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White Paper

ONLINE PIRACY & THE DARKER SIDE OF SOCIAL MEDIA

EXECUTIVE SUMMARY

It's hard to believe that social media has only gained traction in the last 15 years. In such a relatively short space of time, it has become an indispensable part of our day-to-day lives. Most people – almost religiously – use social media every day.

In many ways, social media has changed the way society works: how ideas are shared, news and opinions communicated as well as how brands interact with their consumers. Social media provides the tools and services that allow people to stay connected and share experiences. However, there's a dark side to social media.

For content owners, broadcasters and operators, social media is a double-edged sword. It's essential for building a relationship with your consumers and in the case of sports – your fans. But, it's also the vehicle that is being successfully exploited by online pirates to advertise their services and illegally redistribute your content.

This white paper examines the role of social media and using live sports examples, highlights the extent of the problem. It also explores the most effective way for content owners, broadcasters and operators to tackle online piracy.

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CHAPTER 1: THE POWER OF SOCIAL MEDIA

Social networking, in its many guises, only really started to take off in 2002 with Friendster. This was followed by LinkedIn and Myspace in 2003 and then Harvard's version of Facebook in 2004. 2006 saw the public access version of Facebook and Twitter being launched. In 2007, the iPhone was introduced, with the first android smartphone appearing two years later – smartphones as we know them took of.

Undoubtedly, as internet access improved across the globe and smartphone ownership increased social media usage went from strength to strength. A recent global snap shot from Hootsuite and wearesocial shows the number of active users of the internet, social media and mobile.
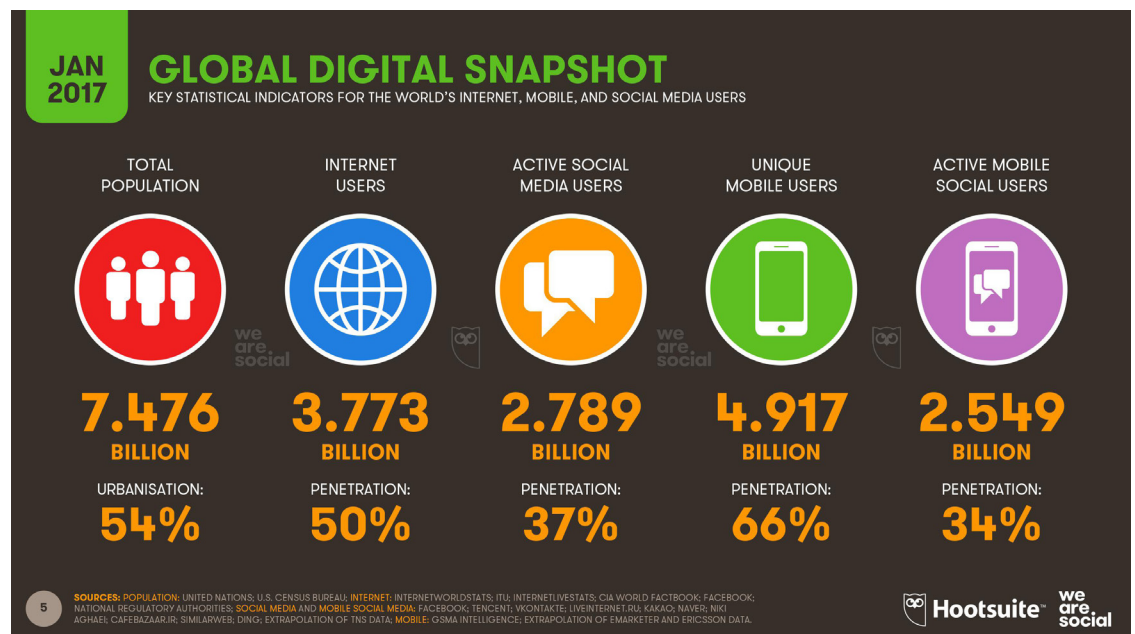

Figure 1: Global snapshot of internet, mobile and social media users by Hootsuite and wearesocial

With emerging markets continuing to embrace the internet and mobile usage, the growth shows no signs of stopping; Statista predicts 2.95 billion social network users worldwide by 2020.
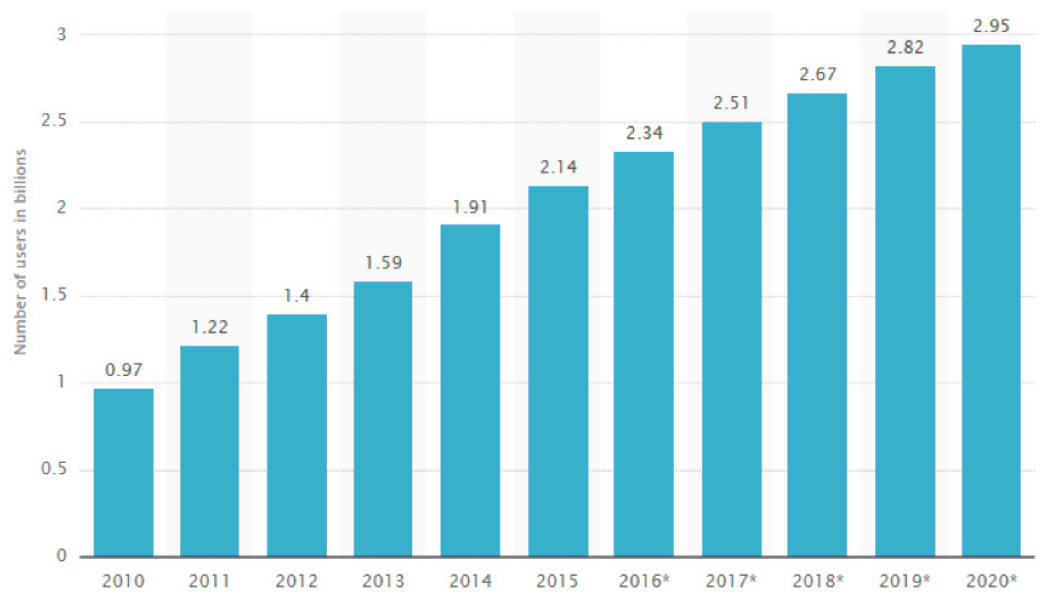
Figure 2: Number of social media users worldwide from 2010 to 2020 (in billions) - Statista

> "Social media has become an essential part of the marketing mix for brands."

Social media has evolved from keeping in contact with friends and family to now being a source of entertainment as well as the go-to place for product and company information. Social media has become an essential part of the marketing mix for brands. Not surprising really, as it's the only digital avenue for companies to have a dialogue - 2-way conversion - with their consumers. Social media provides the ideal mechanism to build trust and brand personality, as well as promote new offerings and receive feedback: good or bad! And although it's typically seen as the realm of the millennials and generation Z, Pew Research showed that in the U.S., all age groups use at least one social media site. To be fair, most of us exist on multiple social media sites.
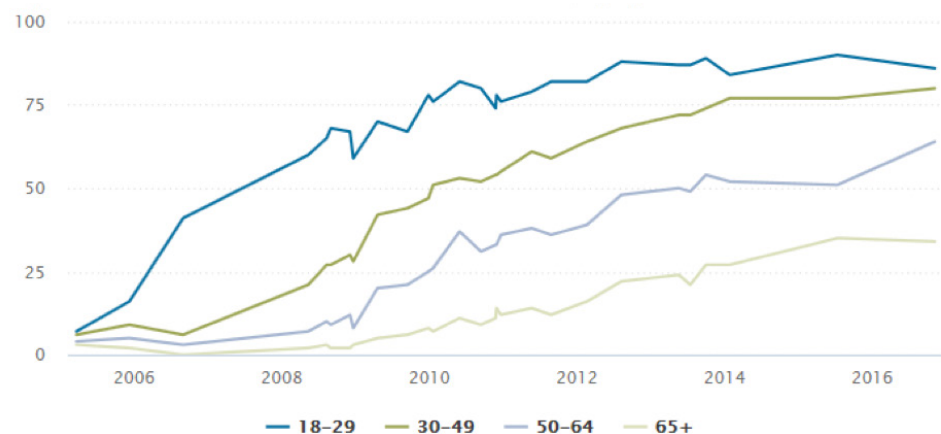

Figure 3: Percentage of U.S. adults who use at least one social media site, by age - Pew Research (surveys conducted 2005-2016)

When it comes to people using social media sites, despite the number of different sites available, it's Facebook that dominates; with Facebook's owned platforms being ranked 2nd and 3rd.
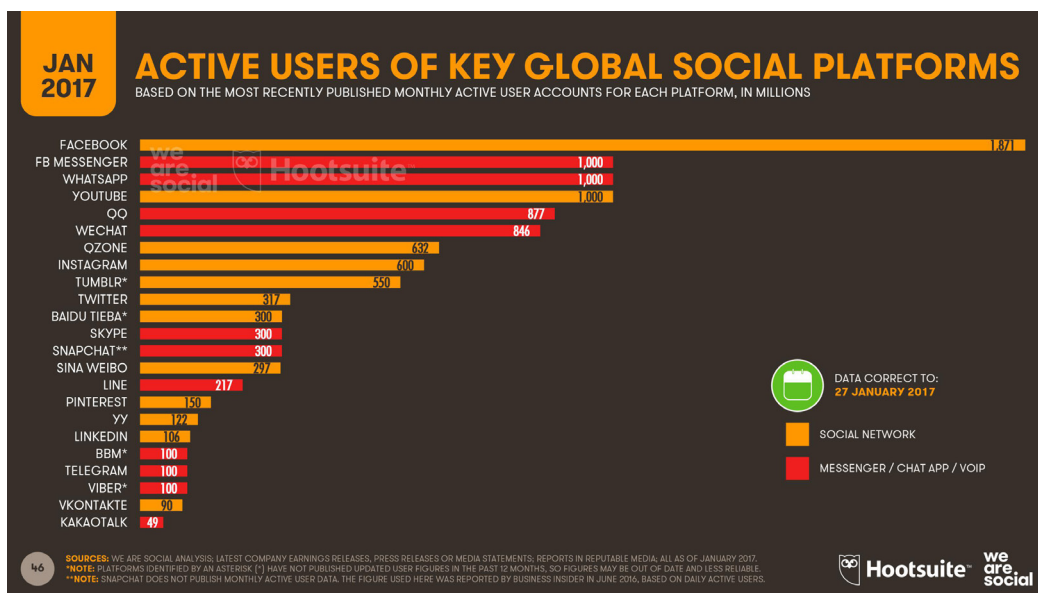

Figure 4: Active users of key global social platforms by Hootsuite and wearesocial

How social media has become ingrained in our day-to-day lives is clear not only from the number of users but also the amount of time spent on the various sites. As you can see from the graph below, it ranges from 0.40 minutes in Japan to a staggering 4.17 hrs per day in the Philippines.
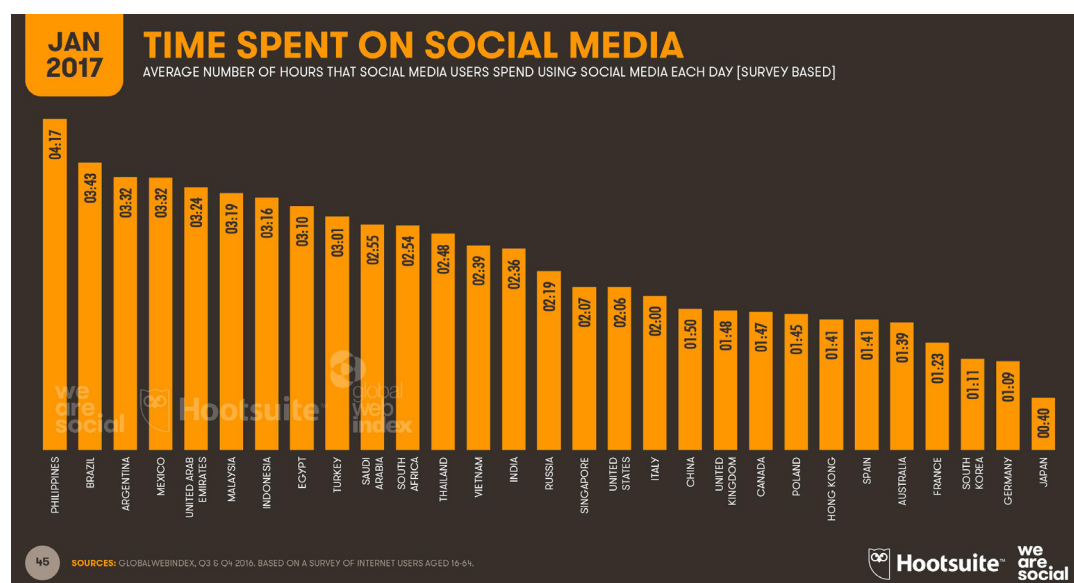

Figure 5: Time spent on social media by Hootsuite and wearesocial

What's the predominate business model?

It's all well and good having users who spend a lot of time on your site, but how is that translated into revenue? Although there are several business models used by social media sites such as freemium or affiliate (where money is generated by driving traffic and leads to an affiliates website), the most predominate and lucrative is advertising.

According to Hootsuite, social medial advertising budgets have doubled worldwide over the past two years: USD 16 billion (2014) to USD 31 billion (2016). And the likes of Twitter, Instagram, YouTube and Facebook are all benefiting.

In fact, Jason Kint (Digital Content Next) claims that Google and Facebook account for virtually all of the growth in advertising revenue; estimating that the two took 89% of the growth last year.

This advertising revenue success depends on the number of users and the algorithm that ensures that relevant ads are served based on the person's interests. Without this traffic, the revenue is limited.

In essence, the main objective for social media is to drive usage. The more users, the more ads, the more revenue.

> "The main objective for social media is to drive usage."

What's next for social media?

All businesses should evolve to meet customer needs and 2015 was a turning point for social media. Live streaming capabilities were introduced. Facebook added live video and Twitter acquired the live streaming app - Periscope.

In addition to benefiting from video ad revenue, with live streaming capabilities, the social media platforms are now in a position to strike broadcast deals with third-parties. In 2016, Twitter streamed the NFL's (National Football League) "Thursday Night Football" games. Although the 2017 NFL deal was awarded to Amazon, Twitter remains behind their live streaming strategy.

YouTube has similar ambitions. In early 2017 we saw YouTube launch its YouTube TV subscription service, putting it on course to take on live streaming competitors such as Sling TV and Direct TV Now. Not to be left out, Facebook announced in May 2017 that they will broadcast 20 Major League Baseball games live on their platform this season.

TV is the next battle ground for the social media platforms. In lots of ways, this makes sense. After all social media is part of the viewing equation. It's common for friends, family and in particular, fans to use social media to chat about what they are watching. In some cases, in today's technology driven world, social media has replaced pubs, clubs or the "water-cooler" as a venue for discussion or debate about matches, games or TV series to take place.

With their deep pockets (especially YouTube and Facebook) and their large user base, social media platforms could certainly be a force to reckon with when it comes to OTT TV.
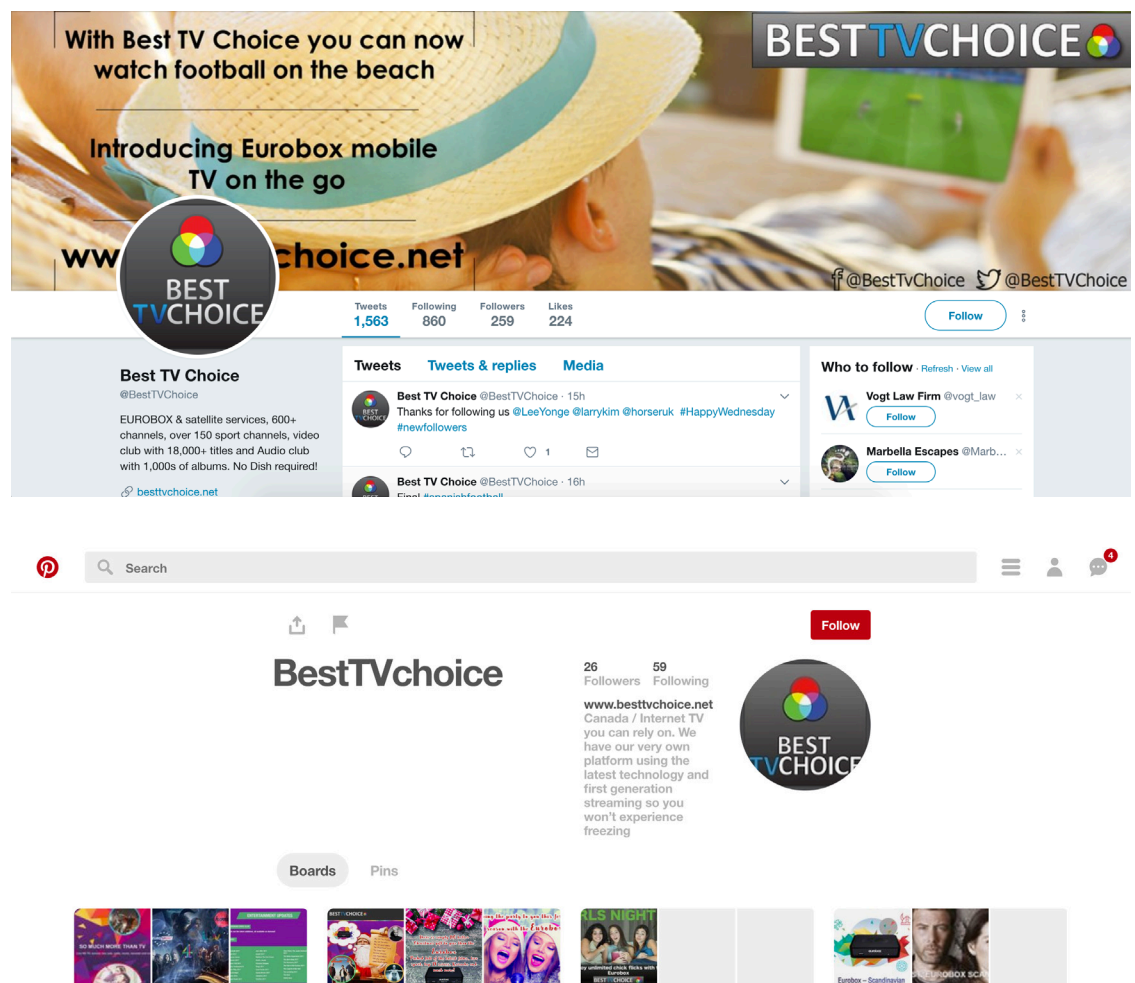
CHAPTER 2: SOCIAL MEDIA AND ONLINE PIRATES

While there's no doubt that pirates are criminals, unfortunately, they're also entrepreneurs. They know that high quality compelling content offered at a reasonable price sells. What's more they change and adapt their approach. Unhindered by rules and regulations, pirates move at internet speed, taking advantage of the latest technology to meet the consumers changing demands. At Irdeto, we've seen pirates evolve from control word sharing to illegal content redistribution over the internet and they're now exploiting the open nature of media players such as Kodi.

And it's not just the latest technology that pirates leverage. They also understand that to connect with their users today, they need to implement marketing activities across multiple media channels. This is where social media comes in. Like legitimate brands, pirates utilize social media to build awareness, promote their brand and services.

From our ongoing monitoring of the pirate landscape, we have witnessed a growing presence of pirate offerings on social media; be it Facebook, Instagram, Twitter and Pinterest to name a few.
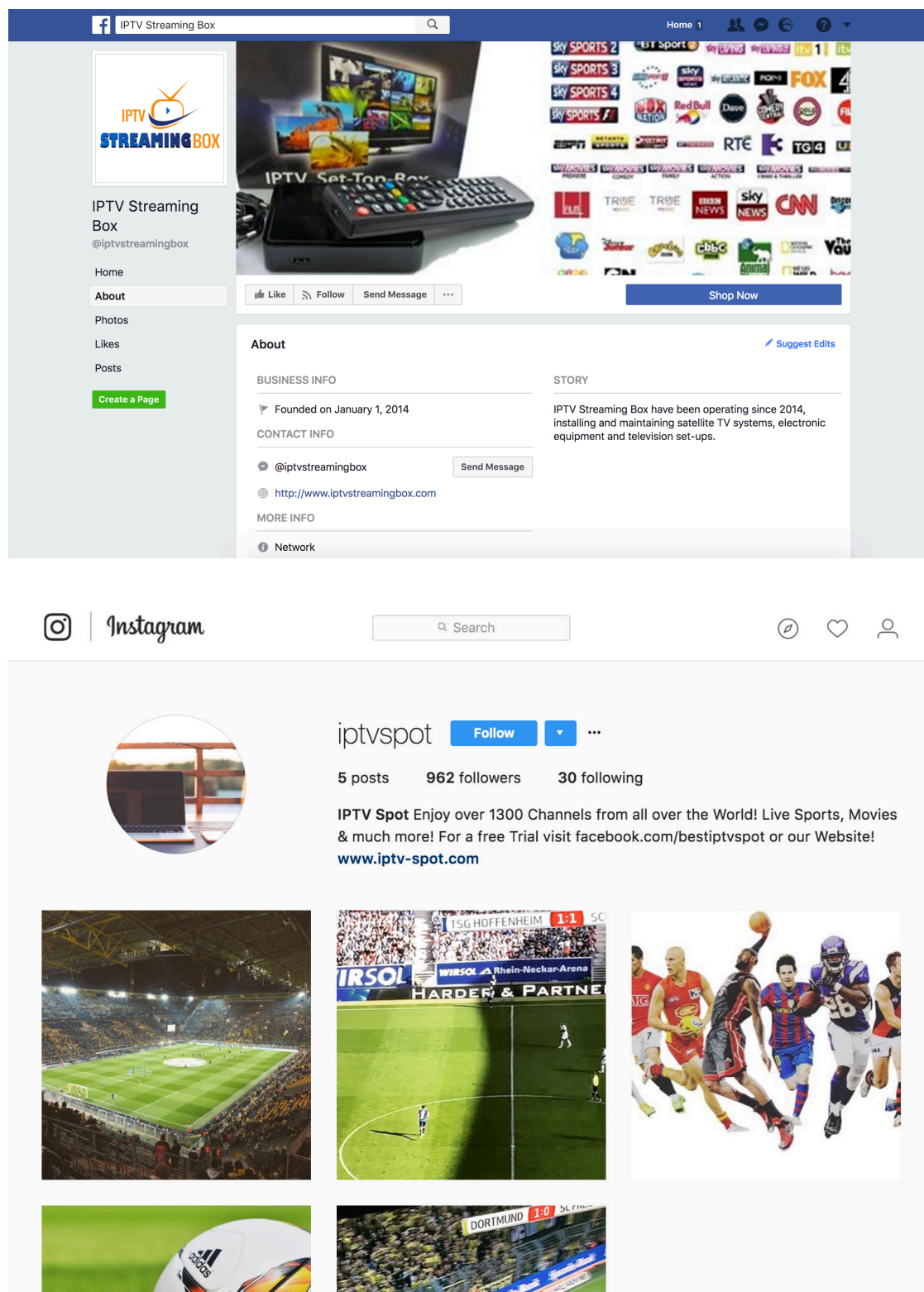
Figure 6: Examples of pirate social media presence

Besides the essential integrated marketing aspect that social media brings, pirates are exploiting its main characteristic – share ability. Social media is used to share links to where the illegal content is hosted or direct viewers to the streaming sites. It's also a reliable means to learn or ask where to find pirate links.

Online piracy and live sports

A good example of how pirates use social media is live sports. Live sports broadcasts attract a lot of viewers and big advertising dollars. It's not surprising that they are a primary target for pirate services.

There are thousands of pirate hosting and linking sites out there, pulling in millions of viewers. In fact, the Irdeto Cybersecurity Services team has seen a 71.4% increase in aggregated visits to sports related pirate sites, up from 143,064,407 in May 2016 to 245,257,906 in April 2017.

Using a sample dataset from two popular sports, soccer and boxing, let's examine how social media was used to enable online piracy.

Over several weeks, Irdeto monitored 27 national soccer matches. The 635 pirate streams were made up of a combination of live pirate streams and links to other pirate hosting sites. The 3 most popular social media platforms were reddit, Twitter and Facebook.

REDDIT	TWITTER	FACEBOOK	PERISCOPE	TWITCH	YOUTUBE
34,8%	33,2%	27,9%	3,3%	0,50%	0,30%

Figure 7: Share of social media streams

Pirates exploit the thematic sections or "subreddits" and the #tag culture of Twitter to make it easier for consumers to find and access their illegal streams.

This trend continues when you drill down to the top 3 games from a total stream count. It's clear to see that reddit and Twitter are the go-to social media sites for finding links to pirate streams.
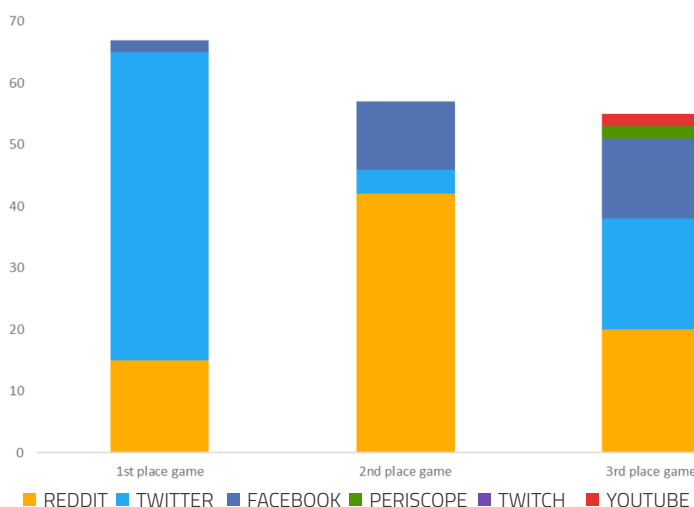
Figure 8: Social media shares for Top 3 games

It might be surprising not to see Facebook listed given how they dominate the social media players list in Chapter 1. However, Facebook comes into its own when we look at the pirate activity from a different perspective – views.

Using the same sample soccer data, you can see in the chart below that Facebook is the preferred platform to view pirated live sports content.
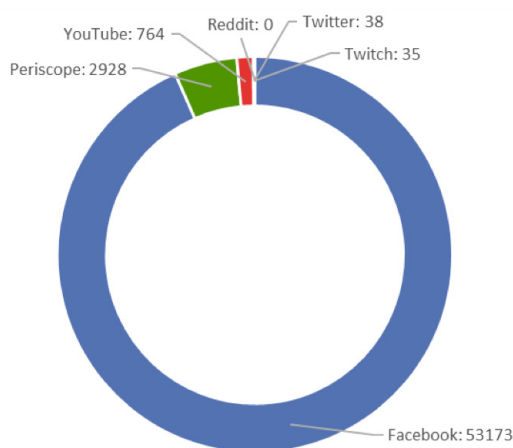

Figure 9: Illegal views across social media platforms

There's no doubting the importance of Facebook and its live streaming feature in the online piracy mix when it comes to pirated views.

In fact, for the Barcelona vs. Real Madrid match in December 2016, one single Facebook broadcast by Captains of Football had over 700,000 concurrent views. That's more than 700,000 people connected at the same time!

Figure 10: Captains of Football pirate Facebook stream screen shot

A similar result is evident for boxing. Facebook is undeniably the preferred means for watching pirate streams. Taking just 19 pirated Facebook streams from the Anthony Joshua vs. Wladimir Klitschko fight in April 2017, the popularity is unquestionable. For a single stream, there were over 50,000 concurrent views. In total, there were 207,732 views across all the 19 pirated streams.

Figure 11: Number of views for the Joshua vs. Klitschko fight per Facebook unique stream

In fact, the impact of Facebook's pirated streams caused a reaction in Australia. In February 2017, Foxtel was reported in the press to confirm that it would consider legal action against people who illegally streamed the Danny Green vs. Anthony Mundine boxing match. One pirate shot to fame with more than 100,000 fans watching his live stream. According to news. com.au, at one point, there were 150,000 concurrent views on this stream.

Figure 12: Illegal Facebook live stream screen shot - news.com.au

Why does this matter?

In a world where subscribers are moving to time-shifted viewing, live sports broadcasts play an ever-increasing role in the pay TV business. Live sports rights are becoming more valued to all players in the distribution chain, from rights holders to broadcasters and platform owners. It's a key differentiator for pay TV operators and broadcasters who pay large licensing fees to acquire the unique rights to broadcast such events in their regions. Rights owners are seeing a growth in public interest in sport and are seeking to license a larger number of platform operators in regions across the world.

Yet, with the constantly increasing availability, speed and affordability of broadband globally, and technology that makes it simple to re-stream content from the TV, tablet or laptop to the internet, it is easy for pirates to steal this high value content.

Operators and broadcasters are experiencing subscriber churn and reduced advertising revenues due to the lower number of legitimate viewers. Having their unique content available in pirate packages can hit the rights owners' bottom line. Licensees are reluctant to license the rights when the content is not being controlled and protected from piracy.

It's clear from the data in this chapter that online pirates exploit the share ability of social media and by doing so, make social media an enabler of piracy.

For some consumers, they may not even realize that they're watching a pirate stream. Over the last couple of years, we've seen that the pirate offerings are becoming more sophisticated. Many pirate OTT services have a professional looking website. They offer a 'plug & play' philosophy with support and money-back guarantees. Pirate subscription packages are bundled to appeal to specific markets; e.g. expats and ethnic groups. The cost of the service ranges from USD 300-1,100 per annum – significantly cheaper than pay TV operators. Mainstream payment mechanisms are available, e.g., Visa/Mastercard, PayPal, Western Union or even bank transfer.

As the popularity of pirate content continues to grow and the pirates become yet more sophisticated, we're on the cusp of a cultural change where piracy is seen to be acceptable. In a recent global survey, conducted by Irdeto and YouGov, of more than 25,000 adults across 30 countries, it found that 52% of consumers around the globe watch pirated content. What's more, many did not realize that both providing pirated video content and watching that content are in fact illegal.

To prevent this change in attitude, it's more important than ever for us to work together to fight online piracy and mitigate its affects across the industry.

> "Online pirates exploit the share ability of social media and by doing so, make social media an enabler of piracy."

CHAPTER 3: TACKLING ONLINE PIRACY

The challenge facing sports rights holders, broadcasters and operators is twofold. The first is to stop pirates from illegally live streaming premium content as quickly as possible. This is particularly important for live sports, as its value diminishes with every passing minute. Illegal live streaming impacts your revenue and reputation. Secondly, it is essential to keep up with the latest pirate activities. Pirates are continually adapting their approach to target likely consumers. This is seen through their increasing use of apps/plugins and software such as Kodi, leveraging social media for promotion, as well as online brand exploitation.

When it comes to tackling online piracy in the sports world, speed is the name of the game. It's critical to identify and stop the pirate streams in real-time, as the value of live sports content is at its highest during the broadcast.

Given the popularity of illegal live sports streams, it's not possible to tackle this manually. Having an automated solution to handle the sheer volume is paramount. As the pirates continually adapt, the solution design needs to be modular to make it easy to add new sources of discovery and keep up with the latest pirate activities.

"Online piracy is a global problem; pirates are not constrained by regional barriers."

To ensure a rapid, cost-effective execution, it's ideal that the automated platform is configured using an intelligence based approach. With an intelligence-based approach, you're able to focus on the websites that have the highest volumes of internet traffic in a given geographic region and/or for a particular sport. This allows you to concentrate your efforts on the sites within the broadcast jurisdiction area(s) that are the biggest threats in that region or to that type of content.

Combining watermarking with the latest advancements in web crawling technology means that detection of infringing content is much quicker. Forensic watermarking provides the capability to track and trace the source of the content leak: be this a distributor or an individual subscriber account.

Once the illegal stream has been detected, analyzed and validated being able to implement enforcement activities quickly is essential. For instance, this could be sending DMCA infringement notifications as well as collecting evidence to support criminal prosecution or civil litigation.

But success doesn't come from just having state of the art technology. This needs to be combined with proactive enforcement and investigative services aimed at identifying and prosecuting the parties and intermediaries involved in as well as supporting large commercial streaming piracy networks. It requires an understanding of the changing piracy landscape, keeping track of how pirates evolve and in many cases predicting where they will move to next: from online advertising, credential theft, plug-ins/add-ons, etc. And lastly, having solid global partnerships with law enforcement, industry bodies as well as consumer and technology providers is crucial. After all, online piracy is a global problem; pirates are not constrained by regional barriers.

How does social media deal with piracy?

Is this 'need for speed' to remove infringing content shared by the social media platforms when it comes to dealing with illegal content being streamed on their platforms or links being hosted on their sites?

Taking Facebook and YouTube as examples, let's look how each handles copyright infringement (pirated content).

Facebook has been in the headlines recently not only for the Mundine vs. Green fight but the press has also hotly commented on how the site seems to be doing little to stop 'freebooting'. The latter is where someone takes another person's video (e.g., from YouTube) and uploads it to another site as their own for their own benefit. Admittedly freebooting is on a different scale but it's symptomatic of the growing dissatisfaction with Facebook and how they protect the content owner's rights. But it's encouraging that in June 2017, Facebook has updated its Commerce Policy to prohibit the sale of "products or items that facilitate or encourage unauthorized access to digital media".

Practically though, Facebook's stance on protecting content owners copyright is that they provide two mechanisms. There's Audible Magic, which is a way to fingerprint media files. And there's Rights Manager, which is essentially a reference library of content to be monitored and protected – using the original content as reference.

In April 2017, Facebook announced improvements to Rights Manager. Greater automation is being added to enable rights owners to decide upfront what action should be taken when a match of their content is found on Facebook. In addition to blocking or monitoring, the rights owners will have the option to claim ad earnings in the future. Hopefully these improvements will also increase the accuracy of the video fingerprinting solution which some content owners feel could be enhanced.

However, in Facebook's announcement, there's nothing formal about the speed or responsiveness to which they will remove the infringing content. Typically, we understand that it takes Facebook an hour or two to execute an action. And for the sports games that is too long. It's too late!

This latest development from Facebook, sounds similar in its high-level description to YouTube's Content-ID but for Live.
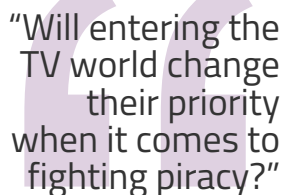
YouTube's Content-ID gives content owners the option to automatically block infringing videos, monetize it or allow the content to remain and track its performance. That's all well and good for content which is listed on YouTube. But pirates have found a way around this. Pirates have found a way to upload videos and benefit from Google's hosting services. By not publicly listing the content, pirates can use the google link and embed it in their own site without it being seen on YouTube or by Content-ID. Yet, the pirates can still benefit from Google's ad-revenue scheme.

"One to two hours to execute an action is too long for live sports."

Although in our sample data YouTube did not feature heavily as a preferred choice for viewers to watch illegal live streams of sports, it's clear from recent headlines that illegal live streaming of CNN or ESPN's live content, for instance, is proving popular. And although YouTube also claims to be aggressive in removing infringing content, it remains a point of contention with content owners.

What's the common denominator? Both platforms have public statements and tools to protect content from copyright infringement. Both offer the ability for the content owner to share the ad revenues. Is this just the next step in accelerating the change of attitude that piracy should be considered acceptable?

Is it in the current interest of the social media players to invest in real-time compliance? After all, compliance is a cost center not a revenue generator for them. This is particularly true for both platforms as they derive the majority of their revenue from advertising. As highlighted in Chapter 1, the main objective for social media is to drive usage. The more users, the more ads, the more revenue.

"Will entering the TV world change their priority when it comes to fighting piracy?"

Will this priority change as both Facebook and YouTube realize their next ambition of entering the TV world? Will being a rights owner themselves, having to pay the license fee for that content and generate return on investment for that content be enough for them to change their stance against online piracy? We have certainly seen other rights owners take a strong stance against piracy. In March 2017, with the consent of Sky and BT, the Premier League obtained a new court order to block illegal streams fed to IPTV boxes running Kodi.

CHAPTER 4: CONCLUSION

As we continue to see technology advancements, the role of social media may change but it certainly will not disappear. We've become accustomed to using social media for research about products or services to discuss the latest match or TV series as well as to keep in touch with friends and family. For this always connected world, social media is now a cornerstone in our way of life.

Pirates understand this and are exploiting social media's main characteristic – share ability. Like legal brands, pirates rely on social media as an important part of their marketing mix. They use it to reach their consumers, build brand awareness and benefit from the associated ad-revenue. Social media's live streaming capabilities have enabled pirates to move from post event to being able to illegally redistribute content as it's happening. As such, it has allowed pirates to leverage the lucrative world of live sports.

For the content and rights owners of live sports content, social media is a double-edged sword. It's a must-have channel for them to engage with fans but it's also an enabler of piracy. Pirated live streaming of their sports content is undermining their business models. With live sports, there is little long tail content monetization. The value of the content is high before and during the event but diminishes once the game is over. Being able to shut down pirates leaking that high value content quickly is critical.

And here is where the current priorities differ. For social media players, their main goals are increasing the number of users, views and driving traffic. All of which increases the potential advertising revenue. Although it's pirated content, illegal streamed live sports content drives thousands of users to social media sites. Monitoring and managing infringing content on their platforms is a cost center; it doesn't generate revenue. Is compliance really a top priority for them at the moment?

There's no doubt about the importance of social media when it comes to watching content – live sports and VOD. As an industry, we have to hope that as the social media players enter the TV world and become a content or rights owner that it causes a change in their attitude towards online piracy.

About Irdeto

Irdeto 360 Security is an end-to-end, pre-integrated solution that meets even the most stringent security requirements, enabling operators and content owners to offer premium media services, such as 4K UHD VOD, live sports and early release window movies. It provides unparalleled breadth and depth to meet changing security needs, from content protection, to piracy control and cybercrime prevention, to key management by a trusted authority. Its proven success comes from the combined power of innovative technology, a diverse team of experts and a global network to deliver best security practices.

Irdeto Piracy Control for Live identifies and stops pirate streams in real-time, which is critical because the value of live sports content is at its highest while it is being broadcast live. Addressing this form of piracy requires specialized knowledge and technology that must evolve as fast as internet piracy does. Irdeto takes an intelligent approach to fighting piracy by focusing on the most popular sites or plug-ins, with large numbers of users and with regional influence in the rights holder's territories. This ensures that content owners, broadcasters and operators tackle the biggest competition to their business. Working with a trusted managed service provider with proven success to stop live sports piracy allows operators/broadcasters and rights owners to protect their content, revenue and brand.

For more information about how the Irdeto Piracy Control & Cybercrime Prevention solutions can help you in the fight against online piracy, visit the website: www.irdeto.com.