

Developing ecosystems controlled by the publishers: The first combined contract for print and digital with the aim of developing ecosystems controlled by the publishers

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1 INTRODUCTION

All players in the media ecosystem are transformed in unpredictable ways. The media industry has never seen so many and fast-moving changes as today, – in media investments, business models, revenues and content planning – as well as in research. Despite of tech transforming challenges and decline in ad income, the development also represents new opportunities for the media industry when it comes to monetizing. The Norwegian publisher Amedia has successfully built digital subscription models for local news (Lichterman, 2017). Some of the key take-aways from Lichterman's research is that strong quality journalism with focus on relevant content for different audience segments are key success factors. Clickbait headlines do not drive engagement and do not sell in the long run. Quality content for different target groups is therefore more important than ever in order to build premium environments, not only for readers but also for the advertisers.

All media, and especially the news brands, operate in a multi-media environment where content is consumed on several tech platforms. However, the print industry and the advertisers should not forget the printed content, as pointed out by Pål Nedregotten in Amedia (Lichterman, 2017): *Print and digital. Print is vital for us. It will continue to be vital for us for years and years.*

The current development represents new challenges as well as opportunities for the research industry. We must measure and report content on all platforms, more frequently and easily accessible than ever before. ***The new Norwegian measurement system will measure and report reach and frequency across platforms, screens and devices.*** Newspaper readership measurements will continue to be collected by CATI, but will change to the Brand First method to be able to measure all platforms. The magazine measurements will be carried out by CAWI with a device agnostic approach. In addition, we will report total brand footprint for all media and the digital figures will be calibrated to match the official digital figures delivered by comScore.

As pointed out in the call for the PDRF synopses, the JIC are under severe financial pressure as the ad income for print media in Norway has dropped dramatically the last years. Because of these changes, the new contract is flexible when it comes to yearly revision of methods and sample sizes. Furthermore, comScore will provide a variety of modular solutions for digital measurements and reporting.

There are many players in the new digital eco-system, and the publishers keep getting less of the overall ad spend. ***The publishers need to maximize the advantage of their first-party data as a way of guaranteeing high-quality environments for advertisers. They must keep focusing on the media currency data and other media- and consumer data of high quality. Therefore, the Norwegian media companies have joined forces to develop new eco-systems, where the official media currencies and target group data play an important role.***

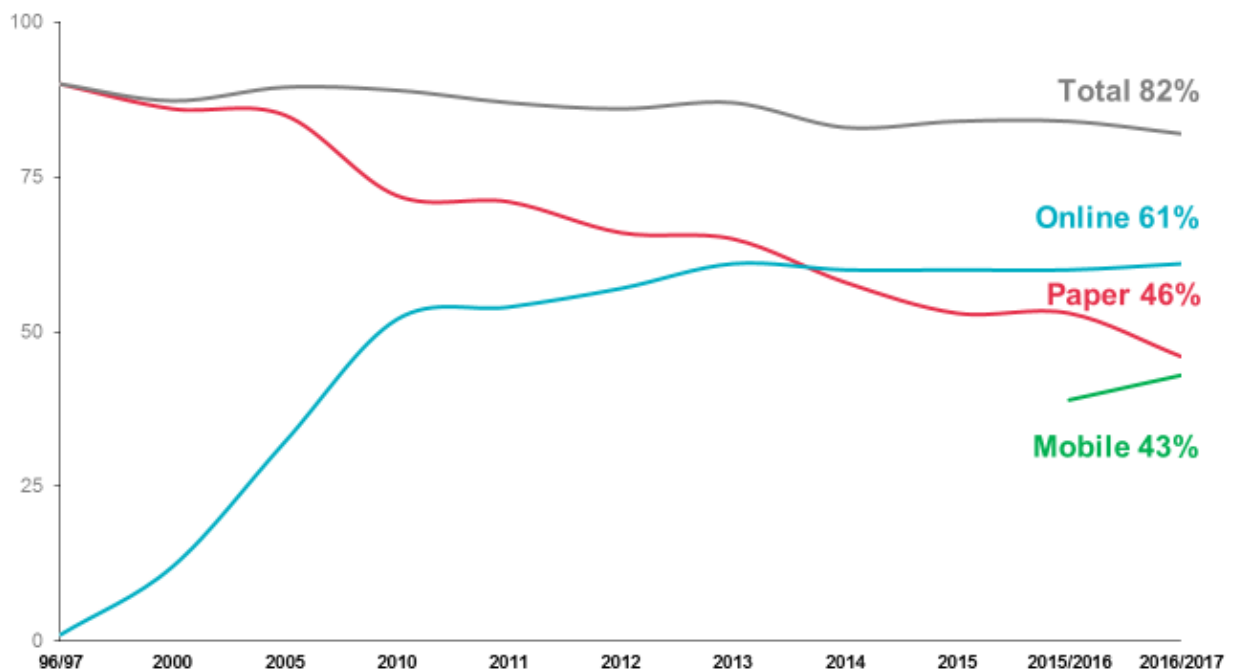
This paper starts out with a short introduction of the Norwegian media landscape and the tender process, before we move on to describing the online- and print measurement. Finally, we will discuss different ways of connecting media and TGI data into external data sources including how to develop new eco-systems for the publishers.

1.1 THE NORWEGIAN MEDIA LANDSCAPE

The Norwegian media market is unique with its historically strong newspaper industry, rapidly taking part in the process of digitalizing media content. Traditionally, media consumption in Norway has been very high, especially for the newspapers. However, over the past few years, Norway along with other markets is experiencing a dramatic decline in print circulations and readership, at the same time as revenues in print advertising keeps falling.

Figure 1.1 shows that in 2016/2017 only 46% of Norwegians read at least one paper edition daily, compared to 85% in 2005. More and more content is consumed on digital platforms, with 61% reading newspapers digitally and 43% on mobile on a daily basis. The rapid development of content on several different platforms and consumption on different devices presents important challenges for the research industry.

Figure 1. Daily reach. Percent. Kantar.



1.1.1 The Norwegian media economy

In its annual assessment of the Norwegian economy and economic policy, the International Monetary Fund (IMF) states that there is a growing upturn in the Norwegian economy. IMF estimates a 1.8% growth in mainland GDP in 2017, and 2.3% the following year. The unemployment rate is expected to drop to 4% by the end of the year.

Even though the overall outlook for the Norwegian economy is positive, the situation seems to be quite different looking only at the media-economy and future media investments. The IRM forecast for media investments in Norway shows that investments followed growth in GDP from 2004-2007, but since 2007 relative growth has declined year on year. While the banks' forecasts show an average 2% growth in mainland GDP in the coming years, IRM is more cautious, expecting an improvement of only 0.7% growth in the advertising market.

Nonetheless, Norway still ranks at number seven when it comes to ad spend per capita. Hong Kong and United States are leading on, the Nordic countries Sweden, Denmark and Finland following respectively on 9th, 10th and 20th place.

Norway is a widespread country, currently offering 223 newspapers and 67 magazine titles. The main media groups, Schibsted, Amedia and Polaris account for almost half of the Norwegian newspaper titles, and control more than 60% of the market in total. Schibsted, representing 16 newspapers and Amedia, holding 62 newspapers, have equal market shares counting subscriptions and sales (Avisåret 2016). Looking at the magazine publishers, Egmont Publishing is the largest holding company, measured in number of titles, and the group accounts for about half of the magazine circulation in Norway. Bonnier has a few more titles than Aller Media, but represents a smaller proportion of the total magazine spread (Medienorge/ Norsk Opplagskontroll).

1.1.2 Media revenues

Norwegian media is in the process of converting from print to digital, looking at declining revenues from advertising while digital subscriptions are reaching an all-time high.

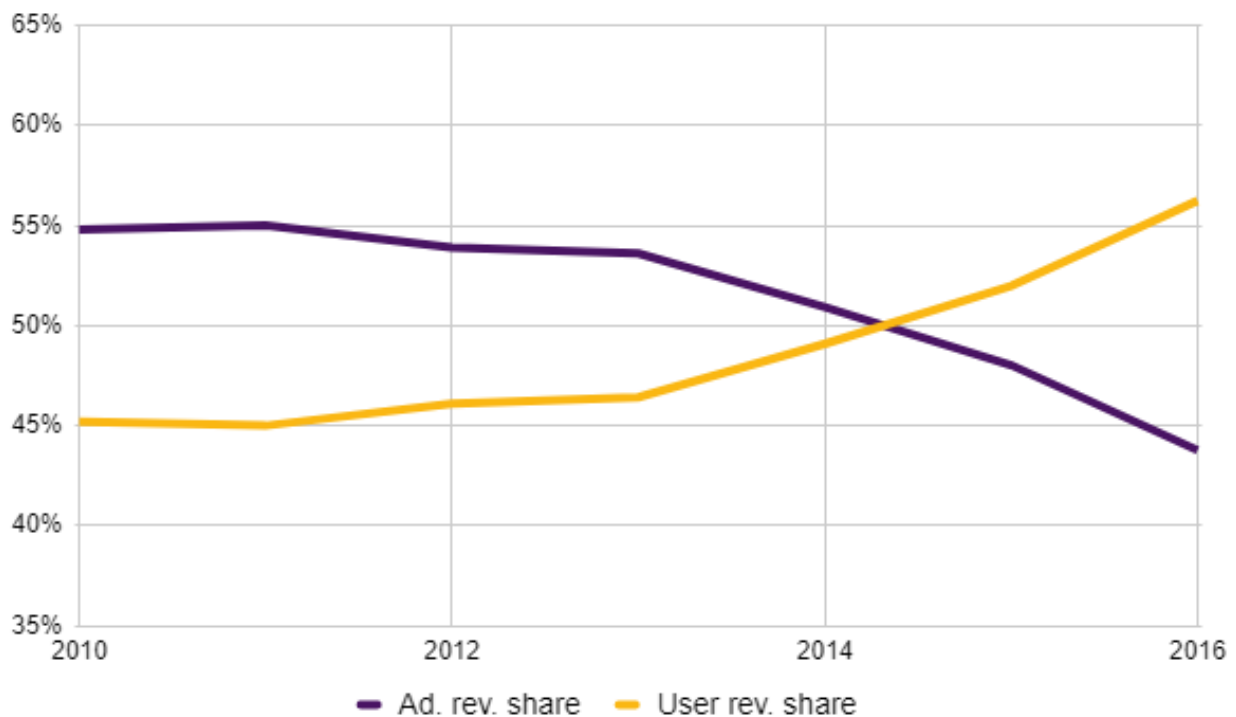
The Norwegian newspapers and magazines have two major income sources, advertising and circulation revenues. In 2010, advertising revenues on paper accounted for about half of the revenue base for the newspapers. Since then, advertising revenue has fallen sharply on paper, while digital channels until recently have increased market shares. From 2015-2016, advertising revenues decreased by the amount of NOK 1043 million, a loss of 18% of the total ad spend. This decline is mainly due to reduced revenues from sales of advertising space in paper issues, but in 2016, there was also a drop in advertising revenues on digital platforms. Over the past five years, newspapers have lost close to NOK 2.7 billion, or 35%, of the total advertising revenues (The Norwegian Media Authority).

When revenues from digital products no longer compensate for falling circulation- and advertising revenues on paper, the media industry is challenged to think differently. So far, the solution has often been cutting costs, which has led to the fact that many media houses continue to show profit. Since 2011, approximately every fifth journalist (19%) has disappeared from the newspapers.

As for the magazine publishers, the trend is even stronger and only half of the staff remains after rounds of downsizing throughout 2011- 2016. It is worth mentioning that during the same period, the number of magazine titles is down by 28%, from 92 to 66 titles.

Diminishing advertising revenues promote new business models, and charging for editorial content has already become essential to the Norwegian market. In 2015, advertising revenues were, for the first time, less than revenue sources from newspaper sales counting subscriptions and single copies together. (Norwegian Media Authority/ Medietilsynet). According to forecasts by MBL, the estimated gap will be even greater in the years to come. In this respect, the ability to gain revenue on digital products, through paywalls and diversified business models, will be an important challenge, most likely determining the future income base for Norwegian media.

Figure 2. Share of ad revenues and share of user revenues for newspapers (MBL)

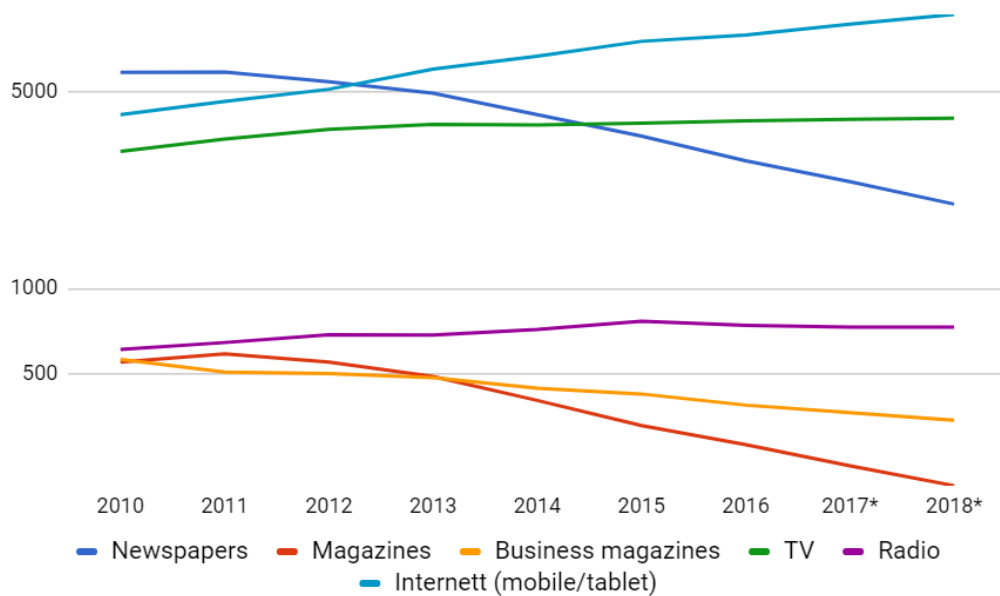


Already, newspapers that include online news products account for 89% of the total newspaper market. The proportion among those who have introduced some form of payment scheme has risen from 3% in 2011 to 75% in 2016, and the growth seems to continue (Avisåret 2016). At the same time, newspapers have managed to increase subscription rates, and accompanied by strict cost control this has helped Norwegian publishers secure profitability throughout 2016.

The magazine publishers show similar trends shifting from paper to digital. While newspapers traditionally have gained more than half of their user revenue from ads, magazines are less vulnerable with an advertising revenue share of about 24%. The magazines' high share of user revenues has remained stable over the period 2010-2016. Looking again to MBL's forecasts, the situation is expected to remain the same for the next few years, although revenues from digital advertising might become more important. All the major publishing houses in Norway are now offering their magazine selection through subscription based apps with catchy names like "Flipp", "Wype" and "Pling".

Figure 2 shows changes in ad revenues since 2010, including IRM's forecasts until 2018. Internet has been the largest advertising channel in Norway since 2013, when it surpassed the printed news press. Since then the gap has continued to increase, and by 2015 print revenues from newspapers had become less than revenues attributed to linear TV.

Figure 3. Ad revenues 2010-2018 – billion NOK (IRM)



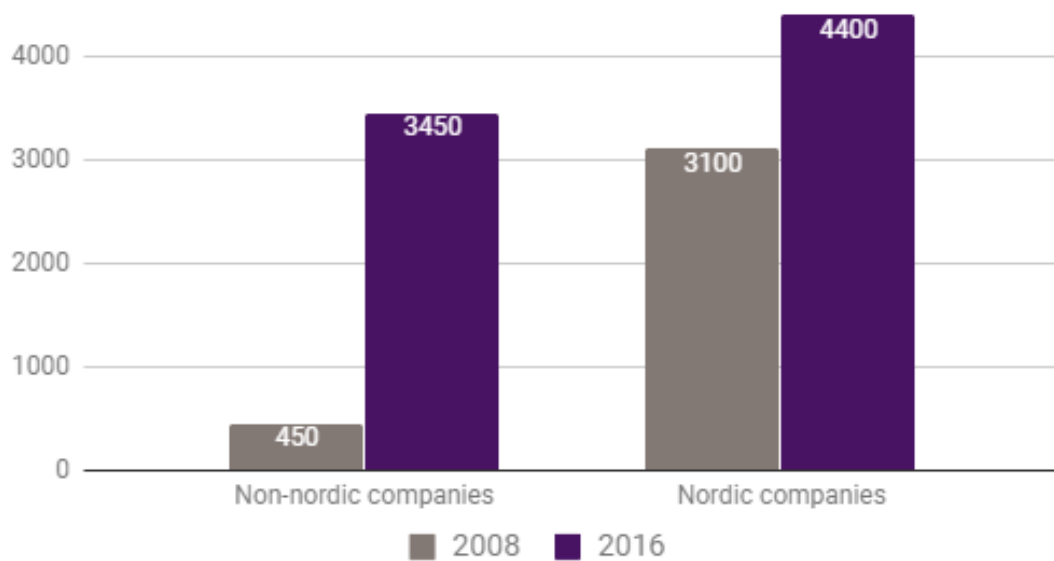
IRM has made an upward revision of the forecast for Norwegian ad spend during 2017 from -0.4% to 0.6%. The upward revision is mainly due to the relative strong first quarter which entailed ad spend growth of 3.1%. Overall, Norwegian ad spend is forecasted to amount to 19.3 billion NOK in 2017. It is promising that internet ad spend growth accelerated further during the first quarter and IRM's monthly monitoring shows a continued positive trend. TV's ad revenues increased by 8.6% during the first quarter, the rest of year is forecasted to show a more modest growth rate. For print channels, the negative trend continues. Direct mail may see some contributions from the parliamentary elections during the third quarter, but the positive effect is expected to be marginal. The same goes for outdoor which is expected to show continued strong growth.

IRM's first forecast for 2018 indicates yet another minor ad spend increase. The Olympic Games in the first quarter may make some positive contributions. Apart from that, general economic and ad spend trends remain about the same as during 2017.

1.1.3 Global competition

The emergence of programmatic and data-driven sales, has changed the playing field for the Norwegian media channels, experiencing greater competition from major global players, primarily from the duopoly of Google and Facebook. According to estimates presented by eMarketer, Google's net advertising revenues worldwide amounted to 63.1 billion U.S dollars in 2016 and are projected to reach 82.6 billion U.S dollars in 2018. Facebook's worldwide advertising revenues reached 8.0 billion U.S dollars in 2015, and forecasts from eMarketer assume Facebook revenues of 33.8 billion U.S dollars by the end of 2018. Of the total Facebook market, international revenues represent a larger share than the U.S market alone (eMarketer/statista.com).

Figure 4. Investments in advertising Nordic and non-Nordic companies. Million NOK. (IRM)

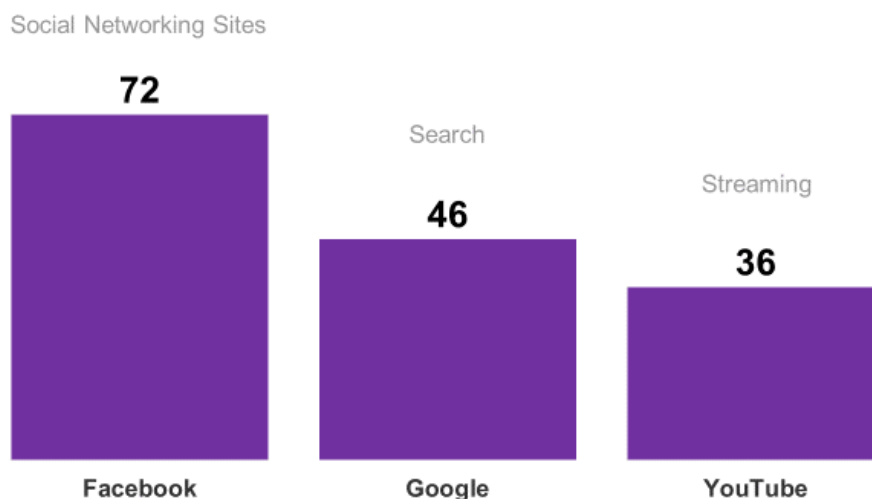


The world keeps getting smaller, and as a result international media companies rapidly increase their market shares in Norway. From 2014-2016, investments in foreign platforms increased by 116% in the Norwegian market. During the same period, Norwegian advertising investments experienced a decline of 10% in total, and by 2016 more than half of the total investments in digital advertising in the Nordic countries was located to global digital platforms like Google and Facebook.

Facebook presently has a daily reach of 72% in the Norwegian market, while 46% visits Google daily. In total, more than \$1 billion was invested in social networking in Norway in 2016, accounting for almost 13% of all advertising investments in digital channels. Growth relative to 2015 was estimated at 55%, which is a very strong growth. Although the rate is somewhat smaller compared with the preceding year, it is estimated to continue, and by 2022 IRM believes social networks will account for more than 60% of all display advertising in Norway.

Figure 5 shows that 72% of the Norwegian population uses Facebook daily, and a daily reach of 46% for Google and 36% for YouTube illustrate the dominant position for the global digital platforms in Norway.

Figure 5. Facebook, Google and YouTube - daily reach in Norway (Kantar)



Programmatic ad buying has already changed the market scene and introduced new players to the field. In Norway, programmatic is still on the rise, and close to 1/3 of all display ad revenues is currently attributed to programmatic sales (IRM). Automated sales are forecasted to surpass a 45% share of display, excluding social, during 2017. In the same period, forecasts from eMarketer estimates that nearly four out of five US digital display dollars will transact programmatically in 2017.

1.2 THE DISRUPTED MEDIA MARKETS AND THE NORWEGIAN TENDER PROCESS

From a situation where all the main media channels were measured separately – print, TV, radio and outdoor - the digital revolution merged all of these channels into the same platforms. In very few years, the competitive scene has become quite different from the situation we have seen for decades. Three main aspects illustrate the current situation:

1. All the traditional media companies are suddenly competing on the same platforms.
2. New media participants are entering the media landscape, for instance bloggers and advertiser owned media
3. The competitive arena for the traditional media companies have always been geographically restricted, either nationally or locally. Today, new markets open up, forcing Norwegian publishers to compete on an international level with world-wide-competitors like Facebook and Google.

1.2.1 Programmatic and the digital eco-systems

Programmatic is briefly: Data + Automation. On one side, we have the buyers - the demand side platforms, software system that allows buyers of digital advertising inventory to manage multiple ad & data exchanges. On the other side, we have the sellers – supply side platforms, typically used to aggregate ad inventory across publishers.

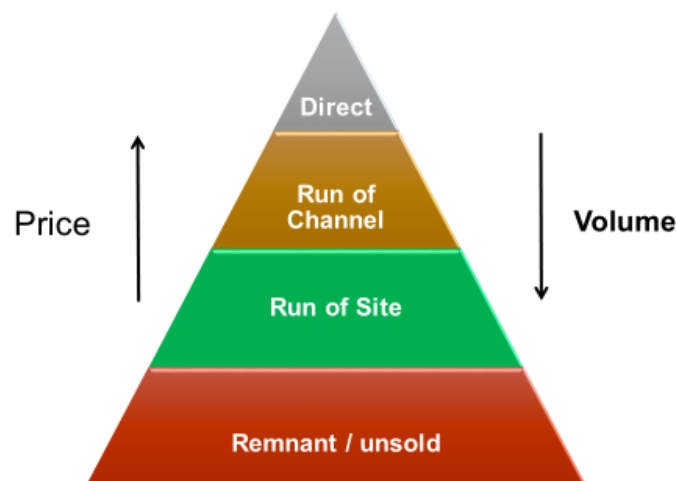
There are many players in this new digital eco-system and publishers often see as little as 30% of the overall ad spend, with the remaining 70% swallowed up along the way (WFA). But advertisers are starting to raise concerns and ask questions, and you can find them all in the WFA guide to programmatic media:

- What about transparency & conflicts of interests?
- Invalid impressions?
- Visibility?
- Non-human traffic?

In principle, there are three trading methods for exchanges. Firstly, we have open exchanges and open real-time bidding, introducing competition across the entire world. Secondly, we have private exchanges with Invitation-only exclusive or semi access to inventory. Price controls and minimal competition applies. Finally, we have programmatic direct. Automated 1:1 business relationship like in the good old days. Predefined inventory, price and priority is the rule.

As illustrated by the figure below, publishers are rewarded with better prices higher up in the pyramid of transaction. The fact that programmatic direct is growing rapidly is therefore promising on the publishers' behalf.

Figure 6. Pyramid of transaction in programmatic trading



However, as Susan Bidell of Forrester Research pointed out as keynote speaker at PDRF's Symposium 2015, publishers have many challenges:

1. A punishing “ad tech tax” extracted by the numerous ad tech middlemen required to realize digital ad revenue
2. Evolving standards for measurement and crediting of viewable impressions
3. The pollution of ad inventories by fraudulent actors and non-human traffic
4. Advertiser pressure toward greater use of margin-squeezing programmatic ad buying techniques
5. Growing use of ad blockers
6. Continued consumer resistance to paywalls for all but the most non-substitutable content

She also pointed out that the need for data in the future is:

- To take maximum advantage of their first- party data as a way of guaranteeing high-quality environments for advertisers
- Keep focusing on the media currency data and other media and consumer data of high quality

Therefore, there is still a need to have common currencies for trading that are: **Relevant, Independent, Credible, Accepted, Comparable and Transparent.**

1.2.2 The Request for proposal (RFP)

On July 5th 2016, MBL distributed a request for proposal (RFP) for the new Print and Online measurement in Norway, starting from 2018. It was important that the new service would be suited for the specific market situation and the demographic and geographical structure of the Norwegian population, requiring interviews by CAWI or CATI. Taking into consideration the increasing number of online subscribers and data generated by this group was also pointed out as crucial in the RFP.

MBL defined six key objectives for the new media measurement service:

1. ***A common currency with validated numbers for media usage, reach and data for media planning. The currency should allow aggregation and breakdowns for all titles, platforms and devices.*** In comparison with the existing well-known systems, there was a desire to move towards building up a more module based and flexible system.
2. ***The official documentation of media usage in Norway, for use by advertisers, the media and the government.***
3. ***Linked to a common target group index for use with the data.*** It should be possible to connect the index-data to several data- and analytic systems, included SSP/DSP-systems
4. ***The service must include a dataset of usage of all MBL (online) titles, delivered in real time.***
5. ***Transparent, well documented and designed to be of good use to the advertising market.*** To secure more cooperation between advertisers' agencies and media, even though the service would be owned by MBL.
6. ***Allowing independent validation of methods and results***

Additionally, it was important that the solution was presented with an analysis- and planning software addressing all common usage of the online data, demonstrating the role of MBL online media in advertising. Other desired specifications were real-time offering for trading systems, a well-documented API facilitating export of raw or processed data to other applications, and an online publication of the official readership data.

1.2.3 The tender process

Three participants delivered a proposal on all requested surveys (print, magazine and online), while three delivered online solutions only. The announcement of the successful tender was made in December 2016, and the contract was rewarded to Kantar, subcontracting comScore for the online module.

1.3 THE NEW COMBINED CONTRACT

Kantar currently holds the position as the sole provider of official media currencies in Norway, and their partnership with MBL dates back more than 25 years. On the currency level, we have separate contracts for measuring print-version of newspapers, print-version of magazines, TV-meter, outdoor and PPM for radio until the end of 2017, when the Radio contract is in play.

Kantar's alliance with comScore dating from February 2015 represents new possibilities for a total eco-system including the new online measurements. The new contract will strive to build new flexible solutions in a rapidly changing media environment, but at the same time secure the continuum we have in the long-established measurements.

The new approach combines person-level measurements from a sample of recruited panellists with census data from tagged web entities (websites and apps) to account for 100 % of the use. The person centric data will also be the source for calibrating readership figures for newspaper and magazine surveys conducted by CATI and CAWI. Each participating media will receive access to all data made public through comScore's MyMetrix. This includes both own statistics and reports for competitors in the Norwegian market and abroad, regardless of comScore tagging. APIs are available for extracting raw data, and top-lists will be made available through public websites for comparison month by month.

To secure enough time for development and if necessary downscaling, the contract can be terminated upon a 24- month notice. All adjustments suggested by the involved parties are to be approved by MBL upon implementation, and every year Kantar holds responsibility for contractual revisions according to MBL's strategic expectations.

2 THE ONLINE MEASUREMENTS

2.1 THE NORWEGIAN INTERNET MEASUREMENT SERVICE 1995 – 2017

Kantar have been measuring Internet use in Norway since 1995 and the main purpose have been to measure Internet use for the participating websites. MBL represents websites ranging from local newspaper sites to the largest media sites, and they have a long history going back to 1996 as clients of the Kantar Internet measurements with use of different technologies.

When we started to measure Internet sites in Norway back in 1995, it was a straightforward procedure to measure both local and national newspapers by CATI (Engen & Futsæter, 2013). Almost all of the measured media were websites from traditional newspapers and TV stations. They had the same media titles as the paper editions and very strong brands in their local and national markets. In 1998, the CATI measurements was combined with browser measurements. When use of mobile content started to increase less than ten years ago, we started measuring the largest mobile services as well. We have measured mobile content since 2005, first by CATI and later by site centric and user centric data gathered from people’s mobile phones.

From 2009-2017 we have a hybrid methodology system consisting of three measurements (Engen & Futsæter, 2015):

- The site centric browser measurement system TNS Scores gives detailed traffic measurements for all Norwegian web sites.
- The Norwegian Internet Panel measures Internet usage at work and at home for all websites measured in Scores.
- The multi-media survey C&M produce official currency figures for local newspapers. The survey makes it possible to perform various analyses such as cross-platform, multi-media and target group analyses.

Kantar has a long history of measuring Internet sites in Norway and we are now entering a new era.

2.2 THE NEW INTERNET MEASUREMENTS FROM 2018

The New Print & Online Contract is between Kantar and MBL, and comScore is the subcontractor for the online data. comScore is the world leaders in online measurements and they are reporting digital content in more than 40 markets.

The disparity between census and panel data has since 2009 been the Achilles Heel of digital measurement in Norway and in other countries. The two measurement have different objectives, they employ different counting technologies which often results in differing metrics that can cause confusion an uncertainty among publishers, media agencies and advertisers. This approach combines person-level measurement that combines person-level measurement from desktop and mobile device panels with census data to account for 100% of the use. The total size of panels in Norway will be several thousands of internet users consuming the on-line content from different devices. Participating companies place tags on all their content – web pages, videos, apps and ads, and these calls are recorded by comScore servers every time content is accessed. comScore is able to view these calls on its global panel in addition to measuring the census tag calls.

2.2.1 The desktop audience measurement MMX

comScore has implemented a panel-centric unified solution to audience measurement, creating a combination of these two methodologies into a “best of breed” approach that provides a direct link between census and panel approaches. Therefore, the integration of census and panel data will overcome deficiencies that you can see in this table.

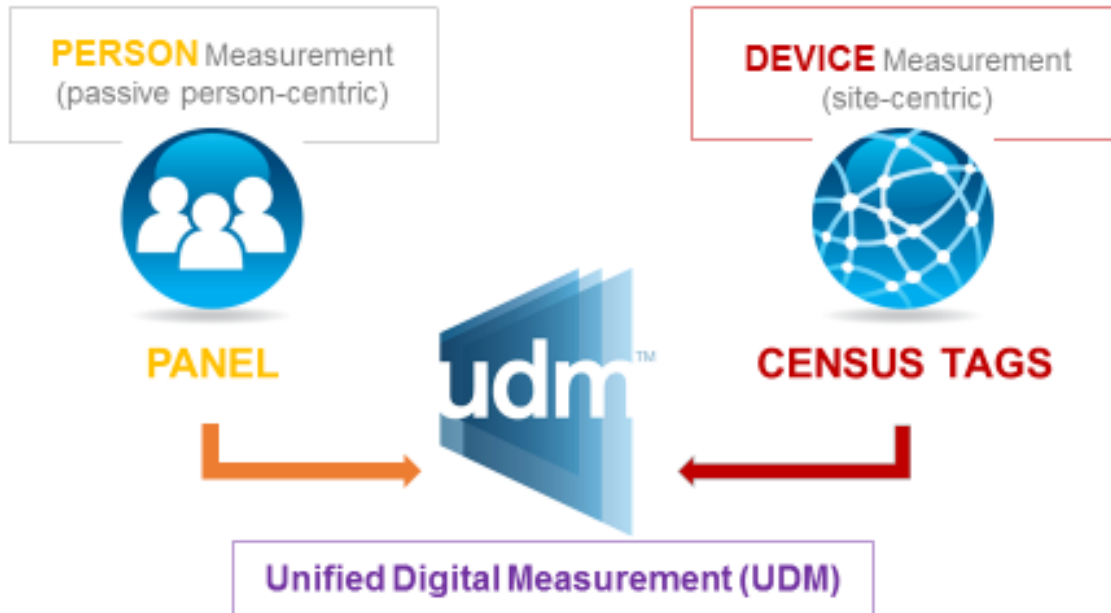
Figure 7. Integration of census and panel data overcomes deficiencies

Data asset	Deficiency	Unified solution
Panel	Volatility in the long tail, limited granularity	Census data introduces increased granularity and stability for smaller media entities
Panel	Challenges measuring the entire detailed traffic (and also mobile: in-app, new channels, secure)	Census data assures that all activity is credited
Panel	Behavioural biases accruing from recruitment and sampling	Census data provide an opportunity for calibration
Panel	Limited flexibility to expand to new digital platforms	Census data can quickly cover new platforms and deliver platform de-duplication insights
Census	Incomplete coverage of tags (e.g. tags falling off a part of the site, not-collaborating publishers)	Panel data allows for identifying and quantifying the extent of coverage gaps
Census	Impossible to translate cookies to persons on multi-user desktop computers	Panel data provides cookie-to-person conversion factors at the site level
Census	Impossible to assign demographics to traffic without panel inputs	Panel data provides demography

One of the main elements in the UDM is the data integration process. This slide outlines the UDM flow applied to desktop data to calculate desktop audience results, however UDM is applied to all platforms (<https://www.comscore.com/Products/Audience-Analytics>):

- It is an integration of census and panel data.
- Reports accurately on tagged and non-tagged content.
- Cookie per person calculated for each reportable entity or media separately.

Figure 8. comScore's Unified Digital Measurement (UDM) system



2.2.1.1 Desktop panel recruitment: Passive Indirect Recruitment (PIR) from a wide variety of sources

comScore's panellists are recruited exclusively online using two methods: an affiliate program and through a series of third-party application (TAP) providers. The affiliate program is a broad network of generally small-audience web entities where potential panellists are recruited via banner or text ads. Prospective panellists who click on these ads are directed to comScore's online registration site. The majority of comScore panellists come from the TAP program. The TAP program involves comScore's partnership with application providers who offer visitors a vast array of free software, applications and utilities in return for "eyes on."

2.2.1.2 The passive measurement of activity of comScore desktop panel and SAT

comScore's proxy software agent allows comScore to "see" user activity and the meter has access to all Internet traffic between the Internet and the user's computer. It is also monitoring user interaction with keyboard and mouse. Session Assignment Technology (SAT) distinguishes between users of a computer and assigns each browsing session to a specific person:

- Most of the desktops in Norway are single user computers. In the case of single user computers, the session assignment is straightforward and simple
- Sessions on multi-user computers can be split into two categories:
 - "Marked sessions" where comScore collects information about the user (e.g. email address, name, nickname, etc.) which makes the assignment of the session also quite easy
 - "Unmarked sessions" where no clues are collected. In these instances, comScore analyses user behaviour during the session and compares it to the past data about the users of the computer. Also, comScore analyses day of the week, time of the day and interaction of the user with the keyboard. All these signals help to identify a specific person from the roster of the computer (roster = potential users of the computer)

2.2.1.3 Demographically and behaviourally weighting

Demographic break proportions are provided by the enumeration study. However, the enumeration study cannot not provide robust information on behavioural aspects such as intensity of web consumption. comScore's census network gives the opportunity to empirically observe consumption intensity in the wild and determine the intensity targets (Census Informed Targets, CIT). Intensity targets (CIT) balance the panel data in terms of behaviour in addition to demographic weighting (Smékal, 2017).

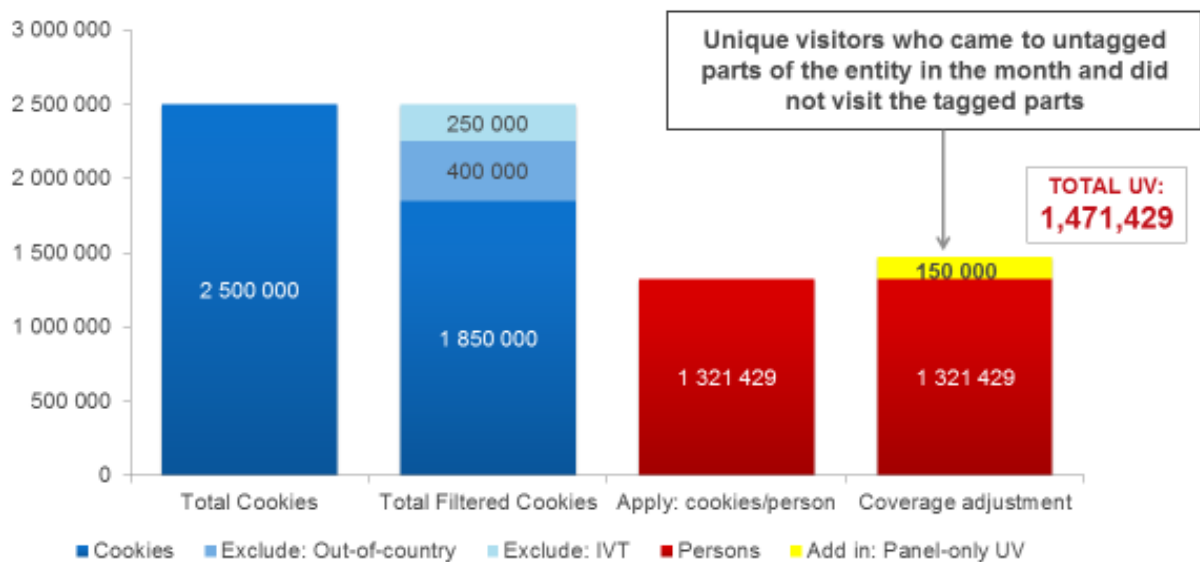
2.2.1.4 From total cookies to unique persons (applied to desktop)

The steps in the UDM calculation (Smékal, 2017):

1. Total cookies collected by the comScore tag (site centric measurement).
2. Total filtered cookies = Total cookies – IVT traffic (Fraud/IVT detection: bots, spiders, click farms, content scrapers) – Traffic outside Norway.
3. Cookies per persons at entity and site level is obtained from the weighted PC sample. The Cookie-Per-person calculation process accounts for all the different scenarios of cookie deletion, more users “hidden” behind a single cookie, a single user browsing from more browsers or profiles on a single computer, etc.
4. Unique visitors who came to untagged part of the entity in the month and did not visit the tagged parts .are added to the UV result calculated from census data (site-centric measurement).
5. The final audience (UV) result of an entity/site then combines tagged portion (census + panel data) and non-tagged portion (panel only) of the entity content to report accurately on the total audience of the entity/site. This approach allows to report consistently both tagged and not-tagged entities together in the final set of results

Figure 9. Unique visitor waterfall analysis example

UDM: Unique combination of panel and census data - UV



2.2.1.5 MMX quality assurance processes

Quality control procedures and edits that are applied to the data and calculations are implemented at several stages of the hourly, daily and monthly data collection and production process. Monthly data is evaluated using its own specific set of parameters that revolve mainly around the following areas:

- Total Internet estimates
- Weighting process and recruiting bias
- Dictionary accuracy
- Entity level checks
- UDM (Unified Digital Measurement) process – integration of person-centric data collected from a sample of panellists with server-centric census data from tagging web entities (<https://www.comscore.com>).

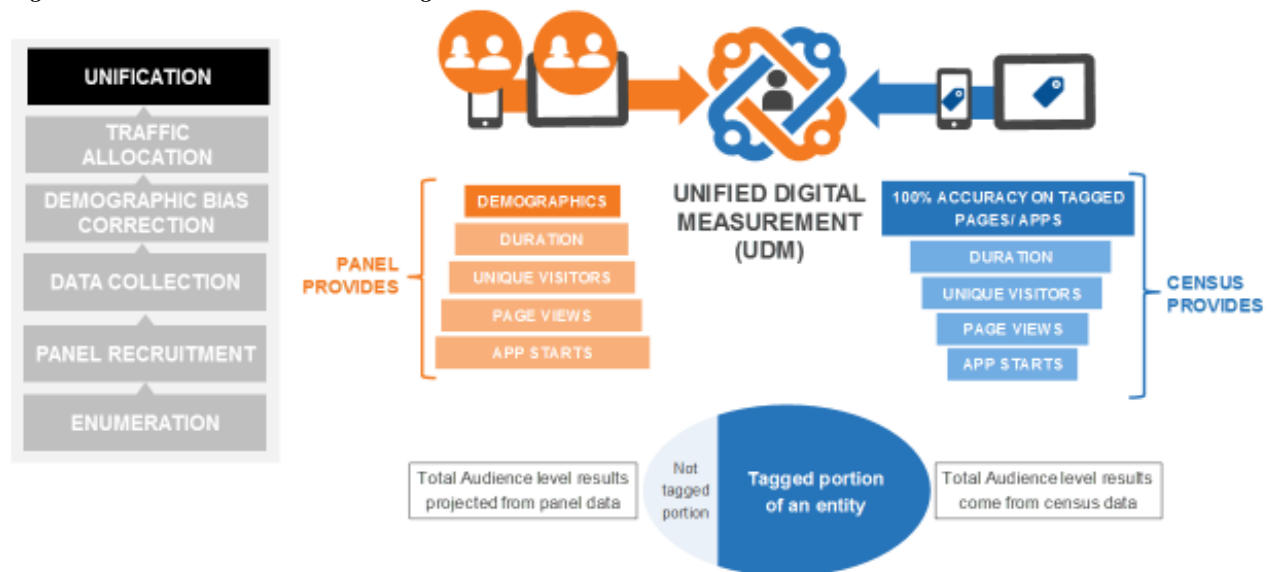
2.2.2 The mobile audience measurement (MoMX) for mobile phones and tablets

UDM applied to mobile is shown below (figure 10). The mobile solution is slightly different compared to desktop but the main principle remains unchanged: Audiences of non-tagged entities are projected from weighted samples and the case of tagged entities the core input are census data. The objective of Mobile Metrix is to measure and report on browser and app consumption from mobile devices (smartphones and tablets). MoMX covers following platforms: Android phones, iPhones, Android tablets and iPads through two main access methods - browsers and applications - as well as the combined view of both access types. The universe of Mobile Metrix is limited to persons of 18-years or older in order for comScore to keep consistency with other international markets and to meet legal requirements applied to panel recruitment. Mobile Metrix leverages the Unified Digital Measurement methodology developed by comScore using insights from both census data coming from the apps & site-census measurement and from person-centric data from the mobile panels.

2.2.2.1 Universe (reportable population)

- The enumeration survey used to estimate the size of the Norwegian population accessing Internet from mobile devices is collected by Kantar.
- Universe definition: *Persons age 18+ who are active on the internet in the last 30 days from their Android or iOS phone or tablet (from a browser or an app) from the country.*
- Census traffic is calibrated to accommodate to age 18+ years by category factors to remove under 18 year for census traffic (a model based on MMX observations).
- The universe is defined as primary users of the device.
- Access Type: Browser Only, App Only, Browser and App Combined

Figure 10. Mobile UDM modelling



2.2.3 The total digital audience measurement (MMX Multi-platform)

comScore utilizes the underlying UDM methodology for all the individual platforms contributing to de-duplicated Multi-Platform audience results. In addition, Multi-Platform utilizes comScore's expansive census network for calculating the overlap between devices at the person level. Using a broad based data set empowers us to observe and isolate a large sample of people that use various connected devices. This regularly updated data set informs our continuously improving algorithms about the evolving dynamics of these users and also gives us a rather large, statistically significant sample set to report incremental, overlapped and exclusive audiences across all of these platforms.

2.2.3.1 Overlap calculations informed by the Dynamic Panel

comScore has developed an asset we refer to as a "virtual" or, more commonly, "dynamic" panel, from the pool of census data comScore collects from tagged publishers. The dynamic panel is essentially an aggregation of digital devices knitted together into households, based on a common IP address. By creating a dynamic panel in this fashion, comScore is able to make observations about cross-platform duplication that inform audience de-duplication processes. In practice comScore perform overlap calculation at the demographic cell level for each entity separately (see figure 11) (Smékal, 2017).

2.2.3.2 The Total Digital Population (TDP) definition (MMX Multi-Platform):

Persons aged 6+ who accessed Internet from Home or Work PC/Laptop computer in the last 30 days
AND/OR

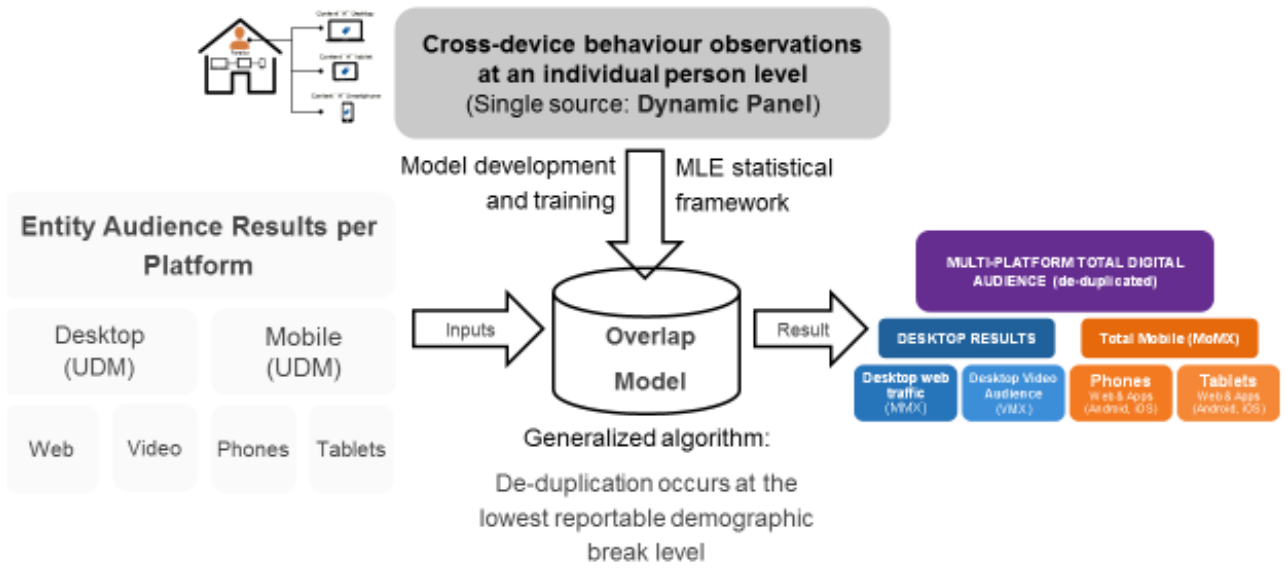
Persons aged 18+ who own or are the main user of an iOS or Android mobile phone and used the phone to access the internet in the past 30 days

AND/OR

Persons 18+ who are the primary users of an iOS or Android Tablet and accessed internet from the tablet in the last 30 days

Universe estimates are provided by the enumeration survey.

Figure 11. The total digital audience MMX Multi-platform modelling



The overlap methodology is based on modeling techniques that are currently deployed in other JIC markets such as UK and Spain (<https://www.comscore.com/>).

When it comes to fraud, comScore guidelines are accredited for Sophisticated Invalid Traffic Filtration by MRC. This is of cause important for the data quality and integrity.

3 THE NEWSPAPER MEASUREMENT

3.1 NEWSPAPER MEASUREMENT 1988 - 2017

In the late 1980s Gallup introduced telephone interviewing (CATI) in Norway. This improved the sample quality and interview control, and made the FRY model feasible. NAL (Norwegian Newspaper Publishers' Association) and Norsk Gallup decided to use CATI FRY and establish a multimedia survey with marketing information – and Consumer & Media (C&M) was born. The Norwegian NRS has since 1988 been an integrated part of this multimedia survey. C&M has been and still is the most important tool for media agencies, media and advertisers for describing markets and target groups, and for choosing media for advertising campaigns in Norway.

3.1.1 From FRY to Pure Recent Reading (PRR)

The Recent Reading (RR) model holds up under a number of assumptions. One is that the publication is exactly regular with all publication periods of equal length. This implies that, strictly speaking, RR is unsuited for situations where the interval between successive issues varies, which happens to be the situation for most of the newspapers in Norway. Consequently, *Pure Recent Reading* (PRR) was developed in Norway. PRR calculates the number of readers for the actual issue periods, depending on the day of the interview and the day of publishing. For newspapers with 2-6 issues weekly, PRR better satisfies the strict theoretical assumptions for Recent Reading, which is recognised, but often ignored (2001).

3.1.2 More frequent and detailed reporting of readership figures and forecasting readership

In the late nineties, new market demands and competition from TV Meter data, with its detailed overnight reporting, and the Internet, with even faster and more sophisticated data, had put print research under pressure. Moreover, the newspapers had a growing demand to analyze seasonal and day-to-day changes themselves in order to make strategic editorial assessments in an ever-changing media landscape. We also developed models forecasting readership figures for a given date in the future (2003). However, despite initial interest from the market, the new figures and reports were actually not used and implemented in the working routines for the newspapers and the media agencies.

3.1.3 From AIR to extended currencies for newspapers

In the beginning of 2000, media agencies and advertisers put pressure on the newspapers to develop a more precise measurement of readership than AIR. To meet the demands Kantar developed extended currencies for newspapers, more frequent and detailed reporting of AIR figures and moved the newspaper currency to level three of the Media Effect Pyramid (MEP) (2009). We developed a system that, in addition to the AIR figures for each measured newspaper, also gave a set of respondent-level Content Exposure Probabilities (CEP). Implemented in the planning and analysis software, these CEPs will extend the newspaper currency from a strictly AIR-based currency to a currency that yields a better estimate how many and who will see an ad placed in a given newspaper. The intention was to move from an Opportunity To See (OTS) for a newspaper to an OTS for an ad in a newspaper, thereby narrowing the gap between newspaper currency and TV, Radio and Internet currency (hence moving to Level 3 of the MEP). Again the newspapers and media agencies were not able to use and implement the data in their work, and in 2016 the measurement of content categories and Page Traffic were removed from the NRS.

3.1.4 Measuring digital content

We have successfully reported the total media brand footprint for the media houses since 1996 in the multi-media survey Consumer & Media (C&M) by using the recall method. However, it is a growing challenge to use recall as a method for measuring all types of content on all platforms in 2017. For instance, respondents don't recall whether they have read a particular newspaper on a tablet, on a mobile phone or as an ePaper. A solution is to combine recall data with data from passive electronic measurements and use various data integration techniques to report media usage by platform and total brand footprints in multi-media surveys such as C&M (2013).

In 2017 we measure and report web sites, mobile and ePapers, and most of the figures are calibrated to the census measurement Scores.

3.2 THE NEWSPAPER MEASUREMENT FROM 2018

The Newspaper readership measurements will still be collected by CATI, and the NRS survey will still be integrated in multi-media concept Consumer & Media and we will be using the *Pure Recent Reading* method for estimating the AIR figures. The new system will measure and report reach and frequency across platforms, screens and devices.

The research industry and the JICs are under severe financial pressure and the ad revenues for print media in Norway has dropped dramatically the last years. As a consequence of these changes, the new contract is flexible when it comes to yearly revision of methods and sample sizes. The sample size will be 45.000 interviews in 2018 but could be reduced later.

3.2.1 How to reduce fluctuation in readership figures for local newspaper?

Kantar will in 2018 conduct 45.000 interviews yearly, but given the Norwegian newspapers geography only 200 for the smallest local papers. We are measuring more than 150 newspapers and about 140 of them are local. It is challenging to measure and report 140 local newspapers. Small local newspapers with few interviews have large fluctuation in the readership figures. Around 40 of the 150 measured papers have high uncertainty associated with their official readership figures due to low sample sizes and substantial errors of margins. Changes in geographical media districts, less sample control when the amount of CAWI interviews increases and decreased overall sample amplifies these challenges.

To overcome these challenges, we look into how we could develop special procedures for reducing fluctuation for small newspapers. It is basic knowledge that larger samples give safer and more stable figures, so this approach is not controversial. There are several approaches for reducing statistical fluctuation for the smallest newspapers:

1. The easiest way will be to expand from 12 months to 24 months of interviewing for estimating the readership figures.
2. A more advanced approach will be to use weighted average: Use 3-4 years of data with extra weight on the last measurement.
3. A third alternative could be to develop a forecasting model built on all accessible data for all newspapers.

Currently, we have decided to go further with the forecast model. Time Series Modelling (TSM) from SPSS is used for predicting trends and making forecast for time based data series. By using the TSM, we can predict what the next readership figures will be, based on previously measured readership for the smallest newspapers. We build individual forecasts for each newspaper as to how long we have collected data for each newspaper. The predicted value will replace the last measured readership figure levels to prevent fluctuations in the figures. Preliminary analyzes show that the estimates from the model are very close to the weighted average estimates. The forecasting model TSM looks promising so far, and we will do further work with this approach and discuss it with the Steering committee for the newspapers. The economic recession and the digital transformation challenge the research industry for the print measurement to look at other less costly measurements. Modeling of readership figures could also be a simple approach in new markets where there is less money for large samples.

3.2.1 The Brand First approach for measuring all platforms

The Norwegian newspapers consist of a larger number of small local newspapers, some regional newspapers and a handful of national newspapers. All newspapers have a website with updated news content and a mobile website. In addition, several newspapers have developed paid digital replicas, often called 'ePapers'. Currently, most of ePapers are PDF copies of the paper edition. Furthermore, some newspapers have launched specific digital editions, often named 'plus' or 'extra' products. As the interface, content and ads could be different from platform to platform, the publishers want figures for the different platforms and products. The challenge is that the media houses continuously create new editorial solutions on different platforms, and that they want readership figures for each edition and for the total brand. With all the different newspaper versions, the respondents have difficulties when trying to recall details of their digital media usage.

Recall methodologies have their limitations when it comes to measuring all types of digital content. Thus, we have to combine traditional surveys with passive electronic measurements, and use data integration to report consumption of digital content in the traditional NRS databases. In that context, we think that Brand First is the best method for establishing readership figures for all platforms and the total brand footprint.

From 2018, we will measure and report desktop (PC/Mac), tablet, mobile, ePapers and traditional paper editions. We will change from measuring platform by platform to a Brand First approach. However, there are some key issues for Brand First; some of general methodological character, and some specific for the Brand First approach.

3.2.1.1 Some general methodological issues

The complexity of measuring media content on different platforms for many brands is more challenging than ever before.

1. Collection methods

- Conducting Brand First on CATI is different to online collection. 40.000 interviews will be conducted by CATI and 5.000 online in NRS for 2018. When it comes to online, an increasing share of the respondents prefer to respond using their mobile phones. The online measurement has to be future proof by using mobile first approach.

2. The interview length and the total number of titles

- In general, the interview has to be as short as possible for any interview. CATI and CAWI (mobile) should not extend 15 minutes. Both the CATI and online part of the survey should be constructed with as few questions as possible, extensive use of filters and with short and clear questions and instructions.

3. Which media types and platforms are going to be measured?

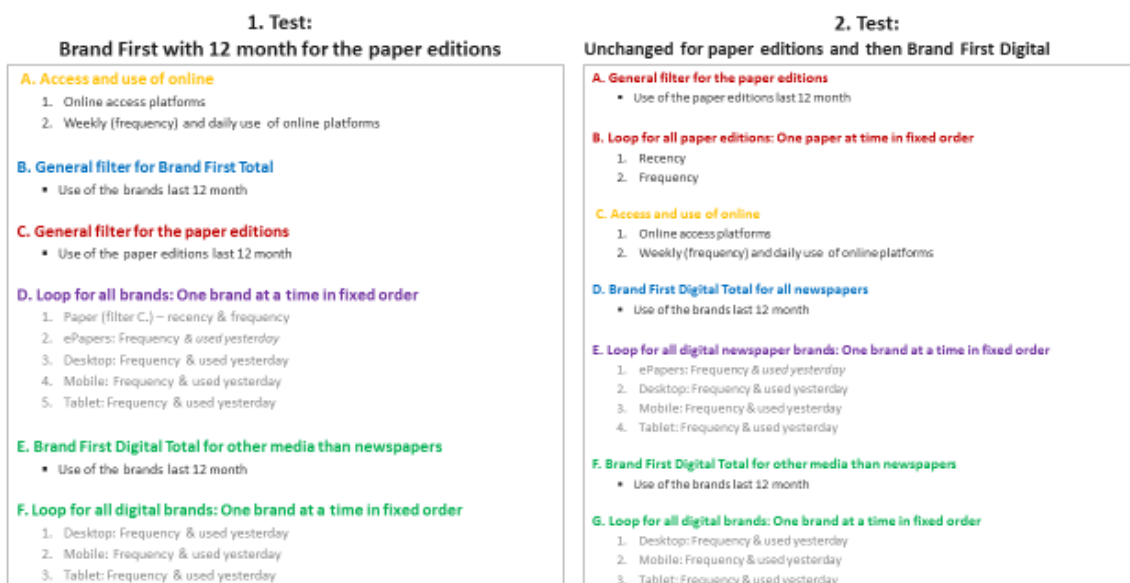
- Both newspapers and magazines, or only newspapers? What about digital content from other media companies?
- All types of media content, only text and pictures, and what about audio and video streaming?

- What about ePaper (PDF replica)? They can be read on all platforms. Are the ePapers identical replica of the “paper” edition or are the content extended with new digital features and characteristics?
4. **Brand First is more suitable for newspapers than for magazines in Norway**
 - In general, we think that the Brand First approach is more suitable for newspapers than for magazines. In Norway we have strong newspaper brands with a limited number of national editions, and few local papers presented to the respondent. Since we must have larger national samples, the natural choice is CATI. However, it is very different for magazines. All respondents are presented to all magazines. Some of the magazines are looking very similar, and many of them have “weak” brands with less loyal readers. Hence, the solution for magazines is showing logos and front pages, which is time consuming for the respondents. On top of that, we must survey the digital platforms. Therefore, we are more sceptical to use Brand First for magazines in Norway.
 5. **Instructions, definitions, help texts and/or visual prompts to the respondents (of platforms and/or the branded ‘products).**
 6. **The context and order of the instructions and questions**

3.2.1.2 Some specific Brand First issues

1. **The importance and use of the measured figures.**
 - Which of the platforms are most methodological and/or political important? Are the digital results going to be calibrated or fused into the NRS? If calibrated or fused, the measurement of the digital media is “less important” than preserving the paper currency. The focus lies on the digital figures but since the ad revenue from digital is lower than from print, the change in method could result in a decline of print readership figures.
2. **Order of questions and context**
 - The order of questions and context in the interview is crucial for the results. Only small changes in the order could influence the result. Our experiences from 2016 (Futsæter, 2016) show that starting with some general digital questions, followed with the Brand First Total (with a help text to the respondents emphasizing that we mean all types of content on all platforms), the respondents tend to forget about their offline reading of the paper editions. The analyses show that the paper figures were much lower than the official NRS figures. Based on the results, we will run new tests where we start with paper questions before we move into Brand First for digital. The second test will be as similar to the current NRS as possible, while the first test will represent a hybrid Brand First.
3. **The number and order of filter questions**
 - We think there are several variants of performing Brand First. One of the main issues is the number of filter questions and their order. To minimize interview time we should only have one general filter question for the total brand (used last 12 months). However, for technical reasons we would like to have filter questions for each platform. If we only have one general Brand First total question we would have challenges finding max reach (12 months) separately for paper, mobile, tablets, and desktop. There are at least three ways of asking the Brand First filter questions, and they all have different pros and cons:
 - a) Only one general filter question for the total brand.
 - b) Start with a total brand filter question followed by filter question for print followed by filter question for total digital
 - c) Start with a total brand filter question followed by filter question for print, ePaper and then filter question for all digital platforms.

Figure 12. Two Brand First



4 THE MAGAZINE MEASUREMENT

Based on the Media Effect Pyramid (Futsæter, Sandvik & Østnes, 2009), the media agencies and advertisers have put pressure on the magazines to develop a more detailed measure of readership than AIR, to deliver more detailed readership reports and report cross-platform reach. In 2012, the NRS for magazines changed from 6 000 F2F-interviews to 12 000 interviews; 9 600 by CAWI and 1 400 with pen and paper. The new currency Gross Exposure Points (GEP) was introduced to move advertising sales from “price per ad” to “price per exposure” and we established a 360-degree measurement system for the magazines with a new currency for print and online figures.

4.1 MEASURING MAGAZINES ONLINE WITH A DEVICE AGNOSTIC APPROACH

The sample size for the magazine measurements is still 12.000. In 2017 the survey was carried out with 90% CAWI interviews and 10% with pen and paper, and from 3Q 2016 we developed a mobile first approach with a device agnostic feature. The survey and its interface is therefore customized to which device the respondents use.

Figure 13. The CAWI measurement for magazines with a device agnostic approach

Except today, when did you read or look at the following magazines last time?



HER OG NÅ

HER OG NÅ

HER OG NÅ

HER OG NÅ

- Yesterday
- 2-3 days ago
- 4-7 days ago
- 8 - 30 days ago
- 1 - 12 months ago
- Rarely / never
- Never heard of
- Don't know

Online interviewing has several advantages such as better control of the sample and continuous, daily interviewing, more effective use of screening/filter, rotation and use of stimulus. Based on these advantages and experiences from other online surveys, we developed the following working guidelines for our magazine survey:

- It is more important to use the most optimal online design for the respondent rather than adopting traditional readership surveys conducted by F2F or by self-completion.
- The introduction and information to the respondent has to be very short and exact because the respondent seldom reads all the instructions.
- The interview has to be as short as possible. People are very impatient when they answer online.
- People don't like repetitive questions or questions that are perceived as repetitive.
- Use visual stimulus to avoid title confusion.

4.2 THE RESEARCH DESIGN

1. The Recency question with a new scale with an integrated hurdle question (general filter)

Most readership surveys use a type of screening question. However, the respondents don't like repetitive and monotonous questions and time consuming surveys. Furthermore, testing shows that more people answer inside the filter question (last 12 months) when started directly on the recency question as compared to having an initial filter question. The recent reading levels were at the same level in both tests. Thus, we decided to skip the screening/filter question (Broady, Futsæter, Sandvik & Østnes, 2013).

- The first question is the recency question. In online measurement the magazines are first organized based on publication frequency and then by homogeneity. Publication with similar mastheads (logos), content and competitors are placed together to avoid confusion. Both mastheads and the front pages of two issues are showed to the respondents. In the paper edition of the survey we only use mastheads (logos).
- The wording of the recency question: *Except today, when did you last read or look at the following magazines?*

2. The frequency question

We have a traditional numeric frequency question: *How many of the last six issues of these magazines have you read or looked at?* Titles are first grouped by publication frequency and then by homogeneity.

3. The reading occasions question (NRO)

Then comes the NRO question: *Approximately how many times do you usually read or look at an issue of magazine ... ?*

4. Amount of reading (RES)

The last standard question is the RES questions: *When you read magazine X the last time, about how much of the magazine did your read or look at?*

Time spent reading and source of copy are measured but not part of the estimation of readership figures, and they are not reported in Gallup PC. We have also started to measure of common digital content from the publishers where the subscribers pay for one edition and get several digital magazines free (eg. Pling, wipe).

From 2017, we changed the order of these four questions from asking them one by one for all titles before we move to the next question, to first ask the recency/hurdle question for all titles and then title for title frequency, NRO, RES, time spent reading and source of copy. This is in a way similar to the Brand First approach for newspapers (see 3.2.2), and the respondents have appreciated these changes.

4.3 THE NEW GROSS EXPOSURE POINTS (GEP) CURRENCY FOR PAPER MAGZINES

During the years a number of initiatives have focused on the area of revealing the truth about multiple page exposures in magazines, and the main topics for our joint effort in this field are (Broady, Futsæter, Sandvik & Østnes, 2013):

- Except from print, all media are selling their inventory (ad-space) based on gross contacts, while magazines are still selling insertions, where the price is "determined" by net number of readers. For the magazines, this means less flexibility and not being able to capitalize on the fact that a magazine page usually is exposed more than once.
- The opportunity to sell ad-space in printed magazines combined with online impressions. Online publications in Norway are measured in a panel, and the currency for these titles is based on gross contacts. With the current currency (AIR) for magazines, determining the total figures for a combination of an online and offline campaign is close to impossible. With a new gross-based currency for magazines, this would be an easy case. See further description in chapter 2.3
- One of the unique strength of magazines is that they can be picked up and read on multiple occasions. The magazine industry really wanted to highlight the fact that they deliver substantially more contacts than readers.

Kantar introduced the new GEP measure in 2012, which is calculated by using only three elements:

- AIR: Average Issue Readership; calculated by using the Recent Reading question.
- RES: Readership Engagement Score
- NRO: Number of Reading Occasions

Gross Exposure Points (GEP) are calculated by multiplying AIR, RES and NRO. GEP thus gives an estimate of the number of exposures of an average page in a given magazine – a gross figure comparable to the commercial GRPs of radio and TV.

4.4 CROSS PLATFORM REACH

4.4.1 Measuring and reporting online magazine content

In 2017, we measured 28 online magazine titles in the TGI (C&M). Only six of the 28 titles have a daily reach above 50.000 users. The online editions are also measured in the browser measurement Scores and in the Norwegian Internet Panel (NIP). Since 2012, we have used a combination of Scores and NIP to calibrate daily and weekly reach from the online measurements into the TGI (Engen & Futsæter, 2015).

4.4.2 Total readership across publishing platforms

Since both the paper magazines and the online content are reported in Gallup PC (TGI) we are able to report total reach for the magazines brands and publishing houses in total. We have therefore had a 360-degree measurement in Norway since 2012. It is commercially interesting to see that the online services have different and often younger audience than paper editions (Broady, Futsæter, Sandvik & Østnes, 2013).

4.5 FROM “PRICE PER AD” TO “PRICE PER EXPOSURE”

One of the main purposes of introducing the new currency in 2012 was to illustrate the considerable number of exposures the magazines deliver. The net measures have been there for ages but no effort has been made to introduce something like GEP for ad-sales in magazines. We see the release in 2012 of GEP as the first phase moving towards a tighter relation between currency, advertising prices and a more dynamic model. Hence, the information has just been lost “in transition” and nobody really cared about it even if the multiple exposures magazines delivers has been a well-known fact. The introduction of the GEP concept was therefore quite well received in the market as a “proof of value”.

Compared to other media such as TV, Radio and even outdoor, the print currency is more loosely connected to the actual price of advertising. For TV, radio and Internet the price is a direct consequence of the actual gross audience delivered, and this is documented by each currency measurement respectively. For newspapers and magazines, the prices are grounded historically, and the price for an insertion is not necessary directly linked to the published readership figures. Today's print price model is what we could define as net based - price per ad. A future model could be gross based like in most other media. However, the new currency measures will have limited impact on the planning, buying and selling of advertising space in magazines until the GEP levels will have direct implication for the pricing model and prices for ad-space in magazines (Broady, Futsæter, Sandvik & Østnes, 2013).

There are lot of challenges in developing-new sales models for combined planning of campaigns, and changing the price models will need a strong commitment from the publishers. The publishers have to take advantage of their first-party data to guarantee high-quality environments for advertisers. Callius, Ekman, Sandvik & Østnes are discussing these matters more in depth in their paper: *Is there a Cyborg future for print in today's programmatic big data ecosystem* (Callius, Ekman, Sandvik & Østnes, 2017).

5 THE TARGET GROUP INDEX: TGI

One of the main objectives of the RFP from MBL was that new media measurements should be linked to a common target group index. It should be possible to connect the TGI to several data- and analytic systems, including SSP/DSP-systems (Callius, Ekman, Sandvik & Østnes, 2017). The media companies and the research industry have joined forces to develop new eco-systems where the official media currencies and TGI take an important role.

In most countries you will find official consumer data that in one way or another are connected to the official media data. The Norwegian TGI consists of 15.000 respondents with more than 5.000 variables:

- Demographics
- Official readership figures
- Web titles, mobile titles, total brand footprint
- Radio, TV, outdoor, DM, social media, search, catalogues
- Interests, attitudes, opinions
- Consumer habits, brand preference, FMCG, capital products
- Segmentation and targeting tools

5.1 WHY IS CONNECTING TGI TO DMP AN ADVANTAGE FOR THE MEDIA?

There are several advantages for the Norwegian publishers to connect the official TGI data with external DMPs:

- C&M and TGI have been the most important databases and analytic tools for the whole media industry in the last 25 years+, and are carrying the official print, web, mobile and total brand footprint.
- C&M can deliver both standardized and tailor made target groups for the publishing houses SSP's. This would make it possible to analyse both traditional media and digital media in the different DMP's.
- The TGI consists of more than 5.000 variables with high quality and transparency, probably far more data and of a higher quality than in most of the DMP's that are used today.
- Important step towards premium exchanges and direct programmatic giving the media better data to compete with Facebook and Google.

This is also in line with Susan Bidel's advice to the publishers that they have to maximize the advantage of their first-party data as a way of guaranteeing high-quality environments for advertisers.

6 CALIBRATION AND REPORTING

We have successfully reported the total media brand footprint for the media houses since 1996 in the multi-media survey Consumer & Media (C&M), using the recall method (Engen & Futsæter, 2015). However, we must measure and report content on all platforms more frequently and easily accessible than ever before.

From 2018, the new Norwegian measurement system will measure and report reach and frequency across platforms, screens and devices for the newspaper, while we will continue to report only total digital content for the magazines.

6.1 CALIBRATION

As pointed out at the last PDRF (Engen & Futsæter, 2015) we are not able to fuse all types of sites from the electronic measurements. Actually, we were able to fuse less than 20% of the sites whereas the publishers want to report more. This is the main reason why we have decided to retain the use of calibration techniques when reporting digital content in C&M. Other reasons are the amount of time and the resources it takes to fuse data compared to simpler calibration techniques.

From 2018, we will for the newspapers report desktop (PC/Mac), tablet, mobile, ePapers and traditional paper editions by calibrating official reach figures from comScore with the survey data in C&M. The total digital figures from the magazines will be calibrated to match the official digital figures delivered by comScore.

In an ideal world we would like to have full control of all sorts of duplications and net reach for digital content regardless of publication platform and use of different devices. However, this is not possible anymore and we have to make difficult priorities. As we see it, the most important issue is to report the total size of the publications as accurate as possible, and the drawback is that we cannot control for duplications.

There will always be sample size limitations regarding the usage of panel data for fusion into C&M TGI. Even with double or triple panel sizes, the samples would never be large enough for the smallest sites. On top of that, the publishing houses want more and more detailed digital data, they want real time data and not several months of old data. In this context, simple modelling such as calibration could be more feasible, faster and cheaper than advanced fusion techniques (Engen & Futsæter, 2015).

6.2 MONTHLY REPORTING OF THE MEDIA AND TGI DATA

6.2.1 Monthly reporting of online figures from Galileo (Gallup PC) and Medieportalen

The data will still be reported in Gallup PC which is the most used tool in the market. All digital figures from desktop, tablets and mobile will be calibrated monthly based on comScore's official online measurements.

Kantar will launch MediePortalen, a new web site with monthly updates of online data. The official figures from the NRS for newspapers and magazines will also be reported on the site twice a year with updated readership figures. Since Kantar also measure and report radio, TV and social media we will be able to present all of the official figures on one site. This will strengthen the attention and the use of all of the media currencies in Norway.

6.2.2 Reporting of online currency from comScore's MMX

The online figures will of course also be available from MMX Multiplatform Audience Analytics as part of the comScore MyMetrix platform. MMX provides a complete view into the consumption habits of your audience as well as your competitive set, along with demographics and cross-visitation information. MMX offers global coverage, reporting on more than 250,000 entities worldwide with audience measurement in 44 countries and 6 regions. By measuring audience composition and performance within key user segments, you can target based on a variety of demographic, lifestyle, product ownership and behavioural characteristics. MMX serves as the currency for media planning that allows you to compare online with other media using traditional metrics such as reach, frequency and GRPs (<https://www.comscore.com/Products/Audience-Analytics>).

7 CONNECTING THE DATA WITH EXTERNAL DATA SOURCES

The rapid decrease in programmatic advertising and the development of a new eco-system urge the integration of media and TGI data into DMPs for use in programmatic planning (Callius, Ekman, Sandvik & Østnes, 2017).

7.1 MEDIA CURRENCIES AND CONSUMER DATA INTO DMPS

There are a lot of different data in the DSPs, SSPs, and DMPs. The quality and transparency of the data can be highly questionable. Furthermore, more and more people, especially the advertising foundation ANFO in Norway (<https://www.anfo.no/>), have started to ask critical questions about how the data are connected, matched, fused etc. We are convinced that high quality data from the media measurement currencies and the TGI data will enrich the DMPs and make the process more transparent.

It should probably not deliver detailed data but some kind of general consumption for strategy analyses would be feasible. It could be the traditional readership figures for print and daily reach for TV-stations, viewing and listening on content categories and/or viewing and listening time for radio and TV. Some general levels of none-users, light, medium and heavy users of media channels and/or media could also be applicable. In Norway, we have one common official TGI that is used by the media, media agencies and advertisers (see chapter 5). The TGI is independent and credible with high quality, and should therefore fit excellent as a “donor of data” into different DMPs.

7.2 APPROACHES FOR CONNECTING DATA

There are many ways of connecting data in the digital world:

1. We have direct 1:1 matching where we connect data by known identifications, e.g. mobile numbers and e-mail.
2. Exchange of login data from different suppliers of data, e.g. connected by Facebook login.
3. Fusion of individual data from one data set to another is the most used method in media research. Fusions are highly depending on high quality and common hooks in the fused data sets, analytic skills and effective software.
4. Cookie matching is often used in programmatic today and the approach is built on lookalike modelling of cookies with similar traffic patterns. It is very much depending on huge data sets. The method and the quality of the data can be questioned and there is often a lack of transparency.

Kantar has been working a lot with profile matching by using similar taxonomies. We have developed taxonomies for modelling data from C&M to other data sets. Profile matching can be used in many cases; it is fast, flexible and transparent.

These approaches are not the only ones of on boarding to external DMPs, and we in Kantar have started the journey (Callius, Ekman, Sandvik & Østnes, 2017). It will be an important step towards premium exchanges and direct programmatic, and gives the media better data to compete with Facebook and Google.

8 FINAL REMARKS

8.1 SUMMARY

The media ecosystem is being transformed in unpredictable ways and content is consumed on multiple platforms. Traditional recall methodologies have their limitations when it comes to measuring all types of digital content. We must combine traditional surveys with passive electronic measurements and use more data integration techniques to report consumption of digital content in the traditional NRS databases.

To wrap up, we are proud of having established the first combined contract for print and digital aiming to develop ecosystems controlled by the publishers:

- Newspaper readership measurements continues to be collected by CATI.
- The magazine measurements will be carried out by CAWI with a device agnostic approach.
- The new system will measure and report reach and frequency across platforms, screens and devices.
- All digital figures from desktop, tablets and mobile will be calibrated monthly from comScore official online data into the delivery platform Galileo (Gallup PC).
- The total brand footprint for all media will be reported in Galileo (Gallup PC).
- Kantar will launch MediePortalen, a new web site with monthly updates of online data.

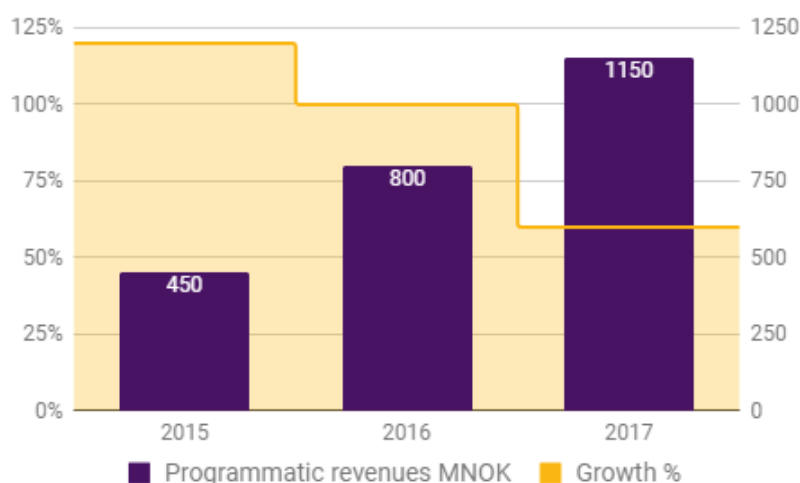
We think that most of you at PDRF can agree that there is still a need for media currencies, perhaps more than ever, and we need common currencies for trading that are relevant, independent, credible, accepted, comparable, and transparent. C&M and TGI are the most important databases and analytic tools for the Norwegian media industry. In C&M we can analyse both traditional media and digital media. Media and TGI data could be an important step towards premium exchanges and programmatic direct. There are many ways of connecting data into external DMPs and we have only just started the journey.

8.2 FUTURE PERSPECTIVES

8.2.1 New opportunities: New approaches

Advertising spending worldwide has steadily increased, and is expected to reach almost 550 billion U.S. dollars by the end of 2017. The largest ad market in the world, the United States spent more than 190 billion U.S. dollars on advertising in 2016 (statista.com). In its latest forecast, eMarketer estimates nearly four of every five US digital display dollars will transact programmatically in 2017, and buyers and sellers will continue to invest in automated ad buying. For both sides of the supply chain the desire and need for greater control are moving them toward more private setups. Already, 75 %, or 24 billion, of US digital display ad dollars transacted programmatically will go to private marketplaces and programmatic direct setups. In fact, the share of programmatic purchases made via open exchanges is declining, while the share transacted via programmatic direct is growing. This year, programmatic direct will represent 56% of programmatic display spending, while 44% will be bought via real-time bidding (RTB) (emarketer.com). In Norway, as noted in chapter 1.1.3, Close to 1/3 of display ad revenues is attributed to programmatic sales, and programmatic is forecasted to surpass a 45% share of display, excluding social during, 2017 (IRM). Even though the growth is declining, more and more sales are transacted programmatically. Programmatic ad revenues are estimated to reach 1.1 billion NOK in 2017, constituting 5.7% of the total ad revenues.

Figure 14. Programmatic revenues and growth year on year (IRM)



8.2.2 Premium environment

Concerns about ad-fraud, viewability and contextual placement of programmatic ads have changed the focus from reach growth to quality inventory, both on the publisher side and among inventory buyers. Recently, one of Norway's largest online websites for women deliberately reduced traffic by about 1/3 to make a stronger impact on the target group, and at the same time create a more targeted product for advertisers. Increased transparency due to data collection and predictive modelling is a major influence in this shift.

The move from remnant to premium marketing represents an opportunity for Norwegian publishers to focus on context and the quality of their editorial content. Several years ago but still just as valid, Curt Hecht from the Weather Company expressed: "For marketers, premium ad inventor means knowing your ad is connected to a highly valuable audience and connected to content or an experience that's important to consumers" (Digiday.com). In this respect, both internationally and in Norway, we notice a growth in fact checking services and blacklisting of websites containing inappropriate content. The latest initiative, svartelisten.net, a blog run by the Communications Adviser Hans-Petter Nygård-Hansen, shows examples of ads in potentially damaging environments, with the aim of increasing attention and awareness to the subject matter.

Programmatic direct or Private deals helps secure control over automated buys, and we have often seen cases of premium inventory and publisher owned data being restricted to private setups. When entering ad exchanges Norwegian publishers have leaned on different strategies. Ranging from releasing 100% of existing page traffic into programmatic systems, to keeping premium formats/Rich-Media and certain products for direct sales only (due to both technical restrictions and strategic concerns). All major players provide data segments based on first party data, in addition to partnering with second and third party vendors - data providers that largely also operate on their own.

8.2.3 Look to Europe

In 2016, 28% of the total display ad spend in Norway was estimated to end up in social networks, and concerns about the duopoly of Google and Facebook is continuously being debated, pointing to global competitors "stealing" advertising revenues from the Norwegian market. Often, the current tax environment has been in the spotlight, to some extent overshadowing the discussions on how to increase market strength through joint forces between publishing houses.

The Norwegian market is currently split between two tech companies. Egmont Publishing, TV2 and Amedia partnering with Google DFP, while Schibsted is investing in AppNexus and welcoming other Norwegian publishers to join their solution. Measures and attempts of cooperation exist, but mainly in minor scales and with protective views on publisher's first-party data. One example is Aller and TV2 offering joint inventory through existing DSPs. At the same time, third-party audience data providers like Nordic Data Resources (NDR) and Audience Project amongst others are common in the existing marketplaces.

Kjersti Løken Stavrum, COE at the Tinius Trust, recently advocated new ways of working together at NTBs 150th anniversary. *"The great movements in the media landscape require even greater ability to collaborate in the future. It is not that we are stronger alone. Nor that we are stronger together. The new thing is that we need to find new ways to get stronger together"*. Further, she emphasized a joint login solution and collaboration on Google news search. On the other hand, Head of the new project Digital Norway, and previous editor in chief at Adresseavisen, Tor Olav Mørseth says: *"I've been part of it as an editor myself, and its old strong brands, and it's scary to take grips that put your brand at risk. It's simply hard to accept risk in these type of companies"*. (Kampanje.com)

This illustrates much of the current situation in the Norwegian market. At the same time, several European countries presents promising solutions of joint forces. In Germany two high-profile cross-industry alliances aim to compete with the Facebook-Google duopoly. Axel Springer, owner of titles like national newspapers Bild and Die Welt, represents one of the alliances called Verimi, offering a joint login solution across all partner sites complying with GDPR. Nine members are already included, among them auto manufacturer Daimler, Allianz and Deutsche Bank, Lufthansa, Deutsche Telekom and IT security company Bundesdruckerei. None of these being media companies, and in this way avoiding potential disagreements that can arise between direct competitors. Verimi is open-standard, so although Axel Springer is currently the only media group involved, others can join, and the goal is to expand the service to other European markets. As CEO of Deutsche Telekom, Thimotheus Höttges, phrases it: *"Digitalization is based on simplicity and trust"*. The alliance's purpose is similar to the other major cross-industry universal login alliance, which German broadcasters RTL Group and ProSiebenSat.1 and internet services provider United Internet lead. Attaining mass reach will be the objective for both groups (Digiday.com).

In France, the major French newspapers Le Monde and Le Figaro, are setting aside traditional rivalries to scale their digital advertising offers to rival Google and Facebook in an alliance called "Skyline". Advertisers are allowed to book digital ad campaigns across their combined portfolio including 20 media brands, using the same display or video ad formats. In France, that puts them behind Google, which has 44 million monthly visitors, Facebook (40 million) and Microsoft (36 million). In comparison, Facebook has a daily reach of 71% in Norway, while Norwegian newspapers piled together reaches 82% of the population across all platforms.

Another interesting alliance to follow is "Gravity" where Lagardère, Prisma Media, Condé Nast, Le Parisien and broadcaster M6 are pooling audience data in an initiative involving around 15 publishers. Although the premise of both alliances is similar (to have the scale and data play to compete with the duopoly), there are big differences in each approach. The Gravity alliance is a data-pooling initiative, while Skyline focuses on combining products and keeping their data separately (Digiday.com). According to the

Norwegian media news site kampanje.com, there are also initiatives for an alliance between the four largest newspapers in Sweden, covering article sales.

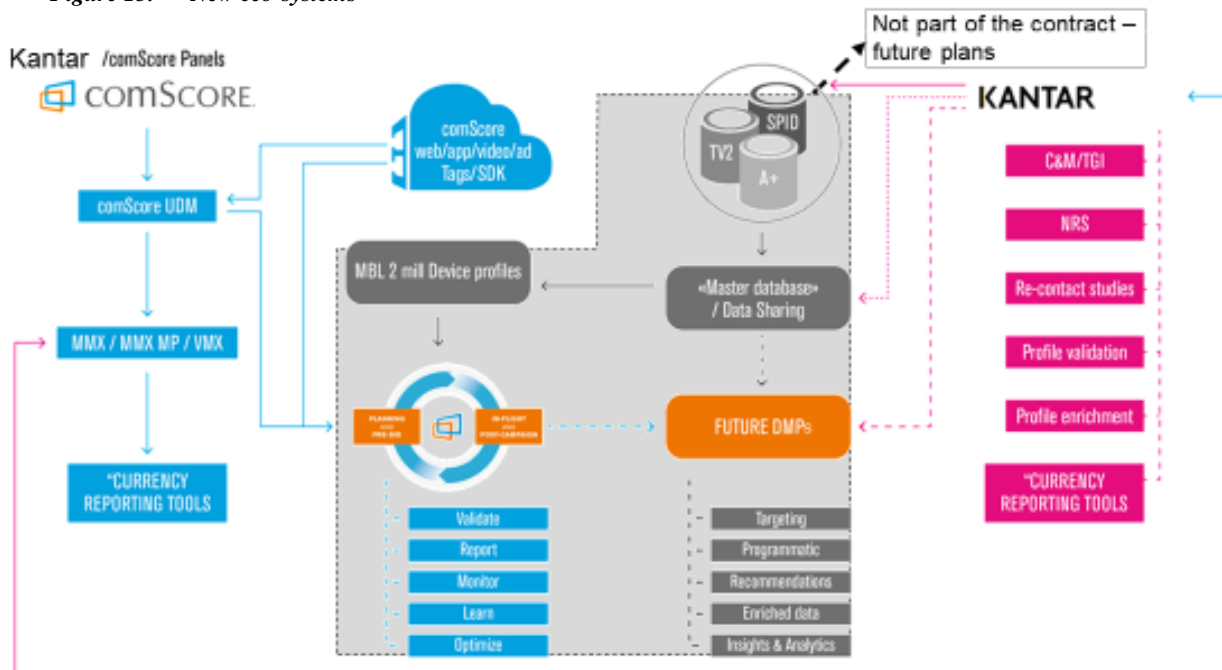
8.2.4 Future eco-systems

We expect the future of online planning, sales and analysis to develop more into two separate reporting requirements. One direction is to enhance the current reporting on websites usage, effectiveness, report on ‘true’ people and target groups, show unduplicated users between different sites, platforms and applications. In the other end of the media landscape, media agencies and advertisers need unbiased, true people based reporting on online campaigns. Content measurements using the same background demographics and target group indexes as C&M can provide, can be used in combination with ad and campaign reach, non-human traffic, in-view and click rates.

As we have seen, there are many players in the new digital eco-system, and the publishers keep getting less of the overall ad spend. However, there are also stories of need for greater control from the buy-side, and a desire to move toward setups that are more private. The starting disillusionment and increased skepticism from advertisers around the globe, supported by The Norwegian Association of Advertisers (ANFO), leads to increased attention towards documentation and a stronger need for trusted currencies in the ocean of data providers. This is an excellent opportunity for Norwegian media focusing on contextual relevancy and brand safety. The publishers have a lot to gain from maximizing the advantage of their first-party data as a way of guaranteeing high-quality environments for advertisers. This is where the official media currency data and other media and consumer data of high quality comes to play.

The Norwegian media companies have joined forces to develop the new print- and online measurements to create a common language for publishers, media agencies and advertisers, as well as a valuable source of information to the authorities. The new contract between MBL and Kantar/comScore, represents new possibilities for future eco-systems providing official media currencies in its simplest form, but with roadmaps for taking advantage of device profiles and target group data. Such a possible future scenario with different eco-systems is illustrated in the figure below.

Figure 15. New eco-systems



comScore offers access to the analytics tool MMX, and clients have the opportunity to retrieve Core Reports’ data in XML format directly from comScore database servers through existing APIs. In this way, Norwegian publishers have an opportunity to integrate data into their own systems in addition to withdraw data from the MMX interface. Furthermore, a common media portal is under development with the purpose of making the official data public, including top-lists and other sources of information to the market.

On the next level, Unified measurements and the existing TGI from Kantar merges into a unique DMP making data available in new ways. In addition, close to half of the Norwegian population, (aged 12 and up) will be logged in with a unique ID when accessing online titles, including more than 2 million IDs. Adding these data in the mix will make the DMP even more powerful and a valuable asset for media agencies and advertisers. The development of databases and DMPs is not part of the contract, but it presents the media with possibilities for further development and collaboration. MBL and Kantar have just started this new challenging, demanding and exciting journey towards new eco-systems in a continuously and rapidly changing new media and technology landscape.

The actual probability for further development of the eco-system as outlined, depends, more than anything, on the publishers' desire and ability to cooperate more closely. Joint sales forces and data pooling strategies are as previously mentioned emerging to combat global competition. The future will show to what extent such measures will be sought after also in Norway. Meanwhile MBL, together with Kantar and comScore, will continue the work to outline possible future scenarios for different levels of collaboration. In its narrowest sense, this involves continuous development of methods and reporting interfaces based on the current contract, and in its widest sense the work towards a common DMP, including log-in data and connecting data from the TGI. The DMP, let's call it "Media-Norway", could be directly integrated into publishers own DMPs and on the next level directly into market leading SSPs and DSPs.

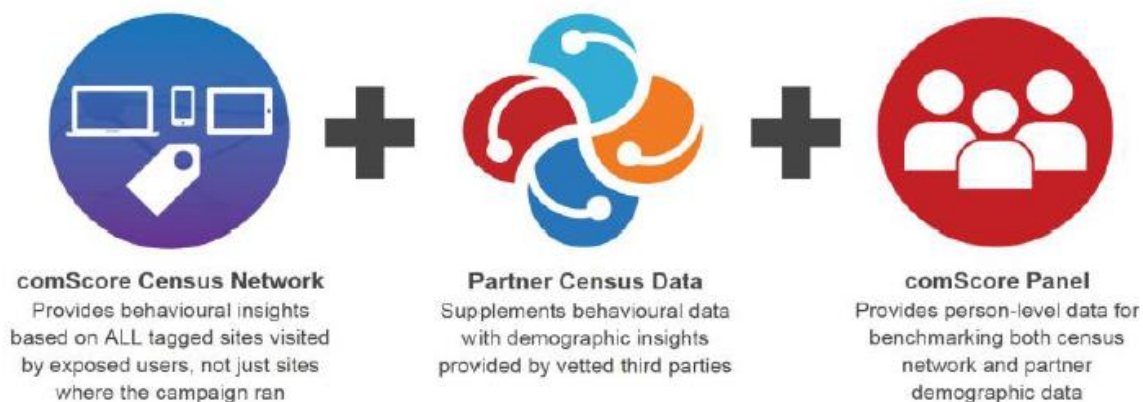
8.2.5 Strengthening vCE2.0 with publisher data

comScore's vCE2.0, measures ad campaign performance for display and video ad campaigns across desktop, mobile and In-App channels. A core component in doing this is the official panel built for MMX MP. However, as digital campaigns vary in size from granular tens of thousands of impressions to a much wider range of millions of impressions across a potentially infinite number of websites, reliability of the data is put under strain. Simply put comScore cannot rely solely on the interconnection between the beacons calls received from campaign ad tags as they hit the core panelists' devices. Only the largest campaigns produce acceptable results.

vCE 2.0 takes a new approach by using multiple sources of data to build a far larger "synthetic" or virtual panel. This is done by intelligently mining the census data from audience and campaign measurement as well as integrating validated demographically profiled third-party cookie and mobile device data from multiple data partners. The Bayesian probabilistic model assigns demographics to each display or video campaign ad impression.

Internationally comScore enjoy a partnership with Yahoo! and Spotify among others. In Norway, great opportunity lies in the 2 million data profiles from the leading MBL publishers, which will enable measurement and reporting of reach and demographic profile on online audience down to 25.000 – 50.000 impression campaigns.

Figure 16. comScore data sources



8.2.6 Logged in panel

comScore purposefully seeks to receive demographic information from a variety of user profile partners. This is a deliberate design choice based on the ambition to reduce the level of conflicting information that can arise from shared cookies, and no single third-party data source should be relied upon for the task of measuring an entire industry. Companies of all types should have the opportunity to participate and collaborate openly in measurement of their industry. The Norwegian MBL's opportunity to combine premium publisher and broadcaster user profiles via a unified profile layer therefore makes this a model case. By contributing their own user profile assets into the ecosystem each participant would have an equal right and fair opportunity to create and continuously improve the benchmarking systems of the national measurement system. Experience shows that not all partners cover all demographic attributes and their demographic attribute groupings are not always the same. Different sources have varying degrees of coverage, demographic skew and bias. In a pre-integration vetting period, demographic attributes will be linked directly to the comScore Unified Digital Measurement independently of any campaign measurement or video measurement. A process of Demography Source Normalization takes place. comScore, using the panel, would compare and normalize the data profiles to a common baseline to build a standard for aggregation.

8.2.7 Master database and future DMP

In the Norwegian market four key publishers can combine approximately 2 million logged in users. This is information that links a visiting device to a user profile. Generally, age, gender and location can be extracted from the publisher's user database, but also site visitation, frequency, device frequency, interests and coverage could be stored into an individual user profile. These data profiles could be more extensively used in targeting and programmatic offerings from the publishers in the future. Combining the different "logged in" users into one "master dataset" is not necessarily a technically difficult process to complete, but aligning the different publishers' need for data and data privacy concerns, together with requirements to share and use internal and external data in their own programmatic solutions creates some requirements to handle and control the "master dataset" on a more political level.

A Future Data Management Platform could be based on the "master database" approach, and could in turn be used as a common enrichment platform for the market, ensuring common targeting and platform independence when providing targets to advertisers. At the same time the comScore vCE platform, would ensure objective validation, reporting and integration into existing platforms using the same validated and JIC accredited data material. comScore has ongoing integrations with several of the larger DMP platforms in the market, such as Adobe, Krux, Lotame, Bluekai and others. Kantar's TGI, as described in chapter 5, as well as other third party data collection can be used in combination with a DMP to enrich profiles, and ascribe information to individual profiles based on statistical "twin-profile" identification processes. In addition, Kantar also has the opportunity to conduct Re-contact studies and profile validation.

After more than 25 years of working with MBL, Kantar continue to improve data and analytics tools delivered to the Norwegian media, and we are excited to see what this strategic partnership will bring until we meet again at the next Publishing & Data Research Forum.

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