

User-centric settlement for music streaming

*A report on the distribution of income from
music streaming in Norway,
based on streaming data from WiMP Music*

The research group Clouds & Concerts has analyzed anonymized user data from music streaming service WiMP Music over four years, in order to answer a range of questions concerning the role of everyday music listening in music culture today.

In this report, we have analyzed a subset of the streaming data: all streams by all WiMP users in Norway for the months of August 2013 and August 2012.

Based on this usage we ask:

How does a user-centric model for settlement to artists and labels differ from the pro rata model currently used?



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Executive summary

The Norwegian streaming market is currently the world's most developed with a 78% digital market share of recorded music, and a 65% share from streaming alone.

Lately, several voices within the music industry have asked if a user-centric settlement of revenue might meet some of the challenges and criticism facing the current music streaming model. For the first time, this report by the Clouds & Concerts research project, addresses the difference between two settlement models, based on real listening patterns of all users of WiMP in Norway in August 2013 and August 2012.

The results of the comparison between the two models shows that they do not differ much viewed from a bird's eye perspective. Both models give the same share of revenue to the same top 5000 artists collectively, and the top four labels would receive almost the same revenue with a user-centric model, as in the current pro rata model (75% compared to 76%).

From a more refined and detailed perspective, however, the comparison shows an overall increase of 13% in revenue for *local* artists when we apply a user-centric model.

The report asks if a user-centric model might motivate labels to find and develop local talent, inspire artists to connect with local fans by touring and concentrate on building a fan-base, and may consequently make it less likely that small labels and local artists to withdraw their music from the streaming catalogue. Finally, a new user-centric model is likely to be perceived as a more fair model by fans, as they are treated equally according to what they pay for music, and the money they contribute is distributed directly to the labels and rights-holders behind the music, thus connecting it to each listener's streams.

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This report is written by Arnt Maasø based on data analysis performed by research assistants Ola Løvholm and Xin Jian in cooperation with the author. Results was first presented at the panel Distribution of Income in a Streaming Economy at SXSW 14 March 2014.

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Arnt Maasø

Background

Currently the Norwegian streaming market is the most mature in the world, with a 78 % digital market share of recorded music. According to TNS Gallup (2014), Spotify is the dominating player, with 50% of the Internet population in Norway Q4 2013, while 21% of the Internet population is using WiMP Music.

Over the last couple of years, the Norwegian market for recorded music has turned a decade of declining sales into growth for two consecutive years. 2013 saw recorded music generating a turnover of 603 MNOK, an increase of 11% compared to 545 MNOK in 2012 (IFPI, 2014). Income generated from streaming services such as WMP and Spotify has increased 60% from 246 M NOK in 2012 to NOK 394 M NOK in 2013, resulting in a 65% share from streaming of the total Norwegian recorded music market.

While growing revenues is good news for the music industry as a whole, and most labels and artists are optimistic about the future, there are still challenges and voices of concerns about the streaming model. Some of the issues raised are:

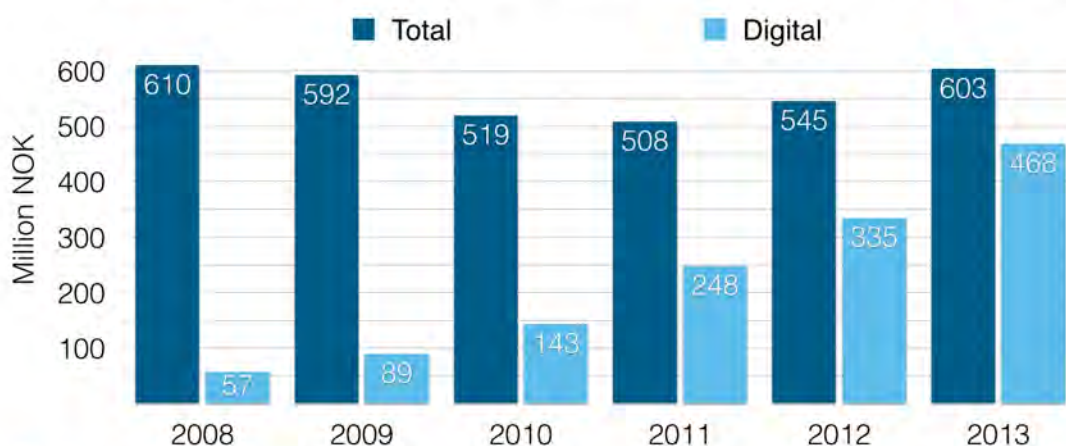
- The pro rata model (explained below) gives users with many streams per month more

financial impact than users with few streams per month – although they contribute the same via subscription fees.

- Because this model favors ‘quantitative’ usage, it may benefit ‘background listening’ and more accessible genres over more ‘complex’ music.
- Streaming benefits a small percentage of available artists the most – what Mark Mulligan recently coined ‘the superstar music economy’ – where the top 1% of musical works accounts for 77% of all artist revenues.
- Niche artists and labels with niche audience may struggle, as it takes time to generate income from streaming.
- In several markets, like Norway, there are concerns about the falling local share of music at the expense of global hit-based music.
- As music innovation often comes from outside of mainstream (be it genres like punk or hip-hop, or individual artists), the current streaming model may stifle innovation over time, if it takes innovators ‘too long’ to generate enough revenue to release new music.

Recently, several players within the music industry have asked if a *user-centric settlement* of revenue would meet some of the challenges mentioned above. This report for the first time addresses this issue based on real listening patterns of all anonymized users of WiMP in August 2013 and 2012.

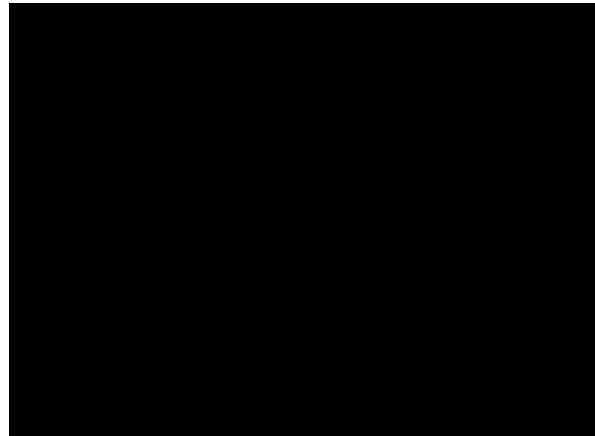
Sales of recorded music, Norway



The pro rata model

The current models for distributing income differs much from the way income was distributed in the era of physical sales. Before streaming, a cut (perhaps 10-12%) of each individual purchase went directly to the rights-holder of the record the listener had bought. When the model of access based music was introduced with Spotify and other services, revenue is generated from a monthly subscription fee of typically €9.99 or 99 NOK. The model which was chosen, was a *pro rata model* (or prorated), meaning a *proportionate allocation*, assigning an amount to a fraction, according to its share of the whole. In such a model, the money no longer went directly from one subscriber to the artist the listener had streamed. Instead, all subscription fees are divided by the collected streams from all users. To illustrate the fundamental shift this introduced, and the bias this has towards ‘quantitative listening’, let us exemplify with two users: *Miriam* and *Arnt*.

Miriam listens to 1000 streams a month, while Arnt listened to 100. Both contribute the same amount per month: 99 NOK. In a pro rata model the collected streams of these two users are summed up (in this case 1100 streams). When the settlement for labels is calculated (which is the basis for what the labels pay out to



artists and rights-holders), Miriam’s 1000 streams is divided by 1100 and Arnt’s 100 streams is divided by 1100. In other words Miriam’s listening has a 90,9% impact over who gets paid, while Arnt’s listening only has a 9,1% impact.

If Arnt had only listened to *one* stream this month, the difference between Miriam’s and Arnt’s impact on the revenue streams would have been even more skewed: 1000/1001 compared to 1/1001 – or 99,9% vs 0,1% impact. The same logic applies for millions: the impact of each listener on what the the rights holder (and subsequently the artists) will get, vary according to the quantity of their monthly streams, and *not* according to what each contribute with to the streaming economy via their subscription fees.



1000 streams
=1000/1100



SUM: 1100 streams



100 streams
=100/1100

**‘Pro rata share’ = personal streams
divided by total sum of streams**

A user-centric model

The total amount of money generated in the pro rata model and the user-centric model (below) is identical: Each user pays the same, and the sum of revenues hence remains the same. The difference is how this income is then distributed and shared among labels and artists.

Let us instead imagine that the important factor was not *how much* each user *streamed*, but how much each user *paid*. In a user-centric model each user – Miriam or Arnt – are ‘worth’ the same: 50% each, since they each contribute the same monthly subscription fee of 99 NOK.

In order to calculate the settlement for each label and artists in this model, each *individual stream* will *not* be worth the same (as is the case in today’s pro rata model), but rather the streams *per user* each month will decide how much each stream will be worth.

For Miriam, who listens to 1000 streams a month, her subscription of 99 NOK would be divided by her 1000 streams, equaling 0,099 NOK per stream. While Arnt, streaming 100 streams, would divide his 99 NOK by 100, giving 0,99 NOK per stream – ten times the price per stream as Miriam.

The share that each individual label and artist would get from this, would be decided by

what share of Arnt’s pie each artist had this month.

For instance, If *all* 100 streams were from *one* artist this month – his whole monthly subscription would go to this artist (and this would also be the case if he streamed 1, 100 or 1000 streams). If he listened equally to *four* artists (25 streams x 4 = 100), each of these would then receive a quarter of the monthly fee of 99 NOK (minus the usual cut to the streaming provider and label, as in all models and examples).

Hence, *the main difference* between the two models is that a *user-centric model* treat each individual paying subscriber the same, and that a share of each user’s contribution goes directly to the artists this user is listening to (via the label) - no matter how much other users listen, or which artists *other* users are listening to. Put differently, this resembles the model in the era of physical sales.

In the pro rata model, on the other hand, Arnt’s 100 streams would have a mere 9,1% impact on what the artists he listened to received in settlement via their label. In other words the remaining 91,9% of his monthly subscription fee would go to the artists *Miriam* listened to.



User-Centric model



50%

Shared between the artists
Miriam listens to

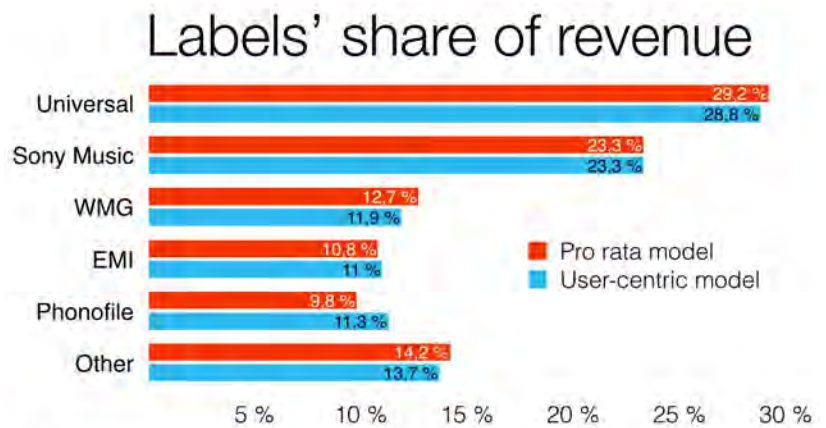
50%



Shared between the artists
Arnt listens to

Labels

Looking at all users and streams for August 2013, and comparing the settlement in a pro rata model with the user-centric model, much remains the same on a large scale: The top four labels has a 76% share in the current model, and would receive 75% in a user-centric model (a loss of one percentage point, which is insignificant from a research perspective).¹ Sony Music would receive an identical share in the two models, while the others would go somewhat up or down.



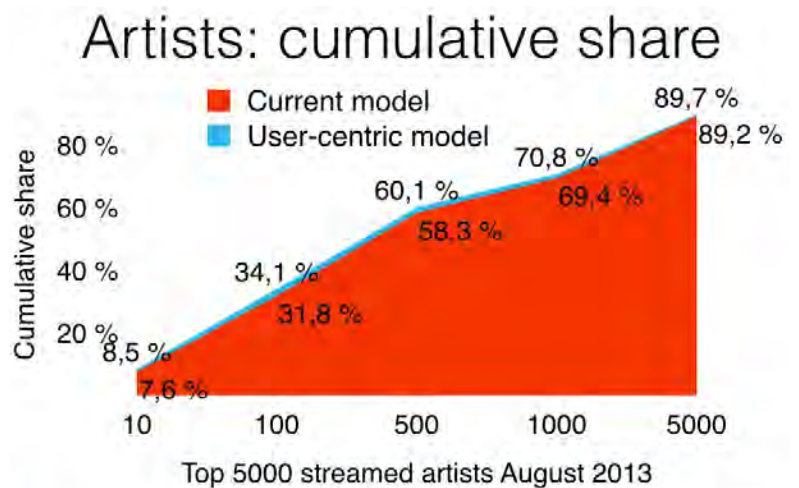
Artists

The figure of labels' share represents all the roughly 200.000 different artists streamed during the month of August 2013. Looking at a cumulative distribution, the top 5000 artists represent almost 90% of these streams in both models.

Again, as the figure shows, there are small differences between the two models from a bird's eye view: The top 5000 artists this month would receive 89,7% of revenues in the user-centric model, compared to 89,2% in the current pro rata model – a small growth of 0,5 percentage points. In other words, the long tail of very small artists further down the list would receive a small amount less in a user-centric model, than in the current model, and both the top and medium artists would receive a bit more of the revenues in a user-centric model than the pro rata model.

Comparing August 2012 with 2013

shows the same overall picture. While the share between top artists may vary from month to month and year to year, according to the current hits etc., the difference between the share within the top 5000 vary little from year to year in both

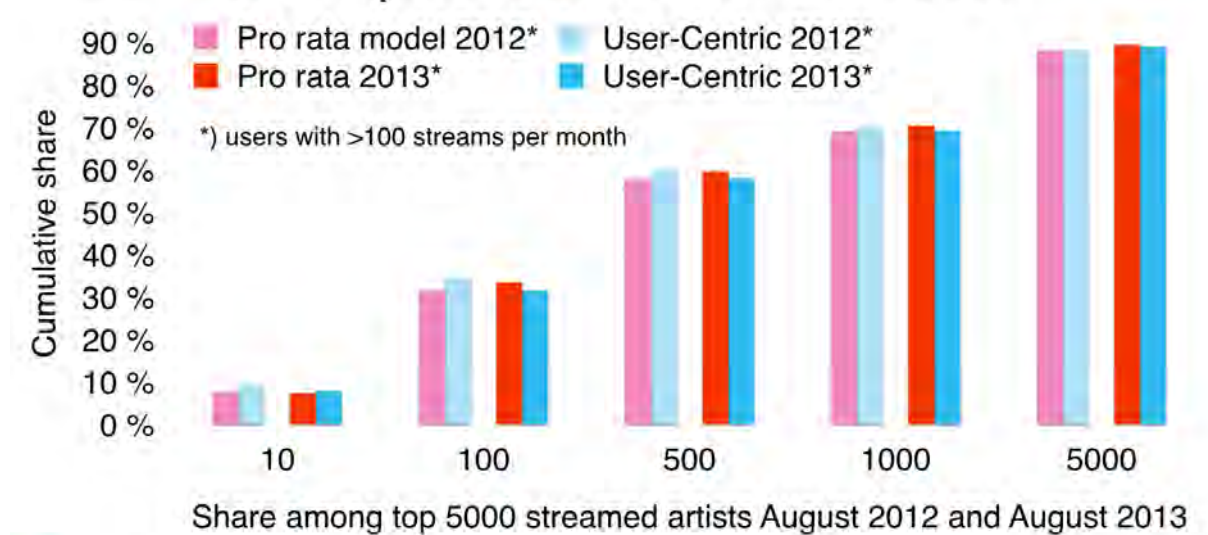


models.²

¹ Market share inferred from the model, not based on actual information about price tiers or price-per-stream.

² Note that the figure comparing August 2012 only has data with users with more than 100 streams per month, due to the other analyses performed on this data set. While users with <100 is not a large group, we have nevertheless excluded users with less than 100 streams in the 2013 data for this particular chart as well, to make comparison accurate. All other figures with the 2013 data in this report show all streams by *all* users.

Comparison 2012-2013



Local share

While the overall picture is similar between the two models for distributing revenue to labels and artists, the devil is in the details. Looking only at the revenue of *local artists* – in our case Norwegian artists – and at the country of origin for artists, not on which label they release an album, the difference between the current pro rata model and the user-centric model is noticeable.

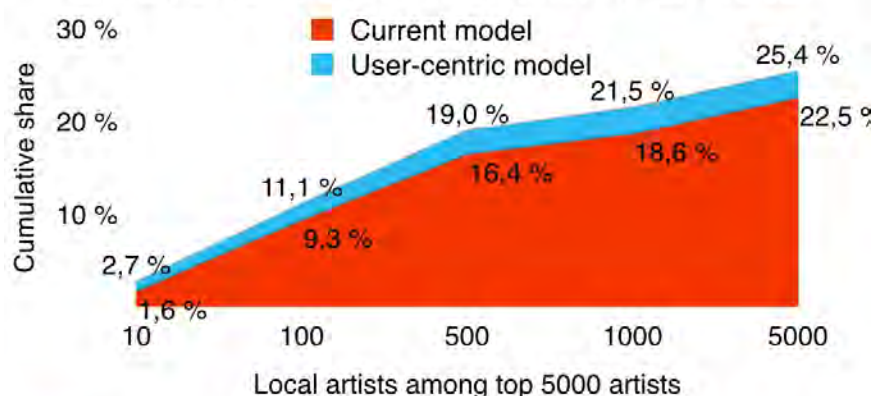
Norwegian artists among the top 5000 artists would have an increase from 22,5% to 25,4% – a 13% increase. We only have figures for the top 5000 artists when country of origin is concerned, because there is no reliable meta tag source in data the streaming services receive from labels country of origin, which is the

definition TONO and Music Norway use.

These 5000 artists have therefore been tagged manually, something we could not do with the roughly 200.000 artists streamed this month. In other words, we have no figure for all Norwegian artists – only for the top 5000. In this group the local share is 29% with a user-centric model and 26% in the current pro rata model.

When TONO – Norway's Performing Rights Society – presented figures for local artists' share at by:Larm 2014, based on their data of all Norwegian rights-holders, the Norwegian share in WiMP was almost the same as the figure for the two months shown here, while the total local share was much lower – 12,2% – due to a lower share in Spotify (TONO 2014).

Share of revenue local artists



Passion index and local share

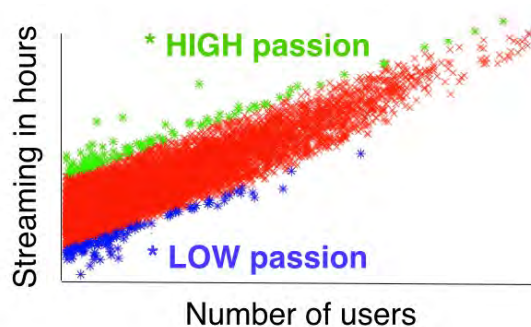
In 2009 Paul Lamere, Director of Developer Platform for The Echo Nest, introduced what he called passion index – “The total artist plays divided by the total number of artist listeners” – as a way of finding artists which fans are dedicated to (Lamere, 2009).

In 2012 we did the same with the WiMP Music data set, but in addition calculated this from streaming *time*, not only the ‘count of streams’, in order to treat music with longer units (such as classical and jazz) equal to music with shorter streams.

We repeated the procedure for the 2013 material, and looked closer at the top performing artists on the passion index. Almost all artists performing high on the passion index, got an increase from a user-centric model. There is also a correlation between music high on the passion index and local music. Hence, 31 of the 100 top artists on the passion index are local artists, and 8% of these have significantly more streaming time (5-800%) from fans which are living within a 30 km radius from where the artist is from.

Other findings

The focus so far has been on the broader picture for labels, the top 5000 artists and the local artists within this group. Almost all of the top 5000 artists (93%) would be within a range of $\pm 40\%$ gain or loss compared to the pro rata model. Only 63 of the 5000 artists loose more than 40% compared to the pro rata model, the 13 artists the loosing most, have a reduction of between 60% and 80%. On the other side, only 300 of the top 5000 artists gain more than 40% revenue, and the max increase within the top 5000 artists is 306%. The latter example is a Norwegian contemporary classical/art music artists, which was the 4072nd most streamed in August 2013. Other examples of individual gains and losses are:



- A Norwegian pop artist with a large teenage fan base, and with heavy radio rotation, was among the top 20 most streamed in August (15% increase with a user-centric model).
- A Norwegian rap/pop artist with a large heterogenous, mostly young, audience, also on the top 20 list (8% reduction with a user-centric model) and
- A Norwegian blues artist with mostly an adult audience, ranked 373. in August (53% increase with a user centric model).

Artists within genres like jazz (+3,2%), children’s music (+8,9%) and especially classic (+18,6%) are winners with a user-centric model among the users studied here, probably both due to high passion index and the current model’s bias toward repeat / ‘quantitative’ listening.

Outside of the top 5000 artists there are larger relative wins and losses, as would be expected when numbers of individual listeners are low and a small number of listeners’ occasional streams would make a relative difference.

The increase also found for the *top 10* artists in the user-centric model can primarily be attributed to the listening patterns of ‘middle-of-the-road’ users, while both the 20% *most* and 20% *least* active users in a user-centric model contribute more to artists outside of the top lists. Also, top 10% of ‘shuffle listeners’ contribute most to the increase among top artists, whereas the top 10% of ‘album listeners’ contribute the least to the top artists.

Summary

The current pro rata model for distributing revenues from music streaming is one of several possible models for paying artists (via labels) for the music that fans listen to. In this report we have compared the current *pro rata model* with an alternative *user-centric model*. It is fair to suggest that this model brings back the direct link between fans and artists from the era of physical sales, which is broken in the current model. For a music fan it may seem more fair that the music one listens to results in direct revenue for the artists that are listened to – and not only to the music business as such. However, notions of ‘fairness’ might not be reasons good enough for the music business to change settlement models. In order to see if and how a different model would change the distribution of income, we have used real data of usage comparing the two models.

The results from the comparison based on real usage in August 2013 and August 2012, shows that the two models do not differ much viewed from a bird’s eye perspective. Both models result in roughly the same share of revenue to the same top 5000 artists collectively, even though individual artists may of course win or lose.

On such a big scale, the top four labels would get roughly the same revenue with a user-centric model, as in the current pro rata model (75% compared to 76%).

On a more detailed level, however, the results shows a systematic increase in revenue for *local* artists (in our case Norwegian) with a user-centric model: 13% in the period studied here. In a Norwegian context this clearly has potential cultural policy implications, but local repertoire may not be considered equally important in other musical cultures.

If a user-centric model were to be used, it could have several potentially beneficial repercussions. For instance, considerable increase in revenues from local fans in an early stage of an artist’s career, might be an added incentive for labels to find and develop local talent. It may be an extra incentive for artists to connect with local fans by touring, and concentrating on building a fan-base. It may, perhaps, also further increase the legitimacy of streaming services, and making it less likely that small labels and local artists pull their music from the streaming catalog. Finally, a user-centric model would likely be perceived as a more fair model by fans, as each user is treated equally according to what they pay for music, and the money they contribute more directly goes back to the labels/artists behind the music that each listener enjoys and streams.

About Clouds & Concerts

Clouds & Concerts is a four year research project focused on two major trends in contemporary music culture: The use of new digital music services ('clouds') and on the growth in the festival market and audiences experience of live music ('concerts'). Empirical evidence is gathered from a host of methods, from qualitative diary studies and focus groups, to analysis of social media and big streaming data.

Among the research questions posed are:

- How do users find, listen to and share music when they have access to a large library of music anytime and anywhere?
- How are mobile phones used in music listening?
- How is music disseminated through personal networks and social media?
- What is the role of live music in contemporary music culture?
- What is the value of live music experiences for listeners today?

More than 20 people have been involved in the project since 2010 at the Department of Musicology and Department of Media and Communication at the University of Oslo (UiO). In addition, a handful of researchers at Telenor Group have been involved in the project 2010-2013. The project consists of two parts, where Anne Danielsen is project leader for the research on 'concerts', and Arnt Maasø heads the part concerning 'clouds'. A pilot project was funded by Telenor and UiO in 2010. In 2011, the project was awarded a four year grant by the The Research Council of Norway. It also received support from Telenor over three years, both financially and with important expertise in studying the big data supplied by music streaming service WiMP.

While the project cooperates with Telenor and WiMP, and they both have been instrumental for the research the project has been able to do, the research is independent and free to pose the research questions we want to pursue, as long as WiMP and Telenor gain access to relevant results first. Both WiMP and Telenor have suggested themes for study that they are particularly interested in. When our interests have overlapped, the project has followed up on several of these. The one limitation posed on the streaming study is that we are not at liberty to disclose information deemed sensitive for competition by WiMP, such as the absolute number of users or streams. Results from the project will be made available on www.cloudsandconcerts.com.



The project group involves: *Anne Danielsen (project leader, head of live music study), Arnt Maasø (head of streaming study), Yngvar Kjøs (post doctor), Anja Nylund Hagen (PhD), Marika Lüders, (senior researcher, SINTEF), Beathe Due, Johannes Bjelland, Kenth Engø-Monsen, Pål Roe Sundsøy, Wenche Nag (Researchers Telenor Group), Research assistants Ola Løvholm, Xin Jian, Marc Casanovas, Linn Jakhelln, Gro Kärkeby, Erik N. Strutz, Hanne Tråsdahl. Master students Ragnhild Toldnes, Inger Helseth, Helena Zarifa Pedersen, Ada Sandnes, Henrik Sanne Kristensen and Magnus Indregard.*

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(TONO is Norway's Performing Rights Society).

TNS Gallup Interbus 2014. Oslo: TNS Gallup