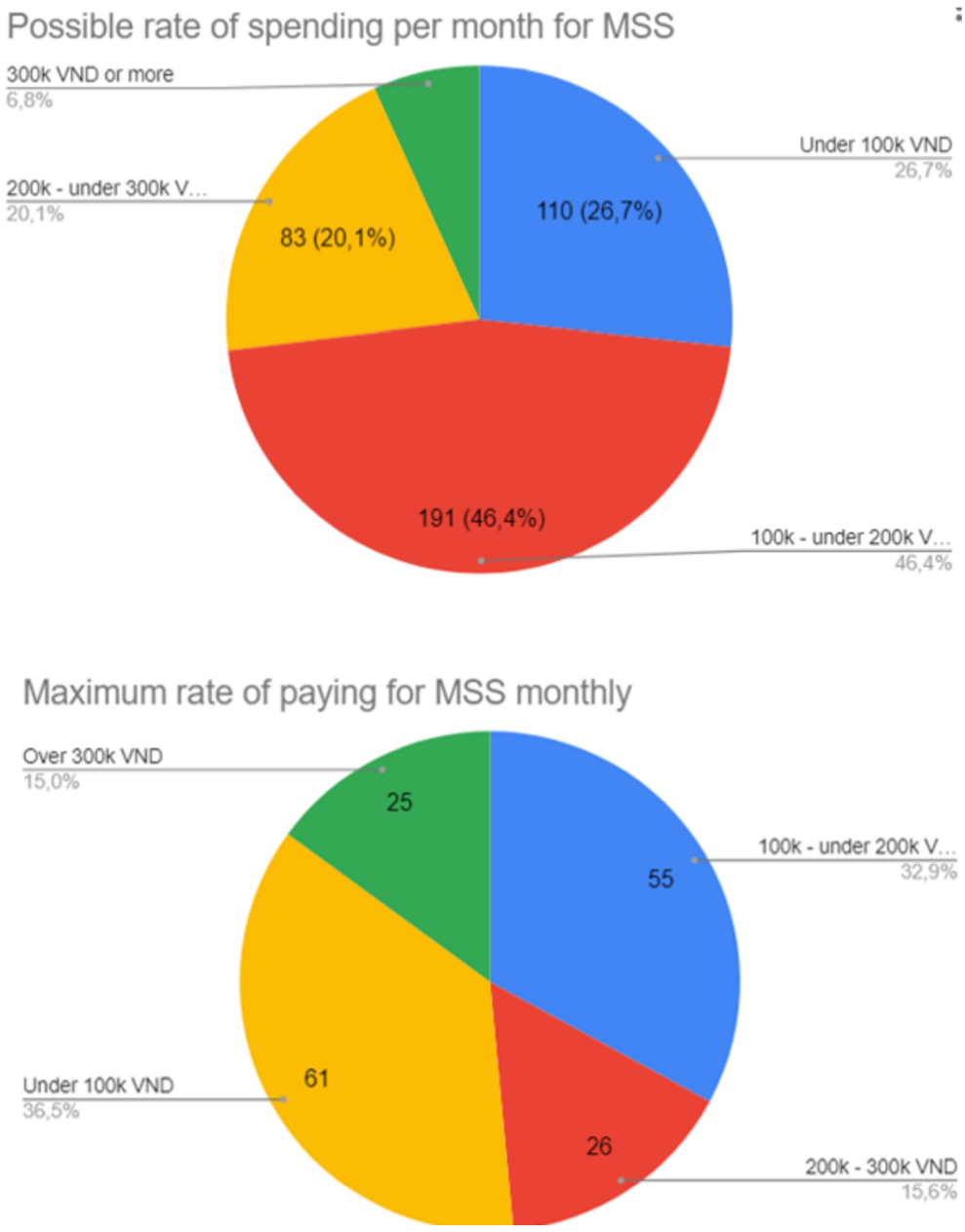




Source: InfoQ Vietnam (2021), and author, made with Google Forms

In the year 2021, the survey from InfoQ received the result of most consumers would be willing to pay for movie streaming services at the rate of 100k to under 200k VND per month with 46.36% of the poll choosing this. The second and third options picked by the respondents were under 100k VND and 200k to under 300k respectively. The percentages between these two options were not much distanced with one being 26.7% and the other being 20.15%. Vietnamese people were very reluctant to pay over 300k VND per month for a movie streaming service as only 6.8% of the respondents answered with this option. However, things changed in 2022 as the distribution of the respondents' choices was much more balanced with 61 people picking under 100k VND monthly resulting in 36.5% of the chart. For 100k to under 200k VND per month, there were 55 Vietnamese accounting for 32.9% agree that this price range is the most suitable option for them should they choose to spend on movie streaming services on a monthly basis. 30.5% of the sample size decided that they would be welcome to pay over 200k VND for a movie streaming service if it can meet their requirements. This shows a significant change in the willingness of Vietnamese consumers to pay more for a movie streaming service if it can meet the demand for the characteristics they desire from a service.

Graph 9 Maximum rate of spending distribution in survey 2021 (top) and 2022 (bottom)



Source: InfoQ Vietnam (2021), and author, made with Google Forms

The questionnaire also implemented a few questions with a Linkert scale to study the opinion of users on movie streaming services with 1 being Very Bad and 5 being Very Good.

When asked about the assessment of movie streaming services they currently using, the respondents of the InfoQ survey in 2021 judged the characteristics of the services as follows: For the User Interface, most people gave a 4 on a Linkert scale which meant Good with 52.67%; 20.63% gave a Very Good and 22.82% had Normal experience with this factor of their service. For the Security aspect, the percentage of people who thought it was Very Good or Good slightly declined to 18.44% and 48.79%. For the Content Variety of the movie streaming services they were using, 26.94% of the respondents had a Very Good impression, 49.27% had

a Good, and 18.69% chose the Normal option. The Resolution, Sound Quality, and Subtitles all received decent feedback as over 50% of users responded with Good quality and especially Resolution and Sound Quality had 29.86% and 31.31% on Very Good respectively. Overall, the feedback from factors of movie streaming services being used by respondents at the time was relatively Good to Very Good by maintaining over 65% to around 80% when combining these two levels. Noticeably, the most negative feedback received from the user was in the assessment of Connection Speed with 2.91% Bad and 2.91% Very Bad. This may show the instability of connection in Vietnam may affect the experience of users of movie streaming services.

Table 1 Assessments of characteristics of MSS in survey (2021)

	User Interface	Security	Content Variety	Resolution	Sound Quality	Subtitiles	Connection Speed
Very Bad	2,91	2,91	2,67	2,43	2,67	1,94	2,91
Bad	0,97	2,43	2,43	1,21	0,97	1,21	2,91
Normal	22,82	27,43	18,69	15,29	12,14	20,15	23,06
Good	52,67	48,79	49,27	51,21	52,91	50,49	49,52
Very Good	20,63	18,44	26,94	29,86	31,31	26,21	21,6

Source: InfoQ Vietnam (2021), and author, made with Excel

In the assessment made by the author in 2022, a few significant changes can be pointed out such as the judgment of people for User Interface, Security, Subtitles, and Connection Speed have increased sharply from 0.97% to 10.2%, 2.43% to 13.2%, 1.21% to 7.8%, and 1.21% to 8.4% respectively in the Bad quality option. This has also resulted in sharp declines in various factors as the cumulative percentages of Good and Very Good in all aspects turned from 58.1% to around 70%. It can be said that either user have started to be more aware of the quality of such services or the quality of them has been declining since 2021.

Table 2 Assessments of characteristics of MSS in survey (2022)

	User Interface	Security	Content Variety	Resolution	Sound Quality	Subtitiles	Connection Speed
Very Bad	1,8	2,4	1,2	0,6	0,6	0,6	0,6
Bad	10,2	13,2	5,4	4,8	3,6	7,8	9,4
Normal	22,2	26,3	29,9	25,7	25,7	32,3	32,9
Good	41,9	40,1	37,1	34,1	35,9	37,7	35,3
Very Good	24	18	26,3	34,7	34,1	21,6	22,8

Source: InfoQ Vietnam (2021), and author, made with Excel

Table 3 shows the descriptive statistics of the assessment of movie streaming services' aspects. The mean from this table shows the average respondents' opinion on each factor of movie streaming services and since it is based on a Linkert scale with 1 being Very Bad and 5 being Very Good, a value closer to 5 means more positive feedback and closer to 1 means more negative. The standard deviation value is also featured to further explain the variance between the respondents' opinions on each assessment. If the value of the standard deviation is small, it

means the opinions were more homogenous or unified and vice versa. This means that Resolution and Sound Quality are the two factors that received the most positive feedback with the mean of the responses on a Linkert scale from 1 to 5 is 3.99 and 3.98 respectively. However, the users seem to have more homogenous judgments on the Sound Quality since the standard deviation of this factor is 0.895 and the Resolution is more heterogenous with a 0.925 standard deviation. User Interface and Security factors also received mixed feedback from respondents since their standard deviation values are 0.989 and 1.008.

Table 3 Descriptive Statistics of the assessments

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AssesmentonUI	167	1	5	3,76	,989
AssesmentonSecurity	167	1	5	3,58	1,008
AssesmentonContentVariety	167	1	5	3,82	,927
AssesmentonResolution	167	1	5	3,98	,925
AssesmentonSoundQuality	167	1	5	3,99	,895
AssesmentonSubtitles	167	1	5	3,72	,911
AssesmentonConnectionSpeed	167	1	5	3,71	,932
Valid N (listwise)	167				

Source: InfoQ Vietnam (2021), and author, made with SPSS

4.3 Testing hypotheses

To test the dependency of the maximum possible rate of paying for movie streaming services monthly with several factors, a few hypotheses were formed, and data were collected to test such hypotheses by the distribution of a questionnaire. There were 4 levels of pay rate in the questionnaire: under 100k VND, 100k to under 200k VND, 200k to 300k VND, and over 300k VND. However, after receiving the result from the questionnaire, the distribution of people willing to pay 200k to 300k VND and over 300k VND was not sufficient for the Chi-squared method as many contingency tables had over 20% of the cells with values less than 5 thus the decision to merge groups of 200k to 300k VND and over 300k VND was made. The new category is now over 200k VND.

Analysis of dependency on gender

To test the dependency on gender, the first step of stating the null hypothesis and alternative hypothesis must be made. The hypotheses are as follows:

H0: There is no relationship between spending on movie streaming services monthly and gender.

H1: There is a significant relationship between spending on movie streaming services monthly and gender.

The selection of significant level $\alpha = 0.05$ and the criteria for X^2 test is sufficient thus it will be valid. With p-value = 0.3491 > α, the test failed to reject the null hypothesis and it can be concluded that **the analysis cannot find any relationship between spending on movie streaming services monthly and gender**.

Figure 6 Analysis of gender

Table of Gender by Maximum possible rate of paying				
	Maximum possible rate of paying(Maximum possible rate of paying for MSS monthly)			
Gender(Gender)	100K - under 200K VND	Over 200K VND	Under 100K VND	Total
Female	23	28	32	83
Male	32	23	29	84
Total	55	51	61	167

Statistic	DF	Value	Prob
Chi-Square	2	2.1046	0.3491

Source: author, made with SAS Studio

Analysis of dependency on age groups

To test the dependency on age group, the first step of stating the null hypothesis and alternative hypothesis must be made. The hypotheses are as follows:

H0: There is no relationship between spending on movie streaming services monthly and age group.

H1: There is a significant relationship between spending on movie streaming services monthly and age group.

The selection of significant level $\alpha = 0.05$ and the criteria for X^2 test is sufficient thus it will be valid. With p-value = 0.4060 > α, the test failed to reject the null hypothesis and it can be

concluded that **the analysis cannot find any relationship between spending on movie streaming services monthly and age group.**

Figure 7 Analysis of age group

Table of Age group by Maximum possible rate of paying				
	Maximum possible rate of paying(Maximum possible rate of paying for MSS monthly)			
Age group(Age group)	100K - under 200K VND	Over 200K VND	Under 100K VND	Total
18-24	18	9	22	49
25-29	11	8	8	27
30-34	6	8	6	20
35-40	7	7	5	19
Over 40	8	14	10	32
Under 18	5	5	10	20
Total	55	51	61	167

Statistic	DF	Value	Prob
Chi-Square	10	10.4015	0.4060

Source: author, made with SAS Studio

Analysis of dependency on occupation

To test the dependency on occupation, the first step of stating the null hypothesis and alternative hypothesis must be made. The hypotheses are as follows:

H0: There is no relationship between spending on movie streaming services monthly and occupation.

H1: There is a significant relationship between spending on movie streaming services monthly and occupation.

The selection of significant level $\alpha = 0.05$ and the criteria for X^2 test is sufficient for the assumption of McHugh (2013) thus it will be valid. With p-value = 0.0326 < α, the test can reject the null hypothesis and it can be concluded that **there is a significant relationship between spending on movie streaming services monthly and occupation.** From the contingency table, it can be seen that most students prefer the option of paying under 100k VND for a movie streaming service while adults who have more stable occupations can pay more if it met their requirements.

Figure 8 Analysis of occupation

Table of Occupation by Maximum possible rate of paying				
	Maximum possible rate of paying(Maximum possible rate of paying for MSS monthly)			
Occupation(Occupation)	100K - under 200K VND	Over 200K VND	Under 100K VND	Total
Civil worker	5	11	5	21
Labor worker	5	9	5	19
Office worker	16	9	19	44
Other	9	0	8	17
Personal business	13	14	11	38
Student	7	8	13	28
Total	55	51	61	167

Statistic	DF	Value	Prob
Chi-Square	10	19.6614	0.0326

Source: author, made with SAS Studio

Analysis of dependency on monthly income/allowances

To test the dependency on monthly income/allowances, the first step of stating the null hypothesis and alternative hypothesis must be made. The hypotheses are as follows:

H0: There is no relationship between spending on movie streaming services monthly and monthly income/allowances.

H1: There is a significant relationship between spending on movie streaming services monthly and monthly income/allowances.

The selection of significant level $\alpha = 0.05$ and the criteria for X^2 test is sufficient for the assumption of McHugh (2013) thus it will be valid. With p-value = 0.0061 < α, the test can reject the null hypothesis and it can be concluded that **there is a significant relationship between spending on movie streaming services monthly and monthly income/allowances.** The result has confirmed the visibility of preferences in the contingency table when people who have lower than 20M VND in income tends to pay for movie streaming services with only under 200k VND per month while people with over 30M VND in monthly income would welcome to pay more than 200k VND per month should a service met their preferences.

Figure 9 Analysis of monthly income

Table of Monthly income/Allowance by Maximum possible rate of paying				
	Maximum possible rate of paying(Maximum possible rate of paying for MSS monthly)			
Monthly income/Allowance(Monthly income/Allowance)	100K - under 200K VND	Over 200K VND	Under 100K VND	Total
10M - under 20M VND	20	7	21	48
20M - under 30M VND	8	13	5	26
30M - under 50M VND	8	12	5	25
5M - under 10M VND	7	5	8	20
Over 50M VND	5	9	5	19
Under 5M VND	7	5	17	29
Total	55	51	61	167

Statistic	DF	Value	Prob
Chi-Square	10	24.6472	0.0061

Source: author, made with SAS Studio

Analysis of dependency on average amount of watching time per day

To test the dependency on average amount of watching time per day, the first step of stating the null hypothesis and alternative hypothesis must be made. The hypotheses are as follows:

H0: There is no relationship between spending on movie streaming services monthly and average amount of watching time per day.

H1: There is a significant relationship between spending on movie streaming services monthly and average amount of watching time per day.

The selection of significant level $\alpha = 0.05$ and the criteria for X^2 test is sufficient thus it will be valid. With p-value = $0.0159 < \alpha$, the test can reject the null hypothesis and it can be concluded that **there is a significant relationship between spending on movie streaming services monthly and average amount of watching time per day.** From the contingency table, it can also be seen that people who spend less than 2 hours watching content from movie streaming services tend to pay only less than 100k VND or 100k to under 200k VND per month as they believe they should not spend much on a service which they don't use very often. The opposite case can be said for people spending a lot of time watching daily as they would be willing to pay more monthly.

Figure 10 Analysis of average time spent

Table of Average time spend using MSS? by Maximum possible rate of paying				
	Maximum possible rate of paying(Maximum possible rate of paying for MSS monthly)			
Average time spend using MSS?(Average time spend using MSS?)	100K - under 200K VND	Over 200K VND	Under 100K VND	Total
2-3 hours	12	20	8	40
Over 3 hours	5	6	5	16
Under 2 hours	38	25	48	111
Total	55	51	61	167

Statistic	DF	Value	Prob
Chi-Square	4	12.2095	0.0159

Source: author, made with SAS Studio

Analysis of dependency on most used device for consuming content

To test the dependency on most used device for consuming content, the first step of stating the null hypothesis and alternative hypothesis must be made. The hypotheses are as follows:

H0: There is no relationship between spending on movie streaming services monthly and most used device for consuming content.

H1: There is a significant relationship between spending on movie streaming services monthly and most used device for consuming content.

The selection of significant level $\alpha = 0.05$ and the criteria for X^2 test is sufficient thus it will be valid. With p-value = 0.0772 > α, the test failed to reject the null hypothesis and it can be concluded that **the analysis cannot find any relationship between spending on movie streaming services monthly and most used device for consuming content.**

Figure 11 Analysis of most used device

Table of Most used device for MSS by Maximum possible rate of paying				
	Maximum possible rate of paying(Maximum possible rate of paying for MSS monthly)			
Most used device for MSS(Most used device for MSS)	100K - under 200K VND	Over 200K VND	Under 100K VND	Total
Desktop	8	1	8	17
Laptop	7	13	8	28
Smart TV	17	17	16	50
Smartphone	19	12	25	56
Tablet	4	8	4	16
Total	55	51	61	167

Statistic	DF	Value	Prob
Chi-Square	8	14.1802	0.0772

Source: author, made with SAS Studio

5 Conclusion

The era of the Internet has brought many different changes to humanity. Along with them are challenges for many types of businesses and they can only either adapt or be replaced by new ideas of younger generations. One of the industries being affected by the movement of the new era is how people approach consuming media content. In the past, to experience the content of movies, TV shows, etc, people had to go to cinemas, rent movies, or subscribe to TV cables for various types of content. However, with the wide use of Internet devices, and the improvement of infrastructures for better quality Internet, people demand more comfortable approaches when they want to spend time watching content. That is how the movie streaming services such as Netflix, Hulu, HBO+, etc, came to the consumers. However, there is still a vast amount of piracy websites that steal content without permission and distributed it illegally and in Vietnam, this has been a serious problem for the growth of this industry since the Internet became commonly used in this country.

This bachelor thesis aims to measure the importance and evaluate the motives and characteristics of users when deciding to use or pay for movie streaming services in Vietnam. Literature studies on movie streaming services, the current state of piracy content, and consumer behaviors in general and in Vietnam have been conducted in the process of working on this thesis. To study, measure, and evaluate the motives and the characteristics of Vietnamese users, a few assumptions regarding the possible rate of payment for movie streaming services have been made since they will possibly give hints on what would trigger the consumers to spend. These assumptions along with a related report from previous years were used to design a survey and it was distributed to collect data for the implementation of the analytical part to deter the accuracy of the hypotheses. The result received from 167 respondents was then compared to the previous survey and it can be concluded that the respondents' assessments of characteristics of movie streaming services went from relatively well to have more and more negative responses. This means that the quality of movie streaming services has been declining in the period 2021 to 2022. This may be an alarm to current or future services to prepare themselves as the users have been paying attention to the quality of such services. The Resolution and the Sound Quality of the services being used by the respondents were also highly evaluated. For the assumptions made during the course of the thesis, with the analytical part being done with the data received from the survey, it can be concluded that:

- the analysis cannot find any relationship between spending on movie streaming services monthly and gender.
- the analysis cannot find any relationship between spending on movie streaming services monthly and age group.
- there is a significant relationship between spending on movie streaming services monthly and occupation.
- there is a significant relationship between spending on movie streaming services monthly and monthly income/allowances.
- there is a significant relationship between spending on movie streaming services monthly and the average amount of watching time per day.
- the analysis cannot find any relationship between spending on movie streaming services monthly and the most used device for consuming content.

Out of 167 respondents, 115 people are currently using legal movie streaming services 68.9% - a relatively good sign for the movie streaming service industry as more and more people are willing to pay for a quality and legal service.

The study still faced a few limitations such as the number of respondents was not sufficient for the ideal level of significance for the statistical tests thus more data should be collected should there be a further study in this field. The distribution of the survey mainly used online methods resulting in a possible bias as only people who often use the Internet may have access to the survey questions. The analytical part of the assumptions of this study also could not be used to be compared with the 2021 report as more detailed data was not available.

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7 Appendix

Part 1: Background information

1. What is your gender?
   - Male
   - Female
2. What age group do you belong?
   - Under 18
   - 18-24
   - 25-29
   - 30-34
   - 35-40
   - Over 40
3. What is your current occupation?
   - Student
   - Office worker
   - Civil servant
   - Personal business
   - Labor/Worker
   - Unemployed
   - Retired
   - Other
4. What is your current monthly income/allowance?
   - Under 5M VND
   - 5M – under 10M VND
   - 10M – under 20M VND
   - 20M – under 30M VND
   - 30M – under 50M VND
   - Over 50M VND

Part 2: Personal perspectives on movie streaming services

5. Are you currently using any paid movie streaming service?
   - Yes
   - No

6. How much time do you spend on watching content on these services a day on average?
   - Under 2 hours
   - 2-3 hours
   - Over 3 hours
7. Which one below is your most often used paid movie streaming service (if you are paying for one or more)?
   - Netflix
   - FPT Play
   - VieOn
   - K+
   - ZingTV
   - Other
8. Your assessment on factors of your currently using movie streaming service(s)? (Note: Pick one answer on a scale of 1 to 5 for each statement with 1 being VERY BAD and 5 being VERY GOOD)
   - User Interface
   - Security
   - Content Variety
   - Resolution
   - Sound Quality
   - Subtitles
   - Connection Speed
9. Factors affecting your decision on using movie streaming services? Pick all suitable answers.
   - High internet security
   - Technical help from the website
   - Fast loading speed
   - Ability to use on multiple devices
   - Reasonable placement of ads
   - Sound and video quality
   - Eyes-catching websites
   - Good website lay-out
   - Movie watching habit and hobby

- Connection speed

10. What is your favorite genre(s)? Pick all suitable answers
    - Action
    - Romance
    - Comedy
    - Cartoon
    - Epics/ Historical
    - Horror
    - Adventure
    - Science Fiction
    - Crime & Gangster
    - Sitcom
    - War/ Anti-war
    - Musical
    - Tragedy
    - Documentary
11. What is your maximum possible rate of spending in a month for a movie streaming service given the fact that it meets all your requirements?
    - under 100K VND
    - 100K – under 200K VND
    - 200K – under 300K VND
    - Over 300K VND
12. What is your most used device when watching on movie streaming services?
    - Smart TV
    - Tablet
    - Laptop
    - Smartphone
    - Desktop