

Big Data is still in its infancy. Companies are offering more and more subscription-based or registration-based services, across more devices, and are collecting mountains of data about their users and audiences. But most of this potential is currently going unused. Rohana Rozhan, CEO of Malayasia's leading pay-TV company Astro agrees, stating, I would love to say we are very good with data but the reality is we are not yet and we are working hard to change that."

Yet the industry can be dramatically reshaped by the insights Big Data has to offer. Broadcasters, content curators and advertisers can utilize this information and make predictions that will fundamentally change business models and revenue streams. But according to Jonathan Sykes, Chairman of Genius Digital, "more doesn't necessarily mean better... The bottom line is understanding that the behavioral data helps in all areas of the business, from strategy to operations, advertising, acquisition to churn management."

In this paper key decision makers and executives from 14 media groups were interviewed to explore the benefits of Big Data in broadcast. Together, these companies serve over 70 million subscribers and deliver content that reaches nearly a billion people every day.

Astro, Channel 4, Digicel, Genius Digital, GfK, Liberty Global International (LGI), Magine TV, maxdome, Orange France, OSN, Sky IQ, UFA, Verizon and Viacom International Media Networks (VIMN)

Although today's media and entertainment industry is at the forefront of this change, there is still a long way to go. According to Niko Waesche, Global Lead of the Media and Entertainment Industry at GfK, "all the business models around data are still in the stage of thinking about 'our' data rather than the ecosystem of data." Philip O'Ferrall, Senior Vice President of Viacom International Media Networks (VMN) even states, "we've got to see the value of data as important as great content and bring those two worlds together."

For those exploring the potential of Big Data and its likely future direction, this paper uncovers the journey to define and enable a cohesive and successful Big Data strategy.

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## THE BUSINESS BEHIND BIG DATA

Big Data is increasingly being embraced as a strategic and operational business tool. It will differentiate services at a time of intense competition where choices are critical.

There are some key questions around the use of Big Data. What structures need to be put in place? What data can we trust? What analytics do we use? What we do know is that usefulness and timeliness are clearly key. While today there is still a major reliance on third party panel data, success in the new Big Data world will require a mix of the ratings based model with real-time behavioral information, incorporating the how, where and what of content consumption across the different devices being used.

Meanwhile, the consumption of TV is changing, with the audience demanding more viewing flexibility and more personalized services. There is also growing concern about how their data footprint is used. Both of these factors mean that the TV and media industry needs to take a fresh look at how data is used.

A wide variety of senior media and TV industry players explained how Big Data is influencing their strategies and operations in their organizations. While the value of Big Data is clear, how it is identified, collected and used offers both opportunities and challenges.

## WHY BIG DATA, WHY NOW?

Finding the right role for Big Data in the TV world is becoming a business must-have, and it is causing ripple effects around the industry. From broadcasters to pay-TV and streaming TV providers, to the suppliers of systems and analytic tools, even to the people skills needed to understand what all this data means, it seems every corner of the industry is concerned about what data is important and how to best use it.

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"There is a lot of expectation that Big Data will be a silver bullet. Yet where we see greatest impact is not always from the big, sexy ideas but from the cumulative increase in understanding of data to improve the business." says Tom Weiss, CEO of Genius Digital, a data analytics company that GfK invests in.

Using data analysis in one market, Genius Digital discovered an entire demographic segment that the local operator had assumed was not interested in watching rugby. Once they had been convinced otherwise by the data, they adapted their marketing to better capture those viewers.

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There is clearly a sea change happening around the type and quality of data that is being gathered and analyzed. Not so long ago, industry executives were talking about "asset based data" – basic facts such as the number of subscribers, the number of pieces of content or the number of "plays" in a given time period. Now the data being collected is moving from asset based to behavioral data, from panel based systems to real-time, individual data on a much greater scale.

"Six months ago we were doing the basics. TV ratings, website numbers and topline social media numbers." says Philip O'Ferrall, Senior Vice President of Viacom International Media Networks (VIMN). "Now we have a business intelligence team and the guy who runs it has a PhD in maths. Every stat we get builds value into a piece of content."

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Philip O'Ferrall, Senior Vice President, Viacom

"As a media owner, publisher and a broadcaster we've got to see the value of data as being as important as great content, and bring those two worlds together without the audience having to care about data. At VIMN we probably went a bit too far in being about sales and doing deals with the Netflixs of the world. That's still the core, but nothing is worth anything without conversations around our brands. Content is the driver of data."

In 2014, leading Malaysian pay-TV company Astro took significant steps collecting and using Big Data, including a proprietary audience measurement service with data collected from its subscribers' set-top boxes that also aggregates the viewership from time-shifted (PVR), on demand (VoD), and interactive television (iTV).

I would love to say we are very good with data but the reality is we are not yet, and we are working hard to change that."says Rohana Rozhan, CEO of Astro. "We are evolving and learning. The good news is we already have a relationship with our customers with nearly four million households in our database." Rozhan says Astro is starting to think in a "more organised and cohesive way" about Big Data. "The reality today is that it is no longer about households, it's about personalized data across individual devices."

A key target for the Big Data drive at Astro is to augment the benefits of using data for transactional reasons like retention and the upselling of bigger product bundles. However Astro also wants to go beyond this and put data into the core of its operations. "Astro's emphasis is on the psychographic, demographic and behavioral elements of data." says Astro COO Henry Tan.

The coordination of different sources of data is crucial. For example, Astro is setting up two panels to track viewer behavior. The first panel derives insights from over 70,000 urban, affluent homes representing its 'most valuable customers', while the second recruited panel of 4,200 homes, will represent viewers within its subscriber base as a whole. The latter recruited panel will enable marketers to target consumers not only by their viewing behavior but will also allow them to combine viewership with FMCG consumption behavior.

Rahul Thappa, Vice President of Data Analytics, Astro adds "In a segmented, fluid content world, Big Data is uncovering valuable segments of viewers who were aggregated or went unmeasured by conventional measurement systems. Big Data is helping us quantify the impact of our content across formats, platforms and screens. Our team is relishing the superior granularity that return path data has brought to the organisation. We can now develop superior content solutions and advertising models to deliver effective business results both to Astro and to marketers."



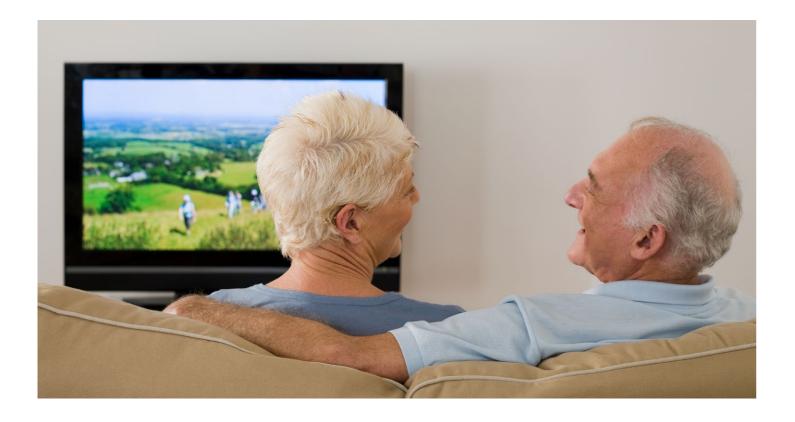
But it's not simply about more data; it's about understanding how people are using your services, such as when they are viewing and on what devices. This is a big change, particularly for commercial broadcasters who so far have had little direct interaction with their audience.

"My credo on data is that the only reason to collect it is to create better insight to help you make better decisions," says Tony Mooney, Managing Director of Sky IQ, part of Sky TV. "You need to understand the decisions you need to make and the value of that decision before you set off on a path to collect a lot of data. As a motherhood and apple pie thing, I've got a bit of a problem with Big Data groups that say "we can collect everything from everywhere and put it all in one place and then stuff is going to happen". I'm a bit uncomfortable with that idea."

"As often happens in the data world, how you transform and interpret the data is the secret sauce. It's very easy when you have a fire hose of data pointing at you to get drowned in the stuff that is completely irrelevant." he adds.

Jonathan Sykes, former BSkyB executive and Cofounder and Executive Chairman of Genius Digital, agrees. "There is a sea of data available now but more doesn't necessarily mean better. Having all the data available means it is hard to navigate, but the bottom line is that understanding the behavorial data helps in all areas of the business, from strategy to operations to advertising, and acquisition to churn management".

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# ADDING VALUE TO ADVERTISING

As an initial step, many commercial broadcasters are using Big Data firstly to enhance their advertising sales. "In developed markets, advertising is a known metric, so it's easy to reference." says Genius Digital's Tom Weiss.

In the UK both Sky and Channel 4 are pioneering the use of Big Data based on a strategic remit to add value to their current business processes and to deliver incremental revenue. For Channel 4 this has been implemented first on its on-demand VoD products but with a view to adding linear TV advertising over time.

Big Data-enhanced VoD ad sales currently account for 15% of Channel 4's total VoD advertising inventory, traded based on demographically targeted information. In two years, Channel 4 predicts that as much as 50% of its total VoD inventory will be traded this way. Sanjeevan Bala, Head of Data Planning and Analytics at Channel 4, says that these changes have resulted in "incremental revenue of between 30% to 55% depending on the ad product, compared to current VoD prices."

These new products will be more effective and efficient for brands and advertisers that are looking to take advantage of more targeting on VoD."

The key is to use Big Data to plan and develop content that appeals to its customers. This should in turn attract more advertisers. Tan calls this the "winning horse" strategy. "Advertising is like betting on the wining horse, so our focus is to give the advertisers more winning horses."

### THE BEST OF BIG DATA

Not so long ago the business case for Big Data was tough to justify, often because storage was expensive and difficult and, until recently, there was a lack of reliable analysis tools. Also it was hard to combine different sorts of data to create a For VIMN's O'Ferrall it's all about "the blend" of coherent and viable whole that could be accretive to the bottom line. But the changing business model of broadcasting – with increased direct communication between the broadcaster and the audience – has accelerated the prominence of Big Data to business critical.

For Viacom, the owner of younger skewing brands MTV and Nickelodeon, Big Data has become a key business intelligence tool for engaging an audience which is among the most fickle and hard to reach of any demographic.

"All roads lead back to a data warehouse and that's influencing us all the time." explains Philip O'Ferrall, Senior Vice President of Viacom International Media Networks (VIMN). "If it's a website view, a TV rating, or SVoD stream, we can

promotion of on-screen

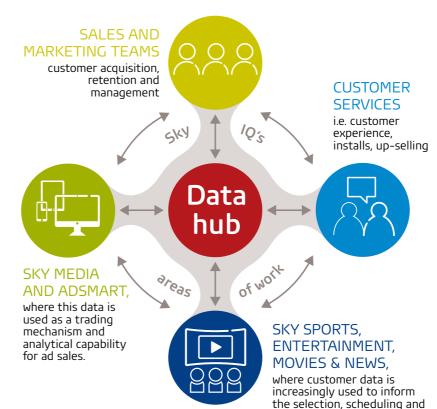
content.

clearly see which pieces of content are resonating. This helps inform commissioning decisions and investment and support for certain talent."

data: "What we are using is a blend of raw data from the mobile web and app usage in particular, who's watching what, for how long and for what time. So it's behavioral data for sure. Then we add third party feeds to help shape what we do with it, including Facebook, Twitter, YouTube and some set-top box data. But we also use traditional data like panels and groups. Data is never going to be the answer to everything, but it needs to be seen as a well-rounded tool."

Sky IQ collects customer behavioral data across all the Sky platforms, including online, and tracks profiles and interactions. It also integrates this data with outside data, including publicly available statistics, demographics and retail data. There are also partnerships, such as Sky Media working with Dunnhumby, a London-based research agency owned by Tesco, that tracks purchases by Tesco's 17 million Club Card holders.

Sky IQ's core viewing data set set is 500,000 households with data delivered daily, while BARB tracks just 5,000 homes in the UK. In the last 18 months, a new internal client has been added for the Sky IQ data, the Sky channels, including entertainment, news and sport. "Colleagues in the channels and content side of the business would primarily use BARB data to understand scheduling and the impact of programs," says Tony Mooney, Managing Director of Sky IO. "Now they have a complementary data source and one of a much larger scale that gives them a deeper, forensic examination of their content. For the first time, the business can link together information about customer behavior on-screen with information on how customers behave on transactions and interactions with us. It provides a much tighter link between what people watch and what they pay for."



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Mooney thinks that companies need the basic demographics, including household composition, affluence of the house, affordability, transactions and interactions. "But what you really need after that is frequency and "recency" – or how often and how soon. Until we started doing the viewing piece, we didn't have a complete picture of consumer behavior and consumption, so adding that has been extremely powerful."

#### How Genius Digital's customers use Big Data



ProSiebenSat.1 made Big Data a company wide initiative in 2014, moving it beyond the Maxdome catch-up TV business to gather data from all the different parts of the business in compliance with the legislation on data protection.

"Maxdome has always done business intelligence but this initiative was a radical upgrade of our systems. We ramped up our data hosts and our teams," explains Lesley MacKenzie, CEO of Maxdome, owned by ProSiebenSat.1. "We're tracking customer behavioral data under pseudonyms and we're also implementing predictive data for churn management, as well as looking at historical data to understand past actions. This allows us to do personalized CRM marketing with very targeted messages."

ProSiebenSat1's Maxdome service has already seen 40% growth in its customer usage since its relaunched brand and content offer in 2014.

Dave Butorac, CEO of OSN, a leading pay-TV provider across the Middle East, has made huge strides in its moves towards Big Data, in response to the unreliability and unavailability of TV data up to this point. He says that the majority of the region's TV ratings data has been "anecdotal" at best.

OSN has quadrupled its spend on research and data capture analysis in the last four years. "We spend multiple millions every year on data. The justification for increased amounts of money is to enhance the value proposition and increase the growth of our subscription base." says Butorac.

OSN has had a bi-monthly tracker survey both on its current customers as well as non-customers for the last four years. At the end of 2014, data from its set-top boxes also became available from 80% of its 1.1 million subscriber base specifically in broadband enabled markets including Kuwait, Saudi Arabia, the UAE and Qatar. This new data helps guide programing, marketing and packaging decisions.

"In today's context we also need to understand the time of day (when people are watching) because there is no longer just one prime time. Also multiscreen use. What is the relationship between different devices and when does tablet viewing kick in?" says Butorac.

For content production companies, the allure of Big Data is about the ability to create new business models. Ernst Feiler, Head of Technology at UFA serial drama in Germany, says the contact with the audience is really new for broadcasters, but it's a key element to the future health of the television production business and the entire TV.

"We have no experience with (data) and we have to learn. The broadcasters do deal with data, but only after we deliver them our production. This is not an intelligent way forward. What we see is that we have to digitize our whole production workflow so at the end we have a video with all the data on it. This will help us to create new business models."

Philip O'Ferrall, Senior Vice President of Viacom International Media Networks, believes the industry is moving on from living or dying by panel based TV ratings. His example is MTV's Hottest, an event that produced 330 million interactions on Twitter and Facebook. "This (social media activity) wasn't on our networks, but if we pump it into a dashboard, then we can give it a more commercial sense and turn it into revenue." MTV Hottest was the second biggest media activation ever after the 2014 World Cup in Brazil.



## THE FUTURE FOR BIG DATA

The power of Big Data is immense and it's clear that broadcasters and platform operators are only beginning to scratch the surface of what is possible.

Which begs the question about the on-going importance of the "human touch". "If we are in a world now where machines talk to machines and velocity is king, then actually you're in a world where algorithms rule, where they determine what happens next without a human being in the way." says Sky IQ's Tony Mooney. "So the big question is: how much of this decision making do you embed within the data capability? Figuring this out is the next big thing to do."

Understanding how best to use Big Data is also at a fairly early stage – there will be lots of great applications that nobody has thought of yet as well as other pressures. While the proper analysis of Big Data is certainly taking a more central role at TV companies – and not siloed off to research departments – there are still questions about who should be doing the analysis and how that research is disseminated throughout the organization.

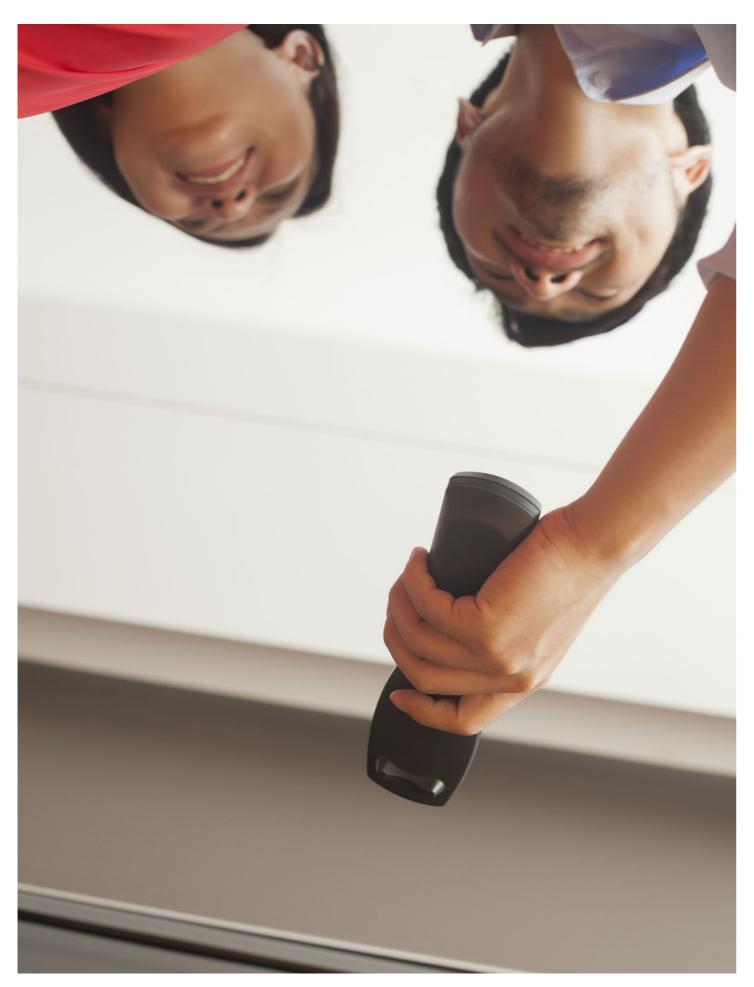
Related to that is the value of data scientists, those people who can properly analyze the data to make it actionable.

Merging TV data with other data sets is another key area where companies like Sky are making big strides, putting loyalty card data together with Sky's own set top box data. Breaking down proprietorial data walls and protecting the data from the kind of fraud we are already seeing in the fledgling world of real-time bidding for online advertising, where algorithms known as 'bots' are "watching" the advertisements rather than human beings, is also key.

"All the business models around data are still in the stage of thinking about "our" data rather than the ecosystem of data. In the end the different data sources will have to come together to be truly effective."

Niko Waesche, Global Lead of the Media and Entertainment Industry at GfK

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### WHERE WE CAN HELP

- GfK has a long and successful track record in supporting media groups with the insights to power business decisions. We build television, radio and print currency systems linking the interests of media companies to advertisers.
- Because connected audiences consume media in more ways than ever before, we can access and report on audience behavior regardless of device.
- We run single-source cross-media panels in many countries. GfK Crossmedia Link captures cross-media behavior on smart phones, tablets, computers, and TV, which can be linked with other panels and data sets. Crossmedia Visualizer is the GfK dashboard that reports across these data sets enabling strategic insight into the true reach of audiences.
- Data from these panels are being used by the most digitally savvy global media platforms as well as longtime established players seeking to demonstrate digital reach to advertisers, insight around user-trends and ROI.
- GfK is a pioneer in appreciation panels which measure content success, evaluates the use of media and technologies in the home [such as the Home Technology Monitor in the US] and provides retail data tracking the purchase of music, video and games. GfK also is a pioneer in the use of social media data to understand and segment television and digital audiences better.

We don't advocate digital just for digital's sake, but always aim to build bridges between different media across the offline and the online world. Our future is connected and we are breaking down the silos.

- In 2013 GfK invested in UK based data specialist Genius Digital. Working in partnership, we can better meet the increasingly complex analysis needs of TV operators by complementing powerful audience measurement solutions with realtime data capture and analysis technology.
- Genius Digital takes real-time data from TV subscribers and turns this into meaningful information, providing broadcasters and operators with answers.
- Our Insight Platform identifies viewer behavior, content preferences and monitors network systems to provide broadcasters and operators with a true understanding of audience behavior.
- Armed with these insights, TV providers can build compelling services, negotiate valuable targeted advertising and content deals with real viewer figures and gain a better understanding of audience activity across any platform and device.
- Genius Digital turns data into actions so TV operators can build more compelling and profitable services.

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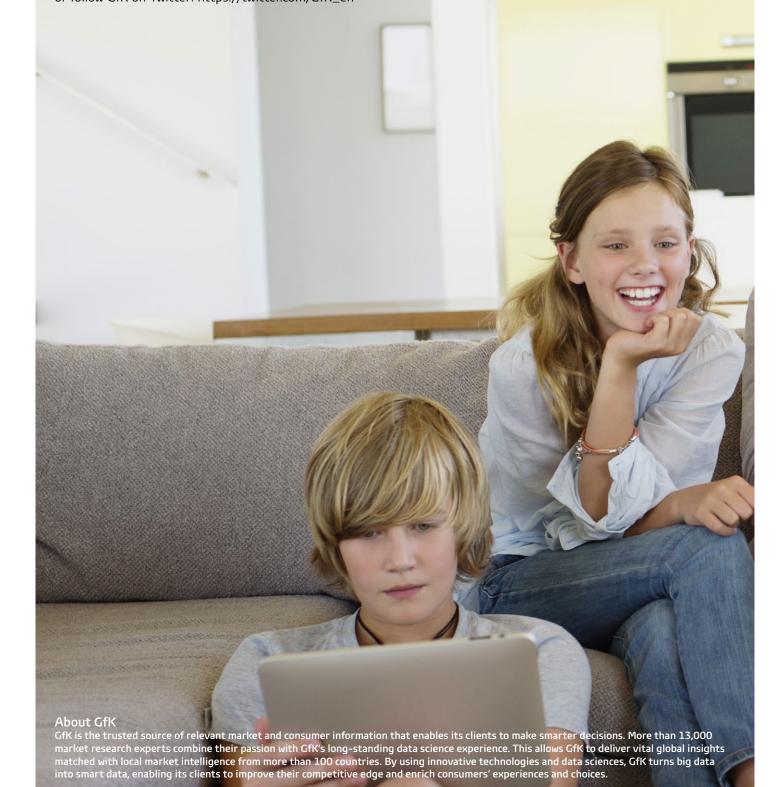
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