

## 4.2 Some thoughts about readership research and frequency

An aspect that has so far been overlooked in this seminar is the question of the thoroughness of learning: that is, reading. In a test of reproduction it is impossible to differentiate or to separate the recall process from the learning process. We cannot look at readership results without linking it to the situation when the original reading event took place.

The major factors that come into play are:

- (a) intentional vs incidental reading.
- (b) frequency of reading.
- (c) the number of reading days.
- (d) the thoroughness of the reading.
- (e) 'a picture is worth a thousand words'.
- (f) buyer readers vs passalong readers.
- (g) where reading took place.
- (h) topicality of the editorial matter.
- (i) publishing interval or issue period.
- (j) memorability of the contents of the test issue(s).

In my opinion the best indicator of all these factors can be found in frequency, as I shall try to show.

High frequency of reading is limited to intentional readers. The incidental reader is the low frequency reader who sees the publication occasionally in a barber shop, beauty parlour or some public place like that. If you are an intentional reader you most likely like the publication; because you like it you will buy it; because you buy it you are interested in it; and because you are interested in it you will 'learn' it better. Because you have 'learnt' it better your ability to recall the event or to recognise an issue will be better.

Other positive links with frequency are: the higher the frequency the greater the thoroughness; the higher the frequency the more recent the 'last' reading event; the more recent the event the better the ability to recall or to remember it; You will also find that the well remembered publications are those with a high regular reader profile.

Only by using a multi-measure method can we assemble all the circumstantial evidence at our disposal and thus improve and check on the reliability of our results.

If you look at the question of readership as a continuum, from 'every issue' down to 'nil issues' (ie, never), then you will find that, as your frequency measure becomes stricter the size of the audience will get smaller. Using a thoroughness scale based on frequency you can tailor-make the size of the audience according to the strictness of your measure. Now let us add two of these criteria together. Let us add a frequency continuum to a

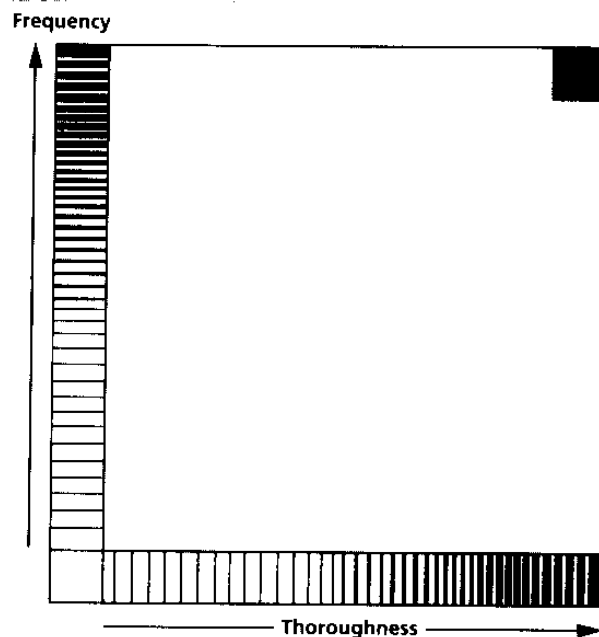
thoroughness continuum (See **Figure 1**).

If you want a very strict measure then you can combine the high frequency readers and the thorough readers and you will end up with a little cell up there in the top right hand corner with very reliable respondents in it. If we go further and we add a recency scale we obtain a cube (see **Figure 2**) with frequency along the one side, thoroughness along the other, and recency along the vertical side.

Thus, for example, if a group of people tell you they read six out of six issues and they read it thoroughly and they say 'I read it yesterday' then you can be sure that those results are accurate and reliable. Let us now go further and consider frequency scales. If we take the 50% probability level, then the length of the tail gets longer and longer as the number of points in our frequency scale are increased. We make use of the six-point scale in South Africa, the Germans use a 12-point and in pure theory there is an infinite scale. **Figure 3** clearly illustrates this.

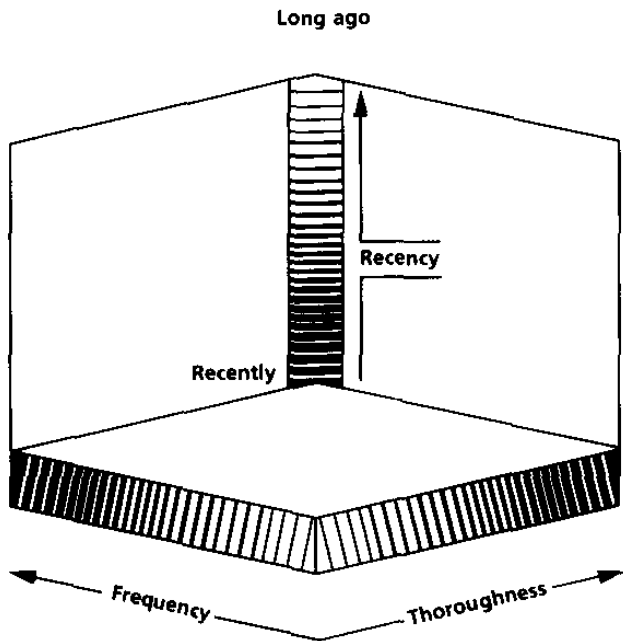
If the frequency recall is reliable, then the length of the tail should coincide with the theory of that particular number of points in our frequency scale. If you take probability at the purely theoretical level (see **Table 1**)

**FIGURE 1**  
Composite continuums – a two by two



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**FIGURE 2**  
Composite continuums – a 3 level approach



then out of the 64 possible combinations that we can get with a six-point scale, you will get a tail that follows pure theory (**Table 1**). If profiles vary from a low frequency profile to a high frequency profile the 'when last read' variations can be calculated and then compared with actual 'when last' claims.

Let us now consider my second point: that is, using frequency as a guide to thoroughness of reading. **Figure 4** shows the proportion of people who claimed they read 'all' or 'most' of the publications. It can be seen that the pattern is very much the same for monthlies, fortnightly and weeklies, and that thoroughness is very strongly correlated with frequency. In other words the proof of the link between frequency and thoroughness is clearly demonstrated.

Let us continue tracing the importance of frequency as a positive indicator. People will only read an everyday consumer publication thoroughly if they like it. If they like it they will be more inclined to buy it. **Figure 5** illustrates this.

**Figure 6** shows a cross-tabulation of frequency with the number of reading days based on the Politz 'yesterday' reading method.

It can be seen that the high frequency people have more reading days than the low frequency people. As a result of the multiple pick-ups they 'learn' the publication better and can therefore recognise it better when we show it to them in a through-the-book or cover recognition method.

**TABLE 1**  
Theoretical 'when last' readership with a six-point frequency scale

Frequency group	Number of ways	When last – by issue periods							Longer ago or never
		'Last' period	2nd last period	3rd last period	4th last period	5th last period	6th last period		
0 out of 6	1								1
1 out of 6	6	1	1	1	1	1	1		
2 out of 6	15	5	4	3	2	1			
3 out of 6	20	10	6	3	1				
4 out of 6	15	10	4	1					
5 out of 6	6	5	1						
6 out of 6	1	1							
Total no ways ie 2 <sup>6</sup>	64	32	16	8	4	2	1		1
Totals as %	100%	50%	25%	12.5%	6.25%	3.125%	1.5625%		1.5625%

# 4.2

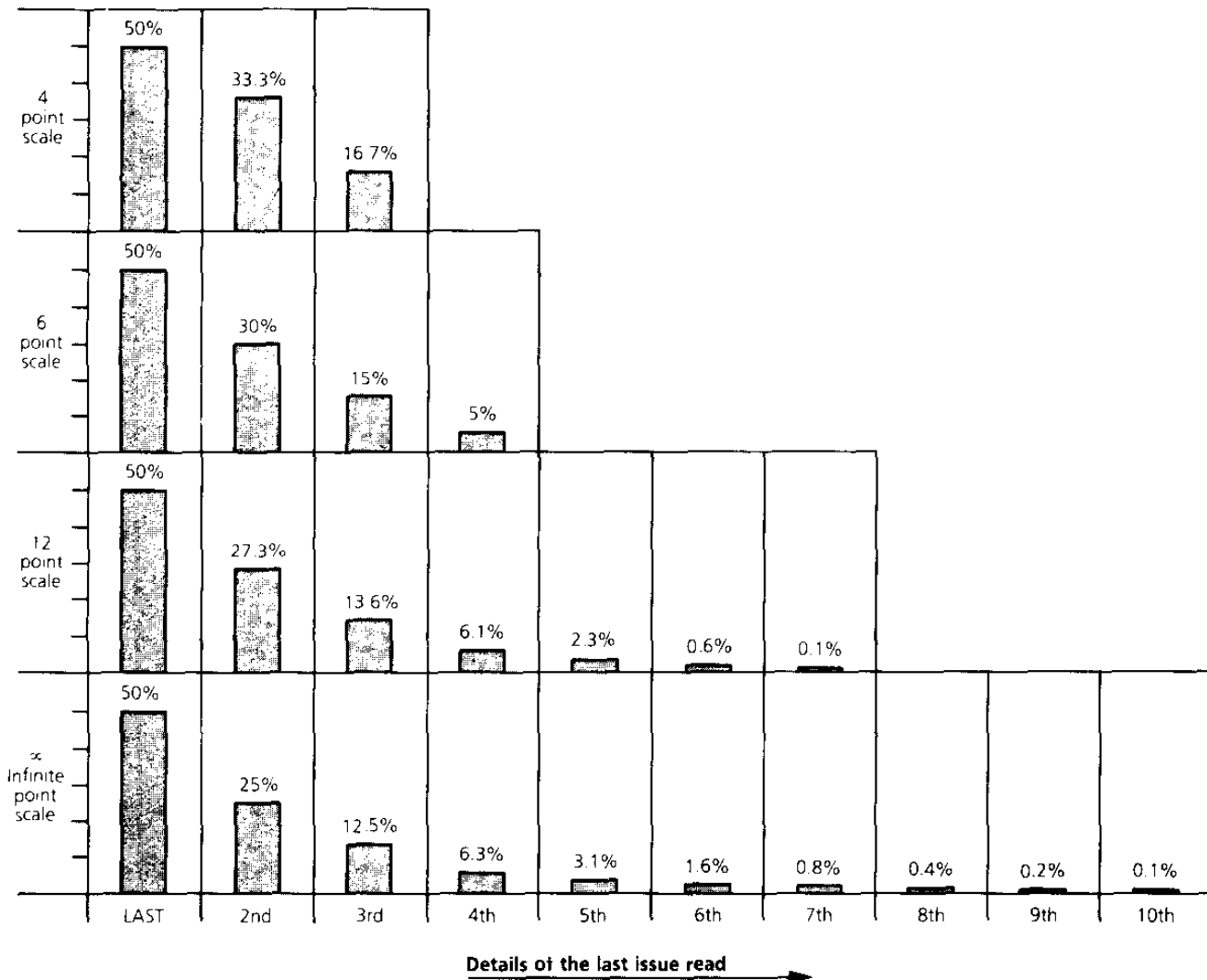
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Figure 7 shows a comparison between proven readership based on the average of three cover recognitions. This very much follows the theoretical point I mentioned in an earlier session of the period that can be covered by the average person's memory. It looks as if it is in the region of about 12 issues. In South Africa the reading probability of the average publication is around .45 to .55 among readers. At the 50/50 level we get a virtually theoretical pattern. The twisting effect shown in Figure 7 is virtually what one would theoretically expect

by drawing six issues from a 12-issue universe at the 50% probability level.

Table 2 shows the detailed claimed recognition patterns of three issues of six magazines within the claimed frequency of reading groups for the same magazines. Because of the great fluctuations we have found in the circulation of individual issues of specific publications we felt that testing three issues would be safer than using one issue. Table 2 shows the theoretical versus the actual pattern of combinations of three. Thus, for example, with

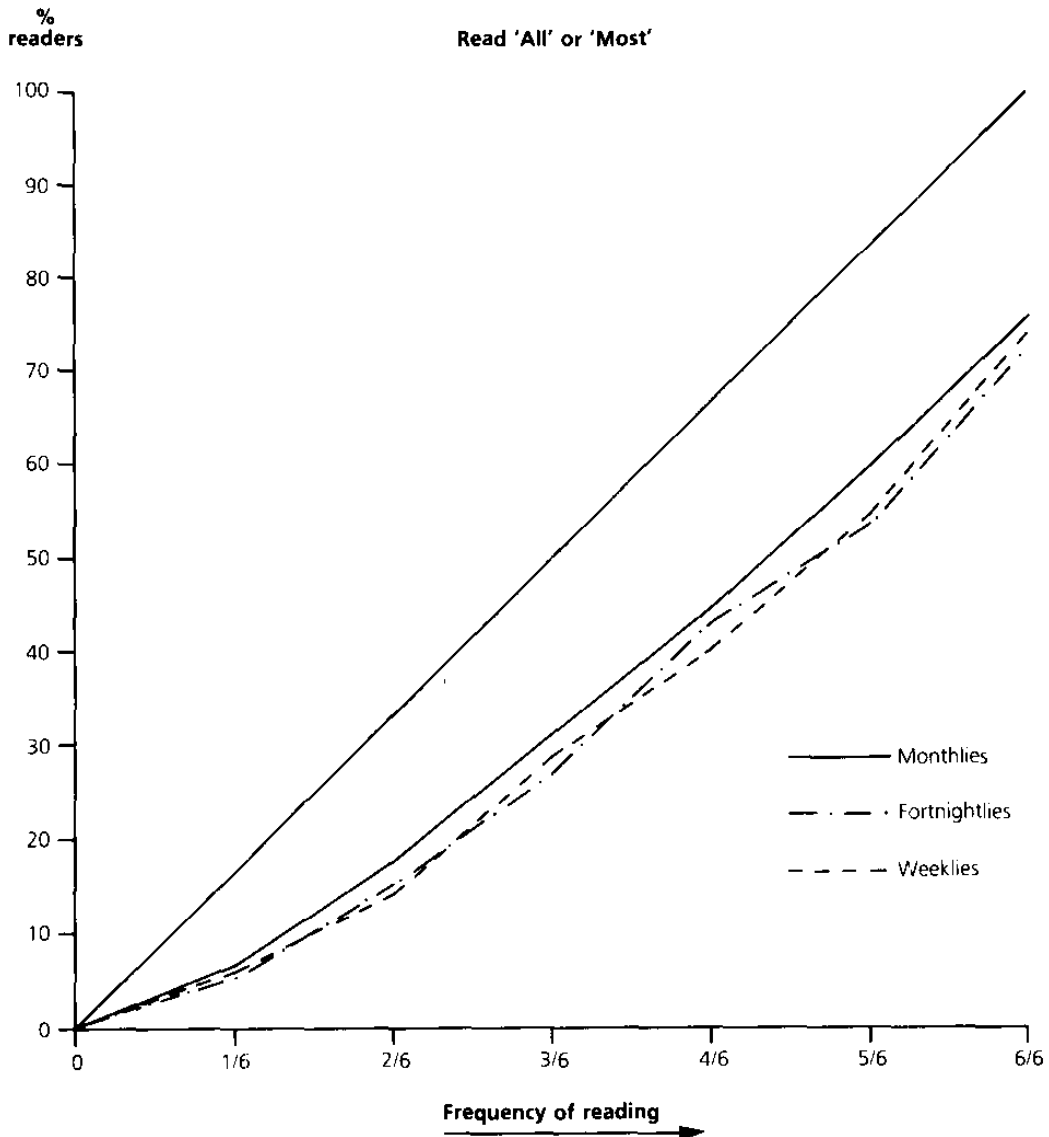
**FIGURE 3**  
How the 'When last tail' gets longer as the number of points in the frequency scale increases



Note: These four examples are for readership at the 50% LEVEL

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**FIGURE 4**  
Thoroughness of reading within frequency group



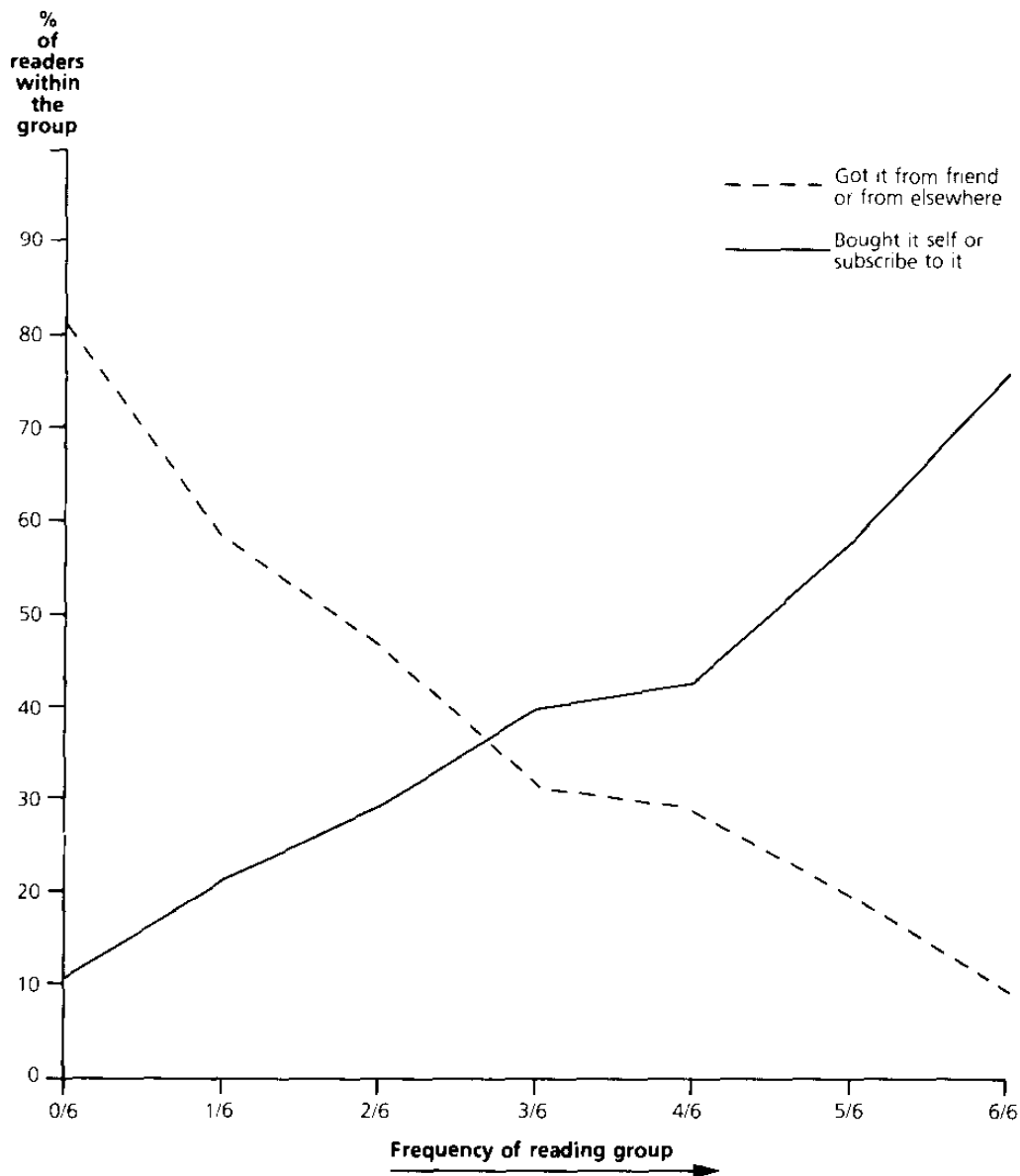
the one out of six group the theoretical example, at the one out of six level, would be 58%; in practice we found 29%. We even found a few six out of sixes among the people who should not have recognised any. At the other end of the scale, among the six out of sixes, we found that for the theoretical level you would expect 88%, and in practice we found 81%. Again the results of readers saying they 'always' do something compared with what they actually do can differ appreciably.

One point that should be mentioned at this stage is that when we compare the recency method with through-the-book then we are comparing the *most recent* reading period with the informant's recognition of a life-old issue that is weeks or months old. There is no reason why the two methods should correlate well. My current reading pattern need not be the same as my reading pattern six to 12 weeks ago.

The other statement I made was that the more recent

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**FIGURE 5**  
Origin of last issue read within frequency group



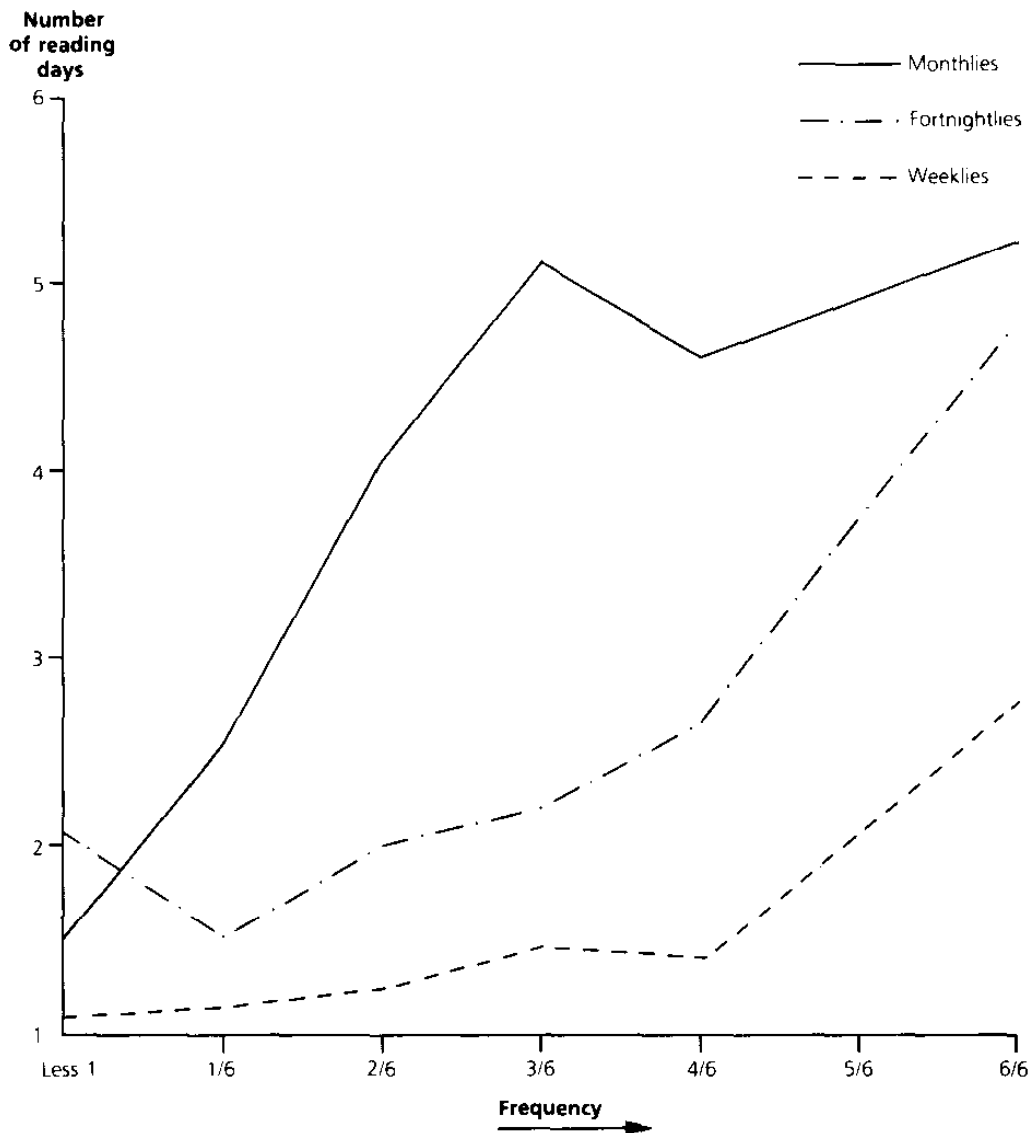
the event, the more reliable the results. In **Figure 8** I show all the periods within the issue period or outside the issue period. It can be seen that as we go back in time the cover recognition method gives higher results than the frequency method. This type of analysis cannot be done with the recency method. For example, if we take weeklies, then it will mean that everybody within the 'past

seven days' will qualify as readers, but beyond seven days will be given zero probability because the cut-off is at seven days.

Time does not permit me to provide details of all the experiments we have undertaken, but we have tested numerous methods along these lines. **Table 3** shows a set of comparisons. This is from a series of validation surveys

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**FIGURE 6**  
Frequency of reading vs reading days



where we compared the recency method with life old covers 'corrected' via through-the-book methods and allowing for different levels of memory decay. The straight three-cover frequency method is also shown. The averages of these 12 publications was 23.4% with the recency method, 21.4% with the frequency method, 21.9% with the memory corrected life old issue and 19.1% with the three-cover frequency-linked method. We have tested many other methods but this table clearly

illustrates how the results can vary via the different methods. In most cases we can actually provide reasons for the differences.

After considering the pros and cons of all the methods we decided that the recency method was 'best' for daily and weekly newspapers and that the frequency method was 'best' for magazines.

There is a direct link between frequency of reading and when last read or recency of reading. If we theorise

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**TABLE 2**  
Theoretical vs actual recognition scores –  
based on three life old issues of six magazines

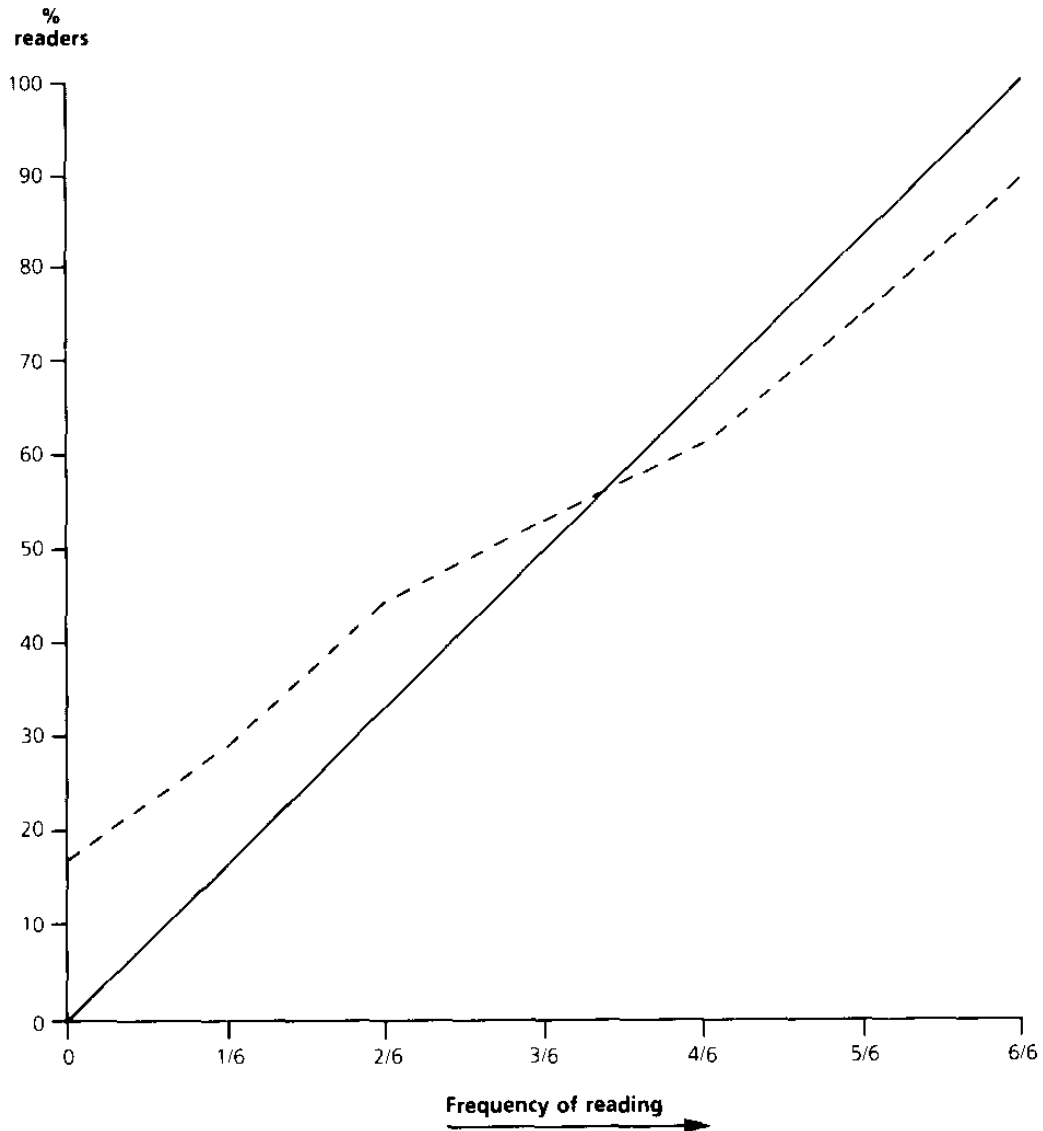
No of covers recognised	Frequency group						
	0/6 %	1/6 %	2/6 %	3/6 %	4/6 %	5/6 %	6/6 %
<b>0 recognised</b>							
A theoretical	88	58	30	12	4	—	—
B actual results	91	39	22	11	9	4	2
<b>1 recognised</b>							
A theoretical	11	35	44	38	22	7	1
B actual results	6	41	37	37	27	16	6
<b>2 recognised</b>							
A theoretical	1	7	22	38	44	35	11
B actual results	2	14	30	33	30	29	11
<b>3 recognised</b>							
A theoretical	—	—	4	12	30	58	88
B actual results	1	6	11	19	28	51	81

**TABLE 3**  
Metropolitan areas validation study –  
comparison of four different methods

Magazine	A recency %	B frequency %	C Life old cover memory corrected %	D three cover frequency %
1 Huisgenoot (W)	21.5	23.4	23.4	20.4
2 Scope (W)	39.2	41.8	46.3	39.3
3 Rool Rose (F)	19.0	18.2	18.0	16.4
4 Fair Lady (F)	34.0	30.5	29.3	26.5
5 Living & Loving (M)	31.6	22.8	28.1	24.3
6 Garden & Home (M)	19.7	13.2	14.3	12.0
7 Time (W)	14.6	18.4	18.8	15.5
8 Financial Mail (W)	9.5	11.2	9.7	7.8
9 Personality (F)	38.2	32.7	32.6	29.2
10 Pronk (F)	12.5	10.9	9.1	8.1
11 Ster (F)	14.2	14.0	12.1	10.8
12 Car (M)	27.2	19.7	21.1	18.6
Average of all 12	23.4	21.4	21.9	19.1

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**FIGURE 7**  
Cover recognition within frequency group



how a publication could build up its audience over time we get a pattern something like that shown in **Figure 9**.

If we now take a series of these issue reading patterns in succession you will get the pattern shown in **Figure 10**. It in fact illustrates the theoretical basis of the recency model which is that the readership in one issue period, ignoring replication or parallel reading, is the same as the audience during the issue's life.

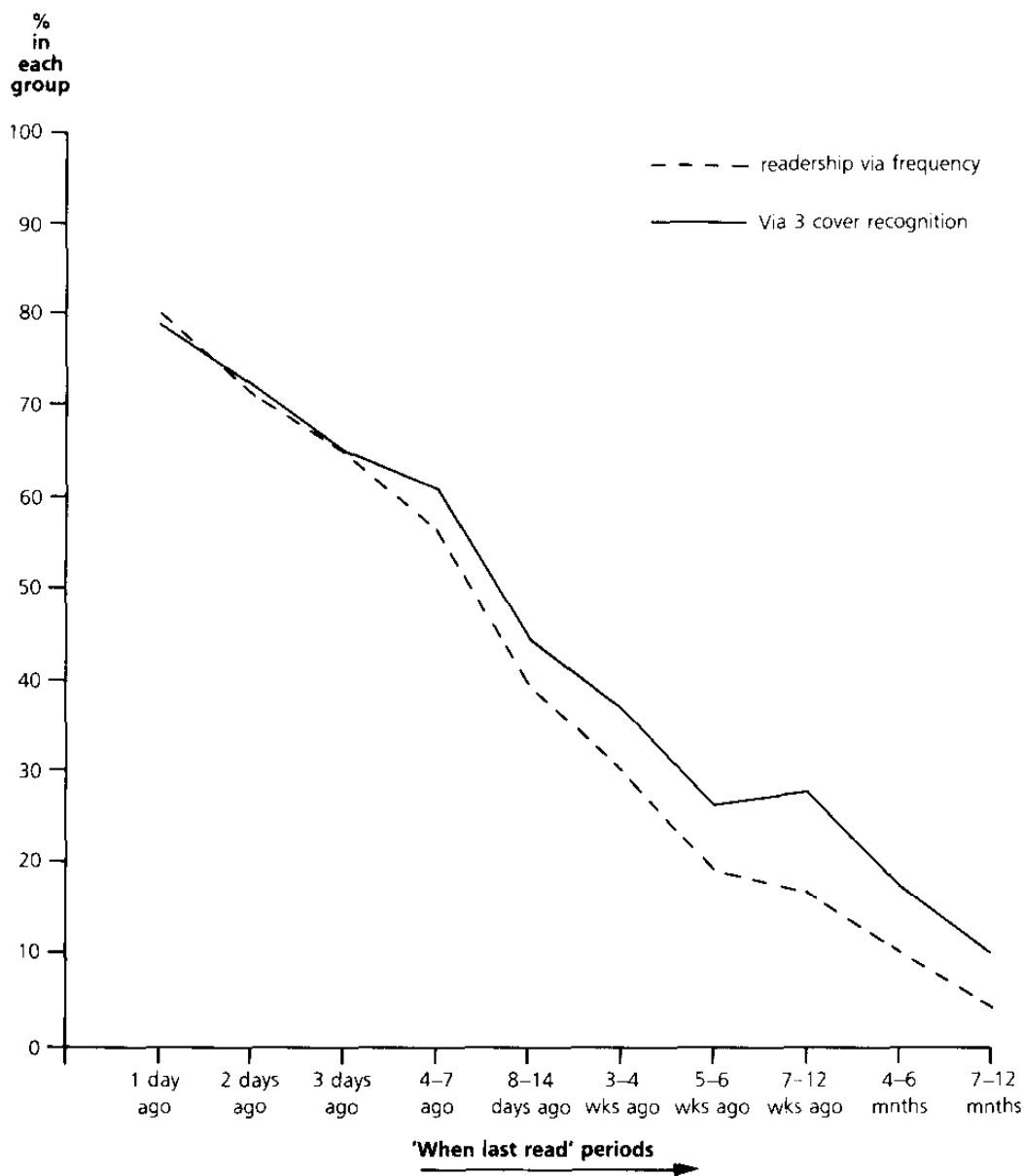
If we want to link readership with circulation,

circulation is generated in a series of single issue periods, that is during the shaded portions in **Figure 10**. If we ask people about the last issue period then only the people that read the publication during the 'shaded' period would be likely buyers, because each individual issue was only on sale during that period. In other words, if you take the reading patterns on a horizontal and vertical basis, only the shaded subsection of the pattern in each issue period could most likely have been buyers. Those people



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**FIGURE 8**  
Readership via frequency and cover recognition of 6 test publications within 'when last' read periods



who read it in the second and third period are unlikely to have been buyers.

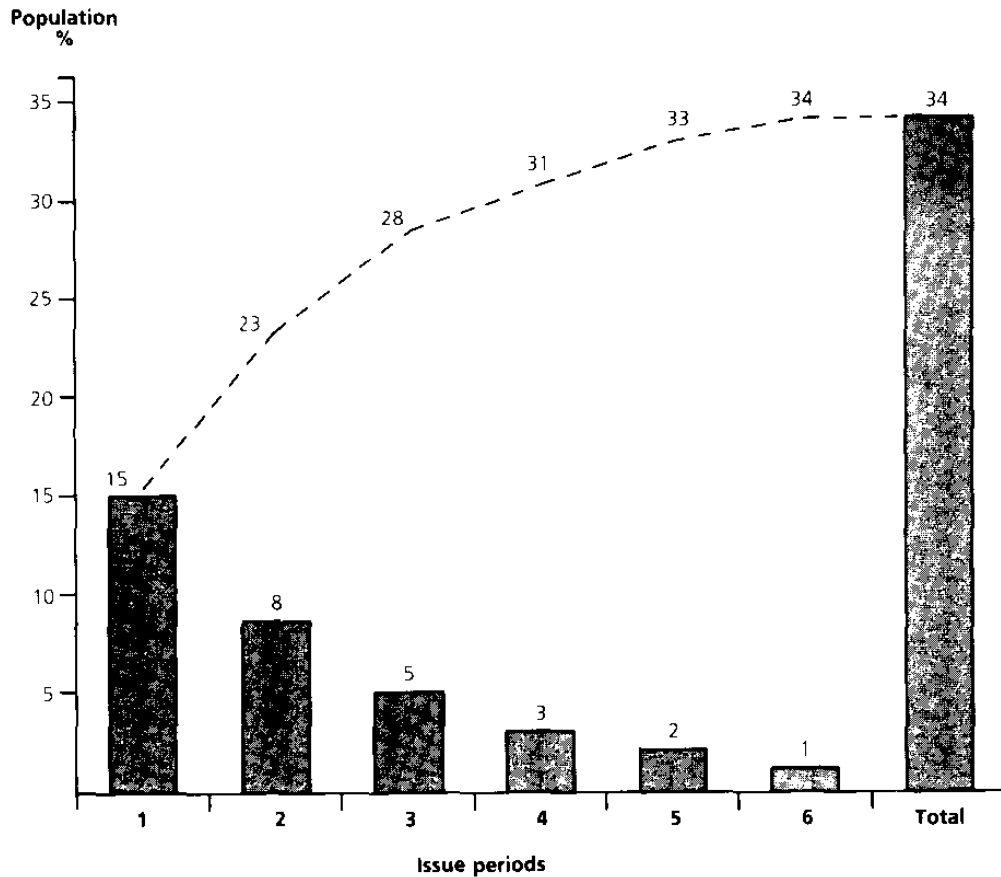
This contention that those readers that read the issue during the period when it was on sale (ie the shaded portion in **Figure 10**) are those that 'create' circulation, has resulted in a theory which I have labelled the 'Buying

period probability theory'. Briefly, this consists of the following.

All readers present and past can provide origin of last copy read replies, but only a subsection can be linked to the periods when the issue was on sale, as I have just shown. I believe this to be true though I cannot prove it

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**FIGURE 9**  
How a specific issue of magazine gains additional readers during its life



Note: a magazine can add readers to its total audience during its 'Life' but it can't add claimed buyers after the period in which the publication was on sale.

beyond doubt, but I would like those of you who have frequency questions in your readership surveys to take a closer look at it. My contention is that the readers that can be linked to the on-sale period can be calculated by applying the *square of the frequency probability* of the group to all the claimed readers in that group. To this figure we must then apply the claimed self-buyer proportions and divide it by the number of adults per average reader household.

These steps can be followed in **Table 4** and shows an actual example based on South Africa's largest circulating newspaper – *The Sunday Times*.

You start off with the number of people who put themselves in the various frequency groups (Line 'A'). You then use the curve (**Figure 11**) which shows a direct link

between the proportion of people who place themselves in the six out of six group and their theoretically true probability. Take the proportion of the sum of the three to six readers that placed themselves in the six out of six group and read off their 'true' probability from the curve.

The squared probabilities of each frequency group is next applied to the claimed readers within each frequency group. That is, Line 'C' in **Table 4** is multiplied by Line 'A'. This product, according to the writer, reflects the number of people who read the publication during the period *when it was on sale*.

To those figures we must next apply the proportion of readers in each group who claimed that they bought (or subscribed) the last issue of the *Sunday Times* that they read. The result of this step is shown in Line 'F'.

**FIGURE 10**  
The concept of the recency method

Time	Time in publishing intervals										Total	
	1	2	3	4	5	6	7	8	9	10		
Time in issues	1st issue	15	8	5	3	2	1					34
	2nd issue		15	8	5	3	2	1				34
	3rd issue			15	8	5	3	2	1			34
	4th issue				15	8	5	3	2	1		34
	5th issue					15	8	5	3	2	1	34
	6th issue						15	8	5	3	2	33
	7th issue							15	8	5	3	31
	8th issue								15	8	5	28
	9th issue									15	8	23
	10th issue										15	15
<b>Totals</b>	15	23	28	31	33	34	34	34	34	34	300	

**TABLE 4**  
'Deduced' or calculated 'circulation' from informant claims (AMPS '79) – publication *Sunday Times*

Heading details	Frequency of reading group							Total
	0/6	1/6	2/6	3/6	4/6	5/6	6/6	
A Number of readers per frequency group as claimed ('000s)	472	579	477	491	362	333	2022	4736
B 3 to 6/6 frequency profile sum (for calculating 6/6 probability)	Total (3-6/6) = 3208; % 6/6 = 63; Theor prob see chart .93							
C Squared probabilities	—	.0278	.1111	.2500	.4444	.6944	.8649	
D Buying period audience (A × C) ('000s)	—	16	53	123	161	231	1749	2333
E Percentage claimed 'self' buyers (From AMPS '79)	—	16.0%	13.7%	29.3%	42.1%	49.1%	56.7%	
F Number of 'self' buyers (D × E) ('000s)	—	3	7	36	68	113	992	1219
G Deduced 'circulation' (F ÷ average size reader household see below for calculation)								486
								Actual circulation: 487

**Calculation of average reader household size**

Heading details	Whites	Coloureds	Asians	Blacks	Total
A Average household size	2.3	3.5	3.8	3.3	3.1
B Percentage 'main' sex among the readers	53%	50%	56%	70%	
C Average reader household size (read from table)	2.16	3.50	3.40	2.36	
D Average issue readers (from AMPS) ('000s)	1313	393	291	1156	3153
E Average size reader household (from C & D)					2.51

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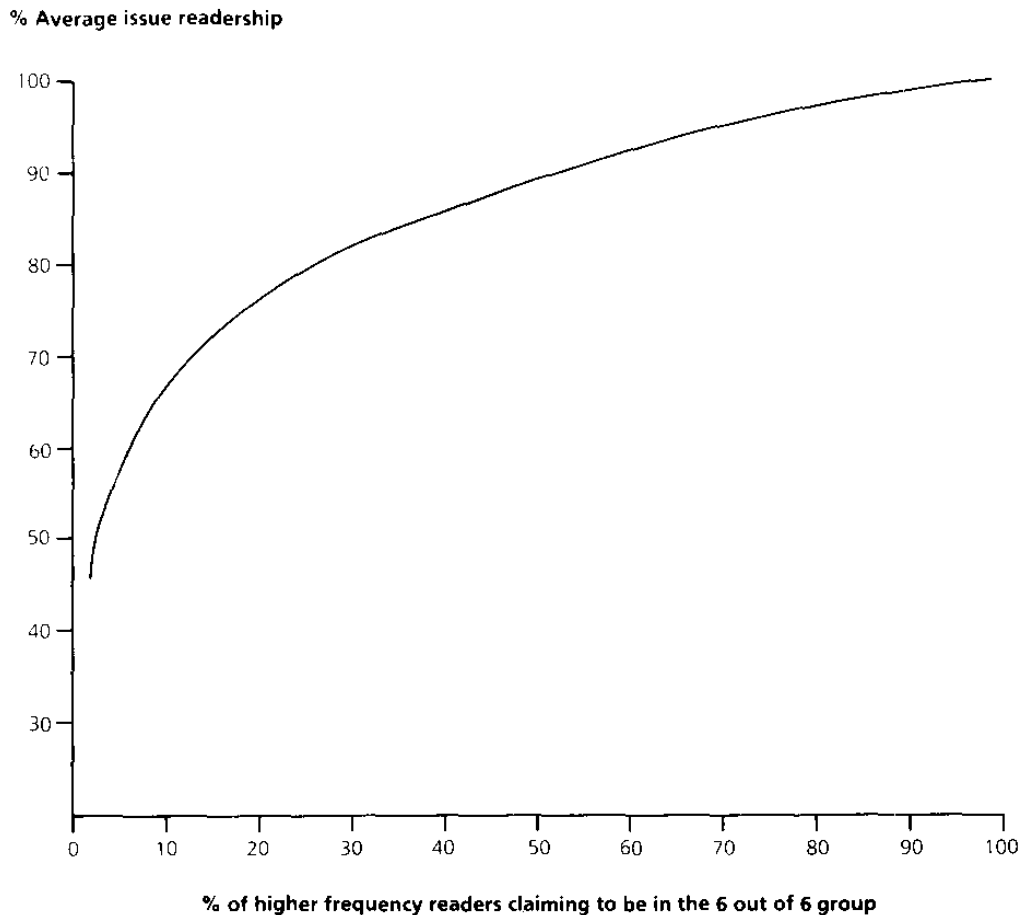
The next step is to calculate the average number of adults in the reader households. If a publication is read by men and women then the maximum readers per copy in one household is the sum of the men and women readers. If the sex profile of a publication is 80% men, then it does not capture many women readers. From the sex profile pattern you can therefore calculate the number of readers per household. In South Africa we have big differences in the number of persons per household among the different races.

In the bottom portion of **Table 4** we show how we

calculate the average number of adults per reader household. Thus, for example, although the average multi-racial household contains 3.1 adults, *Sunday Times* households contain only 2.51 adults (Line 'E' at the bottom).

In the final step we then divide the claimed total 'self' buyers in Line 'F' by the average number of adults per reader household (2.51) and this then yields the deduced circulation. In this example the deduced circulation of the *Sunday Times* was 486,000 compared with the actual for the period of 487,000.

**FIGURE 11**  
The theoretical link between average readership and profile proportions in the 6 out of 6 frequency group



Note: This chart shows the theoretical percentage of the 3 to 6 out of 6 readers that 'should' be in the 6 out of 6 frequency group at the average readership levels shown

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**FIGURE 12**  
Reliability of response

Key factors	Level of reliability	
	Low	High
Frequency	Seldom	Often
	Long ago	Recently
Recency	Superficially	Thoroughly
	Few regulars	Many regulars
Thoroughness	Profile of regulars	

We get a correlation of .98 with newspapers and .92 with magazines. There are still a few rough edges for example, in the case of *The Digest*. In South Africa, many people get this as a gift, and we did not record gift buying so our deduced circulation is lower than the actual. I believe the approach has some possibilities and if anybody can have a go at it in their own country, it would be appreciated. A more detailed review of the thinking behind the buying probability theory is given in a paper 'A possible link between readership and circulation' which I have made available to the conference secretariat. (Editor's note: not included in these Proceedings.)

### To summarise

If we want better results in our readership measurement we need facilities to check on the reliability of our informants. We need multiple measures to do this (see **Figure 12**).

The 'better' the reading the better the recall. I believe that frequency of reading provides one of the best indicators of 'better' reading and therefore reliability of results.