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C. Christopher Lee

Central Connecticut State University, christopher.lee@ccsu.edu

Pankaj Nagpal

Central Connecticut State University

Sinead G. Ruane

Central Connecticut State University

Hyoun Sook Lim

Central Connecticut State University

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FACTORS AFFECTING ONLINE STREAMING SUBSCRIPTIONS

C. Christopher Lee
Central Connecticut State University, USA*
christopher.lee@ccsu.edu

Pankaj Nagpal
Central Connecticut State University, USA
nagpalp@ccsu.edu

Sinéad G. Ruane
Central Connecticut State University, USA
ruane@ccsu.edu

Hyoun Sook Lim
Central Connecticut State University, USA
hlim@ccsu.edu

ABSTRACT

As digital media continues to expand, competition between cable television and online streaming services increases. Acquiring customers today takes more than just advertising; it requires tailoring business objectives to the needs and wants of consumers. Numerous studies have examined the connection between the adoption of cable and online media, and key variables such as cost, ease of use, and social trends. In this study, we explore a number of factors which consumers consider when choosing cable television and online streaming options. Sample data was collected through a survey questionnaire at a large public university. Multivariate regression models were developed to identify factors affecting each option. Both models showed statistical significance. The regression model for cable TV showed additional purchase, social trend (negative), cost and customer service factors were statistically significant. In contrast to the cable TV, only social trend and available options were significant in the regression model for online streaming. Media options were marginally significant. With respect to demographics, gender played no clear role while age showed marginal impact in choosing online streaming over cable television.

Keywords: Social Trends, Available Options, Media Options, Customer Age, Cable Television

INTRODUCTION

In today's world, we see constant technological changes within the US media industry. As technology grows and consumer preferences change, it is equally important for media companies (both cable and streaming services) to differentiate themselves. The market is witnessing more customer-focused options with online streaming while cable companies are extending their offerings to compete in the \$655 billion digital market.

With expanded options available, the question remains: what factors make a consumer more likely to choose cable television over online streaming? Such factors may include cost, media options, usability, social trends, gender, and age. However, after a thorough review of past studies, the lack of recent research identifying the salient variables in these consumer choices became evident. While there has been endless research into cable services, most of those studies concentrate on one aspect rather than multiple variables to reveal important correlations between them. This research project attempts to address this gap in the literature with an up-to-date investigation into the factors that compel consumers to choose one service over another.

For this study, we designed a brief questionnaire and administered it to adult students at a public university in New England. We then evaluated the data using multivariate statistical analysis to test our hypotheses.

In the next section, we will provide a literature review of previous studies related to the research question and develop our hypotheses. We then address the methodology of the project, followed by a discussion of the statistical results. In the paper's final sections, we consider the managerial implications based on our findings, and conclude with the contributions of this study and ideas for future research.

RELATED LITERATURE

Keogh, Davidoff, Freeman and Lessiter (2001) conducted a study in the UK that described the attitudes towards digital media, technology, and general media consumption. The study looked into the user friendly attributes of digital media including computers and interactive TV, and the issues faced when adopting streaming media technology. Keogh and colleagues (2001) found that one barrier of adoption to media streaming capabilities could be its perceived or experienced "ease of use". Using cluster analysis, they viewed the usability with a number of different technology applications ranging from TV to computers. Within the study

– they referenced the Independent Television Commission – Sense of Presence Inventory (ITC-SOPI) survey which was composed of four sections: Self efficiency with technology, perceived ease of use within a range of products, knowledge about interactive and digital television, and demographics and other background information (Keogh et al., 2001). Their data collection of roughly 4800 questionnaires resulted in a response rate of about 28%. Once they received the data, they were unable to cluster many of the recipients into groups. Three separate analyses were run and they used the Principal Axis Factoring as their main method. They used PAF to explore and summarize relationships within the data stemming from the questionnaires. Looking at the results we see almost 42% of the people interviewed were content with the difficulty, while 33% of them thought it was too complicated. For the current project, we chose to include the “ease of use” factor to determine if it plays a role in the consumer decision between cable and online streaming services.

Research by Lee, Choi, Cho, and Lee (2016) attempted to determine the relationship between digital products (online media streaming) and physical products, focusing specifically on music from both records/CDs and online streaming. Their objective was to identify the factor that impact such decisions. They collected data between March 2011 to July 2013, focusing on the top 200 songs of those years, as well as the sales figures of the Gaon Music Chart (<http://gaonchart.co.kr>). The Gaon Music Chart tabulates the relative weekly popularity of songs or albums in South Korea, which is similar to Billboard Chart in America. To supplement the basic data, the research team collected information about how often an artist performed, album specific characteristics, and album ratings. Upon initial examination of the data, the team found that the numbers were skewed due to the sales, and consequently created an algorithm to continue the analysis. In addition to a correlation analysis model, they developed an econometric model to determine the impact of online music streaming and music record sales. The results show that there is a significant positive relationship between online streaming and record sales, but that price and album rating do not significantly impact record sales. Lee et. al. (2016) relates to our current research, as we are seeking to understand the effect on additional purchases when consumers look for online streaming or cable. Our research intent is to establish whether there are any significant relationships between these factors—that is, whether the choice between online streaming or cable services leads to more sales or the purchase of additional add-ons.

Reviewing the research performed by Cha and Chan-Olmsted (2012), there was some concern regarding whether online streaming would have a cannibalizing effect on traditional cable networks. As our technology and infrastructure of video

streaming has evolved, many of the industry leaders questioned the effect this would have on television, some even suggesting it would replace it altogether. Cha and Chan-Olmsted's (2012) study was focused on this issue, intending to determine if the new medium (digital media) would either replace or complement the older one (cable). Some of the questions they asked were: "What motivations do consumers have to watch video content?", "Are there differences between users and non-users of online video platforms with respect to motivations for watching video content?" The researchers collected survey data from 1500 adult internet users in 2009. They used a Likert Scale to gauge the respondent's motives for video content, which included music videos, TV programs, movies, and videos. The primary method was principal components exploratory factor analysis, in addition to ANOVA. The results varied but did provide some insights, for instance, learning motives differentiate online streaming and television in terms of customer satisfaction. As well, the study revealed that non-users are more likely to view online video platforms as a substitute for cable television. Cha and Chan-Olmsted's (2012) research was important for demonstrating the "fundamental functional similarities" between online streaming and cable, as well as the relationships that stem from each.

An investigation carried out by Jacobs (1995) examined consumers' satisfaction with cable companies and what they deem as important when choosing a provider. While other studies (Churchill & Suprenant, 1982; Tse & Wilton, 1988) included four characteristics used when researching cable providers—expectations, performance, disconfirmation, and satisfaction, Jacobs (1995) focused on satisfaction and its drivers. Hypotheses centered on how monthly cost evaluations, the number of channels offered, and the size of the subscriber base would affect satisfaction (either negatively or positively). Data were collected via questionnaire, which asked respondents to consider the details of how they selected their cable service. Using regression analysis and multiple regression, the chosen model explains an impressive 39% of the total variance in overall satisfaction. A number of factors were found to be statistically significant, including values ratings, service reliability, and program variety. One major finding from this research is the evaluations of the cable performance are important to develop overall customer satisfaction. Cable companies should thus focus their attention to reliability, program availability, telephone assistance, and value to secure market share.

With growing media viewership from online sources, such as streaming services or websites, more recent studies have focused on the factors that drive this adoption. Bondad-Brown, Rice, and Pearce (2012) explored the motivations of users to access online media for content over traditional TV, and also considered age, generation, and contextual age (physical health, economic security, etc.). To gather the data,

surveys were sent out through email and were able to identify 500 people as their sample size. The model looked into a number of independent variables which included media use, internet experience, online video use, age, generation, and audience activity. Among the independent variables, we will explore the media use and age variables in our research.

Research performed by Taneja, Webster, and Malthouse (2012) examines the wide range of platforms and content choices available to both cable and streaming customers, and how customers deal with the abundance of options. Factor analysis was used to identify what the authors called “user-defined repertoires” from data gathered by following 495 users through their daily use of cable/streaming, down to 10 second intervals. For this case study, a “repertoire” is considered to be a small subset of preferred media. Two general hypotheses were tested; the first indicates: “Structures, such as program schedules, shape media consumption.” The second hypothesis states: “People are active agents who make purposeful, rational choices when they consume media.” An interesting finding throughout the article was that consumers do not divide their time consuming all of the media made available to them but instead, create subsets of options and consume media from those smaller subsets. A similar, simpler study by Nielsen Company gave evidence that households used only 14% of the channels made available to them through cable, a leading reason for consumers switching to streaming services as the channel availability can be more fine-tuned to consumer preferences (Nielsen, 2009).

The various media outlets available to consumers are growing at a quick pace. Kim (2016) studied patterns of media usage across multiple media platforms while also considering significant differences in user background characteristics. Regression analysis was deployed to examine “factor scores” which help to determine which method of media consumer use, with options including Cable TV, Tabloid Newspapers, Internet Only, and Traditional Media. The study’s two hypotheses were supported by the data, and it was determined that age was the most significant predictor of all individual factors.

For as long as cable has been around, the cable choices for a particular consumer have been very limited, and are generally dictated by the geographical location where that consumer lives. The intent of Johnson and Reed (2005) was to demonstrate the need to end the cable monopoly, which the public made very clear. The “Consumers for Cable Choice” survey was distributed to 1,000 people across the country pertaining to their views on cable competition. Around 80% of American consumers believe better prices and service would emerge if cable TV companies must compete for customers. Under the current system, cable rates have increased some 86% in the past decade and on top of that, customer satisfaction

surveys continue to show declining rates. Consumers are starting to realize the power that the cable companies hold and they are reaching out to their local and federal lawmakers to step up to the plate and help them out.

McCreery and Krugman (2015) created some research questionnaires to understand changes in media viewing habits and the products that allow the consumers to view in different ways, specifically television versus tablet (ex. “Where does the tablet fit into the viewing process compared to the traditional television and other screened devices?”). Drawing on both online surveys and focus groups to collect data, a multi-dimensional cluster analysis was deployed using non-attribute specific data which grouped different viewing devices, in addition to just the tablet and the TV. Their questionnaire will help us build our own questionnaire. Though we will employ the regression analysis in our research, a multi-dimensional cluster analysis offers an interesting perspective.

The objective of Hibberd’s (2004) study was to establish that ratings are not the only key to customer satisfaction. Hibberd attempted to determine the channels that are most important to customers, as well as how much they may be willing to pay monthly per channel in order to retain viewing rights. A survey of 1000 cable customers (all age 18+) measured perceptions of major and midsize networks such as Discovery Channel, History Channel, TNT, ESPN, etc. What is intriguing about this research is that it revealed the top-rated channel was ESPN, which is not always available on all streaming options, and that customers would be willing to pay the highest monthly fee to retain access for ESPN. Discovery Channel, History Channel, CNN, and the Weather Channel were found to be the next most popular ones. Further analysis should be done to determine which of these highly valued channels is available on streaming platforms versus just cable networks.

The television industry is undergoing big changes due to generational events. Prince and Greenstein (2013) have looked into what is causing this change and who is affected the most. The data set, provided by Forrester Research, consisted of independent cross sectional surveys of tens of thousands of American households. The focus was on the later years of data collection (2007-2009) when the shifts in video content provider occurred. Paid television subscriptions can cost well over \$1,000 per year. Due to the need of internet services, the cable price could be cut in half and streaming services could be used more since the fee was quite small.

The rise of online streaming services such as Netflix has altered the way consumers are viewing television. From consumers aged 18-29, 61% state that the primary way they view television is through streaming services on the internet. In the United States, 59% of adults say cable connections are the primary means of

watching TV. Rainie (2017) collected data by a survey conducted by the Pew Research Center. Telephone interviews, conducted by Princeton Data Source interviewers, collected data from 1,893 adults. Accordingly, we will explore the age factor in our research.

The paid cable television industry faces a revolution with the influx of streaming services to provide the same services. Chulkov and Nizovtsev (2015) offered a review of the different price sectors, and an in-depth analysis of bundling and the successful implementation of these services.

In the past decade, the development of social TV systems has increased its force. However, it is unclear how and why users use social TV. In Bautista, Lin, and Theng's (2016) review of 10 exploratory, qualitative studies, found that consumers tend to have a positive response to sociability and usability of social TV systems, despite conveying concerns regarding privacy and lack of control. They also discovered a positive relationship between ease of use and social degree when choosing a social TV system.

Feldman (2016) examined the positions of television viewers and football fans in relation to a drop in television ratings for 2016 airings of National Football League (NFL) games. With data collected by TiVo Inc., who surveyed two million American homes, the results showed that the NFL lost 4% to 18% of viewers, across all key age demographics. Feldman took into account a number of factors when interpreting the decline in viewership, including the general decrease in viewers' attention spans, historical NFL viewership records, decreasing interest in live action broadcasts, and the social aspects of digital technology, mobile apps and media that may impact this loss.

According to LaRose and Atkin (1988), U.S. households were more likely to unsubscribe from a cable company due to satisfaction more so than demographics, cost, and difference between markets. Analyzing data from 1,296 U.S. homes between 1985 and 1986, they found customer satisfaction—or lack thereof—had a statistically stronger impact on the decision to end their subscriptions.

Chang and Chan-Olmsted's (2010) study established statistical support for five of their seven hypotheses, which concerned variables impacting viewers' attitudes toward cable network brand extension. In particular, the number of perceived sub-brands of a cable network, parent brand attitude, perceived fit, brand portfolio quality variance, and innovation were found to have a statistically significant impact on brand extension attitudes, while channel repertoire and parent brand familiarity showed no such influence. Gender and income were also found to

impact brand extension attitude, with males more active towards brand extension versus than females in this study. Finally, a negative relationship emerged between income level with attitude towards brand extension—that is, the higher the income, the less likely brand extension was accepted by a consumer.

Examining the Taiwanese use of foreign programs via online sharing, Tse (2016) studied how the role of television in social togetherness has altered in the post-network context. The findings reveal that while viewers did enjoy the personalization of online viewing, at times they speculated whether or not it would decrease their attachment to society if they stopped following broadcast television. Additionally, when using online viewing platforms, viewers accomplished a sense of togetherness in two ways: (1) by connecting to others with the same interests in foreign programs and (2) by re-associating with home when they are abroad by consuming domestic programs (Tse, 2016). A sense of togetherness is achieved when the viewers in this dataset use personalized online viewing. Tse (2016) found that it is increasingly becoming a common television experience with these viewers' acquaintances and/or unknown fellow members. Sociability has a positive relationship with online viewing.

As cable television prices continue to rise, more than 50% of Americans are ready to say goodbye to their service (Cox, 2017). TiVo produced a report in which they ran quarterly trends surveys for the past five years (Cox, 2017). The data showed that almost half the people surveyed were planning to abandon regular cable television for streaming services, due to high cable costs. For those consumers who had already “cut the cord,” an astounding number (80%) said they left due to rising service charges, with costs averaging \$101 per month. The survey indicated many consumers are watching digital options, such as Netflix (54% of respondents were subscribers), Amazon Prime (27% were subscribers), and Hulu (12% were subscribers) (Cox, 2017).

Due to the influx in such “cord-cutting”, cable TV companies are concerned about losing customers. However, this has not deterred cable TV providers from steadily increasing their fees. A recent study performed by the U.S. FCC found the price of basic cable has risen by 5.8% in the last five years (Snyder, 2016). According to a report by Parks Associates, a market research firm, 63% of U.S. households with broadband connections subscribed to at least one over-the-top (OTT) video service at the end of September, 2015, up from 57% at the beginning of 2015 (Snyder, 2016). Many consumers pay for additional channels that provide no benefit, which results in these consumers ending their current contracts in favor of streaming video or OTT providers (Snyder, 2016).

In summary, much research has been completed on many variables reaching far and wide within the cable television services and streaming services. In each of these studies, certain variables are chosen, but many more are ignored. Ease of use has been focused on by one study. The motivations of video content are discussed and determined in another. Customer satisfaction, performance, value and reliability has been shown to link to consumer behavior in past studies. Bondad-Brown et al. (2012) determined that television cable is used primarily for entertainment, while online streaming was for information learning. Media options and availability was studied relating to consumer behavior, as well as the impact of bundling products and brand extension. Age and gender have also been used as variables in some of these studies. Sociability and togetherness have been the main focus in past research as well. Cost has been identified as a leading factor for consumers to drop cable television provides and switch to streaming services. However, after a thorough review of past studies, it became clear that there is no single study examining a comprehensive set of life factors that influence consumer behavior of cable television subscription versus online streaming service subscription. Therefore, this research project attempts to fill this gap in the literature with an up-to-date study of why consumers choose online streaming versus cable television services.

Hypotheses

In today's digital age, we find that technology is ever changing and with that comes its difficulties, especially for the older generations that didn't grow up using much of these new streaming options. Many believe that there are many consumers out there today that will not try new online media streaming options if it is too difficult to learn. To bridge the gap, many companies have to make the use of very simplistic products in order to reach a broader audience. Keogh et al. (2001) found a statistical correlation between adopting new technology, specifically streaming media options, and the ease of use. That is, consumers are more likely to adopt a new application that is easy to use rather than difficult. Consumers are more likely to have a better response to a new streaming service when the usability is available (Keogh et al., 2001; Bautista et al., 2016).

- H1a *There is a positive relationship between ease of use and the adoption of online streaming.*
- H1b *There is a positive relationship between ease of use and the adoption of Cable TV.*

Many companies use their product as a gateway to other purchases. We observe in many cases that when consumers constantly use a site, they tend to add additional

products just out of convenience. We are seeing more of that in cable TV and online streaming as companies add new products to their current portfolios. Research has established statistically significant relationships between the purchase of digital products and additional purchases, as well as between the purchase of media and continued purchases going forward. (Lee et al., 2016; Chulkov & Nizovtsev, 2015).

H2a *Additional purchases are positively related to using online streaming subscriptions.*

H2b *Additional purchases are positively related to using cable television providers.*

With ever-increasing competition, it is important for companies to offer additional products, whether through cable television or online streaming. Providing more product options gives customers more flexibility, choice, and thus, more buying power. Cha and Chan-Olmsted's (2012) study revealed a significant correlation between the media options available and their effect on cable choices.

Channel selection plays a key role in choosing a media provider and channel choices are a key component. A big factor is live sports which hold a huge presence among consumers and it is known that a lot of streaming options don't provide service to live sports action. A study by Hibberd (2004) aimed to determine what channels are deemed most important to customers, as well as how much they may be willing to pay on a monthly basis per channel in order to retain viewing rights (Hibberd, 2004).

H3a *Media options available positively relate with use of online streaming.*

H3b *Media options available positively relate with use of cable TV.*

Technological advances are another important factor influencing how consumers view entertainment in their homes. Cable companies and now streaming options are providing customers an easier way to access digital content and much more of it. As technology continues to evolve, the use of hand-held media devices is seeing a drastic increase. Hand-held devices improve the viewing experience of online streaming services. Social trends are playing a huge factor in how customers are adopting online media and what they watch. Social media mixed with technology allows users to connect more easily and see what everyone is watching. Research by Bondad-Brown et al. (2012) produced a statistically significant relationship between social trends of the current age and the factors of adoption. The data showed significant correlations between social trends and how the adoption of online media occurs. The social aspects of digital technology, mobile apps and

social media are shown to impact this loss of viewership. (Feldman, 2016; Bautista et al., 2016; McCreery & Krugman, 2015; Bondad-Brown et al., 2012).

- H4a *Social trends have a positive relationship with the adoption of online streaming.*
- H4b *Social trends have a positive relationship with the adoption of cable TV.*

The number of cable and streaming options available to any individual today can be almost overwhelming. However, most consumers do not have the option of paying for all of them so they must choose which services they are willing to pay for, which in turn directly impacts the channels/shows they are able to view. An interesting finding of Taneja and colleagues' research is that consumers do not divide their time consuming all of the media available to them but instead create subsets of options and consume media from those smaller subsets (Taneja et al., 2012).

- H5a *There is a positive relationship between available options and choice of online streaming.*
- H5b *There is a positive relationship between available options and choice of cable TV.*

The next factor is the cost of cable and its impact on purchasing online streaming services. Most consumers look for a product with good value at a reasonable price. The most common complaint about cable television is often the ridiculous prices. Online streaming subscriptions have gained popularity in the United States because they are offered at a much lower price with the many other extra features (Snyder, 2016).

Many people are shying away from cable providers to use streaming media options, since the latter provide the flexibility to purchase only the services you wish to use and the versatility of accessing them from anywhere. Research has found that as prices continue to increase for cable TV, consumers are switching to the more affordable streaming options (Cox, 2017).

- H6a *There is a negative relationship between cost and online streaming services.*
- H6b *There is a negative relationship between cable cost and cable TV subscriptions.*

In many areas today we recognize that customer satisfaction is a significant driver

in the purchase decision. Within the entertainment industry we have always believed that customer satisfaction played a large role in purchasing different cable television services. Jacobs' (1995) study revealed a significant correlation between customer satisfaction and the purchase of cable. Unsatisfied customers are more likely to cut the cord of their cable company and make the switch to another cable provider, if possible, or an online streaming subscription. We can therefore claim that customer satisfaction influences the use of cable (Jacobs, 1995; LaRose & Atkin, 1988; Tse, 2016).

The last factor that was considered was the impact of customer services on customer satisfaction. One of the most common complaints about cable TV providers is the declining quality of customer service. Cable companies tend to forget what their customer values most when they assume they are the only option available for media consumption. Their focus should revert back to providing high-quality customer service, otherwise they will continue to lose business to online streaming options (Jacobs, 1995).

H7a *There is a positive relationship between customer service and the use of online streaming.*

H7b *There is a positive relationship between customer service and satisfaction of cable TV.*

Demographics also play a role in whether a consumer chooses online streaming versus cable television provider, or both (Kim, 2016; Rainie, 2017). According to Chang & Chan-Olmsted (2010), gender and income are factors in whether a person purchases additional services or opts to bundle their services. Males are more likely to bundle than women. Income has a negative relationship with attitude towards brand extension. Brand extension, also known as brand stretching, leverages the reputation and popularity of the well-known brand to increase demand for new products. Brand extension is the use of a well-established brand name for a new product or new product category. In other words, the higher the income, the less likely brand extension was accepted by a consumer (Chang & Chan-Olmsted, 2010). We therefore use these factors as statistical controls. In summary, the main hypotheses for this research study propose that consumers choose cable television and/or online streaming services based on ease of use, social influences, cost, available options, satisfaction, and additional purchases.

METHODOLOGY

Variables

This study considers two different dependent variables: the adoption of both Cable TV and Online Streaming services, and the main driving factors are in the adoption decision. While looking at the first dependent variable (Cable) we focused in on a number of different independent variables, such as cost, media options, customer service, and demographics. For online streaming we examined cost, media options, ease of use, social trends, and demographics as our independent variables. From the literature review, we identified a number of different research articles that analyzed these variables in their own way. Each article presented their own findings, with statistical analysis of both cable and online streaming focused as they relate to different variables, such as cost, ease of use, and media options. The variables and references to their respective research studies are shown in Table 1.

Variable	References
Ease of Use	Keough et al. (2001), Cox (2017), McCreery and Krugman (2015), Bautista et al. (2016)
Cost	Snyder (2016), Rainie (2017), Cox (2017), LaRose and Atkin (1988)
Customer Service	Jacobs (1995)
Availability	Cha and Chan-Olmsted (2012), Taneja et al. (2012), Jacobs (1995), Rainie (2017)
Media Options	Lee et al. (2016), Feldman (2016), Cha and Chan-Olmsted (2012), Hibberd (2004)
Social Trends/ Technological Advances	Tse (2016), Johnson and Reed (n.d.), Prince and Greenstein (2013), Bautista et al. (2016), Bondad-Brown and Pierce (2012), Feldman, (2016).
Gender	Bondad-Brown et al. (2012), LaRose and Atkin (1988)
Age	Kim (2016), Chang and Cha-Olmsted (2010)
Income	Chang and Chan-Olmsted (2010), Kim (2016), McCreery and Krugman (2015)
Online Streaming	Keogh et al. (2001), Lee et al. (2016), Cha and Chan-Olmsted (2012), Bondad-Brown et al. (2012), Taneja et al. (2012), Rainie (2017), Tse (2016), Cox (2017)
Cable TV Provider	Jacobs (1995), Taneja et al. (2012), Kim (2016), Johnson and Reed (n.d.), McCreery and Krugman (2015), Hibberd (2004), Prince and Greenstein (2013), Chulkov and Nizovtsev (2015), Feldman (2016), LaRose and Atkin (1988) Chang and Chan-Olmsted (2010), Snyder (2016)
Satisfaction	Jacobs (1995), Hibberd (2004), McCreery and Krugman (2015), LaRose and Atkin (1988), Tse (2016)
Additional Purchases/ Bundling	Chulkov and Nizovtsev (2015), Chang and Chan-Olmsted (2010), Lee et al. (2016)

Table 1. Variables and References.

For the current study, the survey instrument was developed using the variables of interest, and their standard scales as noted in the literature. The specific survey question items are shown in Appendix 1. The framework for this research is presented below in Figure 1.

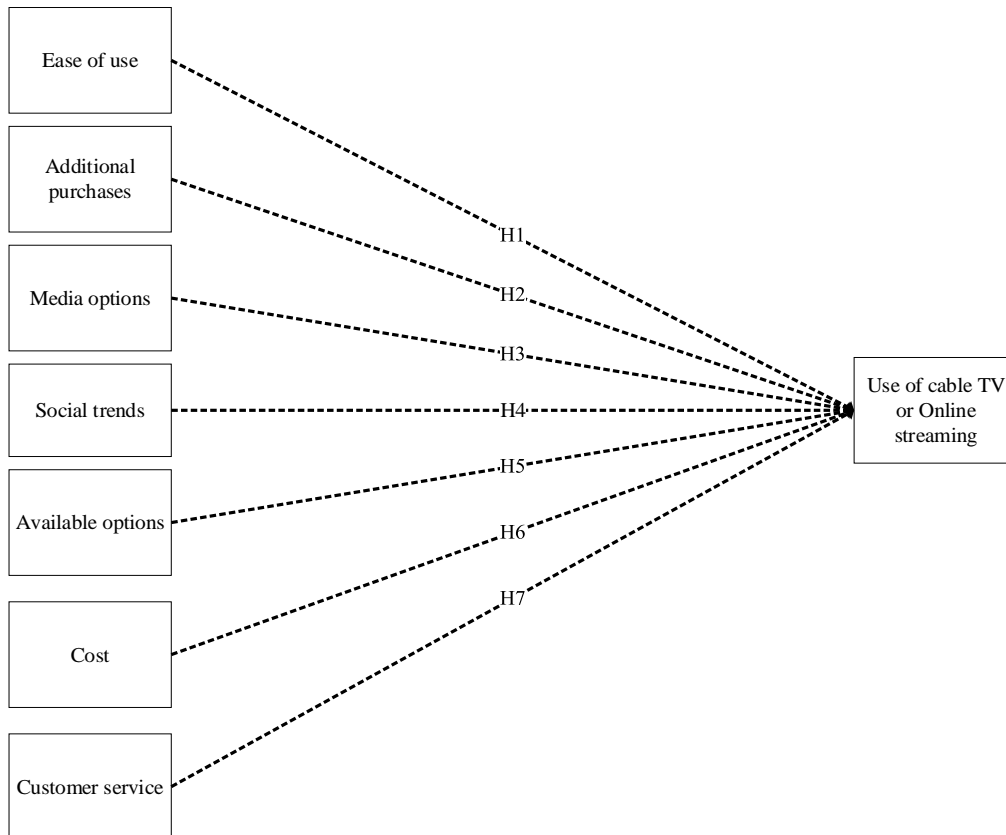


Figure 1. Research Framework.

Sampling

The survey questionnaire was based upon the research hypotheses that we have developed. The survey was distributed in person in multiple classrooms that have undergraduate and graduate students at a large public university. There are 45 questions directed towards each of our independent variables. We included 4 demographic questions that will assist with statistical control, or segmentation to determine the groups of people that provided this information. Each student in the class was allowed to take this survey. After compiling the data with 140 responses, we removed 9 responses that were only partially completed. The final sample size

was 131. These are fairly representative of millennial population in the Northeast.

Data Analysis

To accurately analyze the data, we employed a multiple regression model. The dependent variable the adoption of cable while cost, media options, customer service, and demographics are the independent variables. We also used a multiple regression model for the adoption of online streaming (dependent variable) and to test the effect of the independent variables, including cost, social trends, media options, ease of use, and demographics.

RESULTS

Sample Data Demographics

This questionnaire was given to students with 131 valid sample collected. The majority of our sample population preferred not to respond to the annual household income, the second highest percentage was under \$25,000. The majority of the sample has purchasing power when it comes to purchasing media options. Nearly 97% of the sample population is between the ages of 18 – 34 which classifies them as millennials. The remaining 3% we are categorizing as non-Millennials. The responses between genders were pretty even; with females at 41% of the population and males at 57%. The remaining 2% preferred not to respond with a gender category.

	N	Minimum	Maximum	Mean	SD
Cost	130	1.71	6.43	4.02	0.86
Ease of Use	129	1.40	6.60	4.16	1.00
Social Trend	131	2.00	5.89	4.44	0.82
Additional Purchase	131	1.00	7.00	4.32	1.18
Media Options	131	1.50	7.00	4.56	1.25
Available Options	131	1.25	6.50	4.33	1.09
Customer Service	131	1.50	6.00	4.10	0.97
Valid N (listwise)	128				

Table 2. Descriptive Statistics.

As can be seen in Table 2, the descriptive statistics help identify ranges between the data to gain understanding of data itself and identify outliers that may affect certain results. Given these statistics it is evident that the mean for all our variables is above 4.0. This data may be considered slightly skewed toward the “agree” response.

	Levene's Test for Equality of Variances		T-test for Equality of Means			
	F	p-value	t	df	p-value	Mean Difference
Online_Stream	.521	.472	.454	127	.650	.13901
Cable_TV	.034	.854	-.851	127	.396	-.23815

Table 3. t-test Results by Gender.

In terms of gender, based on the t-test above of this population, there is no significant impact on online streaming or cable TV ($p > 0.05$). In other words, gender does not make a difference in the decision to adopt online streaming and cable TV (See Table 3).

		Sum of Squares	df	Mean Square	F	p
Online_Stream	Between Groups	18.716	3	6.239	2.196	.092
	Within Groups	355.048	125	2.840		
	Total	373.764	128			
Cable_TV	Between Groups	4.791	3	1.597	.639	.591
	Within Groups	312.399	125	2.499		
	Total	317.190	128			

Table 4. ANOVA Model Results by Age Factor.

Based on the One-Way ANOVA test of this data sample, the original age groups did not have a strong statistical difference with online streaming and cable TV (See Table 4). Based on this sample population we decided to break the age ranges into two groups: below 35 and above 35. The age of 35 is significant because it distinguishes generationally between Millennials and Generation X. Since it is now two groups, we performed a t-test, which supported a statistical distinction that age matters when it comes to online streaming. Although it's higher than alpha, we can still report the age variable is marginally significant ($p < 0.1$).

As shown in Table 5, available options have a significant relationship with Online Streaming. There is a significant relationship between cost and cable TV ($p < 0.01$). There is not a significant relationship between cost and online streaming ($p > 0.05$).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Online Streaming	-	-.016	.306**	.427**	.400**	.143	.496**	.141	.283**
(2) Cable TV		-	.063	.125	.306**	.222*	.034	.419**	.381**
(3) Ease of Use			-	.295**	.272**	.228**	.380**	.279**	.406**
(4) Social Trends				-	.591**	.364**	.495**	.331**	.341**
(5) Additional Purchases					-	.417**	.469**	.347**	.350**
(6) Media Options						-	.363**	.244**	.271**
(7) Available Options							-	.299**	.323**
(8) Cost								-	.428**
(9) Customer Service									-

*p<0.05, **p<0.01 (2-tailed)

Table 5. Pearson Correlations.

The regression model, with cable TV as the dependent variable, and independent variables Additional Purchases, Social Trends, Ease of Use, Media Options, Available Options, Cost, and Customer Service, are shown below in Table 6. We see the overall model is statistically significant ($p < 0.05$). The adjusted R-square is .264 which means this model explains 26.4% of the overall variance. Coefficients table shows multiple significant relationships. Cost and Customer service were key variables that had the most significant relationship with Cable TV. Additional Purchases, Available options and Social trends were also marginally significant and had some effect.

Dependent Variable = Cable TV Subscription				
Adjusted R ² = .264, F(7, 120) = 7.501***				
	B	Standard Error	Beta	t
(Constant)	.103	.806		.128
Additional Purchase	.334	.132	.256	2.534*
Social Trend	-.330	.192	-.174	-1.718
Ease of Use	-.190	.135	-.123	-1.405
Media Options	.151	.106	.123	1.419
Available Options	-.237	.136	-.168	-1.746
Cost	.560	.157	.311	3.558**
Customer Service	.450	.144	.284	3.116**

*p<0.05, **p<0.01, ***p<0.001

Table 6. Regression Model for Cable TV Subscription.

The table below shows the overall regression model with Online Streaming as the dependent variable. As seen in Table 7, we looked at the same number of

independent variables: Additional Purchases, Social Trends, Ease of Use, Media Options, Available Options, Cost, and Customer Service. The overall model is statistically significant. The adjusted R-square value (.293) shows that this model explains 29.3% of the overall variance. Coefficient table shows that there are a few independent variables that had a significant correlation with online streaming. The variable that had the strongest relationship was Available Options. Social trends can also be considered important. There is also a marginal correlation with the Media Options variable, in considering online streaming.

Dependent Variable = Online Streaming Subscription				
Adjusted R ² = .293, F(7, 120) = 8.521***				
	B	Standard Error	Beta	t
(Constant)	.186	.865		.215
Additional Purchase	.225	.142	.157	1.590
Social Trend	.407	.206	.196	1.973*
Ease of Use	.173	.145	.103	1.196
Media Options	-.194	.114	-.144	-1.703
Available Options	.514	.146	.332	3.523**
Cost	-.210	.169	-.107	-1.245
Customer Service	.162	.155	.094	1.048

*p<0.05, **p<0.01, ***p<001

Table 7. Regression Model for Online Streaming Subscription.

DISCUSSION

The results of this study support the findings of Keogh et al. (2001) and Bautista et al. (2016) relating to the ease of use and adoption of online streaming services. There was a significant relationship found in both studies between ease of use and the likelihood of a consumer using online streaming media. The present study demonstrated a significant positive relationship ($p < 0.05$) between ease of use and online streaming, much like the previous research revealed. Keogh et al. (2001) concluded that there was a significant positive relationship between the online media adoption and how easy it was to use. Bautista et al. (2016) had a similar finding, where the data conveyed a positive relationship with ease of use and social TV systems.

The results of this study align with findings of Lee et al. (2016) where additional purchases do in fact correlate with online streaming services. However, in the overall regression model there was only marginal statistical significance ($p=0.114$). Chulkov and Nizovstev (2015) did not find any relationship between online streaming and additional purchases, which is consistent with our results.

The findings above also support the results of Lee et al. (2016), as a strong correlation is recognized between additional purchases with cable television providers. Both the Pearson correlation and the overall regression model demonstrate statistical significance with respect to supplementary purchases as a factor in the cable TV provider decision ($p < 0.05$). This finding is counter to that of Chulkov and Nizovstev (2015), whose results did not show any support for this relationship.

Our data demonstrate a strong, significant correlation between media options and online streaming ($p < 0.05$). By contrast, Cha and Chan-Olmsted's (2012) research results do not directly support the current findings.

This study revealed statistical significance between social trends and adoption of online streaming, which is consistent with previous evidence (Jacobs, 1995; LaRose & Atkin, 1988; Tse, 2016). Apart from available options, the social trends variable was the most highly correlated with online streaming. This finding makes sense, since the majority of respondents (77%) fell within the 18-24 age range, a group that tends to be particularly susceptible to social pressures and influences.

Evidence from our study only supports Hypothesis 5a, as available options and online streaming are significantly correlated, while Hypothesis 5b (the impact of available options on cable TV adoption) was not supported statistically. Kim (2016) and Rainie (2017) argue that demographics plays a key role in deciding between online streaming and cable TV, but this was only partially supported by our research, as age was the key demographic for our study, as stated above. Outside of age, most of the demographical information gathered had a wide array of results, making it difficult to argue significance for any of these factors' impact on the choice to adopt either cable TV or online streaming services.

Also supported is the hypothesis that considers how geographical availability of cable TV providers impacts customer satisfaction ($p < 0.01$). Availability of sports channels is a main component in customer satisfaction, and our results coincide with those of Hibberd (2004).

Media options was found to be a significant factor for choosing cable TV, but not in the decision to select online streaming. Furthermore, our analysis revealed a negative relationship between income and brand extensions, meaning the higher the income, the less likely a customer would opt for brand extension (Chang & Chan-Olmsted, 2010).

Consistent with the findings of Snyder (2016), our results revealed a significant negative relationship ($p < 0.01$) between cost and cable TV subscriptions—as the former increases, the latter decreases.

In summary, factors like ease of use, additional purchases, media options and social trends have an impact on the decision to adopt cable TV providers and online streaming. It is also clear from this study that cost and available options correlate with online streaming options. We therefore tested these factors in a single model, controlling for the influence of all other independent variables at the same time.

Managerial Implications

The results from this study hold important insights for managerial decisions. Cable companies and online streaming services spend millions of dollars each year in marketing to understand their target market and their needs, and how to best appeal to them through advertising. As illustrated in our regression model and correlation table, we identify key consumer attributes that can help both cable companies and online streaming in their marketing efforts. Based on our results, age does matter when it comes to adoption of different types of media. The younger consumers (aged below 35) are more open to the idea of purchasing online streaming services, while adults older than 35 are less likely to adopt them. This is significant as online streaming companies can focus their efforts on the younger consumers because of the propensity to buy. We also found a strong correlation between cost and cable TV. Based on this finding, cable companies that wish to compete with online streaming services must keep prices competitive, since they are a critical driver in the purchase decision.

Our results also suggest the following actions. As stated above, cable companies should consider lowering prices. The phenomenon of “cord cutting” is important for channels like ESPN. If the millennial leave cable and go to online streaming, the channels will not be able to rest on their laurels. As well, cable companies need to seriously consider transforming their business model. Change is already taking place in some ways at carriers who have been more proactive. For instance, T-Mobile offers Netflix to new subscribers, and Verizon plans to offer a limited number of Time Warner Cable channels in the future. In this respect, unless these channels consolidate with large wireless or wired carriers, their revenues will not be sustainable in the long term.

CONCLUSION

Our results show that the available options factor have a significant relationship between online streaming; cost and cable TV also have a statistically significant relationship. There is no statistical relationship between cost and online streaming. Customer service is the main driver to customer satisfaction while social trends persuade the adoption of online streaming.

Future research should examine the impact of how consumers watch entertainment and explore the different ways that cable television or streaming services are used. Due to sample size limitations, subsequent investigation is necessary to validate outcomes. To develop this line of inquiry, researchers should solicit data from a larger sample, expand the questionnaire with additional items that pertain to cable television or streaming services specifically, and collect more demographic information to better isolate and control the results. With the overwhelming majority of our respondents in the 18-34 age range, the results are largely representative of younger markets. In our future research, we plan to run a multilevel model for a higher level dependent variable such as customer satisfaction.

In this study, we set out to determine what variables would impact an individual's decision to choose between cable TV and online streaming, and in the future study we will explore how that decision ultimately leads to overall customer satisfaction. Through our research, we have determined that demographics play a limited role in choosing between cable TV and online streaming, but other factors such as available options, social trends, and of course cost of services, all play key roles in making such a decision.

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Appendix 1. Variables and Survey Question Items.

Variable	Survey Question Item
Ease of Use	<p>Q8 I feel online streaming is simple to use, even when using it for the first time.</p> <p>Q22 When it comes to switching from cable to another service, I believe that it will (be very easy / be very difficult)</p> <p>Q23 When it comes to switching from cable to another service, I believe that it will (involve little effort / involve much effort)</p> <p>Q44 I find it easier to work with online streaming services.</p> <p>Q45 If I stopped using my current cable provider, I would have to search a lot for an online streaming option.</p>
Cost	<p>Q5 I feel cable providers are reasonably priced.</p> <p>Q7 I feel at the current price, cable providers provide a good value.</p> <p>Q13 I find there is significant price variation among suppliers of cable providers.</p> <p>Q14 Over time, the price of cable provider products fluctuates widely.</p> <p>Q16 I find there is significant price variation among suppliers of online streaming media.</p> <p>Q28 It is important to minimize product cost.</p> <p>Q30 I tend to use the lower priced option when purchasing online streaming options/cable TV.</p>
Customer Service	<p>Q4 Customer testimonials usually impact my decision to choose a media steaming option.</p> <p>Q21 The general reputation of a company impacts my decision to make choose an online streaming service.</p> <p>Q29 I believe support for my cable provider is readily available.</p> <p>Q34 I do not encounter difficulties in obtaining needed system support services.</p>
Availability	<p>Q20 It is difficult for me to use the Internet TV when other members in my household want to watch TV.</p> <p>Q32 I tend to choose the online media streaming based on show availability.</p> <p>Q38 I feel my location dictates the cable provider options.</p> <p>Q41 I tend to use online streaming while on the go.</p>
Media Options	<p>Q25 I like broad choices of channels or entertainment shows.</p> <p>Q27 I enjoy watching live sports.</p> <p>Q39 I tend to choose my cable providers based upon live sporting events.</p> <p>Q15 I'd like to pick and choose the channels offered through my cable provider.</p>
Social Trends/ Technological Advances	<p>Q2 I feel that recommendations from my peers are generally reliable.</p> <p>Q6 I often seek opinions of media streamers who face similar problems as I do.</p> <p>Q10 I feel the trends in technological advancement are worrisome to me.</p> <p>Q11 I tend to bond with others with similar interests in books/music/movies, etc.</p> <p>Q18 I often like to talk with other viewers about mutual opinions of shows.</p> <p>Q19 Based upon today's technological advancements, I believe online streaming services will overtake cable services.</p> <p>Q35 I would adopt streaming media online if my friends use it.</p> <p>Q36 I am asked by my peers if I watch similar shows they do.</p> <p>Q40 I tend to let social networks influence my online media streaming purchase</p>
Online Streaming	<p>Q42 I look forward to season releases on online streaming services.</p> <p>Q43 Sometimes I lose track of time when I am using online streaming services.</p> <p>Q49 How often do you use online streaming services per day?</p>
Cable TV Provider	<p>Q3 I am willing "to go to the extra mile" to remain a customer of my cable provider.</p> <p>Q1 I consider myself to be loyal to my cable provider over media streaming options.</p>
Satisfaction	<p>Q9 In general, I am satisfied with the services of the cable provider I currently use.</p> <p>Q31 Overall, the service of this current cable provider comes up to my expectation.</p> <p>Q33 In general, I am satisfied with the services of the online streaming options I currently use.</p>
Additional Purchases/ Bundling	<p>Q17 I am more likely to bundle different options with my cable provider.</p> <p>Q24 I find that I would purchase additional services if I had an online streaming media account.</p> <p>Q26 I chose my internet provider for online streaming usage.</p> <p>Q37 I tend to use multiple services for online media streaming.</p>