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Article

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Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre for Economics



# **Over-the-Top Television Services and Changes in Consumer Viewing Patterns in South Africa**

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**Abstract:** A significant change in consumer viewing habits has taken place globally with the introduction and growth of over-the-top television services (OTT TV). In the absence of scientific evidence on television consumer behavior viewership changes, this paper's objective was to ascertain the television viewing patterns, given the rise of OTT TV services in South Africa. The study adopted a quantitative research approach using a convenience sampling method. Online survey questionnaires were distributed on reputable social media networks and collected 391 responses. The study results suggest changes to TV consumption, in that more TV consumers are binge-watching and streaming content online. Furthermore, more than five hours a day are spent online consuming TV content, especially by male respondents. The sharing of OTT TV logon credentials with family and friends is prevalent across all demographic groups. The fundamental aspect of this paper is that it illuminates the rivalry between the Pay-Tv operators and OTT TV service providers while aiding the Independent Communications Authority of South Africa (ICASA) to regulate the market.

**Keywords:** Over-the-top television (OTT TV); uses and gratifications theory; television viewing behaviors; binge-watching; Independent Communications Authority of South Africa (ICASA).

#### Introduction

Several authors, including Lee, Lee, and Brown (2017) and Elias (2019), concur that global trends, including technological developments in the television broadcasting sector, have changed television consumer viewing habits. These authors contend that accessibility, availability, and increasingly cheap broadband data have resulted in customers switching to over-the-top television (OTT TV) services entirely, wanting to watch what they want, when they want, and at affordable prices or no cost. Moreover, with convenience driving the process, Elias (2019) argues that consumers are using other devices to view content because of price and TV content quality.

The viewing preferences shift among different demographical characteristics as younger consumers prefer to binge-watch TV content using alternative devices due to convenience. These changes may be threatening the traditional pay-TV operators' subscriber base and their ability to attract new subscribers. Furthermore, BusinessTech (2018) states that the changes in viewing behaviors affect pay-TV operator's revenue as the OTT TV services platforms require little or no infrastructure to operate, no corporate social responsibility requirements, and may not contribute to local job creation due to the nature of the business.

South Africa is also experiencing changes as the world has become a global village; thus the Independent Communications Authority of South Africa (ICASA) conducted a consumer survey to determine the television viewing patterns in South Africa. Its preliminary findings suggested that the OTT TV viewers are streaming and downloading content for later viewing, and the cost is the main reason pay-TV subscribers do not

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upgrade their subscription services (ICASA, 2019a). However, the MultiChoice Group (MCSA), which owns DStv, contends that the ICASA's findings are not credible in that the consumer survey asked questions relating to viewing patterns relating to the viewing of sport and movies and therefore does not portray the holistic picture (ICASA, 2019b). Thus, it is critical to conduct an objective study in South Africa based on the findings by the ICASA and the MCSA arguments to provide credible evidence on the changes in television viewership patterns given the rise of OTT TV services.

Therefore, this paper's main objective was to investigate how TV viewing behaviors have changed in South Africa because of digital media transformation. Moreover, the study aims to contribute to the literature in television behavior viewership given the rise of OTT TV services and is beneficial to regulatory bodies such as the ICASA, business strategy, marketing, and television media students. A review of the theoretical perspective and previous studies relevant to this paper is conducted to achieve the study objective. Concerning the theoretical perspective, the study reviews the uses and gratification theory (U&G) to understand what influences consumers to choose one media over the other, thus contributing to television viewing patterns. Through the analysis of the U&G theory, we understand what motivates changes in TV consumption and viewership behavior, including time spent consuming content and adopted devices for TV consumption.

The paper's structure includes a review of existing theoretical and empirical literature relating to television viewing behaviors. The research methodology presentation, discussion of the study results, findings, concluding remarks, and future research recommendations follow the theoretical and empirical literature review.

#### Literature review

#### Overview of the television landscape in South Africa

To understand how television viewing behaviors have changed in South Africa, it is essential to provide a brief overview of the television landscape given the rise of OTT TV services.

People consume television using linear TV, a traditional television service that broadcast programs scheduled as determined by contractual agreements between the distributor and service provider (Oracle, 2021). In South Africa, there are free-to-air television services which include the state-owned national broadcaster known as the South African Broadcasting Corporation. Even though the station is free, consumers pay an annual television license of ZAR 265.00 (SABC, n.d.). There are also ETV and Open View stations which EMedia Holdings own. Similar to other markets, South Africa has pay-TV service providers who provide television services to consumers at a fee. The pay-TV service providers include DStv, which is owned by the MultiChoice Group and StarSat. DStv is the largest pay-TV service provider with over 20.1 million subscribers, including the African region, where MultiChoice operates (MultiChoice Group, 2020).

South Africa has seen changes from having national broadcasters and pay-TV services to many audio-visual service providers. These changes are due to access to affordable quality broadband data and the adoption of alternative devices to access television content. Thus, television viewing behaviors change dramatically, with customers having more choice due to the rapid rise of OTT TV services with convenience, access to quality content, and the price driving the changes in television viewership patterns. These OTT TV services distribute television content to consumers using the Internet. Such OTT TV services include Netflix, Amazon Prime, YouTube Premium, and Hulu (Dasgupta, 2019; Kim, Kim, & Nam, 2016).

Moreover, the broadcasting sector's digital transformation has resulted in new market entrants, perceived as substitutes or complementary services for the traditional pay-TV service operators (Gürkaynak, Akgün, & Aydogan, 2019; Chen, 2017). Global OTT TV market projections are \$118 billion by 2021, prompting a shift from traditional TV viewership consumption to OTT TV services. In the US alone, OTT TV service operators such as Netflix have surpassed pay-TV operators and have more subscribers than pay-TV operators (Dasgupta, 2019; Lee, Lee, et al., 2018).

The broadband uptake is growing due to mobile and fixed lines' roll-out contributing to exponential growth in online TV consumption. In South Africa, the price of broadband data is decreasing, and thus it is projected that the population of internet users will grow from 50.5% to 71.8% by the year 2022, with the average speed of the Internet increase from 7.7 Mbps to 19.0 Mbps (Cisco, 2018). More people have access to the Internet as the South Africa population coverage for 4G/LTE increased from 76.7% in 2017 to 85.7% in 2018 (ICASA, 2019c). Thus, more TV content consumers in South Africa may be migrating to OTT TV services due to the affordability of broadband access as Internet service providers are increasing the speeds and reducing the pricing of fiber. Moreover, pay-TV subscription service providers such as MCSA continue to increase subscription fees that make their services more expensive than OTT TV services even when combined with broadband costs (MyBroadband, 2021).

Therefore, with fast, affordable internet access over mobile devices, more people globally, including South Africa, consume video content using mobile devices. Thus there is an increase in TV content consumption on platforms such as Facebook, Instagram, including OTT TV service platforms such as Netflix, Showmax, Amazon Prime, and YouTube Premium (ICASA, 2019b). However, there is a lack of research studies and credible evidence of these patterns from a South African context. Hence this study aims to conduct a scientific investigation on the changes in television consumption viewing behaviors in South Africa given the rise of OTT TV services.

Therefore, as technological developments continue, including the rise of OTT TV services, the uses and gratification theory helps understand what influences consumers to choose one media over the other and thus contribute to changes in television viewing patterns.

#### Theoretical perspective

The uses and gratification theory underpins this study. This theory state that consumers have a need and goal to satisfy, therefore choices regarding the type of content and service to use to consume TV content are based on the objective to fulfill the desired gratification (Tefertiller, 2018).

## The uses and gratification theory

The uses and gratification (U&G) theory establishes the influences of consumers' television consumption habits and aids in studying, predicting, and understanding how TV consumption can evolve. Moreover, the U&G helps explain audience reception, engagement, and how new media is used in society (Shobiye, Naidoo, & Rugbeer, 2018). Pittman and Sheehan (2015) state that consumers' choice of media to use and choice of content to consume is based on their objective to satisfy. Moreover, the desired gratification and the theory about television needs state are based on the motives behind device selection and watching video content.

Therefore, authors such as Tefertiller (2018) and Udoakpan and Tengeh (2020) suggest that people adopt new technology to satisfy the need for entertainment, escape, kill time, obtain information, and convenience and social interaction. Tefertiller (2018) argues that although consumers' needs are sought by consumers in the adoption of media, consumers' appetite for entertainment is a crucial motivator for adopting internet-based television services. Although the U&G theory has been used to understand the television consumer

behavior and what motivates people to adopt chosen media, it is criticized that it falls short in understanding what motivates consumers to watch television, such as the structural and individual factors. Arguably, these factors "would help integrate these divergent theoretical explanations for audience exposure to television" (Cooper & Tang, 2009).

Accordingly, people are affected differently by the same media content based on their ideas and the gratification they seek from the selected media (Samani & Guri, 2019). These motives include the need to indulge, escape, experience, unwind, comfort, and connect (Conlin, Billings, & Averset, 2016; Gerlich et al., 2015). Notwithstanding this, "with the arrival of digital media, Ruggiero (2000) argued that three concepts closely related to Web technology would facilitate audience behaviors related to gratification seeking: interactivity, demassification, and asynchronicity" (Tefertiller, 2018; Udoakpan & Tengeh, 2020). Further to this, Chen (2017) also states that symmetrical and functional displacement measures the level of how one medium surpasses another. He further argues that symmetrical displacement quantifies the viewer's satisfaction with their achieved goals when using a selected medium. In contrast, functional displacement refers to comparing the amount of time that consumers spend on different media types. Therefore, consumers may alternate between several media and pick one over the other based on the level of satisfaction of their specific needs.

Henceforth, the researchers believe that the U&G theory helps to understand changes in television viewership patterns, and therefore literature concerning changes in device adoption and viewing habits are reviewed in the following sections.

#### Changes in device adoption

Innovation and the emergence of smartphones, including tablets, have reshaped television programs' production and how people watch television. This is due to flexibility, including convenience demands from consumers who want to watch television when and where they want to, using any device of their choice. Television consumption through traditional TV sets continues to decline owing to the rapid growth of connected devices used to consume video content on multiple platforms, especially smartphones (Park, 2018). An Information and Communication Technology (ICT) survey conducted in 11 African countries revealed that devices such as desktop personal computers, laptops, smartphones, smart TVs, tablets, and mobile video games are widely available due to their price reduction. These devices have further accelerated OTT TV services' growth, even on the African continent, as reported in Kenya, because these devices come with pre-installed OTT TV applications (Rono & Mugeni, 2019).

Consumers increasingly want to watch short videos on their portable devices at any time convenient to them, including while waiting for transportation at bus stops and thus giving them control over what to consume (Chen, 2017). Looking at social media platforms such as TikTok and Instagram, one can conclude a growing trend of TV consumers who prefer to watch short videos on mobile devices. Notwithstanding this, Daniels (2017) states that device usage differs among age groups as follows:

- Viewers between 18 and 24 years old consume television content using television sets, laptops, tablets, and smartphones, while older age groups, including 55+ age groups, exclusively consume TV content using television sets (Rono & Mugeni, 2019; McNally & Harrington, 2017). Given that the Millennial age group is more technologically advanced, and technology is in their DNA, this group prefers modern technology as they believe it is convenient to their lifestyle and helps them network with friends and family (Elias, 2019).
- Viewers between the ages of 25 and 54 use all devices to consume content, while the majority still enjoys using TV sets. Gen Xers are said to adapt quickly, acquire new skills, and are comfortable with smartphones, laptops, tablets, and pay-TV.

Overall, large television sets are the preferred mode to consume TV content by all age groups; notwithstanding this, younger age groups consume television content using all devices at their disposal, which predicts a wider variety of devices for future generations. Even though consumers own smartphones, most still prefer to watch TV on a bigger screen; therefore, they tend to use TV sets and laptops to consume video content (Mikos, 2016). In the UK, smart TV is still the preferred way of consuming TV content (Ofcom, 2018).

Therefore, the adoption of alternative devices to consume television content is changing consumer viewing habits (ICASA, 2018).

#### Television consumer viewing behaviors

The rise of OTT TV services, including access to affordable broadband data, has changed consumers' behavior, impacting traditional pay-TV operators' ability to attract and retain existing subscribers (Medina, Herrero, & Etayo, 2015).

In countries like the US, consumers with broadband connections subscribe to OTT TV services, and more are migrating from pay-TV, favoring OTT platforms (Lee, Nagpal et al., 2018). In Korea, the availability of fast broadband networks, including the circulation of mobile devices, has encouraged the migration of television consumers from pay-TV to OTT TV services (Park, 2018). People are increasingly streaming live content to download and watch offline, which is advantageous for OTT TV players (Kim et al., 2017). Even though live content is not easily accessible on illegal online platforms, and there is a risk of viruses on these websites, there is a growing trend of consumers using these platforms as they do not subscribe to OTT TV and pay-TV services (Schouw, 2018).

Further to this adoption of alternative devices to consume TV content, viewing behaviors have changed, with consumers using alternative platforms to consume TV content. This is especially prevalent among the younger generation, who prefer to consume content using OTT TV platforms such as Netflix instead of watching traditional TV. According to a Defy Media report, 65% of the youth between 13 and 24 years old consume TV content before going to school, including right through the night. The reasons for this are to satisfy the desired gratification, with the motives being to lift the mood, relieve stress, obtain information, and put oneself to sleep (Hamedy, 2016).

Traditionally, the scheduling of TV programs is at certain times and on specific days, and one must wait for a repeat should one miss an episode of the program. Through the years, this changed, owing to video recorders which enabled consumers to record programs. Now advancements in TV technology allow consumers to view content at their convenience, that is, in any place, at any time, and using any device (Christenson, 2017; Podara et al., 2019). Although online TV consumption is growing, many consumers are still using linear for live television content such as sport, and notably, when they are with their parents (Schouw, 2018).

Therefore, the availability of broadband data and usage of alternative devices for TV consumption has contributed to a change in consumer viewing behavior (Mikos, 2016).

#### Changes in television viewing habits

Owing to changes in viewing habits, several authors, such as Baumgartner (2015) and Jenner (2016), concur that:

- consumers are increasingly binge-watching video content, and
- these patterns are different within demographic groups.

#### **Binge-watching**

Access to original, fresh, quality content that is advertisement-free has changed TV viewing habits, leading to the binge-watching phenomenon (Schouw, 2018). Binge-

watching refers to consumers watching more than one episode of a series at once (Jenner, 2016).

Consumers choose to binge-watch, as it is not feasible to consume content during weekdays and office hours. Instead, they choose weekends and after hours, as this is the most time available to consume TV content. Consumers are said to binge-watch to catch up on programs for relaxation, entertainment, escape from reality, and improve their viewing experience. Binge watchers feel that binge-watching is more interesting than waiting for a scheduled episode/program. Furthermore, they feel more engaged with the TV characters and thus immerse themselves in the storyline's characters (Pittman & Sheehan, 2015; Daniels, 2017). TV consumers also enjoy watching their programs without interruptions, and this is seen as essential by Millennials who want to binge-watch at their leisure (Schouw, 2018). In South Africa, DStv consumers tend to binge-watch using DStv Now, a value-add application for its customers. During the national lockdown in South Africa, it was reported by MCSA that there was a spike in streaming services on the DStv Now and Showmax platforms (Udoakpan & Tengeh, 2020).

Binge-watching is indeed changing the manner TV is consumed, and TV producers are taking note as it has become essential to have a "deeper understanding of uses and gratifications of binge-watching to motivate better viewers to binge-watch in a way that fits with new and emerging eCommerce business models" (Pittman & Sheehan, 2015). Additionally, OTT TV platforms such as Netflix are putting all seasons of a program online at once, and the same can be said in South Africa as Showmax reported that South Africans stream more content during holidays (TMO Reporter, 2020). This phenomenon will continue to grow because of the convenience and flexibility it affords consumers.

#### Viewing patterns among demographic populations

The Generational Theory suggests that a group of people born during the same period exposed to the same events in their lives shares similar attitudes and approaches to things. Furthermore, this significantly influences their television consumption patterns and choices in TV device adoption. Therefore, due to digital transformation, the generational cohorts have strong similarities in their digital media usage (Dabija & Băbut, 2019). Moreover, viewing habits differ among demographic populations, and the younger generations favor digital platforms where they can customize their viewing according to preference (Daniels, 2017). Furthermore, Lee, Nagpal et al. (2018) state that age influences one's decision to adopt online streaming platforms. Moreover, this is more prevalent for consumers below 35 years old, while those older than 35 are less likely to embrace online streaming platforms.

Generation Z and the Millennials are streaming more content online than Generation X, Baby Boomers, and the silent generation (Nielsen, 2016). Elias (2019) states that 81% of adults in the US with smartphones spend close to two hours per day consuming TV content. Therefore the younger generations are more inclined to move away entirely from consuming TV content using traditional pay-TV services due to the rapid growth of OTT TV services and the availability of multiple devices (Daniels, 2017). OTT TV service providers target consumers between the ages of 18 and 24, as over 50% of this group own smartphones (Dasgupta, 2019). Arguably, this trend contributes significantly to the global decline in traditional TV viewership, especially among younger age groups.

Given all these trends and changes, the landscape in the broadcasting sector is changing rapidly. As revealed in the literature, as access to affordable and quality broadband data becomes available, consumer viewing behaviors change. These changes differ among generational age groups, and more TV consumers are adopting different devices to consume TV content. The television subscription service providers in South Africa are among the largest employers and the South African economy engine. Understanding how television viewing patterns have changed in South Africa is critical to assist the relevant regulatory bodies in understanding the challenges and for the TV subscription providers to develop innovative strategies to respond to the changes taking place for business

sustainability, including competitive advantage (Hedley, 2019). Based on the reviewed literature, the study asked the following questions:

- Sub-RQ 1 What has changed in device adoption for television content consumption, given the launch and growth of OTT TV services?
- Sub-RQ 2 What are the changes in television viewing behaviors in South Africa, given the rise of OTT TV?

#### **Research design and methodology**

This paper examines changes in TV viewing habits after the advent of OTT services in South Africa. To achieve this goal, the study adopted the quantitative research approach (Creswell, 2003). The study used a descriptive research design to ascertain and describe what has transpired globally, including investigating the changes in television viewing behaviors in South Africa (Nassaji, 2015; Khaldi, 2017).

#### Population and sampling strategy

It is imperative to understand the study's demographic details and how the participants were chosen (Norris et al., 2015). Therefore, given the research study's epistemological position, people who consume television content using pay-TV, OTT TV services, and have internet access were sampled (Rahi, 2017). The target population included people between the ages of 18 and 55+ across all South African provinces, divided into demographic profiles such as age, gender, and provincial residence area (Cooper & Schindler, 2013). Segmenting the demographic profile helps determine the changes in television viewing behaviors in South Africa according to demographic characteristics as per the study's research objectives. Subsequently, following a similar study conducted in Taiwan, the researcher adopted the same approach by asking participants at the beginning of the survey if they are pay-TV and OTT TV subscribers and have internet access (Chen, 2017). If they answered 'no' to any of these questions, they were disqualified from the sampled population.

The population's size is not determinable due to restrictions on the disclosure of customer data by the pay-TV operators due to the protection of private customer information as stipulated in the Protection of Personal Information Act, 4 of 2013 (South Africa, 2013). Statista (2016), the estimated number of pay-TV households is 6.8 million; furthermore, Statista (n.d.) estimates that there are 3.46 million video streaming users in South Africa, although the demographic profiles are unknown. Based on these estimations and drawing from Talom and Tengeh (2019), the sample size was determined under the confidence level of 95% with a margin error of 5%. Therefore, the study's appropriate sample size was 384 valid responses which falls within the statistical requirements for data analysis in quantitative studies.

Due to limited financial resources and the researchers' desire to target participants within their reach, they used a non-probability sampling technique with a convenience sampling tool (Tengeh & Mukwarami, 2017). Additionally, the sampling approach chosen was deemed appropriate given the scope of this research study and the constraints surrounding customer data details.

#### Data collection & analysis

It was noted that interviews would be time-consuming, so the survey was conducted using Google Forms to reach the sampled population. The survey was done from April 22nd to June 6th in 2020. Data collection questionnaires are simpler, cost-effective, better able to generalize, and more dependable. The survey questionnaire used a five-point Likert-type scale as it is easier for the respondents to deal with. The survey questionnaire included a drop-down list that measured the sampled population's observations and attitudes and

was structured in such a way that the respondents could provide reliable responses (Rahi, 2017).

The researchers noted limitations that could hinder participants from taking part in the study. So, the promotion of the survey link was on Facebook and Instagram, with the audience chosen as per the targeted population for the research study, and to ensure the participants resided in South Africa (Facebook, 2020). Furthermore, the survey questionnaire link was circulated via email, WhatsApp, and LinkedIn to the targeted population within the researcher's reach for convenience and owing to the popularity of these networks to TV consumers, including experts in the TV broadcasting sector.

A total of 391 responses were collected, which was sufficiently large to generalize. The collected data were analyzed numerically, using the IBM Statistical Package for Social Sciences Statistics (IBM SPSS Statistics) for data analysis (Ma, 2015). The researcher elected to use IBM SPSS Statistics because of its effectiveness and user-friendliness. Descriptive data analysis was used to obtain an understanding of the study results. These analyses were useful in describing the participants' summarised responses, including interpreting displayed graphical percentages. The researchers used simple frequency tables to present the results (Hair et al., 2015).

#### Reliability and validity

The questionnaire was piloted with 15 people to ensure that it was understandable, not too overwhelming and that subjects would be interested in participating. Some questions were rephrased in response to the feedback. Additionally, to garner the respondents' attention, the biographical questions were relegated to the end of the questionnaire (Brace, 2008). The researcher ensured content and construct validity by having two experts in the research field (supervisor and statistician) review and evaluate it, including determining whether the questions were necessary and meaningful and checking for inconsistencies by piloting the survey questionnaire (Saunders, Lewis, & Thornhill, 2009). The pilot of the survey questionnaire further ascertained if the respondents answered the researcher's questions.

Cronbach's alpha was used to test the internal consistency and reliability of the responses based on the feedback received from the respondents in the survey questionnaire to establish if respondents understood the questions asked and if they responded truthfully. A Cronbach alpha score of 0.922b was obtained for the six variables identified. This is by far greater than the recommended range of 0.65 to 0.8 or higher; thus, these results suggest the reliability of the measurement as satisfactory (Goforth, 2015).

#### **Results and discussions**

#### Demographic characteristics

Table 1 represents the demographic characteristics of the studied population. Most of the studied population (65.5%) identified as male, followed by females at 31.2%. The rest of the population represented identified as non-binary at 1.0%, gender fluid at 0.5%, while 1.8% preferred not to state their gender profiles. The gender profiles were significantly different from a similar study conducted by Elias (2019), where the majority of the respondents were female at 60.3% and male at 39.7%. Furthermore, the gender profile findings were consistent with Stats SA's report, which states that gender identifying as males consume more TV content than females or any other gender profile (BusinessTech, 2013).

To establish the relationship between age groups' preferences and behaviors based on the study's objectives, we asked the respondents their age groups. The largest age groups were between 35 and 45 years old at 36.3%, followed by 46 and 54 years at 20.2%. Of the

studied population, 13.0% were between the ages of 18 and 24 years old, while 13.3% of the respondents were aged between 55+. The respondents' generational age group was slightly different from the study conducted by Elias (2019) in Portugal, where the majority of the population were equally Millennials and Generation Z. In contrast, Millennials/Generation Y and Gen Xers dominated this study. The respondents' age group profile is attributed to the fact that these are the people responsible for the payment of subscription fees.

Lastly, of the 391 respondents, the study revealed that 41.7% resided in the Western Cape, followed by Gauteng at 22.0%. The fewest respondents were from Limpopo and the Northern Cape, at 2.3%, respectively. Most of the respondents being in the Western and Gauteng provinces is because these provinces are the economic hubs of South Africa.

	Frequency	Percent
Female	122	31.2
Male	256	65.5
Gender Fluid	2	0.5
Non-binary	4	1.0
Prefer not to say	7	1.8
18-24	51	13.0
25-34	67	17.1
35-45	142	36.3
46-54	79	20.2
55+	52	13.3
Eastern Cape	33	8.4
Free State	22	5.6
Gauteng	86	22.0
Kwa-Zulu Natal	32	8.2
Limpopo	9	2.3
Mpumalanga	18	4.6
North West	19	4.9
Northern Cape	9	2.3
Western Cape	163	41.7
	Male Gender Fluid Non-binary Prefer not to say 18-24 25-34 35-45 46-54 55+ Eastern Cape Free State Gauteng Kwa-Zulu Natal Limpopo Mpumalanga North West Northern Cape	Female122Male256Gender Fluid2Non-binary4Prefer not to say718-245125-346735-4514246-547955+52Eastern Cape33Free State22Gauteng86Kwa-Zulu Natal32Limpopo9Mpumalanga18North West19Northern Cape9

# Sub-RQ 1 - What has changed in device adoption for television content consumption, given the launch and growth of OTT TV services?

#### **Device** adoption

The smart TV is the preferred device for 43.8% of the studied population, as illustrated in Table 2. This is contrary to the findings of ICASA (ICASA, 2019a), which showed that 95% of the population use a mobile phone, and 82% prefer a TV set for TV consumption. Furthermore, this finding is consistent with Mikos (2016), who revealed that a TV is the preferred mode of TV consumption because consumers still prefer a larger screen for viewing. Of the respondents, 26.0% indicated that they use a smartphone to consume TV content, while a low 4.0% favor a tablet for TV consumption. Of the 391 respondents, 3.6% did not answer the question.

From the demographic perspective, as illustrated in Table 3, the study revealed that the smart TV is the most favored device of respondents between the ages of 35 and 45 years (n=72), followed by those between 46 and 54 years (n=49) and 55+ (n=31). The laptop is

the preferred device for TV consumption for those between 35 and 45 years (n=25), 18 and 24 years (n=15) and 25 and 34 years (n=14). The tablet is preferred by those aged 55+ and from 35 to 45 years. The smartphone is the most preferred device for ages 34 to 45 years (n=35), followed by 18 to 24 years (n=24) and ages between 25 and 34 years (n=23). Lastly, although not significant, the desktop was preferred by ages between 46 and 54 (n=5). These findings corroborate other studies indicating that age groups between 18 and 24 years prefer smart TVs, laptops, tablets, and smartphones, while those aged 55+ prefer smart TVs (Daniels, 2017; McNally & Harrington, 2017).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Smart TV	182	46.5	48.3	48.3
	Laptop	70	17.9	18.6	66.8
	Tablet	15	3.8	4.0	70.8
	Smart Phone	98	25.1	26.0	96.8
	Desktop	12	3.1	3.2	100.0
	Total	377	96.4	100.0	
Missing	System	14	3.6		
Total		391	100.0		
		Cour	cou authors		

Table 2. Adopted devices for TV consumption

Source: authors.

Table 3. Adopted devices for TV consumption by age

		My age is					
		18-24	25-34	35-45	46-54	55+	Total
I mostly use this	Smart TV	8	22	72	49	31	182
device to watch	Laptop	15	14	25	8	8	70
online TV	Tablet	1	3	4	3	4	15
content	Smart Phone	24	23	35	13	3	98
	Desktop	1	2	2	5	2	12
Total		49	64	138	78	48	377
			Course	a. authore			

Source: authors

# Sub-RQ 2 - What are the changes in television viewing behaviors in South Africa, given the rise of OTT TV services?

## Television viewing behaviors

This section measures the population's habits in terms of streaming, time spent online to consume TV content, internet access, binge-watching, preference to stream, and favored TV programs.

## Source of internet

OTT TV platforms also require access to the Internet; therefore, it was essential to establish how the studied population accesses the Internet. Table 4 reveals that 73.8% of the respondents access the Internet at home using Wi-Fi, followed by mobile data at 19.7%, and 0.8% of the respondents indicated that they access the Internet using Wi-Fi at school or university. Universities and schools were closed owing to the COVID-19 lockdown; this could have affected the percentage of respondents accessing the Internet at these institutions. Summarised findings in Table 5 indicate that most DStv subscribers access the Internet using Wi-Fi at home (n=148), including mobile data (n=51). Further to this, consumers who only subscribe to OTT TV services access the Internet using Wi-Fi at home. The summarised findings illustrated in Table 6 further revealed that most of the Western Cape respondents (n=110) have Wi-Fi at home, followed by Gauteng (n=73).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Wi-FI at work	18	4.6	4.6	4.6
	Wi-FI at home	288	73.7	73.8	78.5
	Free WI-FI hotspot zone	4	1.0	1.0	79.5
	Mobile Data	77	19.7	19.7	99.2
	Wi-FI in school/university	3	.8	.8	100.0
	Total	390	99.7	100.0	
Missing	System	1	.3		
Total		391	100.0		

# Table 4. Source of internet access

Source: authors.

# Table 5. Internet access by subscription type

			I subscri	be to		Total
			I have free-to-air	I only have		
			(FTA) – SABC,	OTT TV	I use free/paid	
			eTV, OVHD, etc.)	services	mobile apps to	
			& OTT TV	(Netflix,	consume TV	
	DStv	StarSat	services	Showmax, etc.)	content.	
Vi-Fi at	12	1	1	2	2	18
vork						
Vi-Fi at	148	2	28	82	28	288
nome						
Free Wi-Fi	4	0	0	0	0	4
notspot						
one						
Aobile data	51	0	13	<mark>11</mark>	2	77
Vi-Fi at	0	0	1	0	2	3
chool/						
iniversity						
	215	3	43	95	34	390
	vork Vi-Fi at ome vee Wi-Fi otspot one lobile data Vi-Fi at chool/	Vi-Fi at 12 vork 148 ome 148 ome 148 ome 148 otspot 148 otsp	Vi-Fi at 12 1 vork 148 2 ome 148 2 ome 0 ree Wi-Fi 4 0 otspot 0 noe 10 otspot 10 vi-Fi at 0 0 chool/ 0 niversity 12 0 0 0 0 0 0 0 0 0 0 0 0 0	Vi-Fi at 148 2 28 ome 148 2 28 ome 151 0 13 Vi-Fi at 0 0 13 Vi-Fi at 0 1 1 Vi-Fi at 0 1 Chool/ niversity	Vi-Fiat12112Vi-Fiat12112Vi-Fiat14822882ore0000reeWi-Fi4000otspot01311Vi-Fiat01311Vi-Fi401311vork0100	Vi-Fiat1001000000000000000000000000000000000000

Source: authors.

Table 6. Internet access by	the province of residence
1 4210 01 1100 1100 400000 29	

			My province of residence								Total	
			Eastern	Free		KwaZulu-			North	Northern	Western	
			Cape	State	Gauteng	Natal	Limpopo	Mpumalanga	West	Cape	Cape	
I access	Wi-Fi	at	1	2	5	2	2	0	0	0	6	18
the	work											
Internet	Wi-Fi	at	25	15	73	25	5	15	15	5	110	288
via	home											
	Free	Wi-	0	0	0	0	0	1	0	0	3	4
	Fi hot:	spot										
	zone											
	Mobile	9	6	5	8	5	1	2	4	4	42	77
	data											
	Wi-Fi	at	0	0	0	0	1	0	0	0	2	3
	school	/										
	univei	sity										
Total			32	22	86	32	9	18	19	9	163	390

Source: authors.

#### Streaming and downloading

The paper sought to determine if consumers are downloading more content to stream based on the reviewed literature. Summarised findings in Table 7 reveal that 28.6% of respondents are now downloading and streaming more content than they did when they had a pay-TV subscription, while 13.4% only started downloading now that they do not have a pay-TV subscription. Furthermore, summarised findings in Table 8 indicate that those who canceled their pay-TV subscription are streaming more content online now than they did when they had a pay-TV subscription. These results depict a trend in the streaming of TV content online.

		ning und dow			Cumulative
		Frequency	Percent	Valid Percent	
Valid	I download/stream more	107	27.4	28.6	28.6
	content now than I did when I				
	had a pay-TV subscription				
	I download/stream more or less	100	25.6	26.7	55.3
	the same amount of content as I				
	did when I had a pay-TV				
	subscription				
	I have always	58	14.8	15.5	70.9
	downloaded/streamed				
	television content and have				
	never been a pay-TV subscriber				
	I only started downloading /	50	12.8	13.4	84.2
	streaming content now that I do				
	not have a pay-TV subscription				
	I do not download/stream	59	15.1	15.8	100.0
	content				
	Total	374	95.7	100.0	
Missing	System	17	4.3		
Total		391	100.0		

Source: authors.

Table 8. Summarised	findinas revealir	na streamina a	fter cord-cuttina

		inna isea jin	0	Ū	0 )	Ū	
		Regarding dov	0	streaming	television con	ntent, this	
		statement appl	ies to me.				
				I have			
			Ι	always			
		Ι	download/st	downloade			
		download/str	ream more	d/streamed	I only started		
		eam more	or less the	television	downloading/		
		content now	same amount	content and	streaming		
		than I did	of content as	have never	content now	I do not	
		when I had a	I did when I	been a pay-	that I do not	download	
		pay-TV	had a pay-TV	TV	have a pay-TV	/stream	
		subscription.	subscription.	subscriber.	subscription.	content.	Total
I have	n/a	56	26	42	35	7	166
canceled my	Strongly	16	32	0	4	19	71
	disagree						
subscription	Disagree	15	30	9	5	23	82
	Neutral	11	9	4	3	4	31
favor of an	Strongly	2	2	0	1	1	6
OTT TV	agree						
subscription	Agree	4	1	3	2	4	14
Total		104	100	58	50	58	370
Cord autting r	ofore to no	TV concumore	who have shar	ير بينو والج او و مرو او	ou TV subserinti		

Cord-cutting refers to pay-TV consumers who have abandoned their pay-TV subscription in favor of OTT TV subscription services.

Source: authors

#### Password sharing

Schouw (2018) noted a growing trend of consumers using illegal platforms to consume TV content; therefore, this paper sought to establish if there is a password-sharing behavior in South Africa. The sharing of OTT TV services' passwords impacts subscription revenue for both pay-TV and OTT TV service providers as it translates to fewer subscribers. This has an impact on the distribution price of content and revenue from subscription fees. As illustrated in Table 9, 45.1% (n=166) of the respondents either agreed or strongly agreed that they share their OTT TV passwords with friends and family to consume TV content. The findings reveal that subscribers who have a combination of pay-TV and OTT TV subscription services mostly share their passwords. This was most prevalent with Showmax subscribers who indicated to share their Showmax passwords with friends and family, as illustrated in Table 10.

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Strongly disagree	75	19.2	20.4	20.4
	Disagree	77	19.7	20.9	41.3
	Neutral	50	12.8	13.6	54.9
	Strongly agree	82	21.0	22.3	77.2
	Agree	84	21.5	22.8	100.0
	Total	368	94.1	100.0	
Missing	System	23	5.9		
Total		391	100.0		

Table 9.	OTT TV	password sharing
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Source: authors.

Table 10. OTT TV p	password sharing b	y cord-stackers
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		I share my OTT TV services password with my friends and family.					Total
		Strongly	D.	N . 1	Strongly		
		disagree	Disagree	Neutral	agree	Agree	
Which OTT	n/a	35	29	25	45	32	166
TV services	Amazon	0	1	0	0	1	2
have you	Prime Video						
combined	Netflix	12	11	9	12	23	67
your pay-TV	Showmax	15	12	6	21	17	71
subscription	YouTube	1	3	3	1	3	11
with?	Premium						
	Other –	9	13	4	3	3	32
	please specify						
Total		72	69	47	82	79	349

<sup>1</sup> Cord-stackers refers to subscribers who subscribe to both pay-TV and OTT TV services. Source: authors

#### Hours spent consuming content online

Illustrated findings in Table 11 depict time spent consuming content online. 23.8% of the studied population indicated that they spend more than five hours a day online consuming TV content, and this is per the literature reviewed where Elias (2019) noted that Americans are spending more than 60 hours a week online to consume TV content. A further 20.9% of the respondents indicated spending three hours online consuming TV content. Interestingly, 18.5% of the respondents indicated that they spend less than one hour and four hours, respectively. Summarised findings in Table 12 and Table 13 reveal that respondents between the ages of 35 and 45, including the males, spend over five hours a day online consuming TV content.

Tuble 11. Hours spent online consuming television content								
					Cumulative			
		Frequency	Percent	Valid Percent	Percent			
Valid	Less than 1 hour	70	17.9	18.5	18.5			
	2 hours	69	17.6	18.3	36.8			
	3 hours	79	20.2	20.9	57.7			
	4 hours	70	17.9	18.5	76.2			
	5 +hours	90	23.0	23.8	100.0			
	Total	378	96.7	100.0				
Missing	System	13	3.3					
Total		391	100.0					
		C	authore		•			

Table 11. Hours spent online consuming television content

Source: authors

			M	y age is			Total		
					46-				
		18-24	25-34	35-45	54	55+			
I spend so many	Less than 1	3	12	31	15	9	70		
hours per day	hour								
consuming	2 hours	11	13	21	14	10	69		
television content	3 hours	10	13	29	18	9	79		
online	4 hours	7	12	17	19	15	70		
	5 +hours	17	16	<mark>40</mark>	12	5	90		
Total		48	66	138	78	48	378		

Table 12. Online TV consumption by age

Source: authors

Table 13. Online TV consumption by gender

				I identify	as		Total
				Gender	Non-	Prefer not	
		Female	Male	fluid	binary	to say	
I spend so	Less than 1	25	44	0	0	1	70
many hours	hour						
per day	2 hours	23	44	1	1	0	69
consuming	3 hours	29	47	0	1	2	79
television	4 hours	13	56	0	1	0	70
content	5 + hours	24	62	0	1	3	90
online							
Total		114	253	1	4	6	378
		c	ourcoi au	thora			

Source: authors

#### Preference to stream online

To establish if the respondents preferred to stream TV content instead of using linear TV, we asked the studied population about their preference to stream content online. Summarised findings in Table 14 reveal that 60.1% of the respondents (n=231) either agreed strongly agreed that they prefer to stream TV content online. A low 7.3% (n=28) strongly disagreed, while 11.7% (n=45) disagreed. Most respondents who only have OTT TV services strongly agreed (n=43) that they prefer to stream online, followed by DStv subscribers (n=39), as illustrated in Table 15.

From the perspective of the demographic characteristics, the age groups between 18 and 24 years (n=34) strongly agreed that they prefer to stream, followed by ages between 35 and 45 years (n=32), while only n=7 of the age group of 55+ indicated streaming preference over linear TV as demonstrated in Table 16. In addition to this, a significant number of respondents who identified as male indicated a preference to stream instead of using linear television (n=77), as illustrated in Table 17. Therefore, Millennials prefer to stream content online, depicting the future of TV consumption in South Africa, considering that most of the population is within this age demarcation.

	I prefer to stream content online.								
					Cumulative				
		Frequency	Percent	Valid Percent	Percent				
Valid	Strongly disagree	28	7.2	7.3	7.3				
	Disagree	45	11.5	11.7	19.0				
	Neutral	81	20.7	21.0	40.0				
	Strongly agree	110	28.1	28.6	68.6				
	Agree	121	30.9	31.4	100.0				
	Total	385	98.5	100.0					
Missing	System	6	1.5						
Total		391	100.0						

# Table 14. Preference to stream

Source: authors

Table 15. Streaming preference by age

				My age is	5		
		18-24	25-34	35-45	46-54	55+	Total
I prefer to	Strongly disagree	4	8	4	6	6	28
stream content	Disagree	2	8	21	5	9	45
online.	Neutral	6	20	27	17	11	81
	Strongly agree	34	16	32	21	7	110
	Agree	4	15	56	30	16	121
Total		50	67	140	79	49	385

Source: authors.

#### Table 16. Streaming preference by gender

	I identify as						
						Prefer	
				Gender	Non-	not to	
		Female	Male	fluid	binary	say	Total
I prefer	Strongly	13	15	0	0	0	28
to	disagree						
stream	Disagree	12	31	0	0	2	45
content	Neutral	35	44	0	0	2	81
online.	Strongly agree	29	77	1	2	1	110
	Agree	30	87	0	2	2	121
Total		119	254	1	4	7	385

Source: authors.

#### Table 17. Streaming preference by subscription type

DStv	Star	I have free-to-air (FTA –SABC, eTV, OVHD, etc.) &	I only have OTT TV services (Netflix, Showmax,	I use free/paid mobile apps to consume	
DStv		(FTA –SABC, eTV, OVHD, etc.) &	services (Netflix,	free/paid mobile apps	
DStv		(FTA –SABC, eTV, OVHD, etc.) &	(Netflix,	mobile apps	
DStv		OVHD, etc.) &	· ·		
DStv			Showmax,	to consume	
DStv	Sat	0.000			
	Jai	OTT TV services.	etc.)	TV content.	Total
gly 24	0	2	2	0	28
ree					
ee 37	0	4	4	0	45
l 58	2	7	4	10	81
ly <mark>39</mark>	0	12	43	16	110
52	1	18	42	8	121
210	3	43	95	34	385
r a	gly 24 ree 37 al 58 gly 39 52	gly ree         24         0           ree         37         0           al         58         2           gly         39         0           52         1	gly     24     0     2       ree     37     0     4       al     58     2     7       gly     39     0     12       52     1     18	gly ree $24$ $0$ $2$ $2$ ree $37$ $0$ $4$ $4$ al $58$ $2$ $7$ $4$ gly $39$ $0$ $12$ $43$ $52$ $1$ $18$ $42$ $210$ $3$ $43$ $95$	gly ree $24$ $0$ $2$ $2$ $0$ ree $37$ $0$ $4$ $4$ $0$ al $58$ $2$ $7$ $4$ $10$ gly $39$ $0$ $12$ $43$ $16$ $52$ $1$ $18$ $42$ $8$ $210$ $3$ $43$ $95$ $34$

Source: authors

# Favorite TV program

To establish local content preference versus international content, we asked the respondents their current favorite TV programs. Although most of the respondents indicated favoring 'other TV programs', local TV programs were the most favored

programs with Gomora – Ivili liya jika at 13.7%, followed by Still Breathing at 7.7%, as illustrated in Table 18. For future research, the question should ask the favored type of content to establish if consumers prefer sport over TV series; this would better position both pay-TV and OTT TV services alike to develop content and cater for the South African market.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Gomora – Ivili liya jika	52	13.3	13.7	13.7
	Die Ontwaking	2	.5	.5	14.2
	Still Breathing	29	7.4	7.7	21.9
	The Americans	9	2.3	2.4	24.3
	Other	287	73.4	75.7	100.0
	Total	379	96.9	100.0	
Missing	System	12	3.1		
Total		391	100.0		

Tahle	18	Favorite	ΤV	program
IUDIC	10.	ruvunic	1 V	program

Source: authors.

#### **Conclusions and recommendations**

This paper demonstrated that changes in television consumption behaviors have occurred in South Africa as a result of the accessibility of the Internet and connected devices. The results suggest that the Smart TV is the most preferred TV consumption device by 48.3% of the respondents between the ages of 35 and 45 years. Notwithstanding this, the results showed that the laptop is the most preferred device for online TV consumption by age groups between 35 and 55+. Concerning the streaming devices, the Apple TV streaming device emerged as the preferred device for streaming, followed by Xiaomi Mi Box X.

In terms of broadband data access, the majority of the respondents' Internet source is through Wi-Fi at home, revealing the growing accessibility of affordable broadband in South Africa. Moreover, most of the population who access Wi-Fi at home resides in the Gauteng and Western Cape provinces. Accordingly, 28.6% of the studied population indicated that they download more content now than they did when they had a pay-TV subscription. This finding depicts changes in television consumption behaviors in South Africa. What is concerning is that the sharing of online subscription passwords to consume online content using family and friends' credentials is significant, which poses a revenue threat to pay-TV and OTT TV service operators alike. Therefore, subscribers may be sharing the subscription fees paid by dividing them among one another, which impacts revenue, and the number of new subscribers each subscription service provider could potentially acquire.

The study's findings showed that streaming online is preferred to linear TV by most respondents, especially those aged between 18 and 24 years and who identify as male. Subsequently, of the studied population, 23.8% spend more than five hours online consuming TV content, especially those aged between 35 and 45 years and who identify as male. This finding is a great predictor of the future of online TV consumption in South Africa as television content is accessible on any device and consumed conveniently. Accordingly, 62.20% of the studied population indicated binge-watch, which is prevalent across all age groups, especially those with Wi-Fi at home.

Our findings corroborate consumers' need to escape, unwind and indulge in their favorite TV content after a long, stressful day, and relax and clear their minds, as most of the respondents indicated to spend more time online consume television content and bingewatch. Based on the study findings, the researchers believe that as fast broadband data becomes available and cheaper devices such as smart TVs, smartphones, and streaming devices, viewing behavior will continue to change. Furthermore, is the researchers' view

that although streaming online is exciting at present, this is not sustainable, as OTT TV service operators may run out of content owing to the binge-watching phenomenon.

As a result, we suggest that both OTT TV and pay-TV service operators would benefit from funding content development and devising innovative ways of keeping subscribers entertained, as failure to do so would lead to an increase in illicit streaming and use of family and friends' passwords for viewing, thus eroding revenue streams for all parties. Additionally, these service providers would benefit from partnering with universities to conduct more research in this field by providing bursaries and research grants. The research studies would enhance the development of new technologies, content development, and business turnaround strategies. Finally, we believe that pay-TV and OTT TV providers would do well in not neglecting consumers over the age of 55+ by developing strategies based on these age groups' consumer behavior for customer retention and acquisition, as the current 35-year-olds will be 55 in a few years.

By relying on theories and extant literature, this paper advances the same especially in the context of the evolving television consumption, patterns in South Africa. In practice, this paper illuminates the rivalry between the Pay-Tv operators and OTT TV service providers and may provide useful information that could inform the strategies devised by both stakeholders. Beyond this, the paper may provide a solid scientific foundation on this the Independent Communications Authority of South Africa (ICASA) bases its argument for regulating the market. However, the study was not without limitations.

#### Limitations and future research

This study is primarily focused on South Africa due to the fact that it was heavily influenced by an initial ICASA survey, which may restrict its applicability elsewhere. This notwithstanding, we identified some shortcomings which could serve as a guide for future studies. The study would have benefitted from access to customer data from pay-TV and OTT TV service operators, which would have reinforced the research approach. The study would have adopted a mixed-method approach by interviewing current pay-TV subscribers and collecting data from OTT TV services subscribers quantitatively. The researchers, therefore, recommend future research using a mixed-method approach on the impact of TV viewing behaviors on revenue for the pay-TV operators, including regulatory implications.

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