PASSIVE READERSHIP MEASUREMENT, A NEW HOPE?

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INTRODUCTION

Since decades, readership measurement has been performed using traditional surveys. Initially administrated on a pen & paper basis, these surveys progressively turned into a CAPI or DS CAPI administration. More recently, administration threw self-administrated CAWI questionnaires emerged as a new standard.

This first evolution was not so easy to produce. The main challenges were

-   The recruitment of respondents that ensures the quality of the sample: the survey being administrated on the internet does not involve that recruitment should have been made threw the same channel. That's why we created in 2011 the concept of multimodal survey, mixing recruitment by phone with a CAWI questionnaire.
-   The ability to control the way the respondent answer the survey: without an interviewer to present the purpose of the survey, to explain what we are attending from the respondent and to repeat regularly the key point of each question we could fear a drop in terms of quality . In order to limit bias due to self administration we created a kind of virtual interviewer that "read" main questions to the respondent and repeat the key points of questions regularly.

Despite all those improvements, print measurement if often considered as less modern or even accurate than TV measure and of course digital panels, particularly due to the using of respondent recall for print instead of a non-invasive measure for other media . The increasing place of the internet within media investments drives us to consider the new frontier for print surveys: the passive readership measure.

I-   Passive measurement, a new Eldorado for readership research

A passive readership survey is something lots of researcher dream of since years. It could put the print media on an equal footing with digital media in terms of audience measurement. It is however not so simple to implement and presents huge advantages but also important limitations compare to our traditional surveys

a.   Disadvantages of a passive measure

The first problem when you want to implement a passive measurement is that you need to resort to a panel. This involves an increasing cost for the survey and often administration difficulties. The major one is the quality drop of the sample: the acceptance rate is inversely proportional to the workload required. Thus, the deformation of the sample is susceptible to significantly affect the measurement result. We have of course the ability to recruit a better sample to counter these distortions, but with effort and extra costs.

Moreover, using a panel technic (whatever could be the technic) instead of a questionnaire survey involve the disappearance of the filter question. Not so serious when you can benefit from an exhaustive measure? That would be forgetting that current mediaplanning models precisely use, as long-term coverage target, this filter reading value. This asymptote cannot easily be produced by panels that are inherently short term measures. Once again nothing insuppressible but this involves administrating, at least a part, of the traditional measurement to your panelist before an inclusion in the panel itself and once again an increased pressure over respondents.

Last methodological setback, your reading habits pattern, calculated from reading observation, will not be as deep as those based on a questioning: in most cases you'll miss the bars of less frequent habits, due to the low number of reading observations. To counteract this default, simply propose again that part of the questionnaire to the interviewee.

Finally, all professionals agree that a passive measurement can generate lower readership figures than a declarative one, involving a new set of data on readership values (including expected drops) and on relative readership weights between titles and families.

So we are masochist, considering technics that serve us so badly? Not completely if we consider the strengths of penalization.

b. Advantages of a passive measure/panel

A passive readership survey presents in its core principles the ability to identify each act of reading. This involves in terms of results available the quantification of all reading sessions – even the shortest – of all titles without an obligation to limit the survey to a list of publications.

Considering each title, this kind of survey allows a precise measurement of single issue readership. Moreover, it gives us the day, the time of reading and its duration. We can also count the how many times an issue is read and analyze the split of all those readings over days (weeks or months).

The perfect passive print survey produces then a global pattern of all readerships distributed over time.

Thanks to the use of a panel one can imagine that traditional strength of such surveys would be observed. The most important is a stabilization of the results over time linked to the time a panelist remains in the survey. We can also anticipate an upgrade in terms of quality of the measure for lowest audience titles due to the multiple measure occurrences.

Finally considering the advertising market, implementation of a passive readership survey could bring positive political impact. It would give to our medium a reinforced credibility, enhanced the modernity of a comprehensive survey.
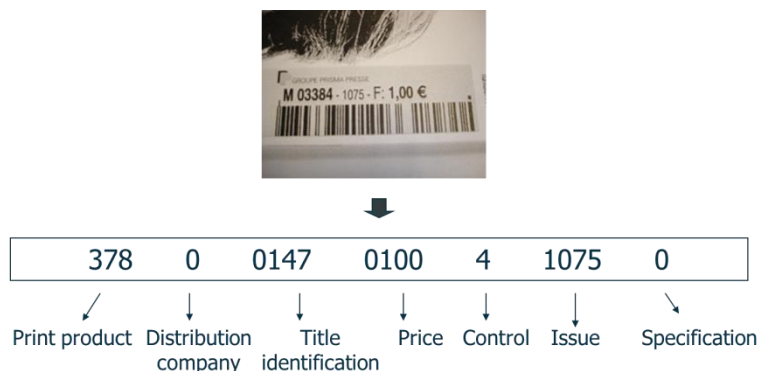
What are we then waiting to implement this kind of survey immediately? We firstly need to make a trade-off between different technics

c. Technical options for readership passive measurement
i. Scanning techniques

Scanning technics are probably the best known by research industry. Established years ago as part of consumer panels, they can be operated threw dedicated scanners ore with onboard scan in mobile phones. Instead of barcode scanning, smartphone technologies also allow to "take a picture" of the cover. In both cases it offers the same reliability in terms of identification of the issue.

The barcode contains all necessary information:

378	0	0147	0100	4	1075	0
Print product	Distribution company	Title identification	Price	Control	Issue	Specification

Furthermore, the scanning gives us an identification of the panelist and a precise timestamp of the reading. Using a button on the scanner at the end of reading add an information about the duration of reading.

Using the camera of a smartphone gives exactly the same kind of information. Identification of the title is possible through the use of visual recognition technologies. However, this requires maintaining a database of title covers.

Several high technology companies (like Smartsy or Shazam) started developments of specialized applications able to identify magazine contents or cover to address supplementary data.


Although these applications are for now specialized in advertising recognition, they are an obvious proof of the operational nature of this technology.

 Scanning or using a smartphone camera are, is therefore very reliable ways to identify a reading. It permits also a limited access to the reading duration (threw an extra click) and a possible location determination if the device contain a GPS.

On the other hand this measure doesn't still allow getting information on volume read or ad exposure.

However, this approach seemed promising enough to be experimented. We set up a qualitative test to estimate concretely the strengths and weakness of this technique.
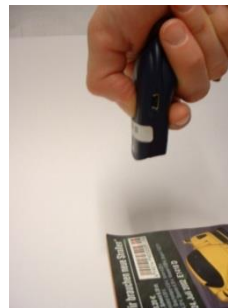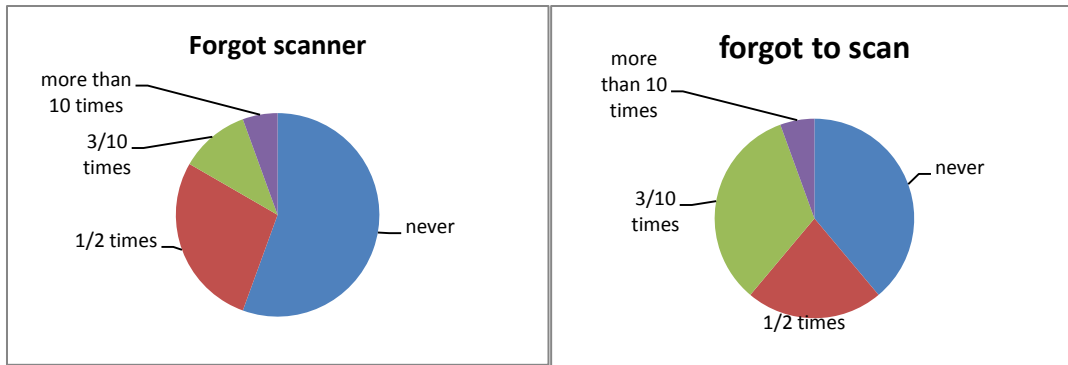

For this test we tried a scanning machine. The sample consisted of a 20 people panel. We administrated the standard readership questionnaire to the panelists during their recruitment in order to have comparative figures in terms of number of title read, declarative habits… We asked the panelists to scan every title they get in hands during a period of 4 weeks.
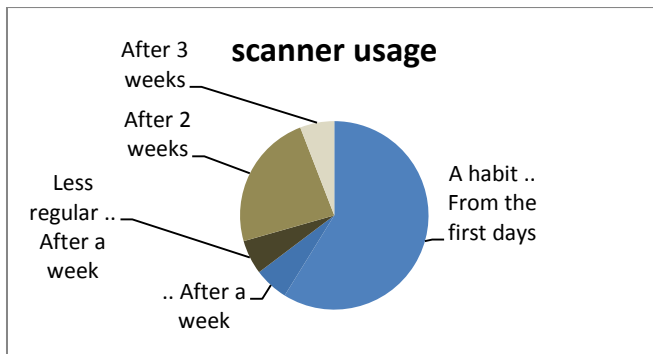
Analyses of their scanning activity gave us three types of information:

- Panel activity

Sometimes scanning was not possible because the panelist forgot his scanner (at home, in another jacket…). Sometimes despite he had the scanner the panelist forgot to scan a reading:

Forgot scanner

- more than 10 times
- 3/10 times
- 1/2 times
- never

forgot to scan

- more than 10 times
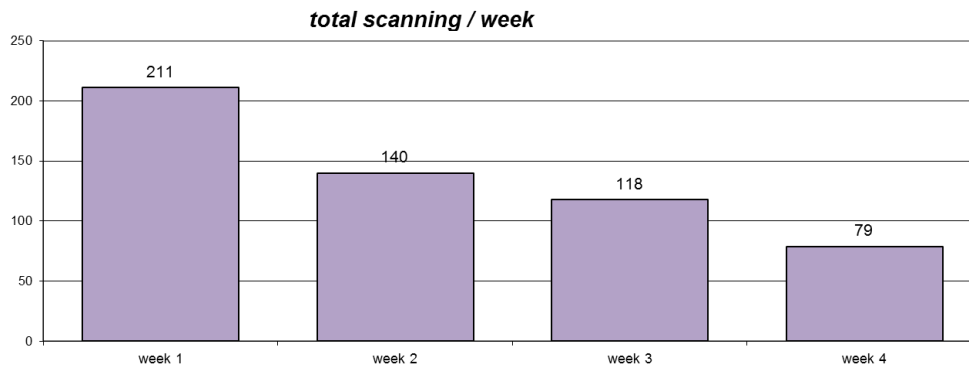- never
- 3/10 times
- 1/2 times

Concerning the use of the scanner, a majority considered it became a reflex, some of the panelists however had more difficulties to be regular:
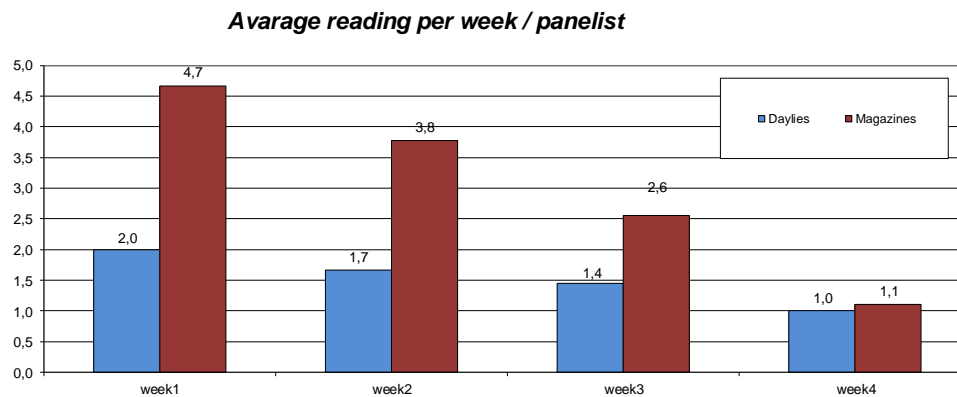
scanner usage

- After 3 weeks
- After 2 weeks
- Less regular .. After a week
- .. After a week
- A habit .. From the first days

- Scanning activity

More worryingly, it seems that after several days of active scanning, the panelists will suffer a slowdown:

total scanning / week

	week 1	week 2	week 3	week 4
	211	140	118	79

Equally worrying, the decline of activity concerns both newspapers and magazines:

Avarage reading per week / panelist

Daylies, Magazines

	week1	week2	week3	week4
Daylies	2,0	1,7	1,4	1,0
Magazines	4,7	3,8	2,6	1,1

- Readership measurement

Concerning the results, if this experiment is clearly not a quantitative test, it nevertheless can gives us some clues on how would differ scanning and readership declarations. We found that, if the majority of scans corresponded to the reported readings, we also had a number of scanned titles but unreported, and an even greater number of reverse situation. Globally, this could drive us to a 20% drop of total readings.

Title status	Total	Newspapers	Magazines
Declared and scanned	96	27	69
Not declared but scanned	28	1	27
Declared and not scanned	58	6	52

Learning: such a semi passive methodology, using a secure technology, has still important pitfalls. Most weaknesses are related to the willing of panelists to proceed regularly on a several weeks basis. This is disturbing when you consider that only a third of magazines of our NRS are weeklies, whereas 40% are monthlies and 25% have a higher periodicity. Then, how would it be possible to correctly measure reading habits threw this technic if the related panel cannot be trusted after a few weeks of activity? More concerning, one can expect a significant decline of readership.

This experiment drives us to look into more passive solutions.

ii. Connected glasses

When Google announced the future launch of its Google Glass, it seemed to be the evident answer to our need. All problems we faced with the scanner would find a solution with connected glasses:

- No need of an active participation of panelists: glasses can record passively whatever he sees.
- Identification of newspapers and magazines can be done through image recognition technology. While being relatively new, this technology is now developed enough to permit a car to drive independently which guaranties its reliability.
- Measurement of reading duration becomes evidence. As long as the visual recognition matches with an image of its data base, we know that the panelist is still reading a registered title.
- Extra advantage, the technic allows natively an ad exposure measure, putting the press readership survey at the level of television one.
- Last, it would give the press a modern image

However, before getting at that point, so many difficulties are still to be solved

- Panel recruitment: the acceptance rate of such a measure would probably be far below the one of our traditional surveys. It should not be forgotten that this is to wear connected glasses all day (almost 24/7) for several weeks. In addition, we can forecast demographic structure alterations due to the technology resistance of some populations.
- Beyond the price of the device one should also consider the logistical problems it raises.
  - o Identifying every reading act implies to have the camera active during the all day. We already know that batteries are, for now, not powerful enough to authorize it
  - o Being able to identify each and every title require the implementation of titles data base up to date on a daily bases. What's more not only the covers have to be listed but every page of all titles as well (to ensure an efficient measure when a panelist starts his reading from the end of the title. This specific
  - o Filming all day long can involve a serious privacy concerns: in many countries there is no right filming private person without their express consent or at least a warning. This entails either to ask the panelist to start filming whenever he takes a title in hands (but this we are then in the previous situation of the scan technic) or to start the recording when glasses connected to the internet identify on-the-fly the presence of a known title – which raises the problem of internet access 24/7 and in any place.

- o Little additive difficulty after the previous ones, using glasses implies glasses' adaptation to the vision correction of the panelist.
- Last but not least, we look ahead some possible trouble in the measure itself. How can the image recognition software differentiate a real cover from a poster representing the same cover? Arbitration rules between what is and what is not a reading would obviously be critical.

Once again a promising technique is proving almost impossible to adapt to our needs.

Let's do a step forward to another passive method that already proved its efficiency in radio and TV audience measurement

iii.   Mediawatch

To be used in readership measurement, the mediawatch technology has to be combined with RFID ships. Thus each time the mediawatch get close to a registered ship it records all information contained in the ship in addition to the time of contact and its duration.

Opposite to that of connected glasses option, the acceptance rate of the mediawatch should be much higher. Invasiveness of the watch is close to null. It can replace for some times the watch of the respondent or be easily added. There is no problem of outside eye on the device that can be almost invisible.

Of course the amount of collected data is lower than in the case of glasses – especially concerning pages view or advertising exposure . In the other hand the penalization can be organized on a significantly higher duration. This ensures a potential data material likely to feed our mediaplanning models:

- A long enough panelization to collect observations on low readership titles
- Habits measure based on long term observed repetition
- Identification of the SIR
- Access to a time based mediaplanning without any modeling

The perfect tool? Certainly the one that best meets our needs … except on one point: its cost.

Disregarding the cost of the measure device itself, the global cost of this survey is directly linked to the number of ships you have to implement. Calculation is quite easy. Considering that a panelist can be in touch with any copy of any issue of any title included in the measurement, you have to implement a ship in each of them. That is to say an equal number of ships to the total printed copies.

As an illustration, in France, the highest circulation title is printed at a level of 5 million copies per week or more than 300 million a year. For this single title, assuming that the marginal unit cost of a ship is at 0.1 cent, it means 300,000$ a year. For all measured title in the NRS we have close to 4.3 billion copies printed. At the same unit cost for ships that would double the survey cost.

Can we really afford that? Does it really worth the price?

It could worth it if declarative data was of a very bad value. It could worth it to improve our mediaplanning tools so that they could calculate GRP distribution on a day to day basis.

However, do we really need passive measurement to achieve these two goals ? Aren't current NRS strong enough to allow a finest figure analyses or further developments of madiaplanning models?

### II-   Reliability of declarative readership figures

All media researchers have been crosschecking circulation and readership data for years. We all know that there can be some huge differences on the "reader per copy" indicator. Lots of theories have been written on the subject, identifying key points that drive the value of this indicator.

If you consider, not only the ratio readers vs. copies but a dynamic vision of both figures, you can find a surprisingly good adjustment over time.

**a. Long term correlation between readership and circulation**

Regardless of NRS methodology – that can have a significant effect on readership figures – we can show a good match between circulation and readership evolutions. These figures must be calculated on same perimeter, avoiding including titles that have had a major change in there readership measure conditions. It is not a surprise to see that changing periodicity of a tittle in the survey has a direct impact on its results. The same evolution can be noticed in case of important masthead changes.

Excluding these cases of the field of analysis, we can show a good correlation between circulation and readership trends. Thus for France, indexes of both indicators over 15 years follow a very close curve.
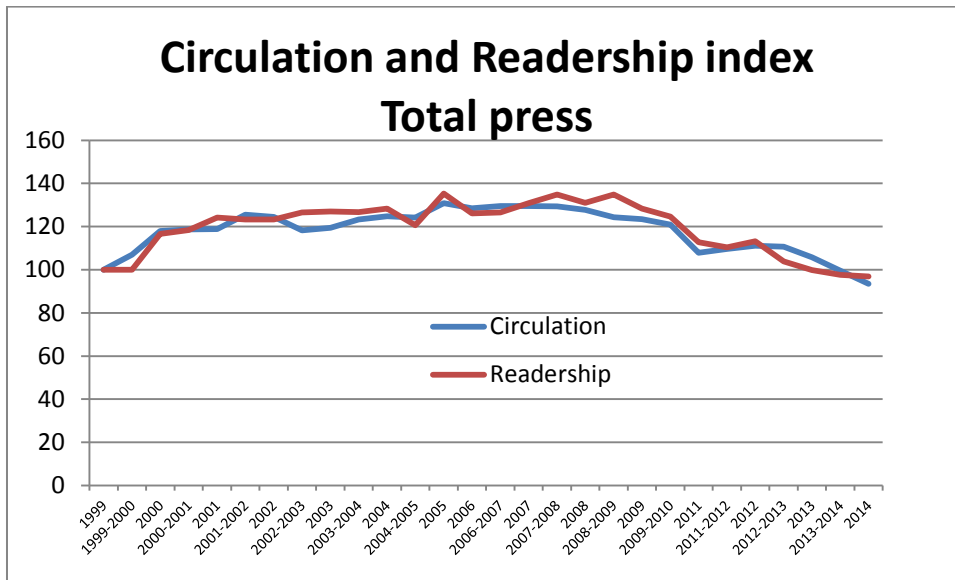
This adjacency can be seen globally, but is also at the level of a periodicity of a family and of course for titles.

The following examples based on a homogeneous methodology illustrate clearly that point

**Circulation and Readership index
TV Guides**

**Circulation and Readership index
Be Magazine**
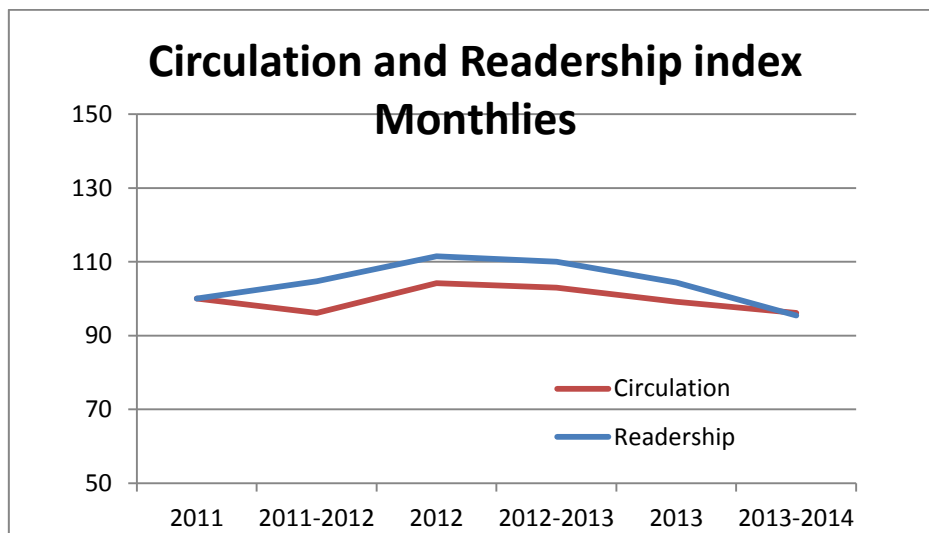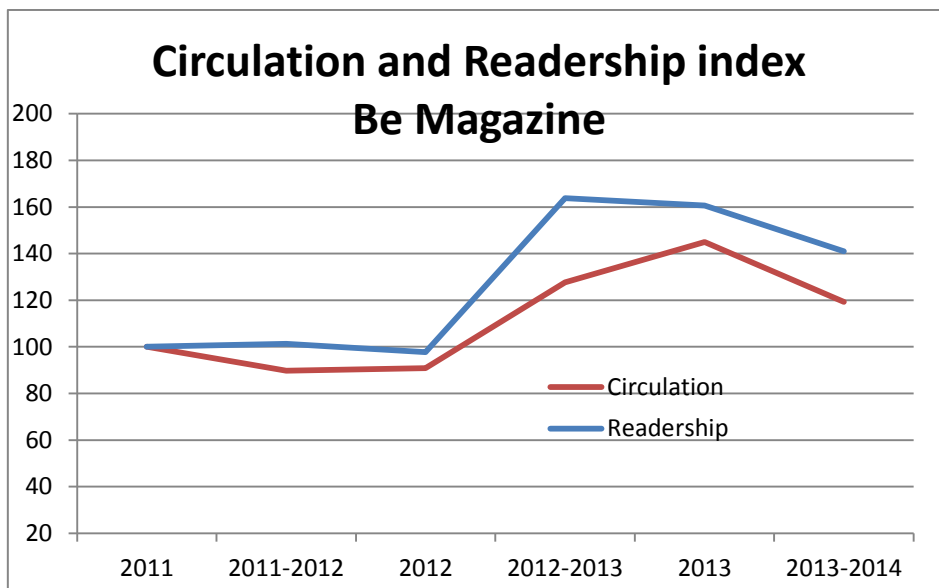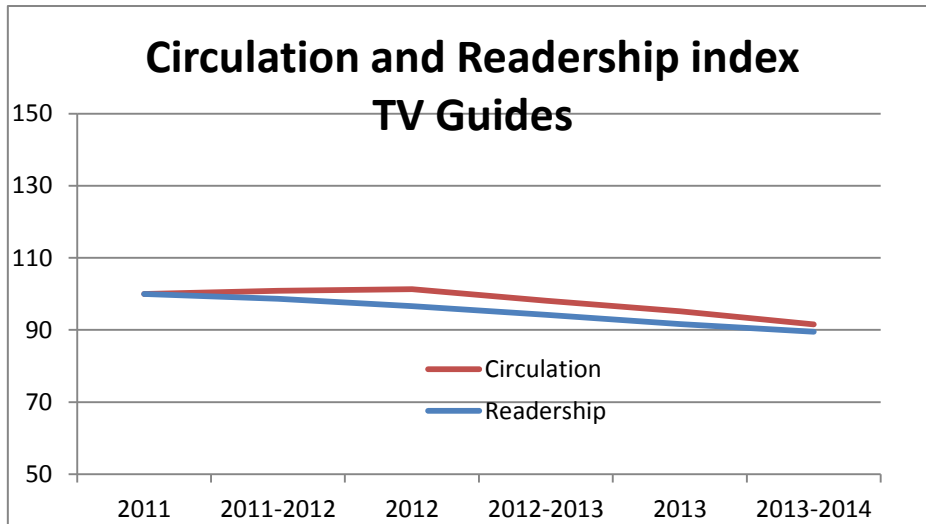
b. Short term evolutions of readership

Not only long term readership evolutions are correlated to circulation figures, but the NRS is also able to react to short term events that affect strongly the circulation of a title or a group of titles.

Our first example is linked to de publication by a gossip magazine of picture revealing the affair between French president and an actress. The magazine published the story over 4 issues during the month of January 2014.
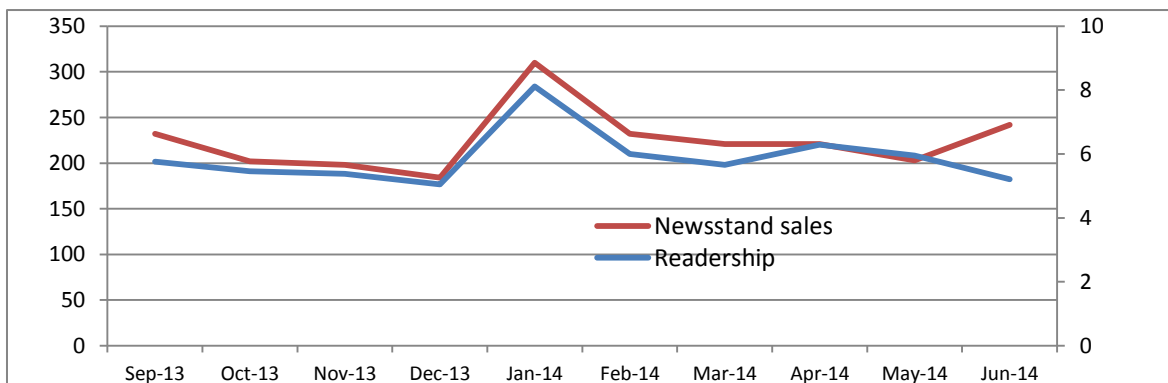
Readership measured during the month of January presents an index of 146 compared to the 12 months around, whereas newsstand sales on the same period presents an index of 140

The second example is related to a more dramatic event. During the month of January 2015, France had to face terrorist attacks. Events took place during ten days. We analyzed audiences of newspapers and news magazines along that period and during the following month. For that special analyze we tried to process daily figures even if the sample size is reduced (around 100 interviews per day). Nevertheless, we found surprising results:

- We clearly identified increased newsstand sales in readership figures

	« events » period vs total year	
	Readership	Circulation
Newspapers	+43%	+38%
All magazines	+4%	-
News magazines	+22%	+19%

To be able to show more accurate effects, we draw a curve of daily relative readership figures for national newspapers and news magazines.

The graph of newspapers show 4 points with a readership index over 150 that fit with main events during this ten days. The highest index (over 250) is obtained the day after the massive civil march against terrorism.
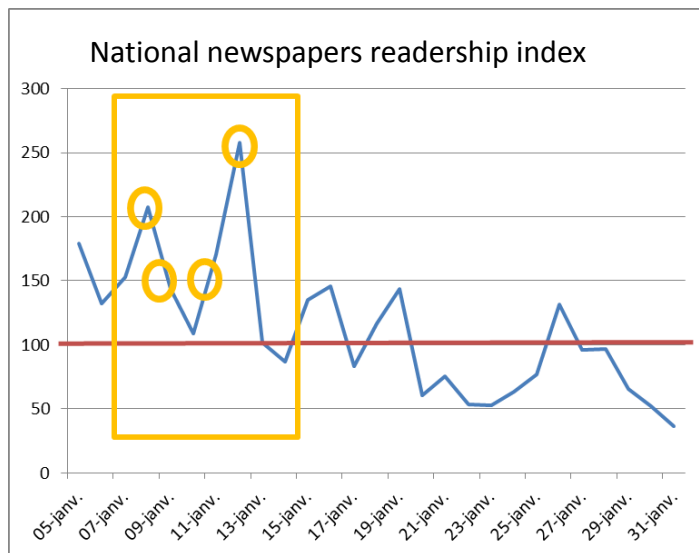
The graph of news magazines presents 4 points with an index over 150. However, contrary to newspapers, these points occur all along the month. For each point we found a correspondence with the publication of one or more magazines heading on the January events.
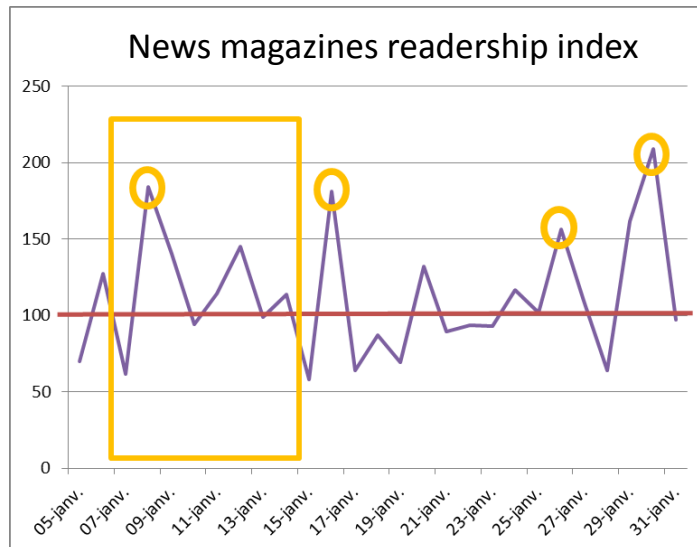
We can then conclude that we have robust enough readership survey to measure precise variations including day to day data.

We are only missing a model allowing a real mediaplanning with temporal distribution of readings. Some theoretical models were presented in the past 10 years. All of them are settled on habits declarations and consist of a mathematical approach.

We are working on a new way of measuring readership accumulation. The main principle is the use of SIR measurement as a virtual panel. We believe that the success depends on the way SIR questions are organized and the best combination between traditional questioning (filter, Recency) and cover recognition.

We assume to be ready to present a model for the next PDRF.

Are we then ready to conclude that passive measurements are non-effective, too complicated to implement, too expensive, or simply useless?

There is nonetheless a kind of readings that can efficiently be measured in a passive way: digital readership.

III-   Adding a passive measurement for digital reading to traditional readership survey
a.   Technical consideration

Digital readership measurements have been implemented for years. Most of them are based on the use of a digital meter installed on the panelist computer. This option that measures each and every internet access as a major problem: it can't be implemented on most professional computers. What's more it is not easily suitable for pads or smartphones.

Calculation of brand readership, integrating all media, are, in all countries based on statistical fusion using more or less the same hooks: declarative habits on digital readings.

Even if statistical approaches have made progress since last years, this technique suffer from inherent defects, the main being statistic itself. The more sources you want to cross, the less pertinent is your result. There is an inverse relationship between the quality of the fusion and the number of cross supports. And when the fusion gives a quality result, you still have to reweight your sample in order to find back audiences of all titles, sites, apps…

As a result, despite the quality of your hooks, there is a quality loss due to the process of fusion.

That's why we're testing a way of measuring digital readings directly on the NRS sample, using noninvasive methods that are compatible with pro computers, able to measure both sites and apps and possible to implement on computers, digital pads and smartphones.

b. Implementation and process

Our test is developed on our Premium survey, the NRS dedicated to upscale targets (executives and high income households). This target presents the advantage of being totally connected to the internet and largely equipped with smartphones (80%) and pads (60%).

We mixed two technics:

- For sites, whatever the device, we use the couple cookie/tag
- For apps we use a SDK able to send back the advertising ID of each device.

The implementation of the survey follows this protocol:

- Interviewees are recruited by phone on their working place (executives) or at home (high income)
- They fulfill a traditional CAWI readership questionnaire
- The questionnaire includes questions upon their digital readership habits
- At the end of the questionnaire we put a first cookie on the device used to answer it. We notice to the respondent that we use cookie to measure readership. However it is an opt-out option in order to maximize the number of cookies
- Afterwards, we propose the respondent to participate the panelisation on his other devices
- If accepted, we send him a mail containing as many linked as devices owned, to activate each of them
- From that moment we are able to follow all digital readings of our panelists on all devices they activated

We started our test early September and still have first return on key rates :

- Returned readership questionnaire / recruited : 78%
- Accept panelisation at the end of readership questionnaire : 50%

c. Key points and further challenges

Despite encouraging first ratio, we still have to fix the global exchange system between readership questionnaire and the cookies server. The main risk at that level is to lose some panelists due to failing programming.

The second challenge consists in optimizing the recall system necessary to get the highest participation rate to the penalization phase. A pool of interviewer is specially trained to convince the respondent to participate. They will as well help them to resettle cookies in case of wiping out.

Next step consists in the development of the spreading out model necessary to get an operational mediaplanning data base. We plan to develop this model on the basis of information collected in the CAWI questionnaire (frequentation habits).

Strengths of this approach and expected results

Being administrated on a single sample, this measurement of digital readership guaranties the level of duplications with print readership. Moreover, being multi-device, it is an outstanding single source panel of all readership behaviors.

We expect from that new survey a confirmation of its operational nature, before considering its expanding to our general NRS.