MAGAZINES DESERVE TIME – THE BUILD UP OF MAGAZINE AUDIENCES OVER TIME

Stef Peeters, Ph.D.,Véronique Debeer & Trui Lanckriet, Mediaxis

Magazines need time to build up their audience. An obvious statement to most of us. Yet, forty years of media research has generated very little data, and almost no information on how readership accumulates. Attempts to integrate the limited accumulation data in media planning models are rare, and based upon theoretical modelling, e.g. Telmar's Time Plan and IMS's Adcume. This seems astonishing in the age of "accountability" and "timeplanning".
This paper reports on methodology and results of a Belgian pilot study on audience accumulation involving 2528 face to face interviews with women on 33 magazines and discusses implications for magazine planning.

How much time does a magazine advertisement need to reach its maximum level of impact? One week for a weekly and one month for a monthly? Of course not : the life span of magazines exceeds their publication interval. Several studies from around the world have attempted to lift the veil on audience accumulation.

These studies have never really influenced the practice of media planning. In fact, magazine plans are made on the basis of readership data, which in Belgium as in other countries relate to an average issue being read in a reference period. Whether this concerns an old issue, a new issue or different issues is unimportant. So, even if it is widely recognized that a magazine doesn't have an instant audience, in everyday practice the market ignores the fact that contacts require time to build up.

Why so much 'modesty' about time planning? Is it a weak point of magazines, best to obscure ? No, a progressive audience build up is part of the very essence of magazines. Is it a glaring weakness in planning? Yes, in our opinion it is. It is imperative to understand the media in order to understand its impact and increase accountability. Inspired by these considerations and the total absence of relevant Belgian data, we began an investigation of magazine issue readership.

1. A Short Review of Literature

Before devising a study on readership accumulation, we reviewed what had already been done on the subject in other countries.

Research on magazine readership accumulation based on an analysis of the readership of a specific edition has its roots in the Sixties. Papazian and Politz combined the *first time read yesterday* (FRY) methodology with a *full through the book* (TTB) approach. The main conclusions of these authors were essentially quantitative. Accumulation depends on the magazine type: a television magazine, for example, reaches its total readership after 21 days while a women's monthly takes 77 days.

Almost twenty years later, Douglas (1977-1978) studied accumulation of news magazines. His pilot study involved 1400 people and also used the FRY-TTB method. Its main conclusions were that news magazines accumulate their readerships more quickly than other magazines. Primary readers are accumulated faster than secondary readers, and by corollary, out-of-home copies accumulate more slowly than the in-home copies.

Both studies were based on a FRY-TTB measurement which minimizes dependence on the memory of the respondents, and supposedly has a very high degree of reliability. This method does require face-to-face interviews and new samples have to be interviewed each time (since repeated interviewing the same people is likely to alter their attitude and therefore the results).

In 1992 Axel Springer Verlag AG conducted a study that was similar in concept but different in his choice of methodology. The data were collected using a weekly diary that had to be completed by the respondent for 6 weeks, involving 6377 people in all. The study took 12 weeks and it is interesting to note that the monthlies and bi-monthlies did not reach their total readerships during this period.

The choice of a panel automatically implies a *recent reading* (RR) method which does not involve the use of any memory aid and relies on active recall by respondents. It depends heavily on the motivation and accuracy of respondents but it does provide single source data on different time frames.

Clearly, two distinct methods (TTB and RR) coexist within readership accumulation research. Variations on both of them are very well possible. The study by Millward Brown (Pincott, 1991) is an example of a mixture of methodologies. The first study was done in 1990 over a period of one month among 1883 women. The study was divided into two parts.

The first section was a *pantry check* where the respondents were asked to collect in their home the magazines they read over the last 2 weeks. The survey involved *reading in the previous week*.

The second section related to the magazines read during the previous week, which were no longer to hand. Questions were identical but answered in a face-to-face interview using colour photocopies of covers, which involved 78,000 reproductions!

This study is an example of a combination of methods. The first section uses the TTB method. The second is based on RR questions at the title level and involves recognition of covers at the edition level. Note that the questions related to the previous week and not the day before, both for the weeklies and the monthlies. The memory bias might be higher but this approach yields a considerable saving in the number of contacts.

Millward Brown pointed out the need to take into consideration the notion of time in order to understand the impact of advertising campaigns. In fact before adding indices of readership construction in their statistical model, Millward Brown were not able to explain and predict advertising awareness following magazine campaigns.

Clearly, the choice of method is not be underestimated. Valentine Appel (1993, p.12) summarises the problem very well : "The TTB and RR methods do not produce equivalent results. RR estimates are generally higher than TTB estimates, the more so as the publishing interval increases (…). Because of a higher read/screen ratio coupled with a higher screen-in levels (particularly for the monthlies)". The TTB method has the lowest reading levels, a lower total audience numbers and a faster accumulation than the RR method. In fact, Appel referred to the Simmons methodological experiment on audience measurement sponsored by the ARF and was not addressing accumulation studies specifically. Yet it is clear that his conclusion holds a warning for all accumulation studies : the choice of method may directly affect the level and speed of accumulation, due to differences between the memory processes involved or to other factors.

While different researchers concentrated on establishing accumulation curves and their determining factors, few have gone as far as practically applying the data in media planning. In 1978-1979, Telmar and IMS developed planning models based on accumulation curves: the *Tempo/Timeplan* model (based on the Douglas data) and the *Adcume* model of IMS. The Telmar model was adjusted in 1990 following the recommendations of Douglas.

The main lessons we drew from the literature can be summarised as follows:

1. *Different methods* are used to investigate readership accumulation. While RR audience research slowly conquers the world (Meier, 1997), the TTB-RR debate is in our opinion very much alive when it comes to accumulation research.

2. The variation in chosen methods and studied variables is so vast that, with the exception of the differences in speed observed between weeklies and monthlies, *few universal conclusions* can be drawn.

3. In the majority of cases results are presented as a curve for a whole *family* (grouped by editorial genre) or a group of magazines. For methodological or commercial reasons, data on individual titles stay out of reach (except Springer). The question whether variation within a family is more or less important than between families remains unanswered.

4. It is no surprise then that few studies have produced *practical conclusions* or results that can be integrated into media planning.

This 'state of the art' should be a provocation for any researcher in the magazine business! Anyhow, it prompted us to act!

2. A Belgian Pilot Study

2.1. Objectives

Our study had three objectives. First, create a **flexible methodology** that can be repeated at any given time for any given title, that involves a procedure that is simple for the interviewees and minimises memory requirements. Second, collect data on the Belgian market in order to test hypotheses on determinants of magazine **readership accumulation in Belgium**. Third, integrate accumulation data into **media planning.**

The objectives we set ourselves required certain **methodological choices.**

1. First of all, we had to deal with the fact that Belgium is a small country where 2 language communities coexist (French speaking in the South, Dutch speaking in the North). This doubles the questionnaires, the magazines and the data. As a result, we chose to limit this study to women only but to be relatively complete in terms of magazines and selected thirty three titles representative of the Belgian weekly and monthly women magazine scene.

2. We wanted our approach to be flexible and repeatable at will, both for new titles and new target groups. Above all, the procedure had to be simple for the people questioned. We opted for short face-to-face interviews rather than a panel. Although a panel allows us to collect single source data over time, it is an excruciatingly difficult job to ensure the reliability and validity of its outcome : it favours in-home reading, it assumes an active and correct memory recall and it depends heavily on the attitude and thoroughness of respondents. The effort required to avoid weariness or an unduly consistency in the answers is warranted in larger scale continuous studies. In our case, the face-to-face approach seemed a wiser choice.

3. In order to unravel the dynamics of readership accumulation, it is imperative to go through the reading of specific issues rather than the average issue readership measured by traditional audience surveys. To ensure that the issue effect was accounted for, while neutralising the effect of any particular issue of a weekly or a monthly, we decided to spread the survey over a 3 month period.

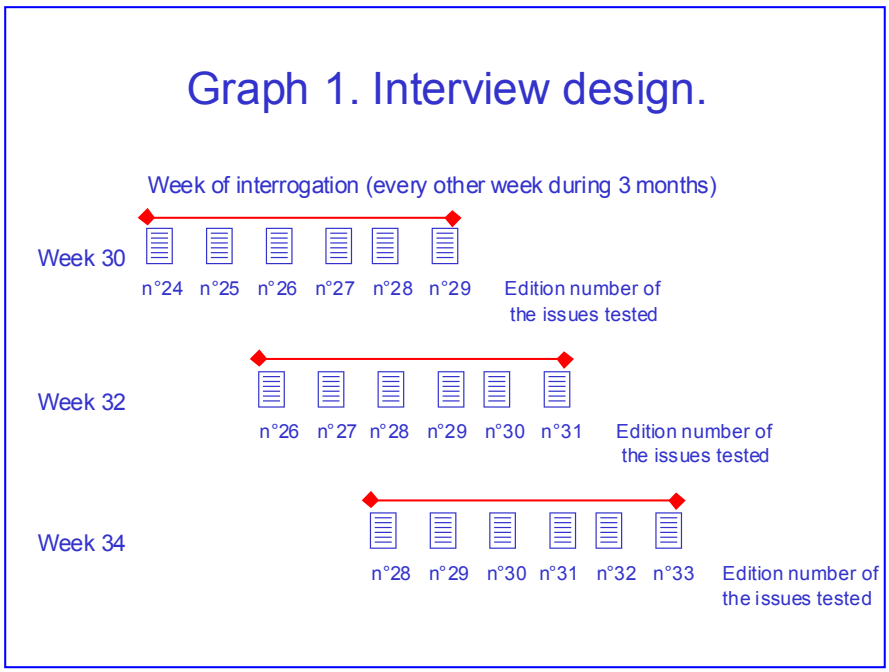
4. In order to achieve all of our objectives, we developed a mixed approach allying the 'recent reading' and 'through the book' methods.
   - In fact the recent reading method was used to screen-in magazine readers : "Did you read or leaf through *magazine X* during the last months ?". This question is in Belgium the basis for the Total Readership estimate.
   - The recent reading approach was also used to establish magazine readership during the reference period: "Did you read or leaf through magazine X during the last week (for weeklies) or month (for monthlies) even an old issue?". This question is in Belgium the basis for the traditional Average Issue Readership estimate.
     The wording of both these questions was identical to the questions in the Belgian reference survey, the CIM readership study. Yet, the purpose of using the same questions, was not to replicate the exact CIM penetration figures : it simply allows us to establish a direct link between the readership estimates generally accepted in our market and the issue readership measures that follow.
   - A full through the book approach allowed us to estimate readership of a specific issue : all readers of a magazine (not only readers during the last week/month) received a complete copy of the issues tested while answering questions on these issues (see 2.2.2.).

5. The volume of the required material, led us to carry out interviews in a central location. In order to ensure the quality of the data, we set 10 to 15 minutes as the maximum length for each interview. As a consequence, we decided not to show the logos during the screen-in (unlike the CIM survey) and to limit the number of titles to a maximum of 4 per person.

2.2. Method

2.2.1. Interview Design

For 3 months we interviewed readers every other week, in total 2528 people. Interviews were evenly spread from Mondays to Saturdays. Each person was confronted with a series of the 6 most recent issues of titles mentioned as read during the last months. This means that all readers of a magazine were asked about the 6 most recent issues (not only readers during the AIR reference period, i.e. last week or last month). This gives us a total of 6434 observations and 19,328 covers tested. Graph 1. presents the interview design for three consecutive interview periods.



2.2.2. **Questionnaire structure**

The questionnaire consisted of 3 distinct levels: the screen-in, title reading and issue reading.

The first level screen-in consisted of the 'Total Readership' question ("Read or leafed through during the last months"), complemented by a reading frequency question, worded exactly as in the CIM readership survey.

The second level concerned reading during the most recent reference period ("Read or leafed through during the last week/month even an old issue"), again identical to the CIM question that serves as the basis for the Belgian AIR audience estimates. It was complemented by specific questions on the type of issue read: most recent issue, old issue first time, old issue repeated reading. The purpose was to explore afterwards the possibility of estimating the observed accumulation on the basis of one or two simple recent reading questions. We will not report on these results in this paper.

The specificity of our study lies in the third level which involves reading of a specific issue. Basically, people were shown the last 6 magazines one after another. They were asked whether they had ever read this specific issue, if so, whether they read it in the last 7 days (also for monthlies) and if so, whether this was their first reading.

2.2.3. **Titles tested**

As mentioned earlier, the study involved 33 titles (15 French, 18 Dutch) representing the Belgian scene of weeklies and monthlies (for women). This led to a total of 3847 observations for weeklies and 2587 observations for monthlies (A complete list of titles in Appendix 2).

The respondents were interviewed on a maximum of 4 titles, selected inversely proportional to their coverage. We chose this procedure to avoid an overload of questions, ensuring response quality on the one hand, and to maximise chances of having a sound statistical basis for as many titles as possible on the other hand. On average, the number of titles studied per person equalled 2.4.

2.2.4. **Editions tested**

The respondents were each confronted with the 6 most recent editions of each magazine they were interviewed about. This covered a period of 6 weeks for the weeklies and 6 months for the monthlies (or even more when there are less than 12 issues a year).

An edition was included in the study 2 days after it was available in the bookshop. The logistical constraints were considerable as 3 672 magazines were set out in the field !

2.3. Quality and validity of data

After a final check on the data file, 4.9% of the results had to be eliminated because of non-compliance with our 6 consecutive issues rule (the new issue came out too late or a series was incomplete).

For most magazines 'regular' readers (for weeklies = 3 or more issues read per month; for monthlies = 10 or more issues read per year) were over represented. This may be due in part to the street recruitment (heavy readers are probably more likely to participate) and the screen-in without logo (showing a logo maximises screen-in of irregular readers). As this variable has been reported to influence accumulation directly (Napier and Douglas, 1998), we weighted this parameter before modelling.

With respect to the reference universe (data from the Belgian CIM readership survey), our study shows the general characteristics encountered in tests on central location : too many 15-34 year olds (+15.7%) and too few lower educated people (–14.2%). It remains to be seen whether these data are liable to influence the accumulation curves (see reader characteristics Chapter 3.3).

3. Accumulation Revisited

3.1. Calculating accumulation

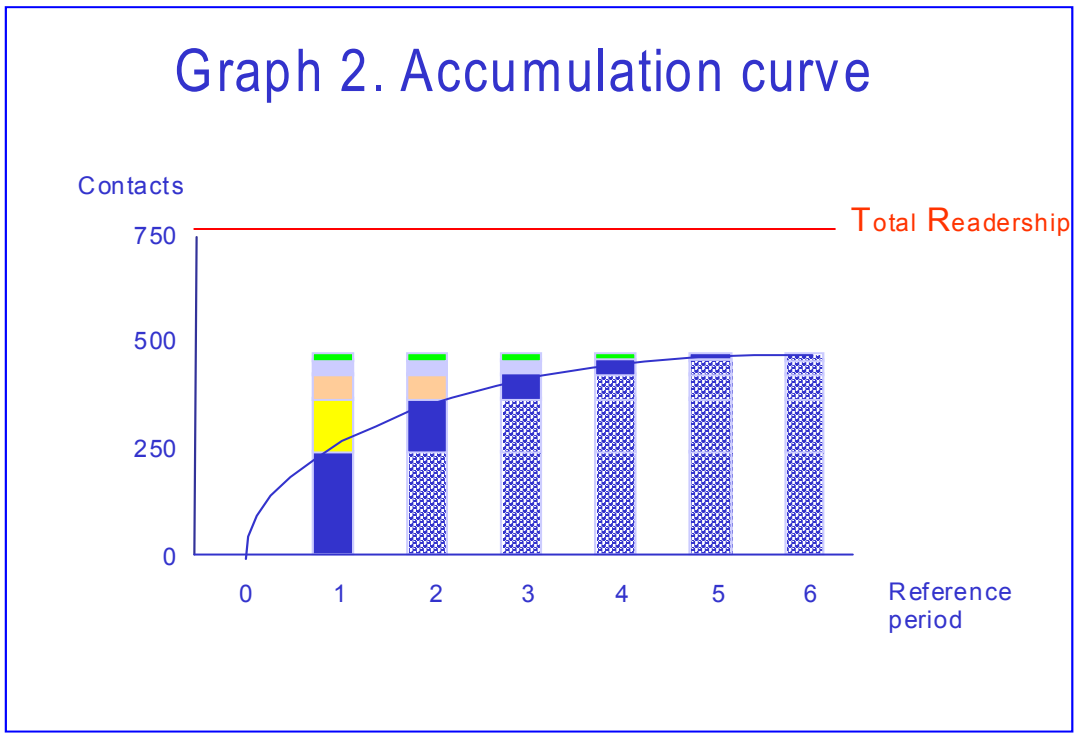
How can the readership accumulation of a magazine be calculated ? In a continuous panel study, it should be easy to identify all first-time reading by respondents and to follow the build up of the audience for any issue over time. In the case of repeated but independent sampling, this is not the case.

In our study, the choice of the method of calculation nevertheless seemed fairly simple. As mentioned earlier, we asked people who identified themselves as readers of an issue during the last week, whether or not this was the first time they read or leafed through this issue : the proportion of new readers was readily available ! However, the answers to this question proved to be unreliable. Of all people who said they had read the most recent issue of a weekly, i.e. an issue that was 2 to 7 days on the market, 22% answered that it was **not** for the first time. Once again, the mind of the consumer defies the logic of a researcher! We don't see bad wording as an explanation. We assume that repeated reading within the reference period invalidates the assessment of 'first time reading' and leads some people to answer 'no, it was not the first time'. Admittedly, issue confusion can't be ruled out (another explanation, 'reversed telescoping', seems a bit far fetched). Since the 'first time' question leads to misinterpretation, we decided to keep all interviewees in the analysis but not to use the answers to this question. *(Using the word 'first' in audience research definitely seems like asking for trouble, judging on our experience and some FRY studies…)*

Is there an alternative to calculate accumulation ? Fortunately there is… but before explaining how, it seems appropriate to examine on a conceptual level what 'reading magazine X during a specific week' (or any other period of reference) involves in terms of issue reading.

The reading of a magazine in any given week (or month) is made up of a mix of reading moments, almost certainly involving different issues. We call **the sum of all readers of all possible issues of a magazine within the same period of reference** the **'Gross Issues Readership' (GIR).** This GIR takes into account all issue reading, wether these issues were old or new, read for the first time or not (thus including replicated reading), read along with different issues in the same week or not (thus including parallel reading). In our mind GIR cannot in any way be a valid estimate of specific issue readership.

Specific issue readership should be based on all new reading of any magazine issue within a reference period. By excluding all replicated reading from the GIR, we keep **the sum of all readers who read any issue of a magazine for the first time within the same period of reference**, what we call (a bit clumsy) **'First Issues Readership' (FIR).** Logically, the bulk of new reading during the reference period involves the most recent issue (the dark part in period 1 of Graph 2), whereas an increasingly smaller proportion goes to older issues (the lighter parts in period 1 of Graph 2). If we use these increasingly smaller proportions as estimates of the weekly gain of new readers (the corresponding dark parts in periods 2 to 6), we have a perfect basis for an issue readership accumulation curve. The FIR thus allows monitoring the first-time reading of an issue over time.



Following this reasoning, the question on issue reading last week is not a suitable basis for calculating accumulation as it does not match the reference period for monthlies. The total issue reading question "Did you ever read or leaf through this issue", however, does provide a sound basis for calculation. It allows to estimate the cumulative audience for a specific issue after 1, 2… to 6 reference periods. Indeed, for all readers of a magazine (everybody who answers positively on the Total Readership question "Did you read or leaf through *magazine X* during the last months ?"), we know whether or not they have read the most recent issue X, issue X-1,… to issue X-5.

The number of readers of an issue X divided by the total number of readers, is an estimate of the proportion of total readership reached after one week (or month for monthlies). When we add those who read X-1 and not X, we have an estimate of cumulative issue readership after two weeks which equals the darker plus the dotted part of period 2 in Graph 2. When we add those who read X-2 but not X-1 and not X, we have an estimate of cumulative issue readership after three weeks which equals the darker plus the dotted part of period 3 in Graph 2 and so on.

These observed proportions serve as the basis for all statistical treatments in following chapters.

To estimate the 'real life' accumulation of a magazine, we have modelled the observed data. This results in continuously growing curves that show the theoretical potential of new readership beyond the 6 week period for weeklies. More importantly for daily use in magazine planning, the model permits to estimate the weekly gain for monthlies based on monthly data.

We used different formulae for weeklies and monthlies:
$Y = a0 + (a1/t)$ for weeklies where a0 is the final point and a1 the curve growth.
$Y = b0 + (b1*\ln(t))$ for monthlies where b0 is the starting point and b1 the curve growth.
Theoretically, the starting point is the last day before publication, when the audience equals 0. Therefore, for monthlies b0 equals 0 and the formula comes down to $b1*\ln(t)$.
The average fit with the observed data is 94,95% for weeklies (ranging from 89.7% to 98.8%) and 94.94% for monthlies (ranging from 86.2% to 98.9%).

Next thing to do : test the hypotheses and plot the data. Wherever possible, we performed a statistical analyses of variance (a repeated measurement analysis), based on **observed proportions** per title. This implies that the strength of test variables such as type of magazine, regularity of reading, age etc. (considered between subject variance) is tested by comparison with differences between magazines (considered within subject variance). Only magazines with a minimum number of 120 observations were included in these tests. This means that different linguistic versions of conceptually identical monthlies of the same publisher were combined (Cosmopolitan Fr/Cosmopolitan Nl, Aktief Wonen/Déco Idées, Feeling Wonen/Gael Maison, Proeven/1001 Délices, Creatieve Keuken/Cuisine Créative) and that one magazine (Marie Claire Maison) was excluded from the analysis. The accumulation curves plotted on the following pages show the data after modelling and were as such not the basis for statistical analyses.

3.2. Magazine characteristics

First and foremost, we look at the influence of characteristics inherent to the magazines themselves.

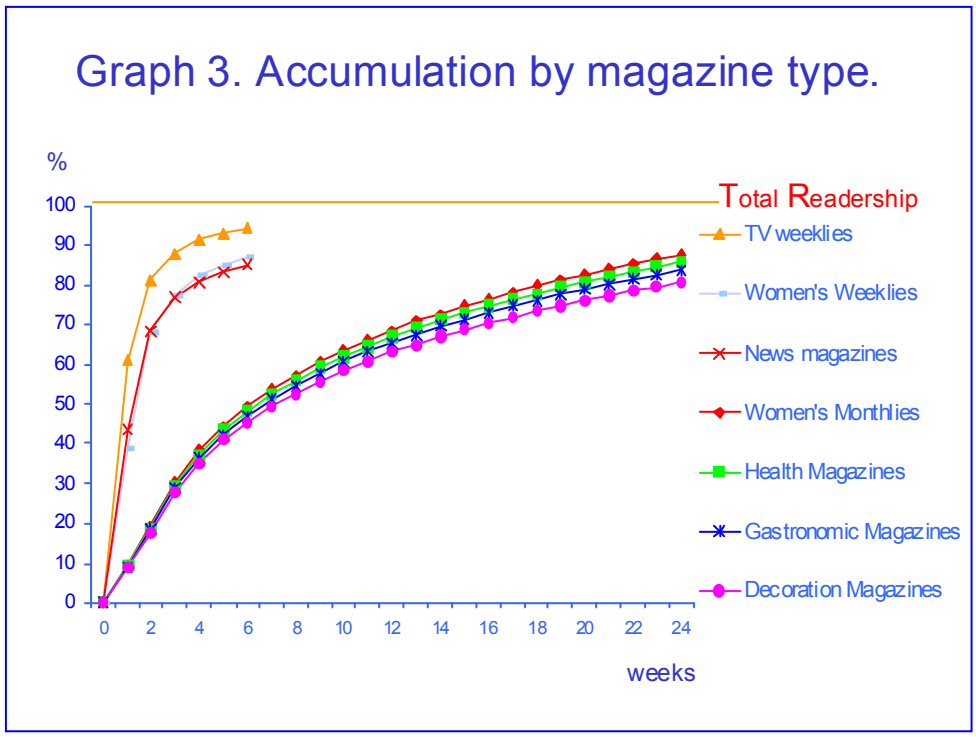
Initial hypothesis :
In the absence of data on the variability between magazines, we want to test the following hypothesis:

1. There is little difference in accumulation within a family of magazines, but there are large differences between different families.

Based on the literature, we expect that accumulation is :

2. faster when the publication interval is shorter
   (Telmar 1978-1979, Millward Brown 1990, Shepherd-Smith 1991),
3. faster for the TV weeklies than for other magazines
   (Politz/Papazian 1960, Telmar 1978-79, Springer 1982),
4. faster for general women's monthlies than for special interest monthlies
   (Springer 1982, Millward Brown 1990),
5. faster for a title with a lower number of readers per magazine
   (Telmar 1978-79, Shepherd-Smith 1991),
6. faster for a title with a larger coverage
   (Telmar 1978-79).

Readership accumulation is shown in Graph 3 by magazine type.



Validating the hypotheses:

1. Graph 3 shows clear differences between types of magazines. However, variance within types is considerable : a general linear model analysis proves the effect of the type of magazine to be only marginally significant (the probability of significance p is 0.061, which is just above 0.05, the level of significance generally considered statistically reliable; full statistics are available in Appendix 1; detailed data on individual magazines are show in Appendix 2)

2. In detailed statistical analysis the difference between weeklies and monthlies is highly significant (p=0.001) : weeklies accumulate faster.

3. TV weeklies accumulate significantly faster than any other type of magazine (p<0.001). All other comparisons between types of magazines are not significant.

4. There is no major difference between general women's monthlies and the special interest monthlies. The general tendency, visible in Graph 3 is statistically not significant (p=0.318).

5. Surprisingly, the number of readers per copy does not have a significant general effect (p=0.257). However, the difference is highly significant for weeklies (p=0.004). Apparently, the relationship between the number of readers per copy and accumulation is not that straightforward for monthlies (p=0.391).

6. A simple visual examination of the detailed results (not shown in this paper) refutes the hypothesis that titles with a wider coverage have a faster accumulation. The analysis of variance confirms that this effect is not significant in general (p=0.119) but it is highly significant for monthlies (p=0.021): the higher the coverage, the faster the accumulation.

3.3. Reader Characteristics

Is there an influence of reader characteristics on accumulation ? The question seems obvious, but the answer is not ...

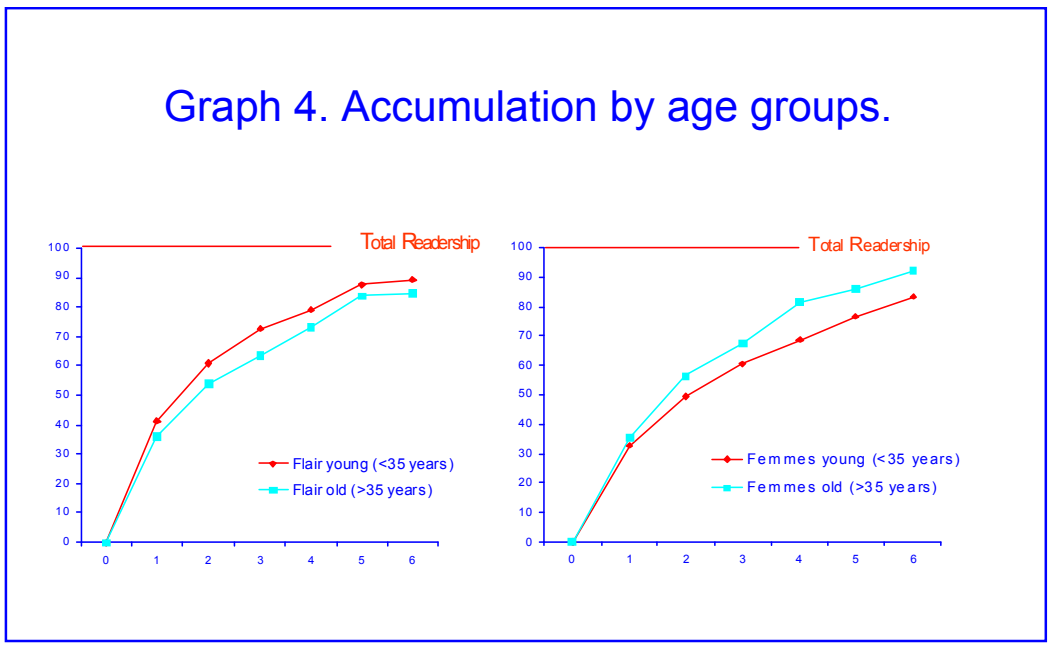
Initial hypotheses:

1. The accumulation is not significantly influenced by age or social class of the readers. We found no trace of the possible effects of sociodemographics in the literature. We assume that it is the proximity between the editorial content and the state of mind of the reader that is the main engine behind readership and accumulation. This could 'indirectly' lead to important differences between different age or social groups on the level of individual magazines.
2. Regular readers accumulate more rapidly than occasional readers.
   (Douglas 1977-78)

Validating the hypotheses:

1. Results are clear: neither age (p=0.269) nor social class (p=0.120) have a generalised effect on readership accumulation. The really important question is of course to what extent age and social class influence accumulation of individual magazines.

   One way to examine this question is to compare accumulation curves between different age groups or social classes. Graph 4 shows an example. Flair L'hebdo (a weekly for young women) shows a faster accumulation under the age of 35, whereas for Femmes d'Aujourd'hui (a weekly for older women) accumulation is faster above 35. Nevertheless, differences appear to be relatively limited. For other magazines the difference are even smaller or slightly conflicting with expectations based on what is considered the core target group.

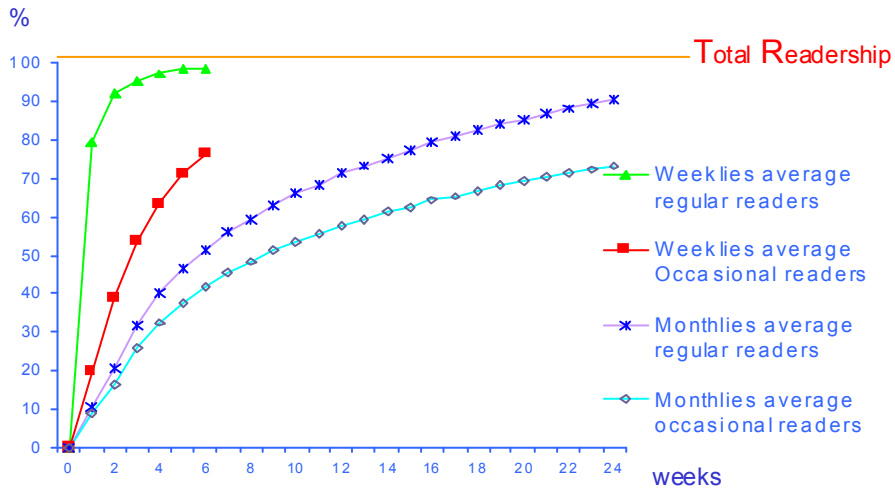


Another way to address this question is to test statistically the differences between the average age of early and late readers. When we define early readers as those who have read the most recent issue during the reference period (last week or last month) and late readers as those having read an old issue (X-2, X-3, X-4 or X-5) and not the most recent or the one before (not X and not X-1), 5 titles of 33 differ significantly on age (tvExpres, Humo, Femmes d'Aujourd'hui, Télé Moustique, Cosmopolitan fr*)*. Increasing the distance between early and late readers (X vs. X-3, X-4, X-5) didn't change that number. The same exercise was done for social class. Only one title differs significantly on social class (Marie Claire Belgique).

All of this suggests that there is no overwhelming effect of age or social class on accumulation of individual magazines. Yet, our method of statistical testing, our sampling size and our selection of relatively mainstream magazines, may have hampered detection of sociodemographics effects : too early to draw definite conclusions…

2. Reading frequency clearly influences speed and level of accumulation, with a much faster and higher accumulation for regular readers than for occasional readers ($p<0.001$). Graph 5 visualises the average effect of reading frequency for weeklies and for monthlies. Next to the publishing interval, frequency of reading is by far the most powerful determinant of accumulation.

Graph 5. Accumulation by reading frequency.



3.4. **Magazine-Reader Relationship**

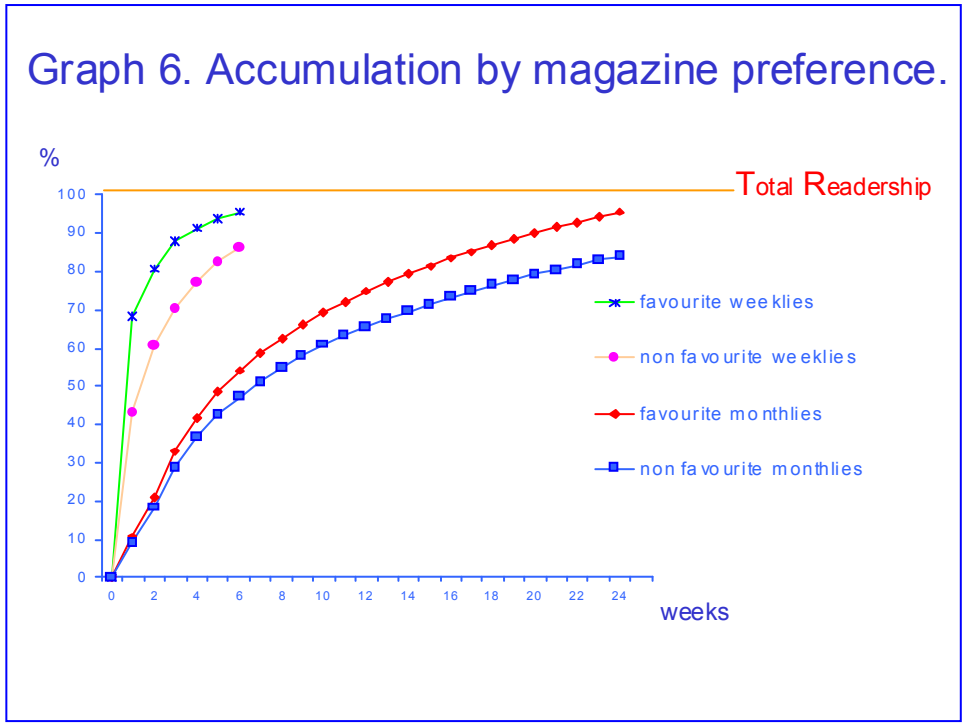
Magazine power results essentially from the active behaviour it engenders among its readers. Generally speaking, no other media has a transmitter-receiver relationship as strong as magazines. Reading a favourite magazine is often like talking to a friend; it is a positive act, deliberately chosen and repeated at will.

Initial hypothesis:

1. The readership accumulation is faster when the title is preferred as the favourite magazine.

Validating the hypothesis:

1. Graph 6 confirms the idea that accumulation is significantly faster amongst people who identify a magazine as their personal favourite (p=0.001). Of course, this claim is a direct corollary of the regular readers effect : 87% of weekly readers and 75% of monthly readers who state the magazine is their favourite also state that they are regular readers. However, it strengthens the idea of the magazine-reader relationship as the prime engine behind accumulation.



4. Planning revisited

4.1. **The relationship between FIR(TTB) and AIR(RR)**

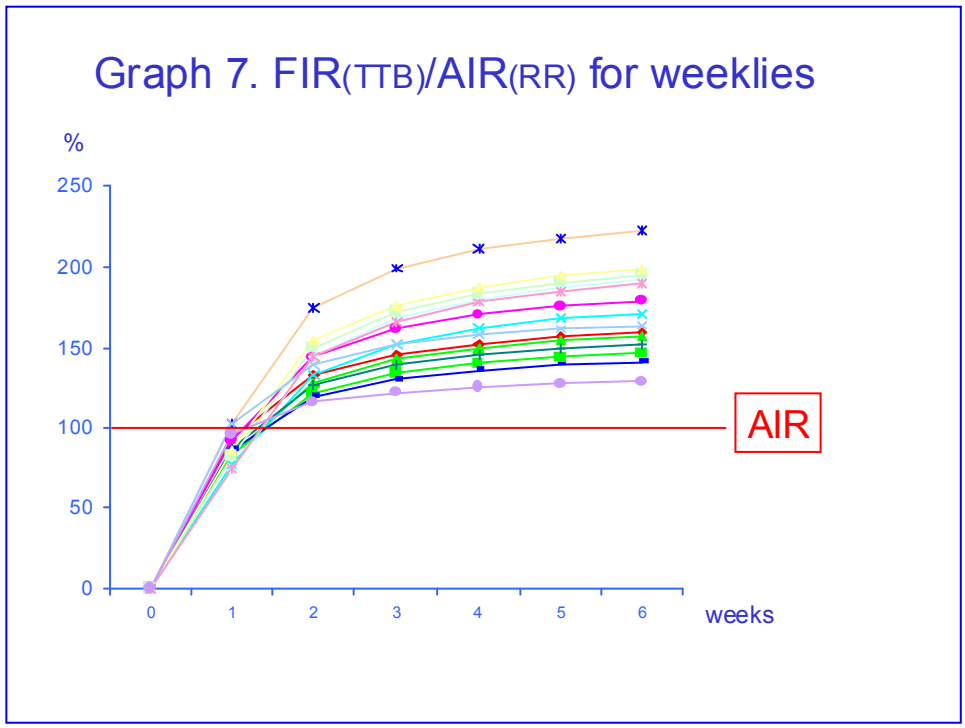
Results of issue readership estimates were presented up to here as a fraction of the total readership of a magazine. We call them by their pet name : FIR(TTB) = First Issues Reading (through the book method). However, magazine planning in Belgium as in many other countries, does not use total readership but a traditional readership estimate based on declared magazine reading in a reference period (a week for weeklies, a month for monthlies). We refer to this measure as the AIR(RR)= Average Issue Readership (recent reading method). If we want accumulation data to be integrated in magazine planning, it is more than worthwhile to determine the relationship between our FIR(TTB) and the traditional AIR(RR) measure. The design of our study allows to compare both measures based on a 'single source'.

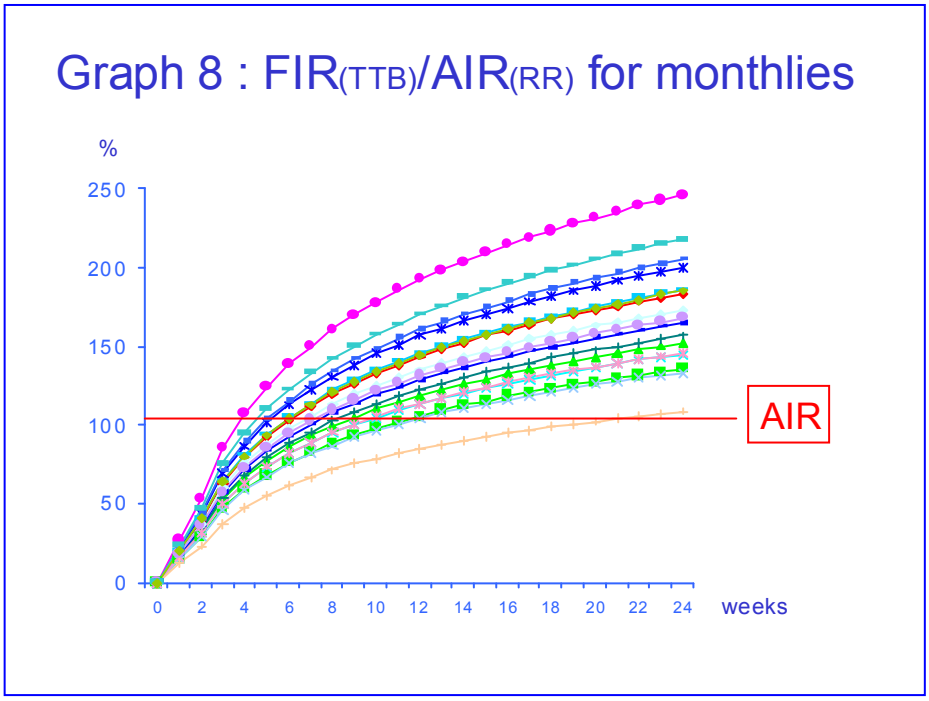
Before presenting this comparison, it is important to note that logically, it is virtually impossible for these two readership estimates to be equal ! Follow this three-step argument :

A. Both AIR(RR) and FIR(TTB) take into account all instances of new reading (recent and old issues).
B. AIR(RR) on top accepts repeated reading of a single old issue but ignores reading of a second new issue since a reader counts only once.
C. FIR(TTB) on the contrary accepts all new parallel reading (a person reads more then one issue for the first time) but ignores repeated reading, even if a person has only reread an old issue during the reference period.

Since A+B does not equal A+C, unless B is exactly the same as C, it is very unlikely that FIR(TTB) = AIR(RR). All the more reason to look at the difference !

In Graph 7 the issue accumulation of individual weeklies, FIR(TTB), is expressed as a fraction of the declared readership in the reference period, AIR(RR). In fact, the number of people that have ever read the most recent issue is simply divided by the number of people that declared to have read the magazine (any issue) during the last week. This means that the AIR(RR) readership equals 100% and the accumulation curves are presented as percentages of the AIR (RR). Graph 7 represents the same for individual monthlies.





The key results :

1. The total issue accumulation figures from our study (FIR(TTB)) are higher than the traditional AIR(RR) measurement from our study. There is not a single exception. The average difference is no less than 65%

2. There are, however, huge differences between magazines in the relationship between FIR(TTB) and AIR(RR). The differences between the two measures range from 28% to 123% for weeklies and from 9% to 146% for monthlies.

3. According to our FIR(TTB) accumulation data, a weekly would yield an average of 88% of its classical AIR(RR) readership after the reference period, a monthly an average of 66%.

4. Traditional AIR(RR) readership levels would be reached on average around the second week for weeklies and during the third month for monthlies.

Earlier, we made it clear that a difference between FIR(TTB) and AIR(RR) was to be expected. But 65% is certainly more than we had imagined. A spontaneous question would be : which measure is correct? More realistically, which measure offers the best estimate of the total net audience of an average issue readership? There are three lines of thought to explain the difference : a conceptual, a psychological and a methodological one.

The first line is **conceptual** and concerns the validity of the AIR(RR) and FIR(TTB). Both measure have their limitations (in metrical as well as psychological terms). Remember that AIR(RR) in readership surveys like CIM, NRS, etc. always ends up asking whether a person read a specific magazine during the reference period (a week for a weekly, a month for a monthly). The nature of the questioning implies that AIR(RR) as a readership estimate by definition is potentially flawed :

1. Every person who reads within the reference period an old issue for the second or third time, but not the last issue is also taken in account. This **replicated reading** inflates the net readership of an average number and is usually considered a source of overestimation.
2. On the other hand, AIR(RR) represents an underestimation, as a reader who reads the last issue and simultaneously an old issue for the first time is counted only once. This **parallel reading** is new but not counted in the net readership calculation.
3. Some readers tend to place the time of reading closer to the present than is actually the case. This **telescoping** effect results in an overestimation of readership.
4. On the other hand, pure recall increases eventual **forgetting,** resulting in an underestimation of readership.
5. As issue is not taken into account, **issue confusion** does not exist.
6. By contrast, **title confusion** is a potential problem (probably leading to an overestimation) especially for “line extensions”, magazines whose name refer to a “mother title” (Marie Claire Maison refers to Marie Claire etc.).

The possibility that AIR(RR) is potentially overestimated or underestimated does not in itself present a problem : as long as these biases are equal for all magazines, AIR(RR) is a perfectly acceptable yardstick and currency of exchange between buyers and sellers in the media world. The problem lies of course in the implicit assumption that these six effects are relatively constant. In reality they probably vary according to the publication frequency, the degree of topicality, the general content, the physical robustness of the magazine etc.

Does our FIR(TTB) method share the same limitations?

1. Because the life span of an issue is greater than the reference period and FIR(TTB) follows all new reading occasions throughout the life span of an issue (limited in our research to 6 reference periods), it does not suffer from biases introduced by **replicated reading**. That is why, in the reference period, the FIR(TTB) logically presents lower readership figures than the AIR(RR) (see Graphs 7/8).

2. By following all occasions of new reading, FIR(TTB) does take **parallel (new) reading** into account. This rules out over- or underestimation.

3. The **telescoping** effect is avoided, because there is no reference to a time frame.

4. By using magazine covers as memory aid, FIR(TTB) minimises the problem of **forgetting** but does not exclude it, especially for monthlies where the issues imply a time frame up to 6 months.

5. **Issue confusion** is by definition a potential problem for FIR(TTB) and a possible source of over or underestimation.

6. **Title confusion** is far less a problem for FIR(TTB) than for AIR(RR).

At first sight, these arguments imply that the issue measurement FIR(TTB) is less susceptible to systematic biases and potentially more correct as an estimator of the total number of unique contacts of a magazine.

The second line of thought concerns the difference in **psychological** processes involved in the two measurements. There is no doubt that the process of pure memory recall, taking place after a question about recent reading, is quite different from the process of recognition when faced with a cover. Within our study, the observed frequency and the stated frequency correspond for only 81% of observations (19% non-compliance). The observed frequency, i.e. the proportion of recognised issues, was always higher than the stated frequency, and this for both weeklies and for monthlies.

The problem is to know which one is most correct? Memory psychologists maintain that the requirements of the memory are less demanding with a recognition test than in a recall exercise, which also needs an appraisal of the time context ('… during the last days…'). During the field, a series of 200 interviews were watched by two neutral observers in order to assess the time needed by respondents to identify an issue as read or not read. The respondents generally reacted very fast without apparent hesitation, mostly without leafing through the content of the magazine. Obviously such a quantitative observation is insufficient to refute the possibility of issue confusion when exposed to several covers, thus leading to an overestimation of readership.

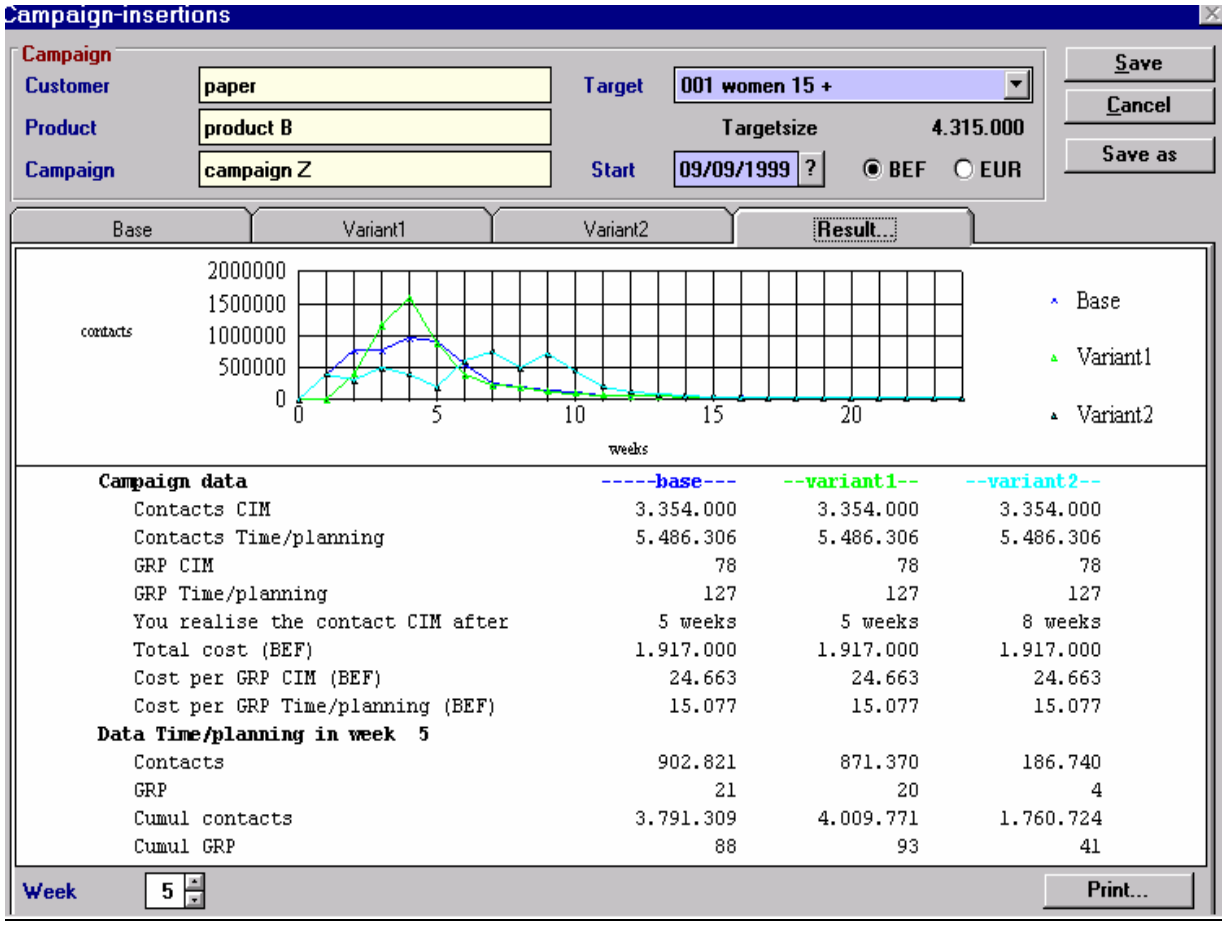
The third line of thought is **methodological** and concerns the basis of our FIR(TTB) estimate. We explained earlier (see 3.1.) how we calculated accumulation based on the question "Did you ever read this issue ?". When we compared for weeklies the response percentages with the response on the subsequent question "And did you read it last week ?", we noticed an illogical difference of 11% for the most recent issue. It is impossible to say which percentage is more correct or more wrong. The point is, however, that the difference between AIR and FIR estimates may prove to be much smaller when the FIR estimate is based on a question that involves exactly the same time frame (reference period) as the AIR estimate.

Until proof of the contrary, we continue to trust our FIR(TTB) measurement of an edition. So, if we accept the results of this study, what are the consequences in terms of media planning?

4.2. **Time Planning in Practice**

Traditional media planning based on AIR(RR) data ignores the time factor. Magazines are planned as if the total average readership of any issue is fully realised during the reference period. This state of the art is no longer considered acceptable by many (Ephron 1997, Jones 1998, Shepherd-Smith 1998). Magazines deserve better planning. Our study allows us to incorporates the accumulation data in day-to-day planning. We cannot go into detail within this limited space but the implications are obvious. Schedules with the same number of insertions in the same magazines but with different calendars (e.g. a launching vs. a maintenance plan) will generate exactly the same evaluations in term of GRP, reach and OTS based on classical AIR. Using accumulation data, the evaluations will look totally different.

In order to show the utility of our approach, we have developed a little software, called MagTime, that integrates all factors used in the media planning practice. The program allows to introduce a magazine plan and two variants. This plan can be evaluated in terms of readership and costs, both in terms of classical planning and in terms of timeplanning. It allows the optimization of a magazine plan visually as well as quantitatively as a function of the campaign objectives. The print below shows the evaluation screen (*it is far more attractive in colour…*). It may remind some readers of the accumulation charts offered by Telmar and IMS. It is interesting to note that currently, on the Belgian market, not one of the three available planning software packages is capable of integrating our kind of data (*admittedly, we are not satisfied with the 'one-parameter patches' proposed by some suppliers*). Planners and buyers on the other hand are more than pleased with our MagTime program. In our mind, appropriate planning software is an essential communication tool when it comes to explaining the essence and potential use of time planning.



Conclusion

Almost 40 years after Papazian and Politz audience accumulation remains a fascinating research topic. We have attempted to establish a 'light weight', repeatable and verifiable method that allowed us to link a theoretical interest in the dynamics of accumulation with a practical interest in everyday magazine planning.

It allowed us to verify hypotheses on the influence of magazine, audience and reader characteristics on accumulation. **The effects of periodicity, the presence of tv listings, the regularity of reading and the magazine preference on speed and level of accumulation were confirmed. The same holds for the number of readers per issue in weeklies and audience size for monthlies.** We found no significant nor systematic effects of content type, age, social class, and audience size in general and for weeklies. On the whole, differences between individual titles are important, even within the same family of magazines.

It also allowed us to relate accumulation data to classical audience estimates. This confrontation made us all the more aware of the conceptual intricacies of average issue reading and accumulation. **While recent reading is globally the most preferred audience research method, we would argue that a through the book approach leads to useful, complementary results on issue reading.** The integration of single source recent reading and through the book data in a simple planning tool, underline the practical potential of our combined approach.

Clearly, our study is merely a chapter in a long story, certainly not the end. Our recruitment method has its limits. Too many regular readers influence accumulation and weighting the sample is not an ideal solution. We claim that the variance between magazines should be taken into account but boosting the sampling size certainly wouldn't hurt our argument. Keeping the questionnaire short was a brilliant idea, but our understanding of accumulation dynamics would have benefited from a question on the source of the copy…

Admittedly, there is still room for debate on the basis of our methodology. At this stage, we do not have proof for the superiority of either a panel or through the book approach. We feel that our choice to construct a complete time series at the magazine level, based on an aggregation of an incomplete time series at the issue level, creates a logistical hell but leads to valid results. Yet, we cannot be sure of the potential effects of issue confusion, nor exclude forgetting as a source of error, especially for monthlies. The differences between AIR estimates and FIR estimates remain intriguingly high. Our use of a total issue readership question ('ever read ?') as basis of our accumulation modelling is not the only possible way and may by itself increase the gap between AIR and FIR in this study. A logical next step could be an attempt to expand our results to other target groups (men) and other magazines. We consider, though, performing a series of experiments with the objective of clarifying methodological issues.

In early presentations of this study to senior researchers or planners in Belgium, the first response was unanimously positive. **Professionals more than welcome a theoretically substantiated and yet practical study on accumulation that comes with a ready made easy-to-use tool.** Like us, they are puzzled by some of the results and they are, of course, critical of some aspects of our design and analyses. Several of our clients wondered why on earth an advertising sales house began such an endeavour that has no obvious short term commercial benefits. Indeed, some results can even be abused in rather pointless discussions on tariffs, negotiations, number of insertions needed or accountability in general. **Some buyers and planners are worried by the potentially increasing gap between estimated magazine GRPs and the measured impact of magazine campaigns.** Another type of reaction is a clear demand for more. Our clients want **more detail, more qualifications of the audiences at different time slots, more data, more optimising tools etc**. Much to our amazement, various players in the market urge us to go much further into data modelling, even with the current limited data**. We are currently implicated in discussions on modelling issue duplication between magazines** to allow not only evaluation of gross contacts but also in terms of net reach and OTS. At the same time it is clear that timeplanning is not an opportunity to everybody. While they recognise the importance in principle, to many magazine planners timeplanning is foremost a complication of their work that nobody, certainly not the average advertiser, has asked for.

Our response to these comments is straightforward. We will go further. In our opinion, magazines as a medium are best served by transparency and comprehension. It's no use ducking difficult questions or trying to keep the customer stupid. At times when some of the biggest advertisers finally rediscover magazines, we should try to match a degree of sophistication and understanding of the medium they (supposedly) are used to in audio-visual media. It may take some effort to explain the added value of a supplementary yardstick, called issue audience accumulation. And we should again and again explain the essence and unique strength of magazines : their rich relationship with their readers. **Each weekly and monthly serves a purpose. But they share one characteristic : a magazine can be read for as long as a (new) reader is interested in doing so. That's why magazines deserve time.**

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Appendices

Appendix 1. An overview of statistical analyses

Magazine characteristics	F ratio	Degrees of freedom	Probability of significance
Type of magazine	1.800	15	0.061 *S*
Weeklies vs monthlies	8.635	5	0.001 S
Tv weeklies vs other type	5.278	5	<0.001 S
General vs spec. interest monthlies	1.206	5	0.318 NS
Reader per copy	1.318	5	0.257 NS
Reader per copy (weeklies)	3.602	5	0.004 S
Reader per copy (monthlies)	1.055	5	0.391 NS
Coverage	2.338	5	0.119 NS
Coverage (weeklies)	0,461	5	0.606 NS
Coverage (monthlies)	6.638	5	0.021 S
Reader characteristics			
Age	1.289	5	0.269 NS
Social class	1.769	5	0.120 NS
Reading frequency	64.804	5	<0.001 S
Magazine-reader relationship			
Favourite magazine	4.185	5	0.001 S

Appendix 2. An overview of tested magazines and key figures

	Type	Magazines key figures Source : CIM readership survey 1998 – women 15+			Accumulation parameters Source : Mediaxis 1999		
Weeklies		**Coverage**	**AIR**	**Readers /copy**	**Observations**	**a0**	**a1**
Ciné Télé Revue	TV	927 000	664 000	3.3	541	103	-30.3
Dag Allemaal	TV	1 118 000	715 000	3.6	278	102	-46.3
Femmes d'Aujourdh'ui	Women	661 000	315 000	4.0	334	99	-61.5
Flair	Women	990 000	472 000	5.0	421	99	-59.4
Flair L'hebdo	Women	596 000	223 000	5.0	317	92	-61.4
Humo	TV-News	868 000	531 000	4.6	339	101	-49.1
Knack	News	704 000	346 000	5.8	228	85	-51.2
Le Vif/l'Express	News	535 000	218 000	5.5	186	89	-58.1
Libelle	Women	1 028 000	592 000	3.8	299	100	-54.1
Story	TV	752 000	395 000	3.8	211	103	-53.4
Télé Moustique	TV	502 000	274 000	3.7	199	94	-42.0
tvExpres	TV	326 000	183 000	3.9	149	95	-46.7
Weekend Knack	Woman	574 000	283 000	4.4	201	89	-43.3
Weekend l'Express	Woman	359 000	162 000	4.0	144	99	-62.7
Monthlies		**Coverage**	**AIR**	**Readers /copy**	**Observations**	**b0**	**b1**
1001 Délices (CIM 1997)	Gastronomic	105 000	69 000	1.5	79	0	25.3
Actief Wonen	Decoration	248 000	144 000	4.9	48	0	27.3
Cosmopolitan fr	Woman	-	-	-	90	0	24.9
Cosmopolitan nl	Woman	-	-	-	116	0	27.1
Cuisine Créative	Gastronomic	196 000	116 000	6.4	76	0	28.1
Creatieve Keuken	Gastronomic	194 000	122 000	6.4	57	0	25.7
Déco Idées	Decoration	248 000	144 000	4.9	80	0	26.0
Elle nl	Woman	177 000	76 000	11.5	104	0	21.9
Feeling	Woman	641 000	377 000	6.7	239	0	25.7
Feeling Wonen	Decoration	-	-	-	80	0	28.2
Fit & Gezond	Health	556 000	322 000	7.3	263	0	25.6
Gael	Decoration	421 000	205 000	5.7	266	0	29.8
Gael Maison	Decoration	-	-	-	69	0	26.5
Goed Gevoel	Health	495 000	275 000	6.4	232	0	25.4
Marie Claire Vlaams	Woman	191 000	88 000	7.6	69	0	29.3
Marie Claire Maison	Decoration	241 000	107 000	29.6	68	0	19.2
Marie Claire Belgique	Woman	339 000	154 000	6.7	150	0	29.3
Proeven (CIM 1997)	Gastronomic	202 000	129 000	2.0	76	0	26.3
Top Santé	Health	706 000	395 000	7.2	425	0	28.5