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5.3 Multi-stage experiments in questionnaire survey methodology for magazines in the AG.MA national readership surveys: findings and consequences

PURPOSE

The aim of these methodological experiments was to develop a survey model which minimises the load on interviewees and interviewers without loss of information in the main areas being covered and maintains the current reach relationships between the media — unless there is clear proof of existing distortion.

The major part of the experiments was with the print media, which account for about 70% of the interview time in the MA survey. The following descriptions apply to consumer magazines, which with 95 individual titles are the most complex part of the MA interview.

SURVEY METHOD

Qualitative pre-studies
TESTS FOR EASE OF USE: OBSERVATION OF INTERVIEWS WITH VIDEO CAMERAS
From 60 video films, divided between three institutes, the following results were obtained:,

(a) The interview is not free from long empty time periods, resulting from the interviewer having to make entries after each classification procedure. During the time the interviewee is unoccupied, he becomes impatient.

(b) Pressed by the interviewee — to some extent also by himself — the interviewer, to avoid empty time periods, often changes the instructions to 'horizontal questioning', ie he asks for one title all the questions one after the other, and only then moves to the next title. The instructions read: first of all ask a question for all titles and then move to the next question ('vertical questioning').

(c) The initial question (to blow off steam) covering the area 'holiday travel' proved to be a disadvantage as only about half the interviewees had undertaken holiday travel during the last year. The rest were immediately confronted with the field of consumer magazines, which gave some the impression that they were to be persuaded to take up a magazine subscription.

The results of these tests led to a field experiment being planned which had the aim of minimising the observed individual variations in style of the interviewers through a simpler 'streamlined' design of questionnaire.

Here it was clear from the beginning that it would be very difficult to test individual elements of the questionnaire under *ceteris paribus* conditions. Therefore the route taken was to change the whole interview system and to test that changed system, leaving any remaining uncertainty to be handled afterwards in individual experiments. Three aspects stood out significantly in the development of an 'extreme' model:

(1) The function of the title card as a memory aid, and the guarantee that the interviewer is obliged to make use of these title cards during the whole of the interview.

(2) The effect of 'horizontal' and 'vertical' procedures during the questioning.

Horizontal = The questions on last reading and reading frequency are asked one after the other for each separate title; only then does the interviewer go to the next title.

Vertical = One question has first to be answered for *all* titles, then the interviewer goes to the next question and asks once again for all titles, one after the other.

(3) The influence on the results which is exerted by the different proportion of qualifying and non-qualifying answer categories, the effect of the 'chance probabilities'.

THE PRE-TEST PHASE
I presented the results of this research step in New Orleans in 1981, but to help in understanding the further progress of the experiments I briefly describe the outline and results again.

In the test three versions were involved: the current MA-version; a 'sorting model' with strictly vertical questioning, but — in contrast to the MA — *all* statements for a title are listed clearly on one sheet of paper; title cards are in A7 format; a 'self-completion

model', where the interviewee marks the appropriate answers on a title card.

With each version 192 interviews were carried out. Every interviewer used two versions and gave a detailed judgement on both versions.

The results showed that both experimental versions were clearly preferred by the interviewers, and in this comparison the MA came off remarkably badly in terms of the stress on the interviewee. On the other hand there are criteria which indicate that the quicker, time-saving interviews in both experimental models can lead to loss of information, because the interviewee quickly learns the filter mechanism and reacts accordingly in order to shorten the interview. Filling in the results oneself functions better or worse according to the population segment.

Main phases
THE FIRST MAIN PHASE
From the knowledge gained in the pre-test phase two models were developed and tested in comparison with the current MA-version. 2,000 interviews per test version were carried out with a representative cross-section of the population. Both test versions have an identical questioning structure, but they differ in the size of the title cards shown and in the method of recording the results:

| Horizontal: | Use of title cards in A7 format: all answers are recorded by the interviewer on the questionnaire |
| Completion version: | use of title cards in A5 format: the answers are marked on the back of the title card by the interviewee |

CHANGES BETWEEN TEST VERSIONS AS MA IN THE GENERAL FILTER
The experimental versions vary in the general filter from the MA-version as follows:

TABLE 1
General filter categories

MA	Experiments
unknown	unknown
only the name known	known
read at some time	

The broadening of the general filter in the experiment necessarily meant more passing through the filter, because persons who "only know the name" are also taken into account.

TABLE 2
Average number of titles which pass the general filter

		Experimental version	
	MA	Horizontal	Completion
Monthlies (43) *)	5.1	12.3	11.6
Bi-weeklies (10) *)	2.0	4.1	3.8
Weeklies (38) *)	9.6	20.0	19.3
Total (91) *)	16.7	36.4	34.7

*) Number of magazine titles asked about in the general filter

In practice this means that within the individual publication intervals we have, for both test versions, a lot more titles in the second phase of questioning.

CHANGES BETWEEN TEST VERSIONS AND MA IN MAXIMUM READERSHIP
The experimental versions vary in maximum readership from the MA-version as follows:

TABLE 3
Maximum readership categories

MA	Experiments
Read within the last 12 publication intervals	Read within the last 12 publication intervals
Read within the last 12 to 24 publication intervals	Not read within the last 12 publication intervals
Longer ago	

The following table shows that, after this time filter, in the test versions eleven to twelve titles remain for further questioning, with the MA-version just under nine:

TABLE 4
Average number of titles which pass the filter

		Filter passages Experimental version	
	MA	Horizontal	Completion
Monthlies	2.7	3.4	3.8
Bi-weeklies	1.1	1.4	1.4
Weeklies	4.6	5.9	6.3
Total	8.4	10.7	11.5

This means that, with the same definition, for reading within 12 times the publication interval the experimental versions produce more readers in comparison with the MA-version.
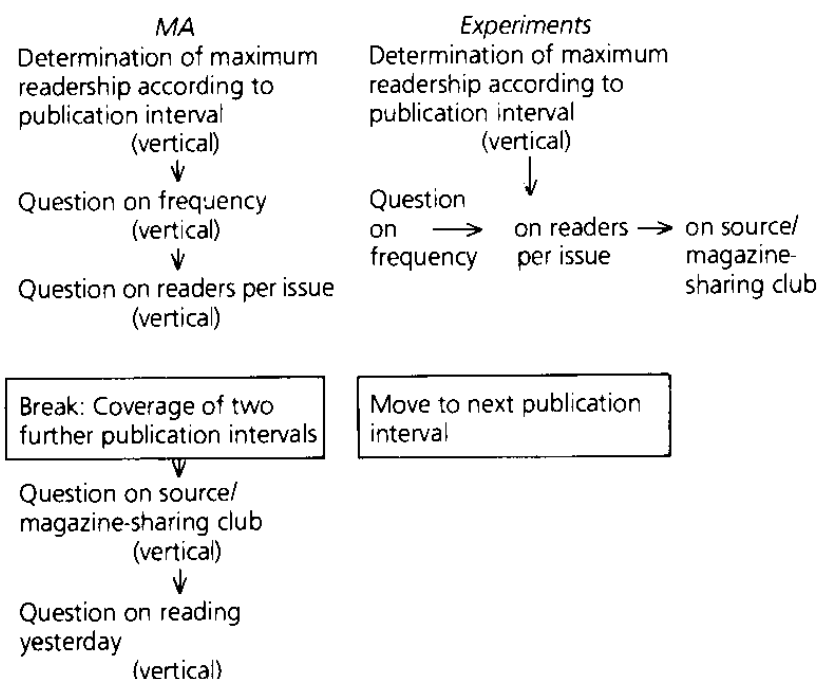
The maximum readership is composed of hard-core readers and occasional/seldom readers within the individual versions (see **Table 5**).

TABLE 5

		Experimental version	
	MA	Horizontal	Completion
Gross reach (91 titles):	%	%	%
Hard-core readers within maximum readership total	251.6	276.5	257.3
Non-hard-core readers within maximum readership total	584.0	792.6	891.3

Here we can clearly see that the increase does not arise within the area of regular readers. For those persons who claim to have read the title ten, eleven or twelve times the results remain about the same for the MA and the experimental versions. The increase takes place amongst the occasional readers. This means that with the broadening of the general filter, more occasional readers

TABLE 6

MA	Experiments
Determination of maximum readership according to publication interval (vertical)	Determination of maximum readership according to publication interval (vertical)

MA:
Determination of maximum readership according to publication interval (vertical)
↓
Question on frequency (vertical)
↓
Question on readers per issue (vertical)

Experiments:
Determination of maximum readership according to publication interval (vertical)
↓
Question on frequency —→ on readers per issue —→ on source/magazine-sharing club

Break: Coverage of two further publication intervals	Move to next publication interval

Break: Coverage of two further publication intervals
↓
Question on source/magazine-sharing club (vertical)
↓
Question on reading yesterday (vertical)

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who claim readership within 12 times the publication frequency get through.

CHANGES BETWEEN TEST VERSIONS AND MA IN READERSHIP WITHIN PUBLICATION INTERVAL

Following the maximum readership filter the models differ as shown in **Table 6.**

The calculation of readers per issue is shown in **Table 7.**

TABLE 7
Scale for determining readers per issue — example weekly titles

I have last read or looked through these magazines	MA	Experiments
Categories:	Within the last 7 days	Yesterday
	8-14 days ago	Within the last 7 days
	2-3 weeks ago	1-4 weeks ago
	Longer ago	Longer ago

The answer 'yesterday' is taken into the calculation of readers per issue, so that in the experimental versions two answers are used to calculate the readers per issue value, in the MA only one answer. In the experimental versions the questions about how the copy of the magazine was obtained and magazine-sharing clubs were asked immediately following the readers per issue question, while in the MA how the copy of the magazine was obtained, magazine-sharing clubs and readership yesterday were asked about separately in a third run-through. This third run-through is in fact the complication in the MA.

Table 8 shows the results for readers per issue gross and net, for different publication frequencies:

The readers per issue reaches in the experiments lie significantly above those of the MA, the reach increase being mainly due to a stronger coverage of occasional readers (see **Table 9**)

This shifting towards occasional readers is shown in readers per issue even more clearly than in maximum readership. The proportion for hard-core readers in readers per issue drops from 63% to 50%, and at the

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TABLE 8

		Results readers per issue Experimental version	
Gross reaches	MA	Horizontal	Completion
Monthlies	119.2	166.3	171.2
Bi-weeklies	37.3	57.4	51.1
Weeklies	221.2	282.7	272.3
Net reaches			
Monthlies	50.5	58.8	62.0
Bi-weeklies	24.7	32.6	31.3
Weeklies	84.6	87.6	86.8

TABLE 9

		Experimental version	
Gross reaches (91 titles)	MA %	Horizontal %	Completion %
Hard-core readers within readers per issue total	237.7	256.8	243.4
Non-hard-core readers within readers per issue total	140.1	249.6	251.3

same time 64% of the additional readers picked up in the horizontal model are by their own account members of the households which bought the title. In conjunction with the results for different editorial categories we can form the hypothesis that the experiments, in comparison to the MA, pick up as readers more people who:

(a) occasionally buy a title themselves, probably without regular buying habits, ie. depending on the appropriate title theme — an explanation of the overproportionate reach increases in the hard-core readership of individual groups, such as women's magazines, hobby magazines

(b) occasionally read a title which is bought by another member of the family — an explanation of the overproportionate reach increases in readers outside the main target group of specialist publications such as weekly newspapers covering politics and business.

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TABLE 10

		Total magazines Experimental version	
	MA	Horizontal	Completion
General filter			
Number of titles	16.7	36.4	34.7
Maximum readership			
Number of titles	8.4	10.7	11.5
Readers per issue			
Number of titles	3.9	5.2	5.1
Maximum readership — as percent of the general filter			
Last 12 publication intervals	51	29	33
12-24 publication intervals	23	} 71	} 67
Longer ago	26		
% eliminated in maximum readership	49	71	67
Readers per issue — as percent of maximum readership			
Last publication interval	45	48	45
1-2 publication intervals	20	} 32	} 34
2-3 publication intervals	16		
Longer ago	19	20	21

SUMMARY
An overview of the filtering system is shown in **Table 10** This filtering system clearly shows that the filter opening and the number of 'pigeon holes' (= answer possibilities) are important.

With the filter opening used in the experiment more than twice as many titles pass through the general filter as in the MA (through the addition of the category 'only the name is known').

In the first time-filter significantly more titles are eliminated in the experiments than in the MA; however, the average number of titles within maximum readership lies in total clearly above the MA. In this connection the hypothesis that the changed 'chance quota' in maximum readership (1:2 with the MA vs. 1:1 in the experiments) plays a part in the higher maximum readership figures cannot be disregarded.

Taking into consideration the higher level of the experiments the structures of maximum readership agreed fairly well with regard to the classification for the second time-filter, from which the readers per issue value is calculated.

This result suggests that these chance probabilities — and possibly also a suggestive character of the alternative question for maximum readership — are important with the large time-filter, but on the other hand play a much smaller role with the small time-filter. This is supported by the observation that with readers per issue more magazine type and readership specific peculiarities appear than with maximum readership, which leads us to believe that mechanisms are involved which cannot be explained by statistical chance probabilities.

The consequence of the use of the experimental models would be higher reaches for the consumer magazines, on account of occasional readers in households which buy the magazines. Over-proportionate reach increases would be expected in titles which cater more for these readers — ie. titles with relatively higher personal sales, with a higher proportion of occasional buyers, arising from the editorial or special target group magazines with a proportion of occasional readers from outside the main target group. Within the hard-core readership little change would be expected.

THE SECOND MAIN STEP
The test in the first main stage did not clarify whether the increase in readers per issue comes primarily from the opening-up of the general filter and the first time-filter or from the change of the possible response to the readers per issue question. These unanswered questions led to a further experiment which was carried out in the summer of 1982, on a representative sample of 2,000 persons.

In this experiment the general filter and maximum readership filter conformed exactly to the MA-model — ie. the filter was smaller again.

The measurement of the readers per issue was different in the experiment to the MA
(a) because of the horizontal questioning, ie. after determination of the maximum readership for each title

the question on last reading follows immediately after the question on frequency;

(b) because of the inclusion of reading "yesterday" in the readers per issue question. The experiment included 4 answer possibilities with 2 possible "chance answers" for the readers per issue; the MA contains 4 answer possibilities with one possible reader per issue "chance answer".

The following table (**Table 11**) listing the questions for the MA and the experiment shows the different approaches.

TABLE 11

MA List of frequency questions	Experiment (weeklies) List of frequency with readers per issue questions:
Of the last 12 issues of this magazine I have read or looked through	A Of the last 12 issue of this magazine I have read or looked through
12 issues	1 only one issue
11	2 - 3 issues
10	4 - 5 issues
9	6 - 7 issues
8	8 - 9 issues
7	10 -11 issues
6	12 all issues
5	
4	
3	
2	B I last read or looked
1 only one issue	this magazine
List of readers per issue questions MA (example weeklies):	yesterday within the last 7 days 1- 4 weeks ago longer ago
I last read or looked through this magazine	
within the last 7 days 8 -14 days ago 2 - 3 weeks ago longer ago	

While in the MA the frequency question is initially put for all titles within maximum readership within each publication frequency group, the readers per issue question being subsequently put for all titles, in the experiment frequency and readers per issue questions follow one another for every titles within maximum readership. With the inclusion of reading 'yesterday' in the determination of readers per issue, and the abandoning of questions about how the magazine was obtained, a third run through the titles in the interview is avoided.

As expected there were no differences between the MA and this experiment in the general filter and maximum readership.

The change in scale of the frequency question apparently had no effect on the frequency distribution (**Table 12**).

TABLE 12
Average distribution of the frequency classes, based on maximum readership

All interviewees	Experiment 82 %	MA 82 %
All magazines		
1 issue	14	13
2 - 3 issues	25	26
4 - 5 issues	15	14
6 - 7 issues	12	11
8 - 9 issues	4	5
10 -11 issues	4	4
12 issues	27	28
Occasional readers	69	68
Hard-core readers	31	32

The differences in readers per issue is shown in **Table 13**.

On average there was an 18% increase in readers per issue: in the first experimental phase the increase was 35% for the horizontal version and 31% for the completion version.

By categories of magazines the results were as shown in **Table 14**.

The reach increases are significantly more for women than for men and are primarily amongst the primary target groups (exception: hobby magazines and magazines and weekly newspapers for business or politics).

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Noteworthy in this experimental version is the similarity between the k_1 value (ie the reader of an average issue mathematically calculated from the numerical frequency scale) and the reader per issue

TABLE 13
Readers per issue

	Reach (gross) Experiment		Index MA 82
All interviewees	82 %	MA 82 %	= 100 %
Monthlies	125.4	110.1	114
Bi-weeklies	46.0	33.8	136
Weeklies	255.3	216.3	118
All magazines	426.7	360.2	118

value. Especially within groups which had previously shown large differences between these values the k_1 and readers per issue value lie practically together. (See **Table 15**)

It was just this similarity between k_1 and readers per issue values which was one of the arguments in favour of asking horizontally in the future — ie to put the questions on reading frequency and last reading for each title, one after the other, immediately which obviously helps the interviewee's concentration on the individual titles and leads to consistent answers.

Additionally the experimental version also fulfills the actual requirement for which the experiment was carried out: the shortening and simplification of the interview. With an actually shorter interview time compared to the MA the length of the interview was mainly underestimated by the interviewee, ie the interviewee

TABLE 14
Readers per issue

Gross reach

Index MA 82 = 100

	All interviewees	Men	Women	14-29 years	Completed further education
Illustrated current affairs magazines	127	129	125	118	128
TV/radio programme magazines	104	101	107	108	102
Weekly women's magazines	128	114	136	129	126
Bi-weekly women's magazines	136	102	146	127	134
Monthly women's magazines	124	93	134	130	111
Health magazines	132	94	150	126	145
Sport magazines[1]	120	125	92	147	133
Car/motorcycle magazines	117	120	108	125	108
Hobby magazines	121	109	143	132	121
House and garden magazines	115	97	130	82	112
Special interest magazines	118	114	123	118	125
Magazines for business, politics	108	96	126	107	103
Weekly newspapers for business, politics	91	87	97	99	81
All magazines	118	110	126	119	114

[1]Possible influence of the World Cup on the reach values

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TABLE 15
Relationship between k_1 value and readers per issue value

All interviewees
Readers per issue = 100

	Experiment 82	MA 82
Illustrated current affairs magazines	101	126
TV/radio programme magazines	100	103
Weekly women's magazines	100	126
Car/motorcycle magazines	100	110
Hobby magazines	107	119
House and garden magazines	99	114
Magazines for business, politics	104	114
Weekly newspapers for business, politics	104	127

TABLE 16

All interviewees

	Experiment 82		MA 82	
Length of interview:	%		%	
Up to 19 minutes	0		0	
20-29 minutes	1		1	
30-39 minutes	20	68%	15	58%
40-49 minutes	27		24	
50-59 minutes	20		18	
60-69 minutes	17		20	
70-79 minutes	8	31%	11	41%
80-89 minutes	2		4	
90 minutes and more	4		6	

feels subjectively less pressure than he actually has **(Tables 16** and **17)**

FINAL OBSERVATIONS AND CONCLUSIONS FOR THE MA MODEL

Horizontal versus vertical questioning
The simplification achieved with the horizontal approach should be utilised as long as the filtering is not affected. That is, for all questions serving as a filter vertical questioning is necessary (experience in the pre-test phase); this is especially valid for the general filter which with the sorting procedure guarantees the showing of titles cards as an indentification aid.

Number of possible answers
The number of possible answers has an influence on the results, the amount of influence being dependent on the type of possible answers. With difficult demands on the memory one must assume that with a reduction in the number of possible answers the 'chance probability' increases, although one must not always assume that the 'chance probability' is important to any great extent.

Questionnaire MA 84 (fieldwork 1983):

In the MA model the results of the test series have been incorporated as follows:
(a) General filter — current MA version
(b) Maximum readership filter — current MA version
(c) Determination of frequency and readers per issue — *horizontal* questioning

Determination of frequency:	Scale reduced from 12 to 7 points
Determination of readers	Current MA version, ie. chance quota 1:3

Discontinuation of questions on how the magazine was acquired, magazine-sharing clubs, and reading 'yesterday'.
Title cards in A7 format (MA: A5 format).

With this model, on the one hand the simplification of the interview which was aimed for is achieved. On the other hand criticism that increases in readers per issue are a result of the questioning, arising from a higher 'chance probability' as a result of a higher chance quota in the questioning which provides the readers per issue value (experimental chance quota 2:2) is avoided right from the start. Insofar as increases in readers per issue appear with this model, only the horizontal questioning — which is better for the interviewee and better activates his memory — is responsible. The results will be available in mid-1984.

TABLE 17
Length of interview estimated by the respondent versus length of interview recorded by the interviewer

	Respondents estimate is		
	Identical with the interviewer record	Larger than the interviewer record (overestimate)	Shorter than the interviewer record (underestimate)
Length of the interview according to the interviewer record Minutes	%	%	%
25-under 30 (250 cases)	58	8	34
30-under 35 (187 cases)	17	14	69
35-under 40 (288 cases)	18	17	65
40-under 45 (315 cases)	31	14	55
45-under 50 (288 cases)	17	17	66
50-under 55	5	33	62
55-under 60 (297 cases)	51	7	42
60-under 65 (103 cases)	8	8	84
65-under 70 (124 cases)	11	7	82
70-under 75 (72 cases)	10	15	75
75-under 80 (41 cases)	18	16	66
80-under 85 (10 cases)	8	21	71
Total	27	14	59