

6.4 Rotation effects in South East Asia

INTRODUCTION

'Asian Profiles 3', a readership survey conducted in seven South East Asian capital cities, is the source for the data included in this paper. The conclusions, however, are those of the writer and do not necessarily reflect the views of the survey sponsors (Far Eastern Economic Review, Newsweek International, Reader's Digest, Time Magazine).

The universe for AP3 comprised men, aged 25 or over, engaged in specified upper/middle class occupations. Fieldwork, based on multi-stage probability sampling, was conducted in 1982 by the Survey Research Group (SRG), and consisted of 7,397 interviews. These were carried out face to face in the home, in the language of the respondent's choice.

The recent reading technique was used, with reading frequency and average issue questions being asked for two international daily newspapers, six weekly, two fortnightly, and eleven monthly magazines: all of these are in the English language except the Chinese edition of *Reader's Digest*.

Individual actual-size black and white masthead title cards were shown for all publications.

Four orders of rotation were used:

- (1) Daily → weekly → fortnightly → monthly publications
- (2) 1 completely reversed, ie with the *last* monthly in 1 being the *first* of all publications to be asked about
- (3) weekly → monthly → daily → fortnightly, in "forward" order (as in 1) within each category.
- (4) 3 completely reversed.

This paper concentrates on the two categories of greatest interest (weekly and monthly magazines), not because the sponsor publications are in these categories but because weeklies and monthlies account for the vast majority of reading claims and for 17 of the 21 publications in AP3.

In addition, because the objectives are methodological rather than to examine absolute readership levels, national differences, or individual magazine audiences, I have made the example anonymous, using index measurements and shares of total mentions to highlight similarities and differences, and rotation effects or the lack of them.

My preliminary examination was of the Hong Kong data, and this showed few significant differences between the results obtained from each rotation, nor did

minor demographic differences between the four sub-samples account for such readership differences as there were.

This led me to examine eight groups in more detail, each fairly homogeneous within itself and defined as follows:

English language interviews:

Hong Kong, largely with "westerners" (British, American, Australian) whose native language is English. Kuala Lumpur

Singapore: in these cities, English is widely used in business or for inter-racial communication, but nearly all respondents were indigenous nationals (Chinese, Indian, Malay) whose first or home language would not be English:

Manila: in this kind of business-oriented research, English is the "natural" language for all Filipinos, whether respondents or interviewers:

Other languages:

Hong Kong interviews in Chinese (nearly all Cantonese):

Taipei interviews in Chinese (nearly all Mandarin):

Bangkok interviews in Thai:

Jakarta interviews in Indonesian.

For each of the eight groups of respondents analysed, two tables are given, each being analysed for the four rotation orders used: the actual number of interviews in the 32 cells were as follows:

300 +	1
250 - 299	11
200 - 249	8
150 - 199	6
125 - 149	2
100 - 124	—
75 - 99	3
74	1

The table shows two measurements of gross average issue readership:

- (1) An index showing how the proportion of respondents in a particular rotation differs from the total for all four rotations (average of all rotations = 100) in their reading of the various publications in a particular category:

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(2) The percentage of total reading (all publications in all categories) accounted for by each category, within each of the four rotations.

In particular, the latter approach eliminates differences arising from the possibility of respondents in a particular rotation being above-average readers of *all* publications with (in 1) high indices for all categories.

TABLE 1

D = daily newspapers
W = weekly magazines
F = fortnightlies
M = monthlies
A to H are the 8 city/language groups

		Rotation Groups				
		1	2	3	4	
A.	1. Index	D	68	57	146	95
		W	87	85	120	93
		F	82	104	119	82
		M	92	96	115	88
	2. % share	D	4.03	3.19	6.24	5.44
		W	39.05	36.27	39.20	40.59
		F	20.25	24.24	21.27	19.64
		M	36.67	36.30	33.29	34.33
B.	1. Index	D	119	103	67	114
		W	95	112	91	105
		F	75	98	91	134
		M	98	102	97	104
	2. % share	D	2.75	2.17	1.57	2.37
		W	36.47	39.20	35.86	36.27
		F	4.70	5.56	5.81	7.53
		M	56.08	53.07	56.76	53.83
C.	1. Index	D	91	101	76	114
		W	109	90	89	113
		F	103	102	102	92
		M	105	105	95	99
	2. % share	D	3.66	3.69	2.89	3.95
		W	46.27	41.74	43.37	49.66
		F	19.89	21.51	22.61	18.43
		M	30.18	33.05	31.12	27.97

D.	1. Index		(dailies too low)			
		D				
		W	66	144	78	106
		F	97	75	98	135
		M	46	154	67	126
	2. % share	D	2.64	1.06	2.18	1.41
		W	44.73	44.20	43.48	38.02
		F	21.04	7.37	17.40	15.49
		M	31.59	47.38	36.94	45.07
E.	1. Index	D	71	98	142	96
		W	92	114	93	99
		F	109	47	186	71
		M	101	98	96	105
	2. % share	D	5.47	6.92	10.17	7.06
		W	50.13	56.79	46.71	51.42
		F	5.93	2.31	9.33	3.67
		M	38.47	33.98	33.79	37.85
F.	1. Index	D	105	153	23	125
		W	79	127	91	98
		F	58	155	57	117
		M	97	104	96	105
	2. % share	D	7.02	7.72	1.57	7.09
		W	28.33	34.32	33.11	29.84
		F	4.56	9.15	4.54	7.78
		M	60.09	48.81	60.77	55.29
G.	1. Index	D	112	124	49	116
		W	96	92	106	106
		F	122	101	62	117
		M	115	111	89	86
	2. % share	D	3.09	3.57	1.60	3.68
		W	27.32	27.23	35.83	34.74
		F	6.19	5.36	3.74	6.84
		M	63.40	63.84	58.83	54.74
H.	1. Index	D	157	95	87	71
		W	140	95	83	89
		F	105	88	106	101
		M	149	104	74	82
	2. % share	D	10.75	9.30	9.54	7.60
		W	39.76	38.37	37.81	39.30
		F	16.13	19.35	26.16	24.32
		M	33.35	32.98	26.49	28.78

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Commentary

(1) The value of having both measurements (or in particular the second or "share of AIR" percentage) is demonstrated in these comparisons:

A: rotation 3 had a high index of reading for all categories but this translates into average shares (of total AIR) for two categories and a lower share accounted for by monthlies than a superficial glance at the index might suggest.

	rotation 3		rotations 1, 2, 4
	Index	share %	share %
D	146	6	4
W	120	39	39
F	119	21	21
M	115	33	36

Furthermore, rotations 1 & 2 have an index in the nineties for monthlies, but achieve the two highest percentage shares for this category of publication.

F: compare the index and share figures for rotation 2

	2		1, 3, 4
	Index	share %	share %
D	153	8	5
W	127	34	30
F	155	9	6
M	104	49	59

In this case the index on its own is misleading for monthlies, and the latter publication category has its highest share of total AIR in rotations 1 and 3 — where the indices are lower than in 2 and 4 for monthlies.

Other individual examples include these:

C: where % share differences are:

rotation	wider than the indices might imply monthlies		narrower weeklies	
	%	index	%	index
1	30	105	46	109
2	33	105	42	90
3	31	95	43	89
4	28	99	50	113

It is rotation 4 which largely accounts for this:

D: here, differences in share of total AIR are significant but not on the scale suggested by the indices:

rotation	monthlies		weeklies	
	%	index	%	index
1	32	46	45	66
2	47	154	44	144
3	37	67	44	78
4	45	126	38	106

Sometimes things work the other way, with the indices masking a real difference in the category share of AIR:

G:

		1 + 2	3 + 4
weeklies:	index	94	106
	% share	27	35
but conversely:			
monthlies:	index	113	87
	% share	64	57

H: shares of total AIR for weeklies are very similar in all rotations (although the *likelihood* of reading magazines in this category varies sharply):

		1	2	3	4
weeklies:	% share	40	38	38	39
	index	140	95	83	89

but monthlies show much greater variation in share (largely because fortnightlies do best of all in 3 and 4 — where they are respectively the *last* and first categories to be asked about), and this is more than reflected by index differences:

		1	2	3	4
monthlies:	% share	33	33	26	29
	index	149	104	74	82

(2) Average issue readership, however, is only part of the story. Given the widespread use of the reading frequency questions in media analysis (in AP3, exclusively through IMS) and the fact that they are asked first, *before* AIR is established, it seemed sensible to look for possible rotation effects as evidenced by total claims (for all publications in each category) to read "...separate issues" in a longer period:

...daily newspapers ... average week,
 ... weekly magazines ... average month (meaning 4 weeks),
 ... fortnightly magazines ... last 3 months,
 ... monthly magazines ... last 6 months.

These claims might be from a maximum of 6 (for one of the dailies, the fortnightlies, and the monthlies) down to 'less than one' (dailies, weeklies) or one (fortnightlies, monthlies) or, of course, 'none'.

A point to remember is that the relationship between any frequency of reading and average issue readership is *not* consistent for all cities or publication categories. There are plenty of examples of gross AIR amounting to 50-60% of the gross number of

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respondents claiming to read the publications in a particular category at all, but there are other cases where the fall-off in recent reading is greater, with gross AIR at 30-40% of reading over a period 4-7 times longer than the publication interval between issues and, on occasion, below this level.

The illustrations which follow treat all non-zero frequency claims equally: like AIR they refer to individual respondents and do not take account of the actual frequencies claimed or give greater weight to those with a higher frequency of reading a particular publication. Since we are comparing *individuals* and the way they react to an interview situation in which it probably soon becomes apparent that a positive claim to read (regardless of number of issues) is followed later by a question on recency of reading (NB after frequency has been established for all publications in a category, ie the 'vertical' approach) this seems a reasonable comparison.

(a) There are three instances (out of seven possibilities examined: one city has not been analysed in this way) where there is a 'logical' result for weeklies in that, when they are the 1st or 2nd category (following only the two dailies) asked about, gross total readership (in the average month) is relatively high: interestingly, this does not carry over to the average issue readership claims and in two of the three cases the apparent order effect is reversed at the AIR stage. I have used two Index measurements, based on **a**) total reading frequency (RF) levels and **b**) total AIR (= 100 in each case):

	all respondents	rotations 1 + 3	rotations 2 + 4
D.			
RF	100	127	74
AIR	100	72	126
G.			
RF	100	132	70
AIR	100	102	99
F.			
RF	100	108	93
AIR	100	85	113

(b) I commented earlier on the usefulness of *share of AIR* (held by a publication category) as a measure of possible rotation effect.

It is therefore worth looking at two of the previous examples and to note the differences between *share of RF* (the first point in the interview at which readership information is collected) and *share of AIR*:

	D	W	F	M	Total
A.					
R.3					
% of total RF	7	43	19	30	100
% of total AIR	6	39	21	33	100

R.1,2,4					
% of total RF	8	42	16	33	100
% of total AIR	4	39	21	36	100

3 is the rotation in which weeklies come first but their share drops slightly between the two sets of questions for both 3 and 1 + 2 + 4. Monthlies (2nd in 3) do a little better in both when the average issue questions are asked. Regardless of rotation, AIR seems to narrow the gap which existed at the earlier stage.

F.	D	W	F	M	Total
R.2					
% of total RF	7	36	8	49	100
% of total AIR	8	34	9	49	100
R.1,3,4					
% of total RF	8	40	7	46	100
% of total AIR	5	30	6	59	100

In 2, monthlies come first and enjoy a high share of total mentions at both stages. For whatever reason, in the other rotations they obtain a higher share than before (at the expense of weeklies) when AIR is asked.

(c) Nevertheless there are no hard and fast rules. All we have observed is that a study of order effects may yield different results depending on which of the readership measurements the comparisons are based.

(3) There is some inconclusive evidence that overall reading levels are higher when a particular rotation is used. If we aggregate the percentages we see the following picture. (Table 2).

TABLE 2

		7 groups			
		1	2	3	4
Total RF %	W	1,024(1)	845(4)	961	912
	M	792(1)	749	713(4)	750
AIR %	W	415(1)	382	380	386
	M	429(1)	412	379	373
% share of					
RF	W	56(2)	53	57(1)	55
	M	44	47(1)	43	45(2)
AIR	W	49	48	50	51
	M	51	52	50	49
AIR %					
RF	W	41	45(1)	40	42
	M	54	55(1)	53	50(4)

Rotation 1 — possibly the most 'natural' to the respondent — produces the highest figures (aggregated percentages based on the numbers in each rotation

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within each city/language group) for the number of magazines read for both weeklies and monthlies and at both stages of questioning (RF, AIR).

In share of mention terms, weeklies (which precede monthlies) do quite well.

In rotation 3, weeklies do relatively well against monthlies on both absolute and share percentage measurements. Again, weeklies are asked about first.

In rotations 2 and 4, when they follow monthlies, weeklies do less well, but total AIR as a percentage of total RF levels is highest of all in rotation 2: this rotation is 1 reversed and may also seem a 'natural' order to respondents.

The differences in reading levels are greatest for weeklies, in the RF measurement, and between rotations 1 and 2 (when they are distanced from monthlies).

I say 'inconclusive' because differences are not particularly consistent across the seven groups or even within a common language (though as we have seen, a language does not define a culture or race).

It is perhaps reassuring that, in spite of the vastness of the region covered by the research and the ethnic and other (eg religious, economic) differences between its inhabitants, there are no biases of the kind to arouse ones misgivings.

(4) We can also make a simple calculation of what happens to readership, depending on the rotation used, within three groups of publication for, since there are 21 included in AP3, we can examine their performance according to whether they are the first 7, the middle 7, or the final 7 to be asked about in the interview. (Table 3)

TABLE 3

publications	aggregated readership percentages			
	RF		AIR	
	R1	R2	R1	R2
A-G	924	731	(G-A) 392	364
H-N	736	659	(N-H) 402	406
O-U	599	566	(O-U) 357	341
	2,259	1,956	1,151	1,111
	R3	R4	R3	R4
C-H,K	1,007	923	411	426
L-R	368	388	164	160
S-U, A,B,I,J	684	700	353	388
	2,059	2,011	928	974

The proper comparisons are between the direct reversals, ie rotations 1 vs 2 and 3 vs 4. 1 and 2 should not be compared with 3 and 4 since the publications within a particular group (eg the first 7) are the same.

(a) For both RF and AIR, rotation 1 generates the highest readership levels, significantly so in the case of RF.

(b) Nevertheless, it is only in the first 7 and at the RF stage that there is a noticeable difference, both between R1 and 2 and between 3 and 4. In R1 and 2, 5 of the 7 are weeklies: in 3 and 4, 6 are.

(5) This led me to examine specific individual magazines. I took the seven publications with the highest readerships and compared their performance in their supposedly two best rotations against the two in which they might be expected to suffer. (Table 4).

TABLE 4

	aggregated readership %			
	RF		AIR	
	best 2	worst 2	best 2	worst 2
4 weeklies (positions 1,3,4, 5,6,6,7,8 = best; 14,15,16,16,17, 18,19,21 = worst)	1,623	1,470	681	668
1 fortnightly, 2 monthlies	1,126	1,178	721	751

The weeklies — and the results are remarkably similar for all of them — have RF readership claims about 10% higher in rotations 1 and 3 than in 2 and 4. We are, of course, looking at a situation in which the mean position in the order of being asked about is 5th for 1+3 and 17th for 2+4. When AIR levels are compared, there are even fewer signs of an order effect.

SUMMARY AND CONCLUSION

(1) We have seen that, at the reading frequency stage of questioning, weeklies may do relatively well that the AIR question may narrow the gap between the shares of total reading held by various publication categories and that any comparison of rotation effects may be affected by the method used to examine the data.

We went on to observe the rotation 1 (D → W → F → M) produces higher figures for RF and AIR, for weeklies and monthlies. The first seven publications asked about do better in rotation 1 than in 2 and in 3 than in 4,

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certainly when RF is asked: because of the survey design, this affects weeklies. RF also tends to yield higher figures for weeklies in rotations 1 and 3 when they are asked about before monthlies.

(2) Nevertheless there are several points to be remembered.

(a) Relatively few publications were included in AP3. Twenty-one is less than many readership surveys include in a single category.

(b) The nature of the weeklies may partly lead to the greater differences observed in their performance: this sector includes several strong performers whereas most of the monthlies are relatively small. The Digest is an exception but has a more regular readership (AIR + RF) than most, possibly the result of a different subscriber: newsstand sales ratio.

(c) SRG's (and the AP sponsors') experience was maybe fortunate. The publications included were relatively homogeneous (mostly news or business publications) and there was no likelihood of title confusion. The universe sampled was also fairly homogeneous — broadly speaking, the top 15% of men in socio-economic terms.

(3) This paper is not therefore intended to dispute the findings reported by Edward Whitley at New Orleans ("Some rotation effects in the British survey") but to offer evidence that the recent reading technique can be used with equal success across international frontiers and cultural barriers, yielding stable measurements which do not change drastically when the order of publications is rotated.