switchmedia

OTT INSIGHTS

UPTAKE, PERCEPTIONS, AND THE WORLDWIDE EVOLUTION | 2018

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Foreword

Mark Johns, CEO - Switch Media

There's no denying that Over the Top (OTT) delivery has become an integral part of everyday life. Whether at home, commuting to work, or sitting in a café, we can access our favourite content. This dynamic industry has created a demanding audience, one that expects a seamless user experience. Viewers have a near zero-tolerance policy and expect streaming industry players to meet their growing expectations, or face being left behind in a highly contested market.

With the industry surging and evolving across the globe, we were interested in seeking a better understanding of the current streaming climate in Australia, and how it fared with the rest of the world.

Interestingly, we couldn't find any substantial pieces of research that gave a clear picture of the current streaming landscape in Australia. Since storming the scene a decade ago, it's no surprise that the industry hasn't yet had a chance to capture how Australian's have adopted and are consuming this cultural revolution.

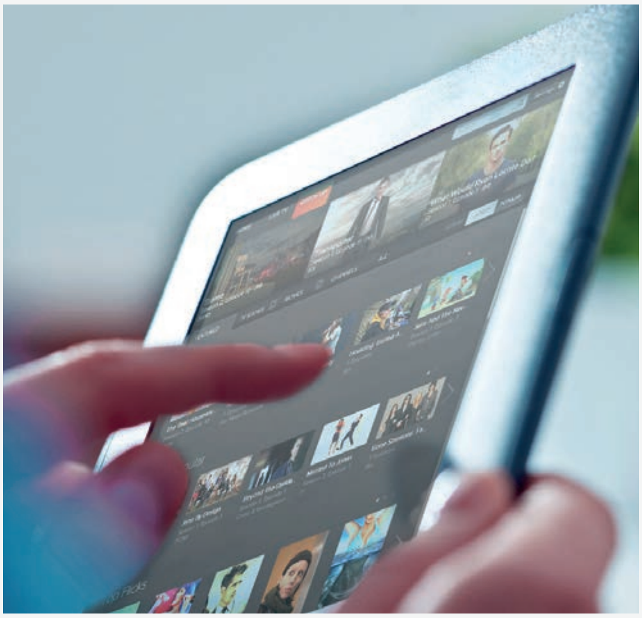
To remain a leader in OTT solutions and digital ad insertion, Switch Media commissioned a piece of research that would give us, and the industry as a whole, a better understanding of consumer behaviour, perceptions and expectations, with a focus on effective monetisation in this lucrative and booming market.

We brought Stable Research on board to help us explore Australia's media viewing preferences and consumption habits. We hoped that by gaining an understanding of the landscape, we could better understand how to keep consumers engaged, as well as gain insights on what industry players can do to remain relevant in this dynamic space.

The research project involved a quantitative survey of over 1,000 Australian consumers who had streamed video, movie and television content. The study was centred around streaming service usage including the overall experience, opinions and issues around it, where it was being consumed and on what devices, advertising, and the role of virtual and augmented reality as a future proposition.

For the past 12 years, Switch Media has been leading the charge in OTT streaming technology, delivering online video solutions to a variety of organisations from broadcasters through to government, forging new technological ground with ad insertion, content management platforms and app development.

The research has highlighted some significant and enlightening truths. We're delighted to share the results with you, along with a comprehensive view on how the current landscape will shape where the industry is headed in the future.



Executive Summary

We are in a world driven entirely by demand. Consumers access streamed content where they want, when they want and how they want. OTT services are a cultural practice entrenched in our everyday lives.

Consumption of streamed video content is booming globally, and Australia is no exception. This paper analyses the current streaming climate in Australia and overseas by interpreting information from a wide variety of sources with a view to providing solutions on how to remain relevant and effectively monetising this lucrative market.

Australians' viewing preferences and consumption habits have been sourced from a survey by Stable Research, commissioned by Switch Media, a leader in OTT solutions and digital ad insertion.

An evolving landscape

The increase in internet speed was the catalyst for the proliferation of streaming media. Momentum really started building in the 2000s with the launch of Apple's iTunes, YouTube and other companies that now lead the industry: Netflix, Amazon and Hulu.

In 2016, for the first time globally, an FTA industry united to create and deliver a powerful consumer experience. The result, the world-first Freeview FV mobile app that delivered FTA TV channels with one click. This enabled Australian viewers to live stream 19 TV channels from all free-to-air networks on the go, all from the one platform.

Fast forward to 2018 and YouTube is the world's most popular online video site with 1.57 billion users, and Netflix leads the market with 118 million subscribers worldwide and continues to grow fast. It is estimated by the end of the year Netflix's revenue will have grown by 40 per cent. Close behind Netflix is Amazon Prime Video with a subscriber base roughly 2/3 of Netflix.

A new entrant set to rival Netflix is Disney that will strip its titles from the streaming giant. Streaming has become mainstream with the demise of the VHS and DVD rental industry around the world.

According to research, the drivers for subscription growth include the ability to watch movies on demand, binge watch, catch up on missed TV shows and access original, exclusive content.

Surging subscribers

The United States has experienced a 450 per cent surge in streaming subscriptions from 2009 with 55 per cent of households currently subscribing and Australia looks to follow this trajectory. Last year in Australia subscriptions reached more than 3.7 million, roughly 15 per cent of the population, with estimates this will increase to 20 per cent by the end of 2019.

Australian steaming consumption

Stable Research found that Netflix dominates, with almost 70 per cent choosing Netflix as their provider of choice and a whopping 96 per cent of 18-24-year-olds watching Netflix. Free-to-air streaming was the next best, with ABC iView, SBS On Demand and TenPlay taking second, third and fourth places respectively. In terms of subscribers by their life-stage, single parents with children are proportionately the biggest subscribers (82 per cent of all within this life-stage group), followed by singles with no kids (71 per cent of this life-stage group).

Consumers subscribe across multiple services, with Stable Research revealing that Australians used 4.3 streaming services on average and are happy to do so given the cheap price point. This is also a global trend, with viewers willing to pay for multiple services in order to meet all of their viewing demands.

Quality viewing

While consumers are willing to pay for multiple services they are unlikely to budge on quality.

Buffering from poor internet is the main complaint hindering their streaming experience, followed by advertising placement, loading times and crashing.

Internet providers globally are struggling to keep pace with consumer's appetite for streaming – especially during major sporting events and programming. A survey by the Telecommunications Industry Ombudsman indicates that half of Australians have been plagued with internet and phone issues over the last 12 months.

Viewers have come to expect a seamless user experience and have near zero tolerance for poor streaming quality. As subscribers and internet usage increases, so too will the competition for bigger, better and faster providers. Service providers must meet these expectations, or face being left behind in a highly competitive market.

Consumers use on average 2.5 devices for watching streamed content and their device preference is driven by what they are viewing with 66 per cent choosing a smart TV to watch movies. More than half use another device while using their primary device.

Monetisation of streaming

OTT streaming is a major beneficiary of online advertising revenue and subscriptions. Globally OTT streaming services and pay TV revenues will reach more than $283 billion by 2022, according to UK analysts, Digital TV Research. In Australia NBN forecasts revenues will generate $1 billion by 2022.

The vital components that content producers need to get right in order to monetise their offering include:

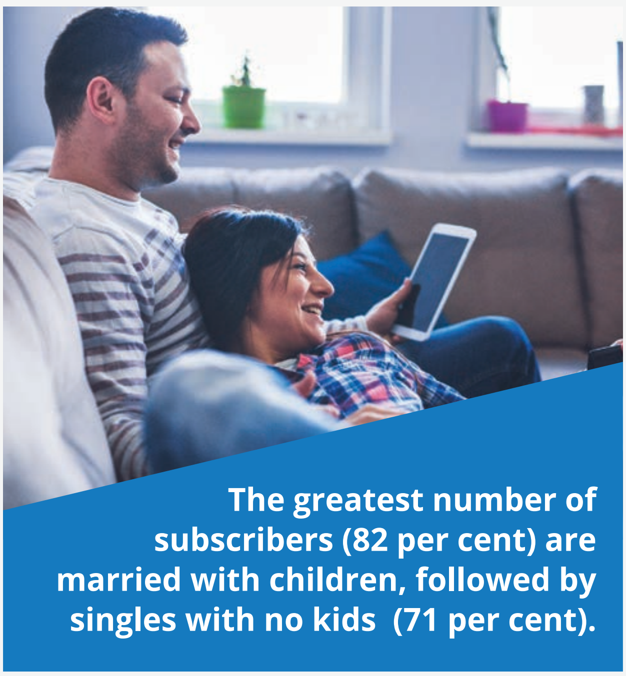
- Compelling content that attracts audiences;
- A sufficient technology stack to create the optimal monetisation model: The right access portal and live video streaming platform, and to keep abreast of advances in technology to ensure the best delivery;
- Pricing: Choosing the right balance between pay per view, subscription and advertising. Achieving the ad serving sweet spot, based on ad quantity, placement and quality.

Impact of advertising on viewing behaviour

According to the Stable Research findings, second to buffering, advertising placement is a major complaint of streaming services and technical glitches and repetitiveness during programs are also annoyances.

Research indicates 92 per cent of viewers would change their behaviour due to poorly inserted advertising, with 46 per cent of them switching off.

Client-side ad insertion can be a major annoyance, due to ads buffering and being played too late or too early. New server-side technologies, such as Switch Media's AdEase, now deliver a seamless, TV-like experience with zero buffering.



The greatest number of subscribers (82 per cent) are married with children, followed by singles with no kids (71 per cent).

Advertising - The winning formula

According to Stable Research, three is the magic number of advertisements that can be tolerated while streaming a one-hour video. One third said they could cope with between 3-6 advertising spots, but there is little support for any more than this.

Research indicates viewers felt they should be rewarded for longer viewing of a video stream, with 70 per cent saying they should see fewer ads when binging on a particular program. There was a preference for one long advert in the beginning as opposed to multiple shorter ads throughout.

Advertising Context

Research indicates that viewers find advertising is more targeted when watching streamed content as opposed to mainstream television, and the majority are 'ok' with advertising if it is contextually relevant.

The key to providing a powerful advertising solution is being able to utilise detailed metadata and user data to serve up relevant advertising. Artificial intelligence already can power and serve more personalised ads based on viewers' behaviour and program choice.

Who does ads best in Australia?

Viewers ranked Foxtel Go the best for ad placement (34 per cent) followed by SBS, Foxtel Now and Fetch TV. Commercial TV networks ranked the lowest, with major complaints about the volume of ads and quality issues when advertising was inserted.

The Outlook

The future of OTT may include:

- **Niche content for target audiences:** Exampled by Disney, who this year purchased 21st Century Fox and announced plans to launch its own streaming services.
- **Original content and exclusive deals:** Differentiation by offering exclusive deals with networks or producing their own original content. (Netflix investment into original content returned an 'expectation-shattering' financial quarter according to Netflix).
- **Aggregators:** A hub for both free and subscription channels integrated into the one platform.
- **Increase viewing from mobiles,** as the quality and speed of mobile network technology improves.
- **Immersive content**: Virtual reality and augmented reality combined with streaming are set to enhance user experiences by transforming video gaming, the ability to watch a highly anticipated sport event from multiple views at the touch of a button and new 'choose your own adventure' experiences. Providers are already experimenting with this ground-breaking technology, with Optus this year launching the FIFA Virtual Reality app for the World Cup. The app allowed fans to access full matches on demand, with extensive access to commentary and the ability to view the game up-close through a VR headset.

Conclusion

This paper is essential reading for those wanting to understand the direction of the industry to remain relevant to consumers and monetise their offering going forward.

The future looks bright, but the challenge is for service providers to meet viewer expectations, both in terms of the quality and quantity of what they're streaming and to get their pricing model right. A seamless, enjoyable user experience across devices relies heavily on using the best technology currently available. It doesn't take much to face being left behind in a hotly contested market.

Chapter One

Streaming: An Evolving Landscape

It's September 1995 – the Yankees are set to play the Mariners in a highly anticipated game of baseball. In a landmark move that would be the catalyst for the 'streaming' industry, ESPN Sports Zone aired an audio broadcast of the game via the internet. Whether you were in Manhattan, Madrid or Melbourne – you suddenly had access to this game.

This simple audio transmission technology paved the way for live video, which in turn created a global streaming media industry that is thriving today.

The 2018 media world is driven by demand. Consumers can access streamed media where they want, when they want and how they want through the availability of OTT services. It has become more than a technical innovation – it is a cultural practice ingrained in generations now and into the future.

Most of the late 1990s saw companies like Microsoft and Apple tussle over who could win the greatest market share in OTT and the streamed media economy of today is no different.

By the early 2000s, Apple launched iTunes, a first of its kind 'revolutionary' online music store where consumers could find, purchase and download music. At around the same time, YouTube entered the market, launching its very first video of co-founder Jawed Karim at the San Diego Zoo.

In the space of a year, Google acquired YouTube for a $1.65 billion price tag. It wasn't long before the platform, initially deemed amateur video media, would become the world's most popular online video site, with 1.57 billion monthly users watching 1 billion hours of videos every day and uploading 300 hours of video every minute.[1]

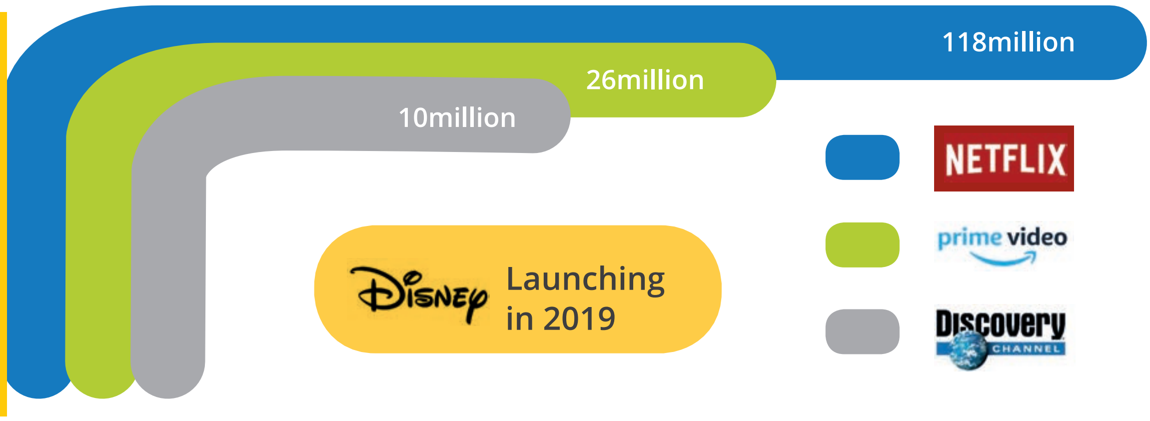
The first decade of the 2000s saw the emergence of companies that are still leading the industry in their markets today – Amazon in 2006, Netflix and Hulu in 2007, Vevo in 2009 and Stan a little later in 2013.

The biggest global players of 2018

Since its launch in 2007, the Netflix online streaming service has become an undeniable leader in the market, with 118 million subscribers worldwide – the highest among its competitors. This is just the beginning, with the company predicting revenue growth of 39.8 per cent and 123 million subscribers by the end of this year.

Sitting closely behind Netflix is Amazon Prime Video. Using a unique subscription system, Amazon uses their original streamed video content as a lure to sign customers up, and therefore increase their chance of shopping through the platform. According to recent data released by Reuters[2] , more than 26 million US consumers hold Prime memberships and

BIGGEST GLOBAL PLAYERS - SUBSCRIBERS FOR 2018



[1] Aslam, Salman. YouTube by the Numbers: Stats, Demographics & Fun Facts. Online : Omnicore, 2018.
[2] Dastin, Jeffrey. Exclusive: Amazon's internal numbers on Prime Video, revealed. Reuters. [Online] March 15, 2018

have viewed Prime Video. There are also said to be more than 75 million prime subscribers worldwide. While it is not quite Netflix's 118 million, it's still a very close competitor.

An increasing number of brands want a piece of the streaming pie

While Netflix and Amazon are arguably the dominant players in the market, the video streaming world is constantly evolving with fresh players emerging every day to share in the booming industry.

Discovery is a very new entrant, launched early in 2018 by two of Europe's most prominent media players; Discovery and ProSieben. The companies united to build a subscription streaming service in Germany that integrates their programming and digital services. Just last month, the newly formed company struck a 12-year deal worth $2 billion with the PGA Tour to create an on-demand platform for golf, available in every country outside the US. While it's too early to confirm subscription figures, the company says it's aiming to reach 10 million users by the first half of 2019.[3]

Capitalising on its already lucrative brand, Disney also recently announced the launch of their video streaming service. Set to launch in 2019, Disney is tipped to be a worthy rival to Netflix and will be stripping all its titles off the streaming giant, not to mention claiming several exclusive series and every film in the Star Wars, Marvel Entertainment, Pixar Animation Studios and Disney Animation franchises. Research would suggest that consumers are already lining up to subscribe, with a study by US Market Research company, Morning Consult, revealing that 36 per cent of US users aged 18 to 29 years old are planning to subscribe to the service, taking up more than 23 per cent of the market as a whole.

Let's look at US broadcasting giant CBS, who recently expanded into the Australian market through the acquisition of Network Ten. The purchase was made all the more attractive with the inclusion of one of Ten's valuable assets – its streaming platform, Tenplay. So valuable that over the past 12 months, the service has achieved its biggest year of online video viewing to date, claiming audience growth of 20 per cent. The service recorded 264.77m video segment views, along with a 58 per cent increase in live streaming.[4]

> **Netflix users are the MOST satisfied user group with six in ten (62%) giving this streaming service a 'top 2 box' rating**

Unprecedented growth of the streaming audience

Those subscribed to streaming services in Australia reached more than 3.7 million last year – a spike of more than 30 per cent year on year - according to technology analyst firm Telsyte. It seems these figures are set to increase, with research agency, Ovum, forecasting 4.7 million subscriptions in Australia by 2019 – a 300 per cent increase from five years ago.

[3] Poltz, jörn and Busvine, Douglas. ProSieben, Discovery to build German TV streaming platform. Reuters. [Online] June 26, 2018.
[4] Samios, Zoe. Ten claims 20% increase in Tenplay views over past year. Mumbrella. [Online] January 9, 2018

The story is very similar abroad. The US has experienced a 450 per cent surge in streaming subscriptions, according to Deloitte's 12th annual digital media trends survey. 55 per cent of US households now subscribe, compared to just 10 per cent in 2009. A total of 54 per cent of respondents said they had signed up so they could watch original content that wasn't available anywhere else. Other factors included the ability to watch movies and shows at any time, according to the study.

It's a similar story in the UK, with subscription rates jumping from just under 4 million in 2014 to almost 10 million by the end of last year - that's a 150 per cent increase. According to the UK Broadcasters' Audience Research Board, there has been a 24 per cent increase year-on-year in the number of homes subscribing to at least one service.[5]

So who is watching what?

When it comes to Australian consumers, Netflix remains the dominant provider, according to statistics from Stable Research, commissioned by Switch Media – world leaders in OTT streaming technologies.

According to the research, which is based on a survey of over 1,000 consumers and their 'behaviour' relating to streaming video content', Netflix was the provider of choice for seven in ten (69 per cent) consumers. Free-to-air streaming was the next best, with ABC iView, SBS On Demand and TenPlay taking second, third and fourth places respectively.

The research also analysed demographic and lifecycle trends of streaming services. Netflix and Stan take the majority of the younger demographics, with 96 per cent of 18-24 year olds and 83 per cent of under 18s watching Netflix and 53 per cent of 18-24 year olds watching Stan – the highest percentage across all age groups for the provider.

The most prominent 'lifecycle' indicator was again through Netflix, with 82 per cent of the respondents that are single with kids subscribing to the service. This was closely followed by consumers who were single with no kids with 71 per cent of respondents from this group subscribing to Netflix. The consumer feedback evident in this research is closely aligned with Netflix's Australian subscription numbers, with more than 2 million Australians signed up for the service at the end of last year. This is closely followed by Stan, with 800,000 subscribers.[6]

Netflix's popularity in Australia is paralleled worldwide, with the streaming service dominating the UK market as well. Nearly 7.5 million UK households had subscribed to the service as of the end of last year, according to figures from the UK Broadcasters' Audience Research Board.[6] Amazon Prime Video came in second place, with 3.84 million households subscribed.
The figures are fairly similar across the US, with Netflix again the dominant service with 55 million subscribers within the United States, followed by Amazon with an estimated 26 million. Hulu, meanwhile, reached 20 million subscribers as of May this year.[7]

While Netflix is clearly a dominant provider, it should be noted that its market position is as assured as it is fleeting, with shares in the streaming giant temporarily plunging in July after it didn't meet its projected subscription numbers.

How are they watching?

One of the biggest drivers behind the surge of the streaming industry is arguably the accessibility of the technology. According to the Stable Research and Switch Media statistics, consumers use on average 2.5 devices for watching streamed content, with the most popular device listed as the laptop (39 per cent), the Apple iPad (34 per cent), the iPhone (30 per

[5] Barb. The SVOD Report: Charting the growth in SVOD services across the UK. Barb. [Online] January 2018.
[6] Telsyte. Streaming VOD a hit in Australia. Telsyte. [Online] August 2017.

[8] Brandon , Katz. Streaming Wars Report: Amazon Still Plays Second-Fiddle to Netflix. Observer. March 2018.

39%

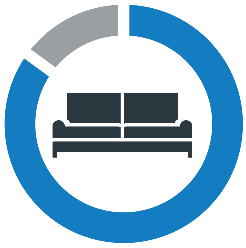
Of consumers preferred device is the laptop for streamed content

6%

of users watch content on phone

66%

of consumers prefer to use a smart TV to stream television



86%

prefer to watch streaming in living room as opposed to bedroom

cent) and the Smart TV (28 per cent).

Device preference differs depending on the streaming content, according to the figures. When it comes to movies, the research found consumers prefer the television, with 66 per cent choosing a smart TV over a laptop (14 per cent), a tablet (9 per cent) or a phone (6 per cent).

As further proof of 'multi-device' use, more than half (53 per cent) of consumers said they use another device while using their primary device. When it comes to why consumers stream, 80 per cent of respondents attributed it to catching up on TV shows missed, while 60 per cent are binge watchers.

The living room and bedroom were the most popular place for streaming, according to the research, with 86 per cent watching content in the living room and 57 per cent watching it in the bedroom. The bedroom was favoured, however, by females and those respondents under 35.

Multiple subscriptions

Another interesting global trend is the subscription of consumers across multiple services.

According to Stable Research, respondents used an average of 4.3 streaming services. These figures correlate with research by Telsyte, which found Australians were happy to subscribe to multiple streaming services given the cheap price point.

This lack of exclusivity with services is also evident in the UK and US, with UK research seeing an increase in the number of households that are subscribing to more than one service. By the end of last year, of the 7.5 million households subscribing to Netflix, 2.3 million also subscribed to Amazon prime Video – 31 per cent of Netflix's subscriber base. Likewise, of all Amazon Prime Video subscribers, 60 per cent of them also subscribed to Netflix.[5]

In the US, research by analyst Morning Consult into the streaming habit behaviours of 18-29 year olds found that 48 per cent of the demographic was currently subscribing to multiple services, while only 28 per cent had subscribed to just one.[8]

While it's clear that consumers are willing to pay for multiple services, one aspect they're unlikely to budge on is quality.

[8] Nichols, Laura. Young Cord-Cutters Concerned About Costs but Willing to Pay for Streaming. Morning Consult. [Online] August 21, 2017.

Chapter Two

Streaming Quality: The Ultimate Ace Card

Streaming media has become an integral part of everyday life. Whether we're at home, commuting to work, sitting in a café, or out and about, we are able to view our favourite content. Of course, the evolution of the internet and its easy accessibility has played a pivotal role in the growth of streamed media.

The internet has come a long way since its introduction in 1994. While its influence over consumers was gradual, by 2004, 70 per cent of households had internet access. It should be noted, however, that the experience was anything but fast, with nearly half of all subscribers using dial-up internet. DSL had hit the scene and was growing but was only used by 10 per cent of the market.

By 2012, 7.3 million – or 83 per cent of Australian households – had access to the internet, with more than 77 per cent of these via a broadband connection. These faster internet speeds saw the proliferation of streaming media, in particular, platforms such as YouTube.

With advancements in broadband availability, streaming has undoubtedly become mainstream. Note, this rise of a new technology signalled the final sad demise of the VHS and then DVD rental industry not only in Australia, but around the world. In the UK, for the first time in history, by early 2017, online streaming and downloads had overtaken the rental industry, with the market reaching £6.3 billion.[9]

An enthusiastic audience that demands quality

The dependence on streamed media has prompted a new level of demand and expectation. Consumers are enthusiastically 'lapping up' streaming technology, but they're also highly critical when it comes to how the content is delivered to them - and perhaps they're entitled to be. The stakes have never been higher for publishers to get it right.

User experience continues to be an ongoing issue for consumers, according to a study by Stable Research. The study examined consumer views and behaviour towards streamed content and found that buffering was the chief complaint.

> **About 50 per cent of respondents reported that buffering from poor internet was the biggest hindrance to their streaming experience**

Second to buffering in the list of complaints was advertising placement, followed by loading time and crashing. In regard to streaming experience, the Smart TV was the most preferred device, with 61 per cent of respondents ranking the device 'first' for overall experience. Interestingly, when asked what they attribute poor streaming to, 71 per cent of respondents blamed poor broadband/internet services. This was followed by the platform or app, with 31 per cent blaming this for their poor experience.

Australia failing in the streaming quality economy?

Technology has advanced in leaps and bounds with broadband paving the way for an entirely new industry. The National Broadband Network (NBN), introduced in 2009, was hoped to revolutionise Australia's internet issues. NBN was established to design, build and operate a new countrywide high-speed broadband network. While some regional areas are yet to be connected, the aim is to open up the entire broadband market for streaming services, by delivering high-quality broadband to all Australians - a first for a country of its size. As the NBN Executive General Manager, Sarah Palmer says, the network aims that 'nobody will be left behind'.[10]

The increase in the demand for streaming services has simultaneously accompanied the roll-out of the NBN. According to Palmer, before the arrival of the major streaming services in Australia, the average internet usage was around 70GB per month. Within six months of streaming services like Netflix launching, consumption increased to 110GB a month, and is currently sitting at 150GB. The case of 'build it and they will come' has never been more appropriate.

"In a relatively short period of time, millions of Australians are now consuming OTT services - with many of them doing so on the NBN network," says Palmer.

While the goal of the NBN was and still is to create a seamless internet service across the country, it is yet to iron out all issues. According to a survey by the Telecommunications Industry Ombudsman, half of Australians have been plagued with internet and phone issues over the last 12 months. The research, which surveyed over 3,000 people around Australia, found that one in two individuals and 60 per cent of businesses had an issue with their provider in the last year - that's potentially close to 10 million people.

Many of the complaints related to service delivery, the quality or absence of service, and covered both existing networks and the NBN. The survey found that of those individuals who had an issue, one in five experienced more than one. Even worse, a quarter of these still had their issues unresolved after four months.

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[9] Sweeney, Mark. Film and TV streaming and downloads overtake DVD sales for first time. Support the Guardian. [Online] January 5, 2017.
[10] Sarcevic, Amy. Delivering a platform for the OTT revolution. Informa. [Online] January 31, 2017.

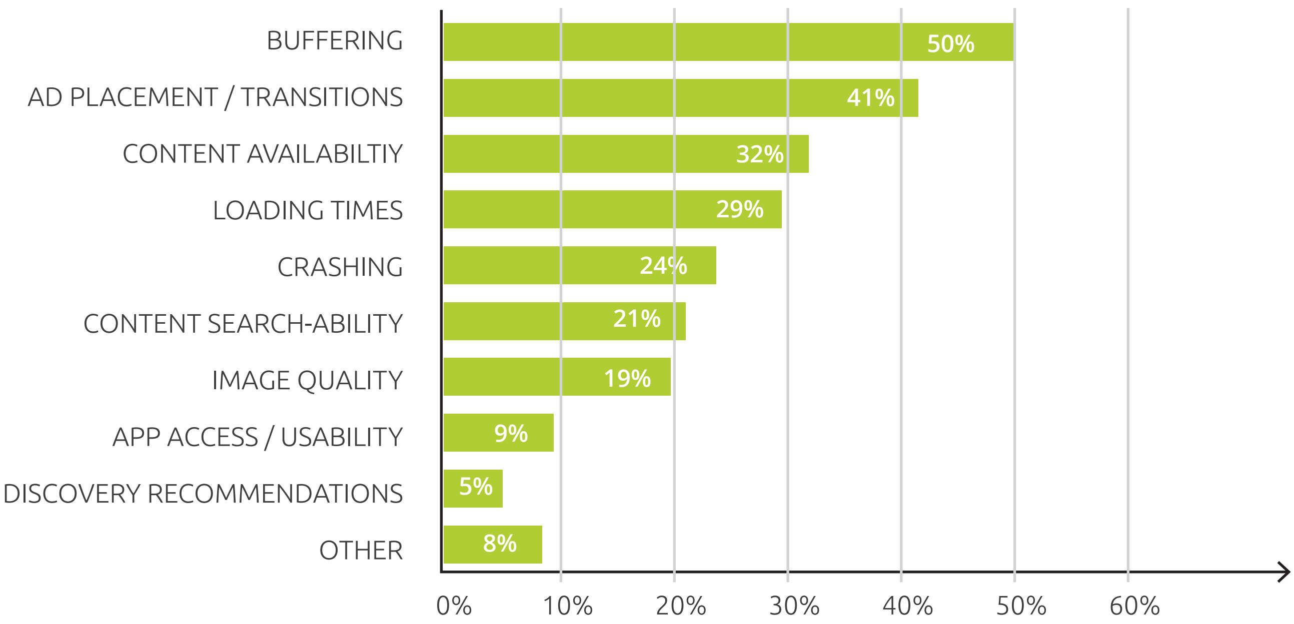


Figure 1 Base: Total Respondents n=1002

The research also looked specifically at the NBN performance and revealed that, while the rollout of the network widens across the country, so too do the complaints. Issues have surged by almost 160 per cent year-on-year since 2013/2014. Of these issues, the two top culprits were new internet connection delay and an entirely unusable internet service.[11]

Internet woes felt worldwide

This strained user experience in Australia is also shared worldwide, with the UK and US reporting similar issues. According to UK research commissioned by Falcon Media House, which surveyed over two thousand consumers, found just 14 per cent of respondents were satisfied with their experience. The survey, which was largely focused on live streaming, particularly sports, also highlighted the dire impact that a poor streaming experience can have,

94 per cent of respondents admitting that the experience affected how often they chose to stream. Similar to Australia, buffering was the most frustrating aspect of streaming for respondents, with buffering and poor connectivity accounting for 60 per cent of consumer frustration.

The story is no different in the US. Research by US video technology company, Mux, surveyed over 1,000 respondents on their attitudes and behaviours with online video streaming. 95.5 per cent of them said reliability and quality was the most important thing to them when it came to streaming.

It seems these pre-requisites aren't being met, with 60 per cent of respondents saying video load times could be improved, 72 per cent reporting that the amount of rebuffering could be improved, and close to 80 per cent had experienced video playback errors - one in five respondents said the issues were frequent.[12]

The research also confirms consumers intolerance for poor quality, with 92.9 per cent claiming they will abandon a stream for the following reasons; stalling, buffering, loading time is too long, playback errors, or the picture quality is not good enough. Stalling and buffering were the two most frustrating issues (with 85 per cent of respondent votes).

When it really goes wrong

The pressure on networks for a high-quality experience is intense at the best of times, but it reaches all new levels in the midst of a highly anticipated global sporting event or a hit TV series. There have been several recent 'events' with streaming services that have highlighted consumers' intolerance for poor streaming experiences.

One such example is Optus and their streaming woes with the Soccer World Cup. The Australian telco giant became public enemy number one when their streaming service failed for several excruciating days. Optus was given the exclusive rights to the event that put games behind a paywall in Australia for the first time.

After the streaming service failed, the provider was forced to simulcast all World Cup games on free-to-air SBS for two days while it worked to fix the service.

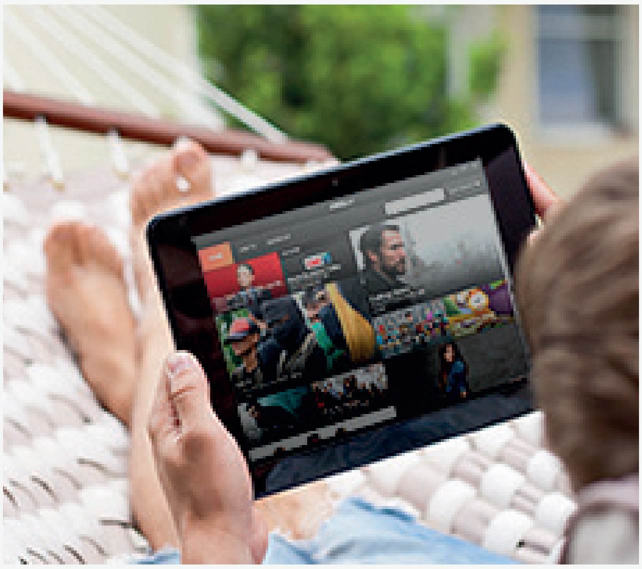
Due to the intense backlash from the mishap - which, according to Optus, only affected less than a quarter of those subscribed - it was then ordered to give up the broadcast deal and reimburse angry customers.

[11] Telecommunications Industry Ombudsman. Introduction: Section One . 2016-2017 Annual Report Online Edition. [Online] January 2017.
[12] MUX. 2017 Video Streaming Perceptions Report. s.l. : MUX, 2017.

Foxtel faced similar backlash last year when the streaming service crashed during a highly anticipated episode of the hit series, Game of Thrones. Technical glitches were experienced around the world, with sites crashing in the United States, Latin America and Australia.

Foxtel attributed the 'technical glitch' to unprecedented and unpredicted high number of viewers trying to access the episode. Safe to say the glitch sparked a much broader conversation over the internet services in Australia and worldwide and their ability to keep up with the demand of streaming - particularly for major events and programming.

Whether it's streaming through the TV, smartphones or tablet, there's no denying that consumers have come to expect a seamless user experience.



> **"It's clear that consumers have a near zero-tolerance policy in relation to poor streaming quality. The challenge for service providers is to meet these expectations, or face being left behind in a hotly contested market.**

Those who focus on high quality, using the best technology solutions, will attract more users. Those who don't, will become irrelevant.

Chapter Three

Monetisation of Streaming: The Fine Balance

One of the biggest challenges facing the OTT streaming industry is effectively monetising video content while simultaneously providing audiences with the superior viewing experience that they demand.

As we've determined in previous chapters, the viewing experience is paramount. It is, without a doubt, the top priority for content producers. As a result, the technology required to deliver this seamless experience that doesn't annoy or interrupt a person's viewing has been fine-tuned both in terms of the quantity of the streams and image quality.

There's a substantial monetary interest for content producers to utilise technology in order to deliver the best viewer experience.

An industry worth billions

Global over-the-top streaming services and pay TV revenues will reach more than $283 billion by 2022, that's according to UK analysts, Digital TV Research.[13] The figures are just as impressive in Australia, with data forecasting the video market will generate annual revenues of $1 billion by 2022[14]. That's more than double the 2016 revenues of $460 million. Furthermore, in the US, a recent 2018 Price Waterhouse Coopers (PwC) Entertainment and Media Outlook found OTT streaming video services generated an estimated $20.1 billion in revenue last year - a 15.2 per cent growth.[15]

The growth of the streaming industry has been so intense that it has now surpassed TV advertising revenue quite significantly. According to the annual Internet Advertising Revenue Report released earlier this year by PWC, 2017 was not only a record year for digital ad revenue in the US, it was also the first-time online ad spend had overtaken the combined total of TV, broadcast and cable advertising.[16]

It was a first world-wide as well, with digital ad spending as a whole reaching $209 billion across the globe - 41 per cent of the market - while TV brought in $178 billion - 35 per cent of the market. Research group Magna expects the gap to continue to widen, forecasting digital ad spend to grow by 13 per cent to $237 billion, while TV ads will grow just 2.5 per cent to $183 billion.

The situation is similar in Australia, with a Roy Morgan State of the Nation Media Report revealing that by the end of 2017, nearly half (49 per cent) of the $15.25 billion advertising market was being spent online – further proof that OTT streaming is becoming a major beneficiary of online advertising revenue.[16]

[13] Digital TV Research . OTT and Pay TV to bring in $283 billion. s.l. : Digital TV Research , 2017.
[14] Aussie OTT subscribers set to treble. Brown, Tony. Sydney : NBN Co, 2017.
[15] Swant, Mark. Digital Advertising Revenue Grew 21% and Surpassed TV Ad Spend Last Year. AdWeek. [Online] May 10, 2018.
[16] Roy Morgan. Addressable TV will challenge existing attitudes to TV advertising. Roy Morgan. [Online] July 04, 2018

Content producers must create a compelling video that audiences will want to engage with.

92%

of respondents would change their viewing behaviour over poorly inserted advertising

The challenges of monetising video content

While there's certainly money to be made in the OTT streaming business, there are several vital components which content producers need to get right for it to be lucrative. The first consideration is attracting an audience. Your content can't be profitable if there's no one watching it. Content producers must create a compelling video that audiences will want to engage with.

The second hurdle is ensuring a sufficient 'technology stack'. This includes the right monetisation models, the right access portal, and the right live video streaming platform. The next make-or-break decision is pricing. The programmatic world consists of a 'price floor' where the market determines the pricing. Treading that fine line between maximising revenues and making any revenue at all is challenging. With that said, live video streaming platforms usually offer several monetisation models, which include transactional (pay-per-view), subscription, and straight advertising. What is important to remember is that it is nearly impossible to monetise every ad opportunity.

The final challenge is contending in a highly competitive market where not all technology is equal. As the markets develop, there will be some consolidation as the smaller players are acquired, however the market will still no doubt experience some fragmentation. The streaming industry has entered a marketplace under flux, with players, standards and methods constantly evolving.[17]

Why it's imperative to get it right

By serving up a poor advertising experience, content producers can expose themselves to significant revenue seepage. That's according to data from Switch Media's in-depth research into consumer streaming behaviours by Stable Research.

The research found that 92 per cent of respondents would change their viewing behaviour over poorly inserted advertising. Of this large majority, 46 per cent would switch off completely and 28 per cent would only tolerate it if the program were something they were desperate to watch. Only 8 per cent would tolerate it at all.

Furthermore, four in ten respondents listed advertising placement as one of the major complaints of streaming services, only topped by buffering. According to the research, the dissatisfaction with advertising insertion was due largely to the placement during programs, the repetition of advertising content and the buffering experience when taken to an ad slot – where client-side ad insertion was used. With client-side insertion, the latency often results in an ad being played too late or too early.

The good news is that certain technologies have been developed to counter this negative feedback. Server-side ad insertion, such as

> **Switch Media's AdEase technology, delivers a seamless, TV-like experience with zero buffering. This not only eliminates much of the ad-frustration felt by consumers, it also defeats ad blockers.**

[17] DA Cast. 5 Live Video Streaming Platforms for Monetizing OTT Video. DA Cast. [Online] December 21, 2017.

Only one in five consumers are opposed to advertising being shown on streamed services.

Getting the right balance

Surprisingly, only one in five consumers are opposed to advertising being shown on streamed services. For 43 per cent of respondents, while they didn't like advertising being played, they do tolerate it. A further 16 per cent said they were open to it, but only on free-to-air channels, not subscription services.

Australian viewer attitudes to advertising are similar in the United States. According to research by live video hosting company, IBM Cloud Video, 60 per cent of respondents said that video advertising takes away from their viewing experience. Furthermore, the top reason consumers considered cancelling their streaming service subscription was due to an excess of ads.[18]

While even highly personalised ads are a pain point for US consumers, the research suggests that contextually relevant advertising may be the key for advertisers hoping to better align marketing messages with the video content consumers want to watch. The utilisation of artificial intelligence in the industry will also power more personalised ad-serving by automatically identifying complex content and generating metadata from it to show contextually relevant ad placements. These benefits both the consumer and the provider, with advertisements proven to be an effective tool of product discovery.

Advertising - The winning formula

So how do content producers find that winning balance of the least intrusive ad serving? According to Stable Research, there's a 'magic number' of advertisements that are tolerated during a video streaming experience. Across all demographics, an average of 3 advertisement spots, staggered throughout a one-hour program was considered tolerable. Just over 60 per cent of respondents said they'd prefer 0-2 advertisement spots, while 32 per cent said they could cope with between 3-6 advertisement spots.

There was little support for any more than this.

The research also revealed that consumers felt they should be rewarded for the length of time they stay tuned to a video stream. 71 per cent of respondents said they should see fewer ads when "binging" on a programme.

The length and regularity of advertisements is also an important criterion for consumers. 61 per cent of respondents said they'd prefer one long advertisement, as opposed to multiple shorter ads - with just 22 per cent of respondents choosing this option. The beginning and/or the end of a program is also the most preferred time for ad-placement, with 51 per cent opting for before the program and 33 per cent opting for the end. Only 10 per cent of consumers said during a show was the best place for ad serving.

[18] IBM Cloud Video. The State of Streaming. s.l. : IBM, 2017.

It's all about context

In response to the advertising content itself, almost half of respondents said they felt advertising was more targeted when watching streamed content as opposed to mainstream television.

This is perhaps good news for both content producers and consumers, with broader industry research suggesting that consumers are more 'OK' with advertisements if they're targeted to them. This is certainly shown in recent research by oOh!media on university students, Gen Y and Gen Z's attitudes to native advertising. The oOh!media research revealed that 67 per cent of respondents were 'OK' with an advertisement if it was contextually relevant.

To maximise this opportunity, both content owners and agencies need to be more scrupulous with metadata accuracy. User data is extremely important for both the advertising industry and the streaming companies themselves, with the measurement, analysis of audience behaviour and program choice invaluable when it comes to accurately targeting demographics.

Unfortunately, there is a serious lack of information consistency between content owners, agencies and the OTT companies delivering this streamed content. This has to change. Why? A lack of consistency around data leads to a disjointed user experience and an even worse outcome for advertisers, with their content likely missing the target market.

There's no doubt a powerful advertising solution can be achieved – it's just a matter of utilising more detailed metadata and user data. An example of this is a TV Network being able to serve a Telco advertisement to viewers who are currently signed up to a different supplier but are soon to come off contract.

So, who is listening to consumers?

As part of the study by Stable Research, respondents were asked which streaming services they used were best in regard to ad serving.

Streaming service Foxtel Go, was rated the best for ad placement, with 34 per cent of respondents voting for this service. This was closely followed by SBS with 25 per cent of respondent votes. The third and fourth place was tied between Foxtel Now and FetchTV, earning 19 per cent of respondent support. The commercial TV network offerings were ranked the lowest, with major complaints being about the volume of advertising and the quality issues arising for viewers when advertising was inserted.

It's clear that consumers demand a seamless user experience, and as previously established, this relates to both quality of the service but now also the content - with ad serving clearly a pain point.

Being able to successfully monetise will be an ongoing challenge for content producers, with consumers clearly very vocal on what they expect. The biggest barrier to monetisation is the best way to approach ad serving. Providers need to leverage the technology and data available to enable more tailored advertising in the hope of finding that 'sweet spot' with consumers.

Chapter Four

Streaming: The Outlook

While content producers continue to strive for excellence in their viewing experience, the battle for the 'top provider' will undoubtedly become redundant as more and more players join the market. From the research examined in this paper, it is evident that consumers are signed up to multiple services - covering all bases to meet their viewing appetite and demand.

In light of this, it will be up to content producers to cut through the OTT noise and forge a path of their own to remain competitive. When it comes to OTT streaming in the future, there will be a growing range of offerings that consumers will be able to choose from.

Different channel, different focus

The future of OTT will be about content producers offering niche viewing for target audiences of varying ages. Already forging new ground in this space is Disney, who just this year boldly announced it would be launching its own streaming service and purchasing 21st Century Fox. Off the back of an extremely successful year at the box office, Disney will now gradually pull its content from OTT giant, Netflix, onto its own platform. Disney's gutsy move signalled a changing dynamic in the OTT world and has been followed by DC announcing its own DC Universe channel. Here you have companies that not only own enough content to warrant their own streaming service - the demand is undoubtedly there too.

To enhance their appeal, the subscription service has been earmarked to be priced 'substantially lower' than its OTT competitors, such as Netflix. Disney CEO Bob Iger has attributed the lower price point to the fact that while the titles they're offering will be of high quality, the size of the library won't be as comprehensive as competitors. Perhaps this signals a move towards services complimenting each other - that is, the Disney service may only reflect a small part of the entire Netflix library.

Under the one roof

Another potential business model for streaming services is the development of an aggregator platform that acts as a 'hub' for both free and subscription channels. What exists currently in Australia and the United States are platforms that combine both free and subscription services. However, consumers are navigated through to the specific platform in a separate browser, rather than the experience being completely integrated.

Such a platform is undoubtedly on the horizon, with New Zealand broadcasters recently rolling out a system that provides seamless discovery and playback of all channels. The system – called Freeview On Demand - has the potential for subscription television networks to be added.

It's easy to see why a one-click integrated system would be popular for consumers, with the platform potentially minimising internet connection delays - by avoiding navigation to separate browsers - buffering issues and enhancing the overall viewer experience with everything running through the one streamlined system.

The rise of original content

Another avenue that streaming services are exploring is developing their own original content. Video streaming services can only differentiate themselves by the programming that they offer, and this means either marking exclusive deals with networks or producing their own exclusive content.

This strategy has certainly worked for OTT giant Netflix, who were balked at a few years ago when they announced their content plans. The investment into original content returned an 'expectation-shattering' financial quarter - according to Netflix - prompting them to commit to another 1,000 hours of original programming to their library. Local service Stan is also developing exclusive content and has partnered with Qantas' in-flight entertainment platform to further drive awareness of the offering.

OTT on the go with mobiles abound

While mobile streaming has been around for most of the 21st century, forecasters predict a significant surge as technology improvements make it an attractive prospect for advertisers. Consumers are taking advantage of the increased quality of mobile phone streaming, watching the same programs on their mobile devices as they do on their TVs. This is great news for advertisers, who can now get their message across to consumers anywhere, anytime.

The trend towards mobiles is likely to increase in years to come as content producers look to increase the number of mobile-optimised live streams they provide. Research certainly suggests this is the case, with a 'Mobile Consumer Survey' by Deloitte revealing that Australia remains one of the leading global adopters of the smartphone, with 88 per cent of Australia now owning one and market growth being driven by the older generations.[19]

Furthermore, the number of Australians streaming TV and video content has tripled year-on-year. According to the data, one in five Australians is streaming films or TV series regularly on their smartphones, with 18-34-year-olds leading the charge. Watching programs via catch-up services on mobiles has more than doubled across all age groups year-on-year. This significant increase in the consumption of video content has unsurprisingly affected consumer data capacity. Over half of 18-24-year-olds with smartphones have allowances greater than 3GB, according to the research, but the question remains, is it enough? This paper has examined whether technology is enough to cope with the demands of the streaming industry. Interestingly, the Deloitte research showed that while 4G networks and bigger data packages were enabling this rise in mobile streaming, it isn't doing it sufficiently - with 43 per cent of Australians regularly exceeding their data limits - costing consumers almost $313m per year.

The research also revealed that we're consuming everywhere, at any time, with thirty-five per cent of consumers checking their phone within five minutes of waking up, and a further 70 per cent using their phone during mealtimes while amongst family and friends.

The evolution of mobile network technology with the launch of 5G - which focuses on mobile data - will no doubt further drive streaming on the go. Swedish phone company, Ericsson, has forecasted that 1 billion 5G devices for enhanced mobile broadband will be connected worldwide by 2023.[23] The 5G network is touted to be capable of download speeds as fast as 20Gbps. While the actual speed for the user will depend on network configuration, the number of devices, and the device itself, it's estimated that 5G will have a minimum download speed of 100Mbps – the fastest possible speed delivered by the National Broadband Network, which is now on the home stretch of its roll-out.

Enter: Game-changing technology

Virtual Reality (VR) is already building a path for change in how consumers watch streamed content. Both virtual and augmented reality (AR) is expected to generate about $150 billion in revenue by 2020, according to a report by Manatt Digital Media.[20] $120 billion of that figure is likely to come from sales of augmented reality - involving hardware, commerce, data, voice services and film and TV projects. $30 billion will be to virtual reality, namely from games and hardware.

The report suggests that the major VR and AR areas to generate the most revenue will fall into three categories - content (gaming, film & TV etc), hardware and distribution (headsets, input devices etc.). The latest iPhone X with the augmented reality features is a further clue of where the world is headed.

If the price point for these VR and AR devices stays low, then a shift into "immersive content" could certainly eventuate. These experiences would incorporate interactivity along with 360-degree video elements to create whole environments for consumers to explore. Combined with streaming, this could move the current expected use (video gaming etc) into new

[19] Ericsson. Ericsson. s.l. : Fredrik Jejdling, 2018.
[20] Terdiman, Daniel. VR and Augmented Reality Will Soon Be Worth $150 Billion. Here Are The Major Players. Fast Company. [Online] October 15, 2015

territories, such as scripted shows and movies specific to VR consumption.

A study by Stable Research revealed an appetite for more experiences in streaming. According to the findings, 38 per cent of respondents were interested in having access to a 'choose your own adventure' style streaming, and a further 30 per cent said it would be nice to have but wasn't essential. Interestingly, this feedback was heavily skewed to teenagers and young adults aged 18-24.

Watching sports with multiple angles was also appealing to respondents, with 35 per cent saying they would definitely be interested in having the technology. Of the responses, a majority were from males, yet the demographic was broad. The research also looked at attitudes towards 360 views, virtual relaity and augmented reality. Almost 70 per cent of respondents said either yes or maybe. There was clearly more interest in the 360-degree view, with 47 per cent saying they'd prefer this technology, and 33 per cent saying they'd prefer virtual reality. Augmented reality was the least popular.

Where to from here...

The streaming industry has undoubtedly become mainstream, with an increasing number of media and content companies jumping on the booming bandwagon. As such, the marketplace is becoming increasingly fragmented, creating even more competition for high-quality content to keep viewers engaged. Regardless of the technology used - TV, smartphones or tablets - consumers have come to expect a seamless user experience. Content producers face a number of challenges; offer a service with limited quality issues and one that can offer consumers something exclusive.

On top of this, content producers must successfully navigate how to monetise to take full advantage of this highly lucrative market. They must do this, however, in a way that won't affect customer loyalty. Artificial intelligence generated data has never been more critical. While the challenges are certainly there for content producers, there's no denying the industry opportunity is immense - who wouldn't want a slice of the billion-dollar pie?

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