ME4126D : OPTIMIZATION METHODS IN ENGINEERING

तमसो मा ज्योतिर्गमय

Department of Mechanical Engineering
NATIONAL INSTITUTE OF TECHNOLOGY, CALICUT

CASE STUDY

SUBMITTED BY

Bhukya Vasanth Kumar	-	B180441CS
Jarpula Santosh	-	B180041ME
Lingareddy Bharadwaj	-	B180142PE
Vignesh Varikolu	-	B181089PE
Karthikeya Tondepu	-	B180937PE

SUPER GRAIN CORP. ADVERTISING-MIX PROBLEM

	TV Spots	Magazine Ads	SS Ads
Exposures per Ad (thousands)	1300	600	500

	Cost per Ad ($thousands)		
add budget	300	150	100
planning budget	90	30	40

	Number Reached per Ad (millions)		
Young Children	1.2	0.1	0
Parents of Young Children	0.5	0.2	0.2

Coupon Redemption per Ad ($thousands)	TV spots	Magazine Ads	SS Ads
	0	40	120

	TV spots	Magazine ads	SS ads
Number of Ads	3	14	7.75

maximum tv spots	5

Budget spent		Budget Available
3775	≤	4000
1000	≤	1000

Total Reached		Minimum Acceptable
5	≥	5
5.85	≥	5

Total Redeemed		Required Amount
1490	equals to	1490

Total sales (thousands)
7159.169963

- The total sales in Thousands : 7159.1699
- We have checked the Total redeemed and required amount to verify the balance as well.
- Budget spent and budget available are shown in the above tables
- The following graphs display equations for other mixes.

Chart Title

$$y = -32.143x^2 + 705.71x - 90$$

magazine ads

$$y = 7E-15x^4 + 0.0667x^3 - 5x^2 + 163.33x$$

tv spots

$$y = -3.5124x^3 - 74.026x^2 + 1057.2x$$