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### Time Frames Used For Media Plan Evaluation

Media Used	Time Frames Analyzed				
	Daily	Weekly	4 Weeks	Quarterly	Annual
Newspapers	14.3%	27.5%	31.9%	15.4%	14.3%
Network TV	3.3	16.5	50.5	19.8	15.4
Spot TV	3.3	24.2	64.8	19.8	14.3
Cable TV	1.1	13.2	40.7	17.6	9.9
Magazines	1.1	6.6	50.5	33.0	29.7
Network Radio	1.1	14.3	36.3	11.0	11.0
Spot Radio	1.1	18.7	49.5	18.7	9.9
Outdoor Posters	4.4	2.2	38.5	16.5	19.8

Base = 91 Media Directors. Percentages exceed 100 due to the use of multiple media categories and multiple time periods within media categories.

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### Frequency Threshold

- Naïve
  - Assuming that one message exposure will have measurable effects
- Sophisticated
  - Using minimum message frequency ( $n$ ) when defining reach ( $n+$ )

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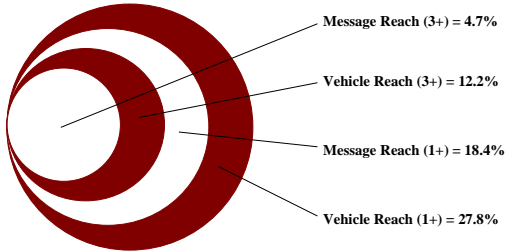
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## Frequency Threshold



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## Message-Vehicle Gap

- Naïve  
Ignoring difference between message and vehicle audience size
- Sophisticated  
Recognizing that message audience is typically lower than vehicle audience

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## Message-Vehicle Ratios by Media Category

Media Category	Average Message-Vehicle Ratio
Newspapers	35.0%
Network TV:	
Daytime	54.7
Prime Time	80.0
Spot TV:	
Daytime	50.0
Prime Time	71.8
Cable TV	63.2
Magazines	52.5
Network Radio	40.3
Spot Radio	37.8
Outdoor Posters	46.6

Base = 28 of 91 Media Directors

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## Estimating Cumulative Advertising Effects

$$R_t = R_t + \lambda R_{t-1} - (R_t)(\lambda R_{t-1})$$

where:

R = reach (*n*+) of a monthly media plan,

$\lambda$  = vehicle or advertising message retention rate,

t = a given month.

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## Ad Carry-Over Example

Month (t)	Reach (3+) <sub>t</sub>	+ Carry-Over (18% × Reach (3+) <sub>t-1</sub> )	- Duplication (Reach (3+) <sub>t</sub> )(18% × Reach (3+) <sub>t-1</sub> )	=	Total Reach (3+) <sub>t</sub>
January	0.20	+ 0.0 (0.18)(0.0)	- 0.0 (0.20)(0.18)(0.0)	=	0.20
February	0.20	+ 0.036 (0.18)(0.20)	- 0.0072 (0.20)(0.18)(0.20)	=	0.229
March	0.20	+ 0.04122 (0.18)(0.229)	- 0.008224 (0.20)(0.18)(0.229)	=	0.233
April	0.20	+ 0.04194 (0.18)(0.233)	- 0.008388 (0.20)(0.18)(0.233)	=	0.234

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## Forecasting Ad Effects

- Naïve

Inflated media evaluation factors unrealistically raise expectations of campaign effectiveness

- Sophisticated

Utilize message effective reach (*n*+) assuming some minimum frequency cut-off within a narrow time frame for realistic assessment of likely campaign effectiveness

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## Forecasting Problem

- Advertiser measures campaign effects after heaviest quarter of advertising
- Finds low % of target audience can correctly identify ad
  - Corporate theme = 15.5%
  - Major product = 14.7%
- But media plan shows healthy coverage
  - Corporate theme = 92.0%
  - Major product = 84.5%
- Therefore, creative singled out as weak
- Is this conclusion justified?

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## Selecting Media Evaluation Factors Related to Market Effects

Advertising Campaign/ Message-Vehicle Ratio	Heaviest Quarter		Target % Who Correctly Identified Ad
	Reach (1+)	Effective Reach (3+)	
<b>Corporate Theme</b>			
100% (Vehicle = Message)	92.0%	80.4%	
20	41.2	21.9	
15*	33.7	<u>16.5</u>	<u>15.5</u>
<b>Major Product</b>			
100% (Vehicle = Message)	84.5	61.1	
45	55.1	26.3	
35*	45.9	<u>20.3</u>	<u>14.7</u>

\*Three-year average Starch "Noted" score for corporate theme and product headline.

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## Magazine Audience Sizes and Costs

# Vehicle Name (Yearly Publication Frequency)	Women (94.65)	Men (86.47)	Adults (181.1)	Cost
1 Better Homes & Gardens (12)	18.75%	5.26%	12.32%	\$136,500
2 Cosmopolitan (12)	10.57	1.49	6.24	64,045
3 Family Circle (12)	16.33	1.84	9.42	89,805
4 Field & Stream (12)	2.60	9.55	5.92	62,790
5 Good Housekeeping (12)	18.58	2.60	10.96	112,995
6 Ladies Home Journal (12)	14.72	1.24	8.28	84,900
7 McCall's (12)	14.01	1.27	7.93	83,315
8 National Geographic (12)	10.28	15.32	12.69	139,280
9 Newsweek (12)	7.95	12.03	9.92	108,050
10 People (12)	19.80	12.37	16.26	91,165
11 Playboy (12)	1.06	8.59	4.65	68,545
12 Reader's Digest (12)	21.70	17.34	19.62	131,000
13 Sports Illustrated (12)	4.26	19.02	11.31	120,950
14 Time (12)	9.69	14.13	11.81	128,000
15 TV Guide (12)	23.60	19.66	21.72	122,000
16 US News & World Report (12)	4.97	8.70	6.75	72,400
17 Woman's Day (12)	14.42	0.95	7.99	79,600

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## Audience Spill-Over

- Naïve  
Ignoring coverage of closely related targets
- Sophisticated  
Evaluating coverage of all relevant targets

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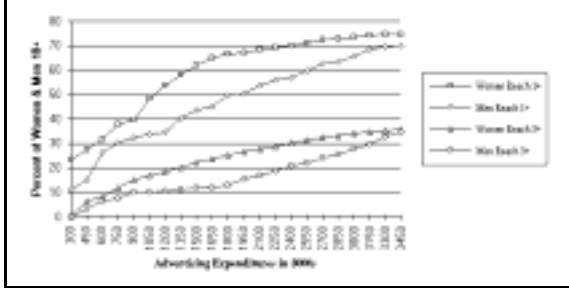
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Magazine Advertisement Reach of Adult Women and Men



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## Message Characteristics

- Naïve  
Assuming that bigger is better
- Sophisticated  
Assessing alternate message units for optimum media impact

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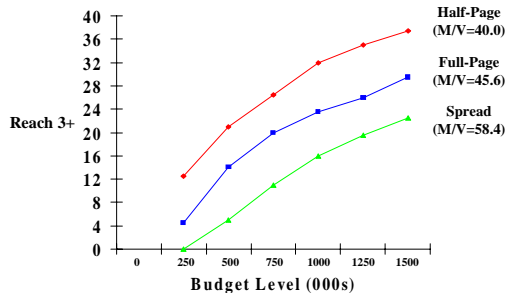
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## Magazines - Reach (3+) - Various Ad Sizes



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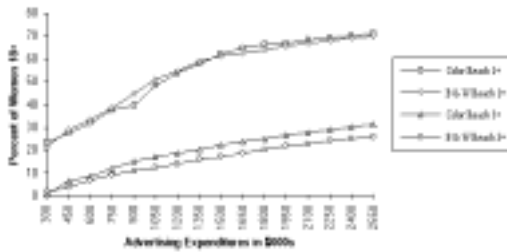
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Optimum Magazine Advertisement Reach of Women 18+  
Fullpage, Four-color versus Black and White



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Kent Lancaster                               Target: 94,650,000
Media Research Institute                     Women 18+
Typical Month                               Message/vehicle ratio = 39.4%

Summary Evaluation                           Vehicle           Message
-----
Reach (1+)                                  87.6%              70.3%
Effective reach (3+)                         67.6%              26.2%
Gross rating points (GRPs)                   424.1              167.1
Average Frequency (F)                        4.8                2.4
Gross Impressions (000s)                     401,416.6          158,155.8
Cost-per-thousand (CPM)                      $6.65              $16.89
Cost-per-rating point (CPP)                   $6,297             $15,983

Vehicle List  Rating  Ad Cost  CPM-MSG  Ads  Total Cost  Mix
-----
Better Homes  18.75  $112,890  $16.14  1  $112,890  4.2%
Cosmopolitan  10.27  47,590    12.07  1  47,590    1.8
Family Circle 16.33  75,470    12.39  1  75,470    2.8
Field & Stre  2.60  41,735    43.04  1  41,735    1.6
Good Houseke  18.58  90,035    11.00  1  90,035    3.4
Ladies Home J 14.72  71,300    12.99  1  71,300    2.7
McCall's     14.01  70,615    13.52  1  70,615    2.6
National Geog 10.28  107,140  27.95  1  107,140  4.0
Newsweek     7.95  69,455    23.43  4  273,820  10.4
People       19.80  70,730    9.58  4  282,920  10.6
Playboy      1.06  48,940    123.81  1  48,940   1.8
Reader's Dige 21.70  112,660  11.82  1  112,660  4.2
Sports Illust 4.26  79,115    49.80  4  316,460  11.8
Time         9.69  85,000    23.52  4  340,000  12.7
TV Guide     23.60  103,650  11.78  4  414,600  15.5
US News & Wor 4.97  88,500    26.17  4  344,600  12.7
Woman's Day  14.42  66,495    12.37  1  66,495   2.5
-----
Totals:      $16.89  35  $2,670,690  100.0%
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## Creative Value

- Naïve

Increasing media budget instead of improving message effectiveness

- Sophisticated

Improving message effectiveness to leverage media expenditure

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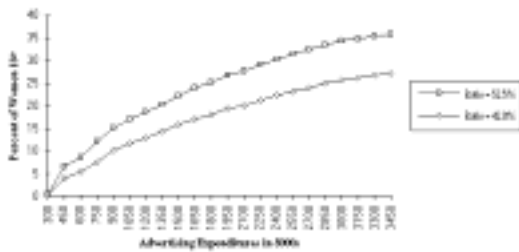
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**Optimum Magazine Advertising Reach of Women 18+ Given Different Message/Vehicle Ratios**



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## Media Value of Message Effectiveness

Magazines, Low Cost, \$210,075 per Month

M/V Ratio	Change	Reach (3+)	Reach Change	CPERP*	Media Value of Message Change			
					No Carryover		Carryover=36%	
					Month	Year	Month	Year
57.80	1.10	4.70	0.20		\$9,337	\$112,040	\$14,221	\$170,648
52.50	1.00	4.50		\$46,683				
47.20	0.90	4.20	-0.30		-\$14,005	-\$168,060	-\$21,331	-\$255,972

\*Cost-per-effective reach point.

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## Media Value of Message Effectiveness

Magazines, High Cost, \$989,869 per Month

M/V Ratio	Change	Reach (3+)	Reach Change	CPERP*	Media Value of Message Change			
					No Carryover		Carryover=36%	
					Month	Year	Month	Year
57.80	1.10	24.80	1.20		\$50,332	\$603,988	\$76,661	\$919,933
52.50	1.00	23.60		\$41,944				
47.20	0.90	22.30	- 1.30		-\$54,527	-\$654,320	-\$83,050	-\$996,595

\*Cost-per-effective reach point.

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## Saturation

- Naïve

Due to pooling of insertions and focusing on vehicle coverage this approach tends to falsely indicate that spending is close to saturation.

- Sophisticated

By focusing on a narrow time frame and message coverage this approach tends to indicate that spending is far from saturation.

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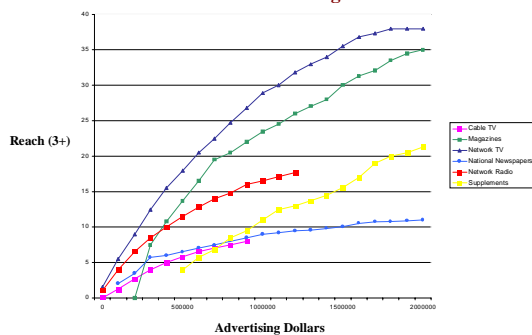
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## Optimum Reach (3+)

For 6 Media Categories



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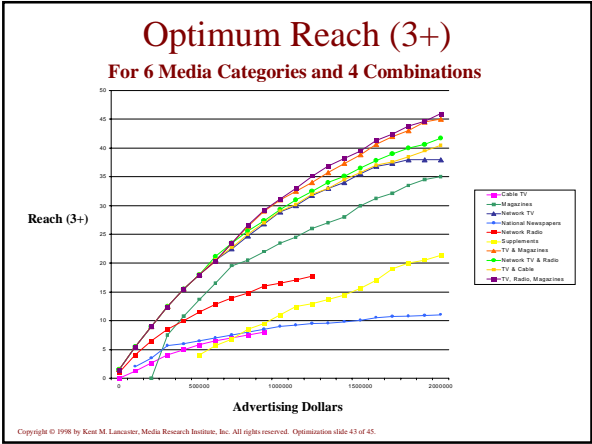
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### Setting Ad Budgets

- Naïve
 

Due to pooling of insertions and focusing on vehicle coverage, this approach will lead to substantial underspending what is necessary to achieve a particular goal.
- Sophisticated
 

By focusing on a narrow time frame and message coverage, this approach will underscore the substantial spending that is required to achieve a particular goal.

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### Setting Ad Budgets

(Based on Message Reach 3+ Goal)

Use previous plan(s) as a starting point.  
 Determine year-end cost-per-message effective reach point (CPERP).  
 $CPERP = \text{Schedule Cost} / \text{Message Effective Reach } 3+$   
 $\text{New Yearly Budget} = CPERP \times \text{Message Effective Reach Goal}$

**Naïve Approach:** Optimize yearly database at new yearly budget  
**Sophisticated Approach:**

- Optimize monthly database at new yearly budget ÷ 12
- Assign to monthly flowchart with carry-over

Due to (strongly) diminishing returns, repeat steps above until goal is reached.

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