

GoodBelly

Case Study Presentation

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Group 8

Situation

About GoodBelly

- a new line of probiotic juice products provided by NextFoods.Inc
 - as a recent start-up → didn't have the funding to place nationwide ads
 - had the **challenge of raising product awareness**
-

Promotional Programs

- in-store demo programs
- distribute samples, inform customers, offer coupons
- competitions among 5 GoodBelly sales representative
- competitor for the best-decorated encapsulation



image from Pinterest

Situation

About GoodBelly

- a new line of probiotic juice products provided by NextFoods, Inc.
- as a recent start-up → didn't have much money to spend on advertising
- had the ~~chance~~ idea to sell their products at local farmers markets

Promotion

- in-store demos
-
distribute samples, inform customers, offer coupons
- competitions among 5 GoodBelly sales representative
- competitor for the best-decorated encapsulation

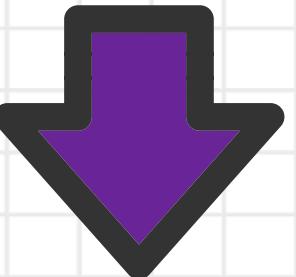
Does the increase in sales
justify the costs?



image from Pinterest

Questions

1. How are sales related to the promotional efforts?
2. What are the effects of the in-store demo program?
3. What are the sales prediction?
4. How does the placement of products affect the sales?
5. What other factors affect the sales?



final model
recommendation

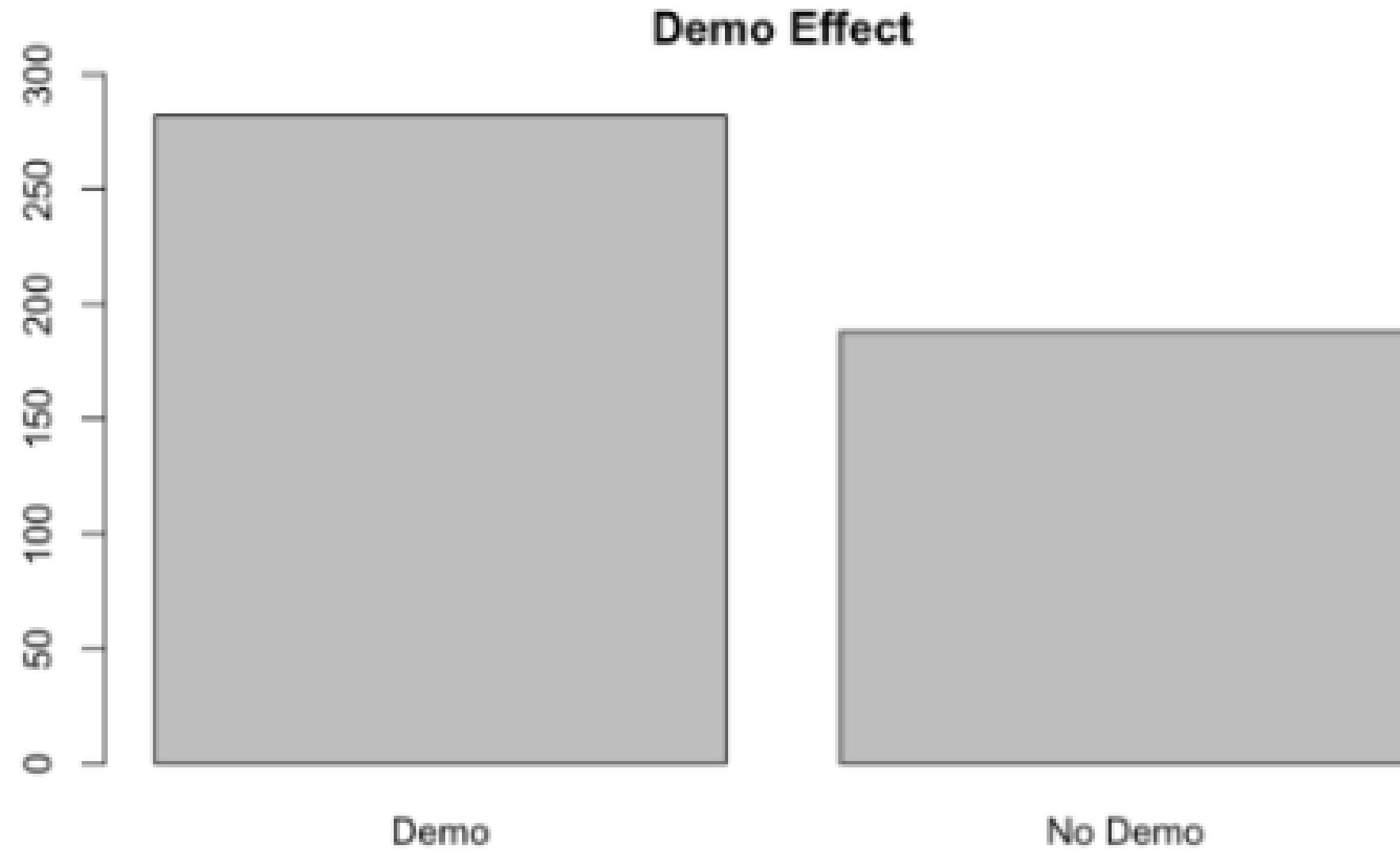
1. Promotion Programs – Sales relation

Sales : closely linked to Promotional efforts

By Promotion Programs

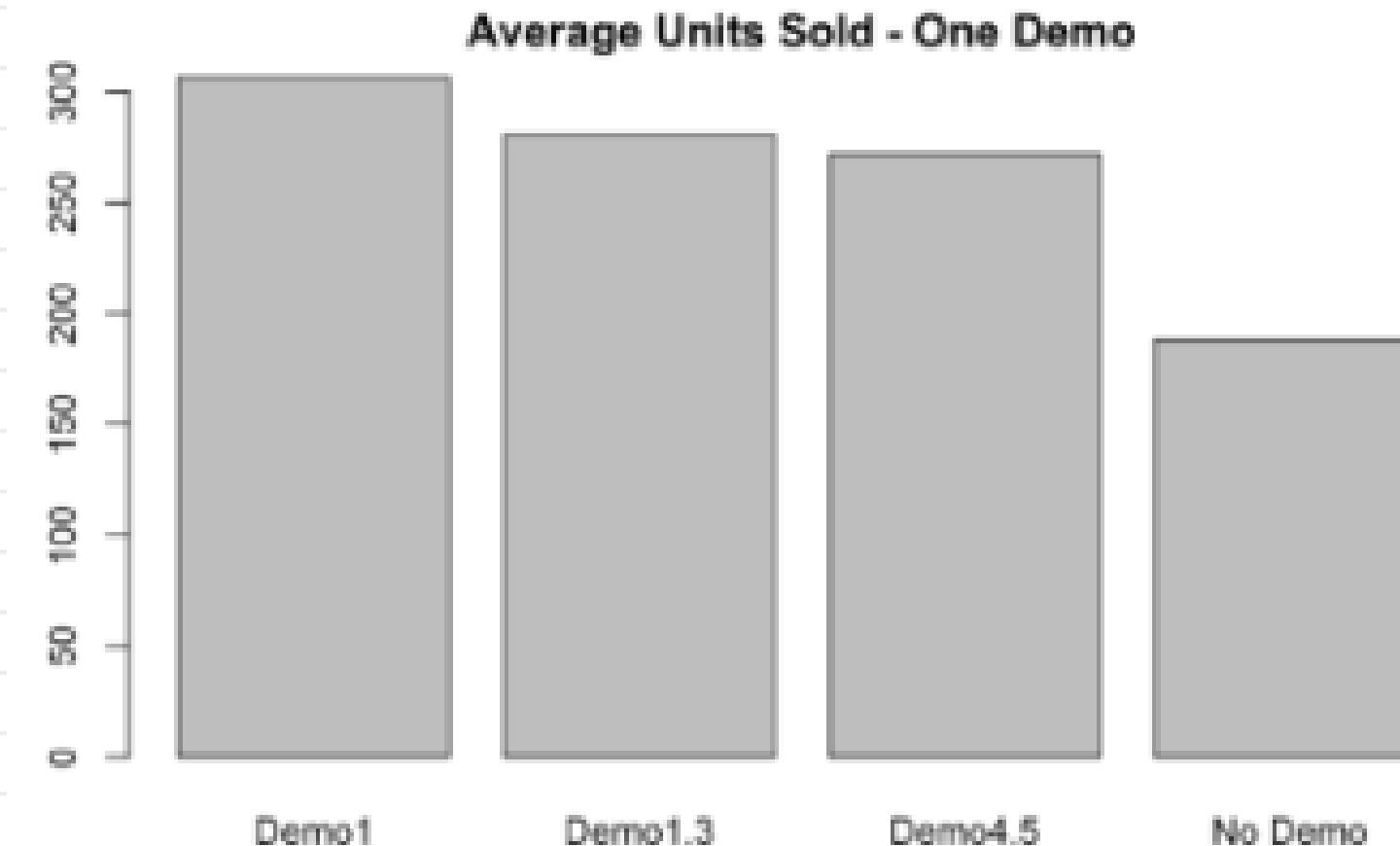


2. Effects of in-store Demo Programs



- Demo Programs : significant effect in increasing sales volume
- 50% increase in sales if there's a demo (other variables held)

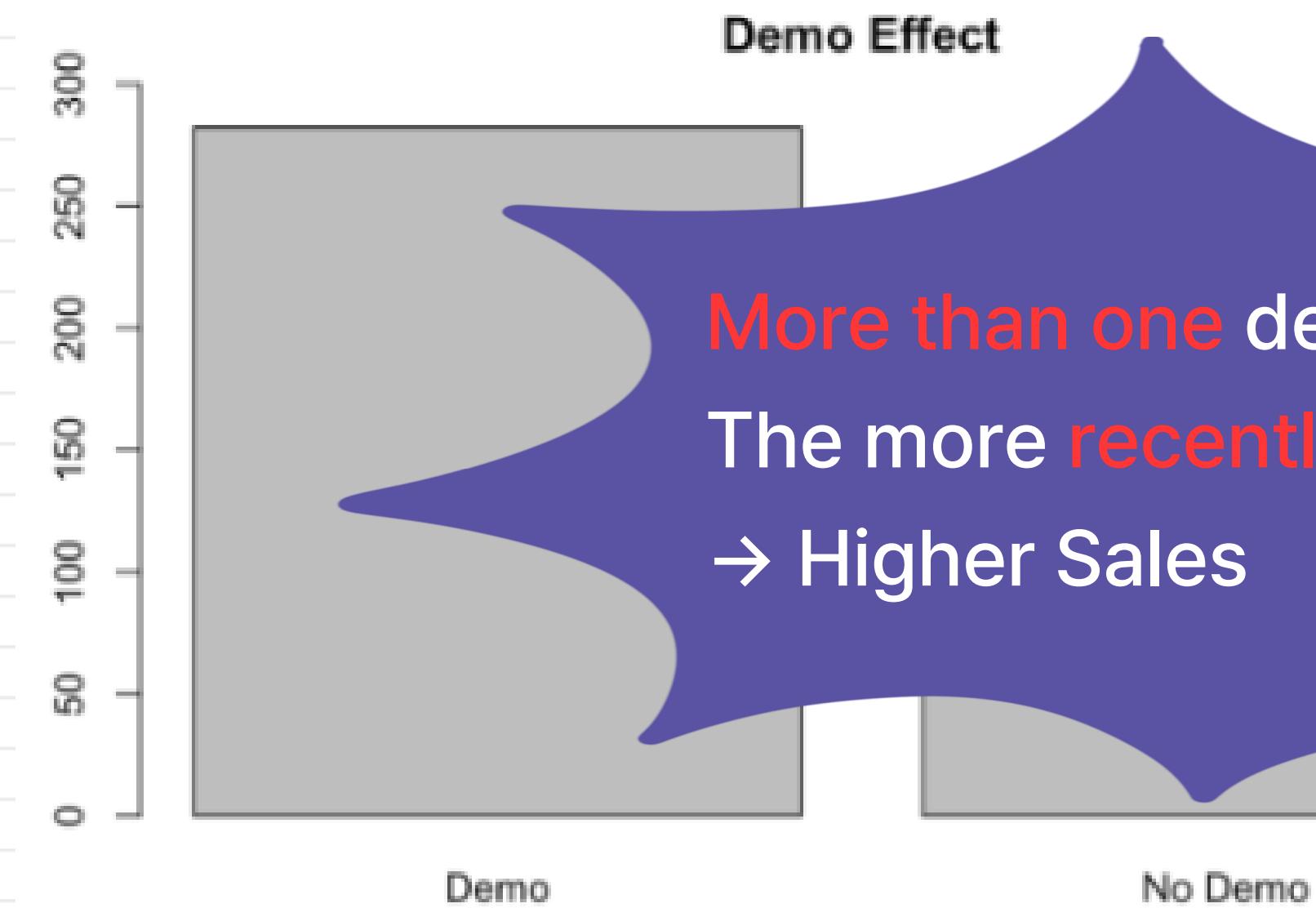
2. Effects of in-store Demo Programs



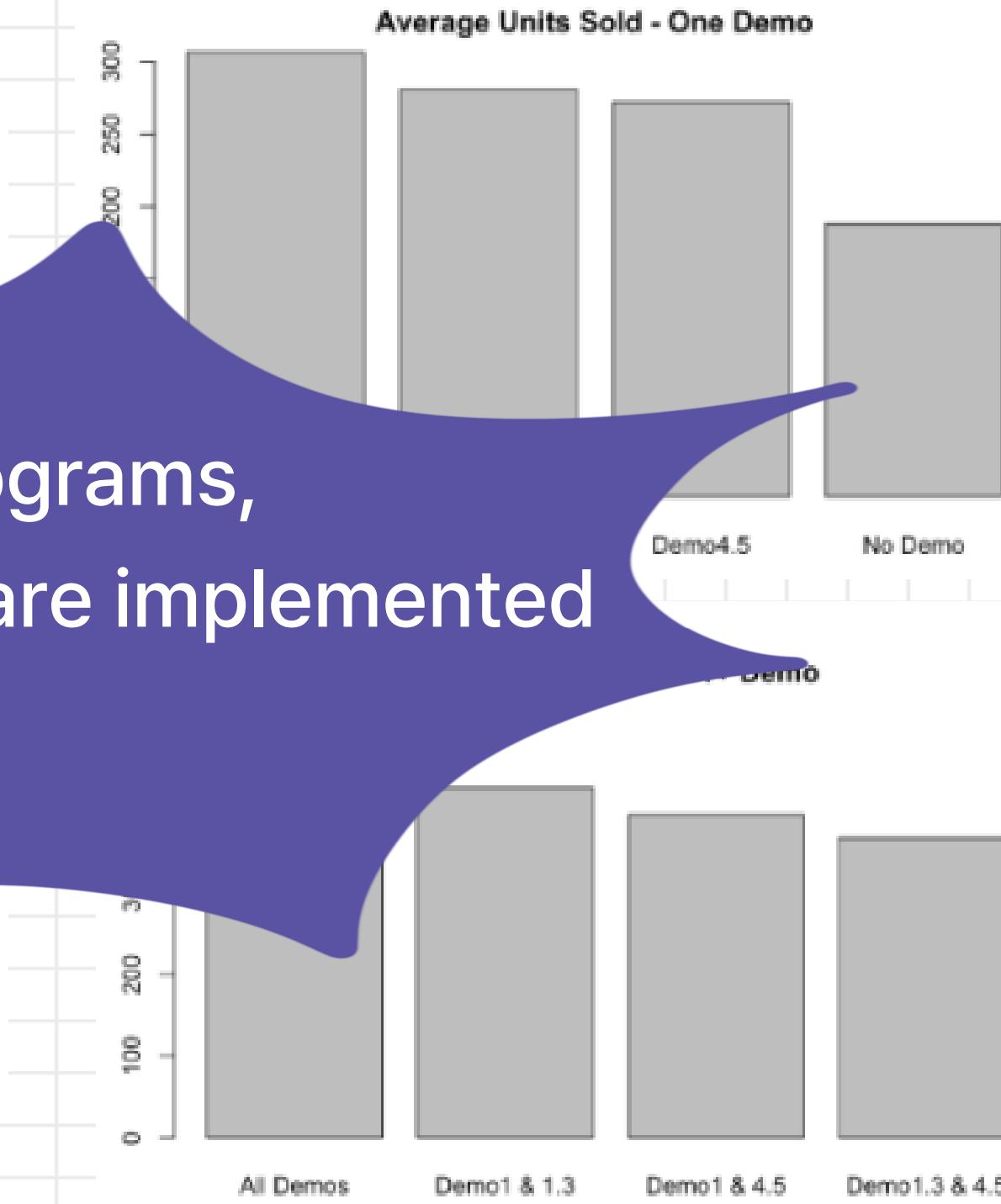
What matter in Implementing Demo Programs

- Number: implementing more than ONE demo programs
- Date: Recent demo programs (during Demo, Highest Sales)

2. Effects of in-store Demo Programs



More than one demo Programs,
The more **recently** they are implemented
→ Higher Sales



2. Effects of in-store Demo Programs

Call:

```
lm(formula = Units.Sold ~ Average.Retail.Price + Sales.Rep +  
  Endcap + Demo + Demo1.3 + Demo4.5, data = Goodbelly)
```

Residuals:

Min	1Q	Median	3Q	Max
-363.40	-33.91	0.38	36.56	229.30

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	294.189	15.787	18.635	< 2e-16 ***
Average.Retail.Price	-28.609	3.945	-7.253	6.8e-13 ***
Sales.Rep	76.951	3.841	20.035	< 2e-16 ***
Endcap	304.960	9.014	33.831	< 2e-16 ***
Demo	111.261	7.401	15.033	< 2e-16 ***
Demo1.3	73.663	4.891	15.060	< 2e-16 ***
Demo4.5	67.700	6.539	10.353	< 2e-16 ***

Signif. codes:	0 **** 0.001 *** 0.01 ** 0.05 * . 0.1 ' ' 1			

Residual standard error: 63.68 on 1379 degrees of freedom

Multiple R-squared: 0.6723, Adjusted R-squared: 0.6708

F-statistic: 471.4 on 6 and 1379 DF, p-value: < 2.2e-16

1st Model

- IVs: Average retail price, Endcap, Demo, Demo 1.3, Demo 2.5
- DV: Sales volume
- adjusted R-squared: 0.6708
- all of variables seem to be significant

3. Sales Prediction

condition: average 4\$, NO sales rep, NO end cap, demo 3 weeks ago

```
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Residuals:

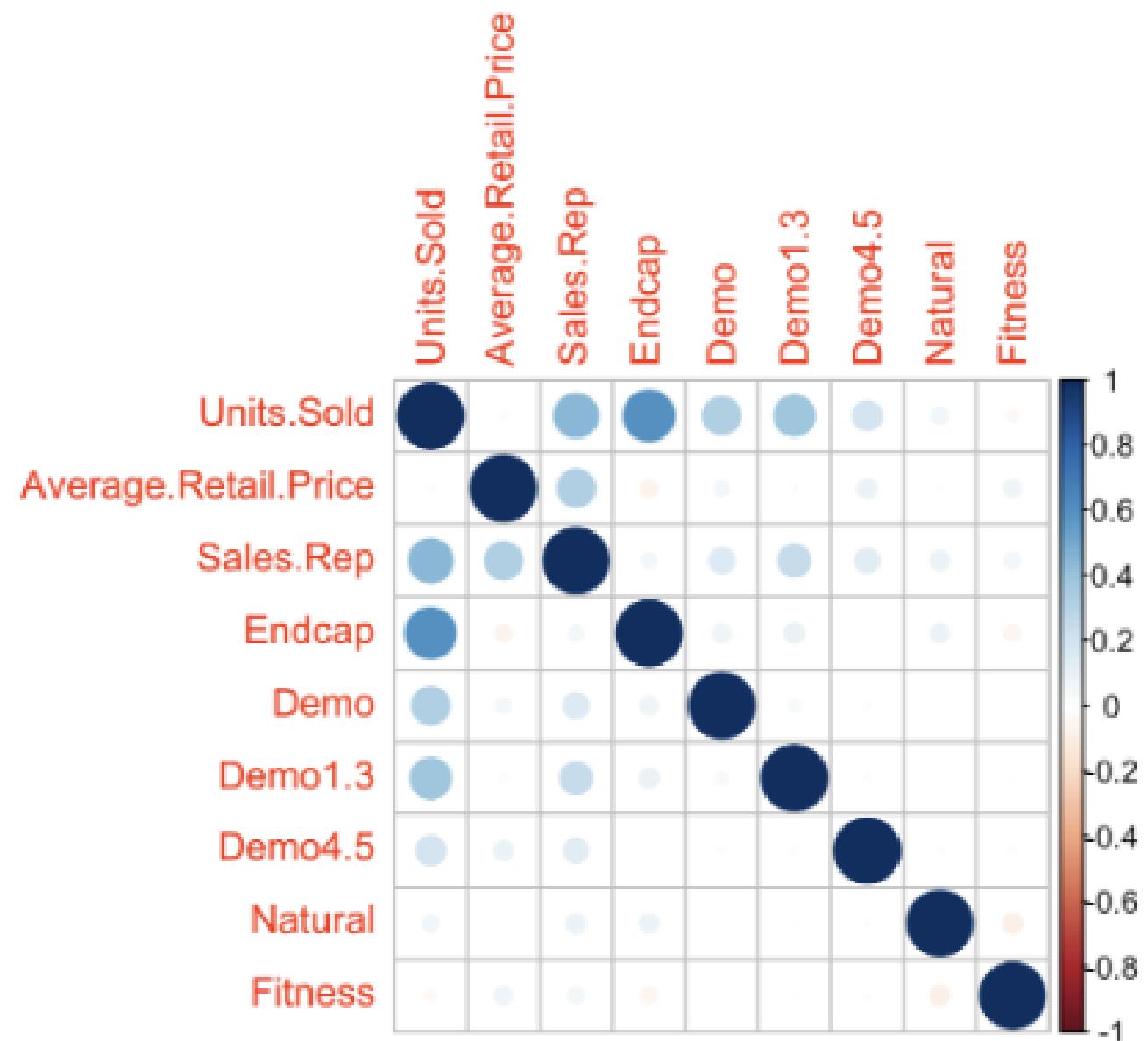
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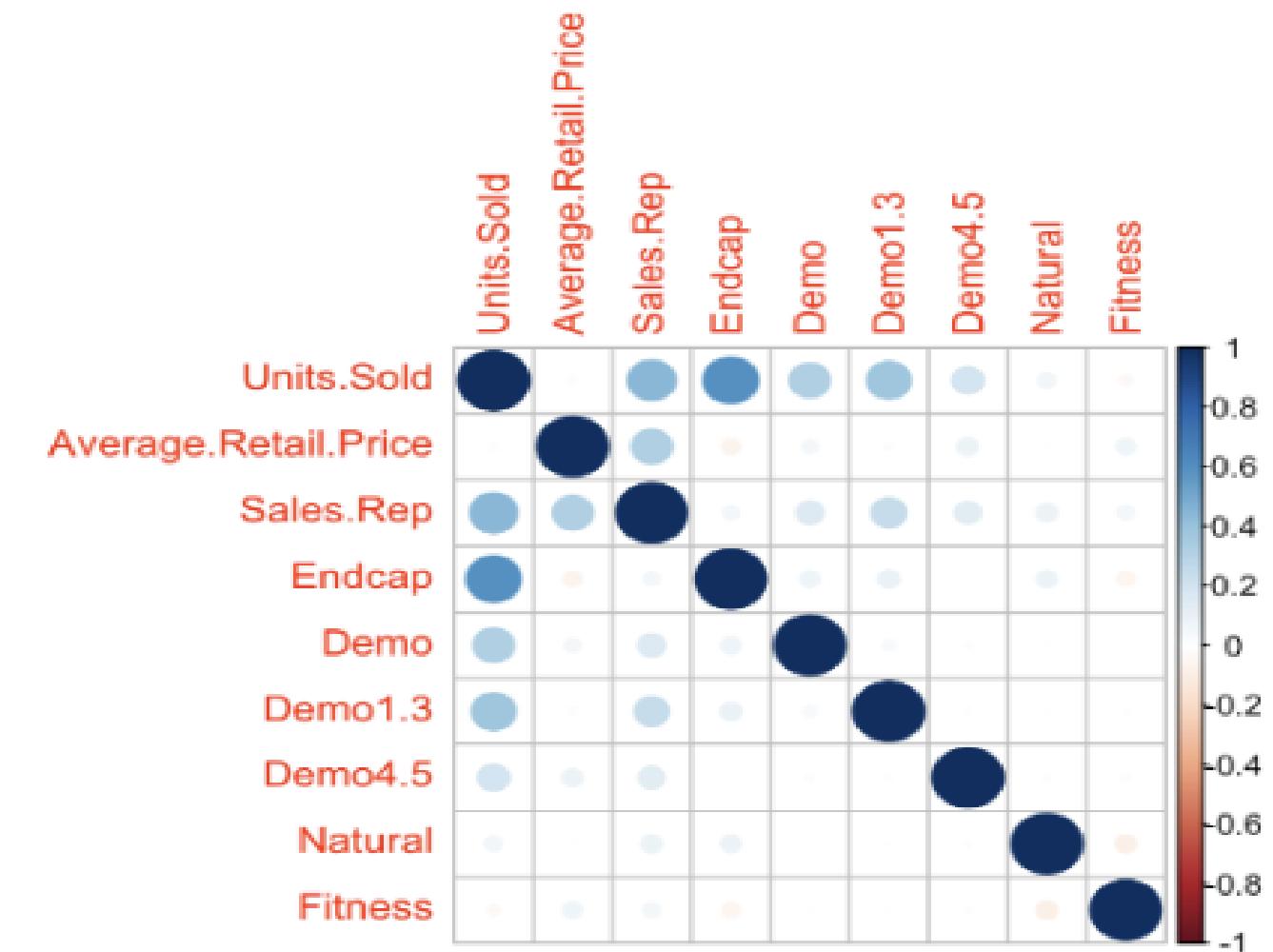
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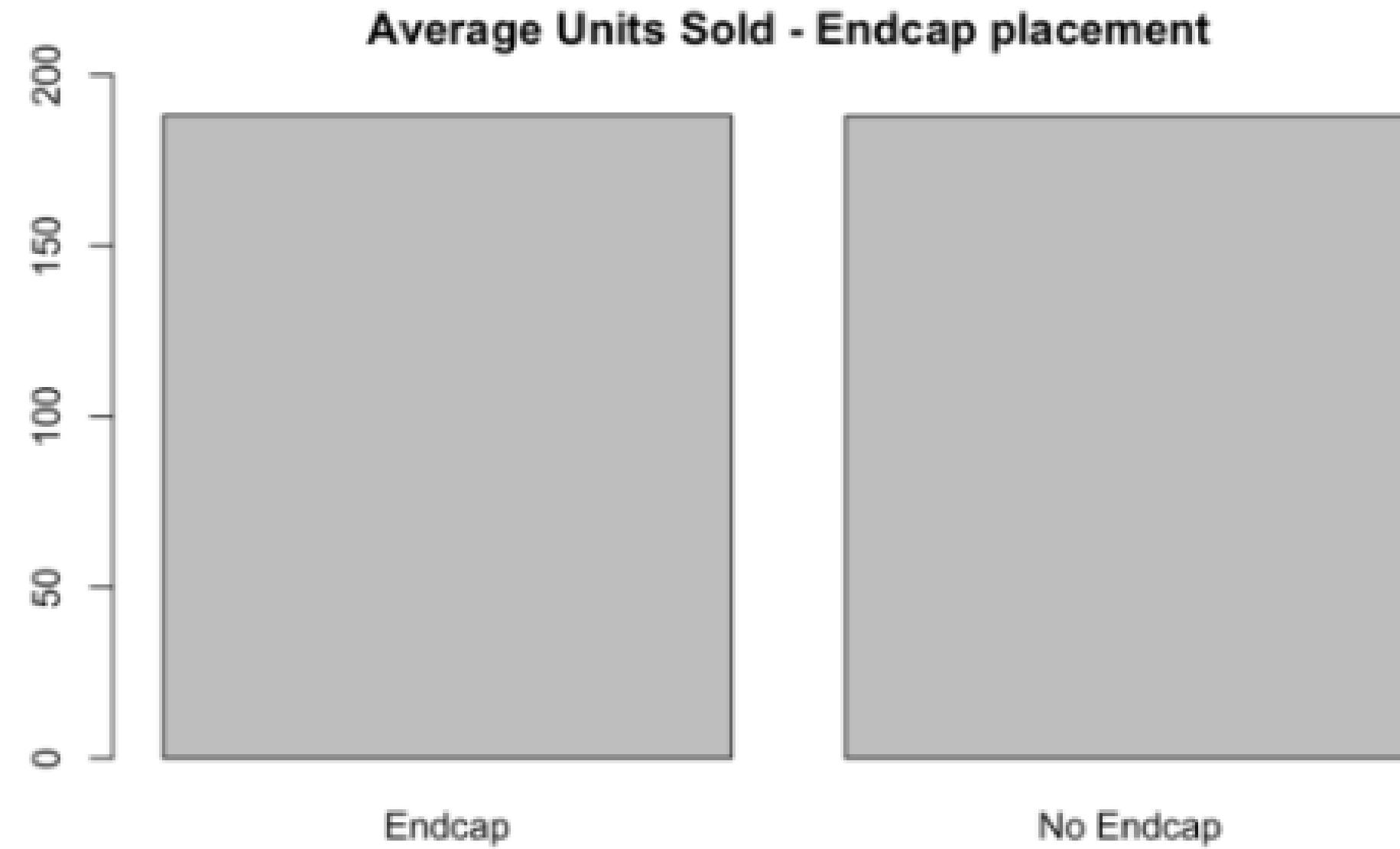
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(Intercept) 294.189   15.787 18.635 < 2e-16 ***  
Average.Retail.Price -28.609    2.053 -13.253 6.8e-13 ***  
Sales.Rep     76.951    0.035 < 2e-16 ***  
Endcap       304.960    0.331 < 2e-16 ***  
Demo          111.261    0.231 < 2e-16 ***  
Demo1.3      73.663    0.231 < 2e-16 ***  
Demo4.5      67.700    0.231 < 2e-16 ***  
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```



$$294 + (-28.609) \times 4 + 76.951 \times 0 + 304.960 \times 0 + 73.633 = 253.197$$

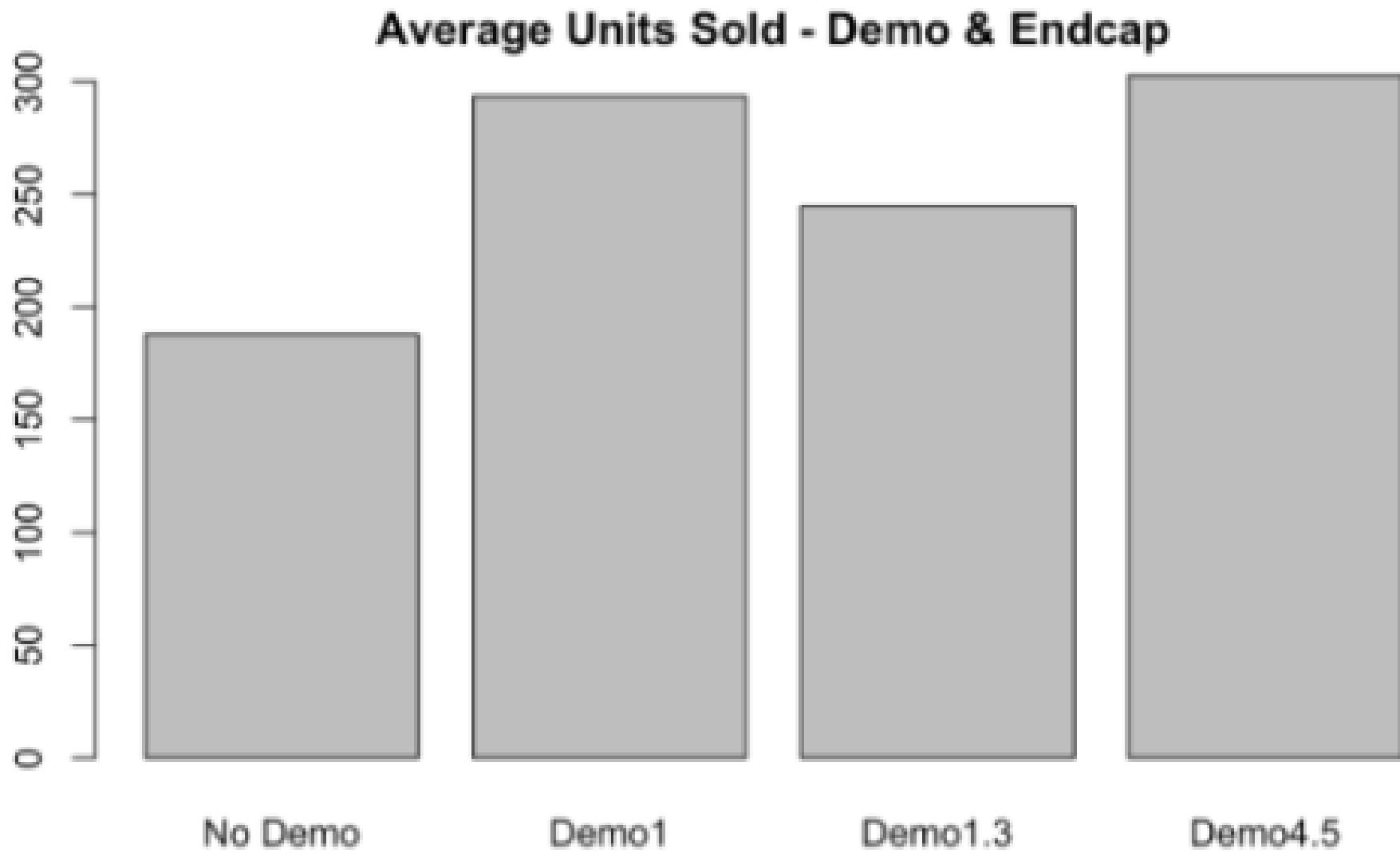
4. Placements - Sales Relation



Endcap: display for products placed at the end of an aisle

Endcap Only: the sales of GoodBelly aren't affected by the placement

4. Placements - Sales Relation



Endcap+ Demo: significant increase in sales volume

- especially in the 1st week. Drop in 1st~3rd weeks and Rise after 4th week?

4. Placements - Sales Relation

Region <chr>	average_units <dbl>	average_price <dbl>	sales <dbl>
MA	293.5218	3.523333	1034.1753
MA	244.5931	3.592778	878.7687
MA	302.6018	3.196250	967.1909



Because of the Price

<average price>

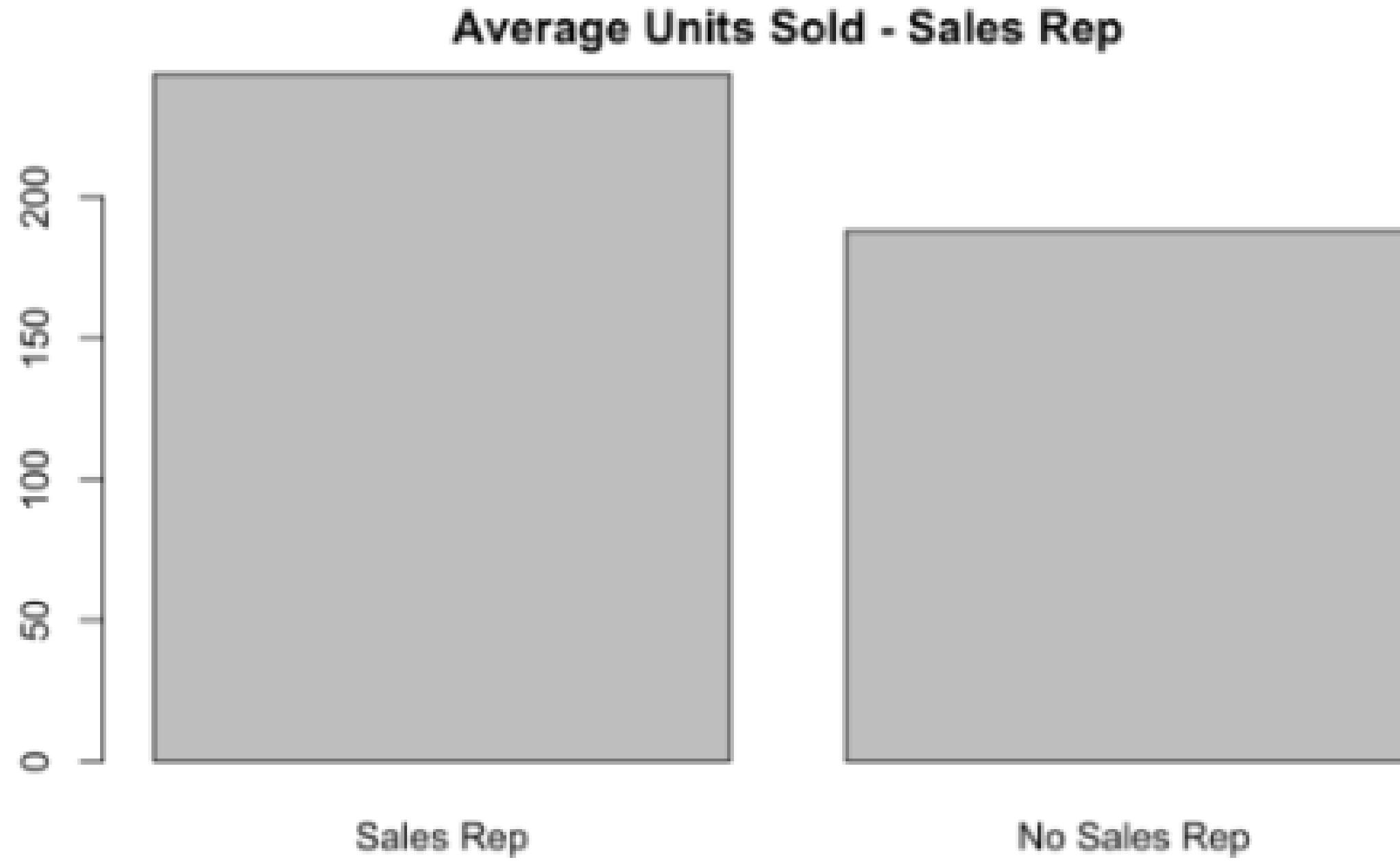
first week: \$3.52 → 2nd week: \$3.59

→ after 4th week: \$3.19

- change in price + Demo → increase in sales in week 4~5

- Placement + Demo, Price Drop led to sale increases

5. Other Factors



Sales Representative: a person who sells products on behalf of a company

- led 30% increase in average units sold

5. Other Factors

Call:

```
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```

Residuals:

Min	1Q	Median	3Q	Max
-168.087	-33.399	-0.727	33.188	182.438

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	276.4011	12.1685	22.714	< 2e-16	***
Average.Retail.Price	-22.0117	3.0448	-7.229	8.02e-13	***
Sales.Rep	59.5951	3.0134	19.777	< 2e-16	***
Endcap	-0.5958	12.1251	-0.049	0.961	
Demo	104.7627	5.9731	17.539	< 2e-16	***
Demo1.3	73.3522	3.7657	19.479	< 2e-16	***
Demo4.5	74.3733	5.0418	14.751	< 2e-16	***
Sales.Rep:Endcap	450.9075	14.9635	30.134	< 2e-16	***
Endcap:Demo	22.3158	20.0354	1.114	0.266	

Signif. codes:	0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1				

Residual standard error: 49.03 on 1377 degrees of freedom

Multiple R-squared: 0.806, Adjusted R-squared: 0.8049

F-statistic: 715.3 on 8 and 1377 DF, p-value: < 2.2e-16

2nd Model

- IVs: Average retail price, Endcap, Demo, Demo 1.3, Demo 4.5,

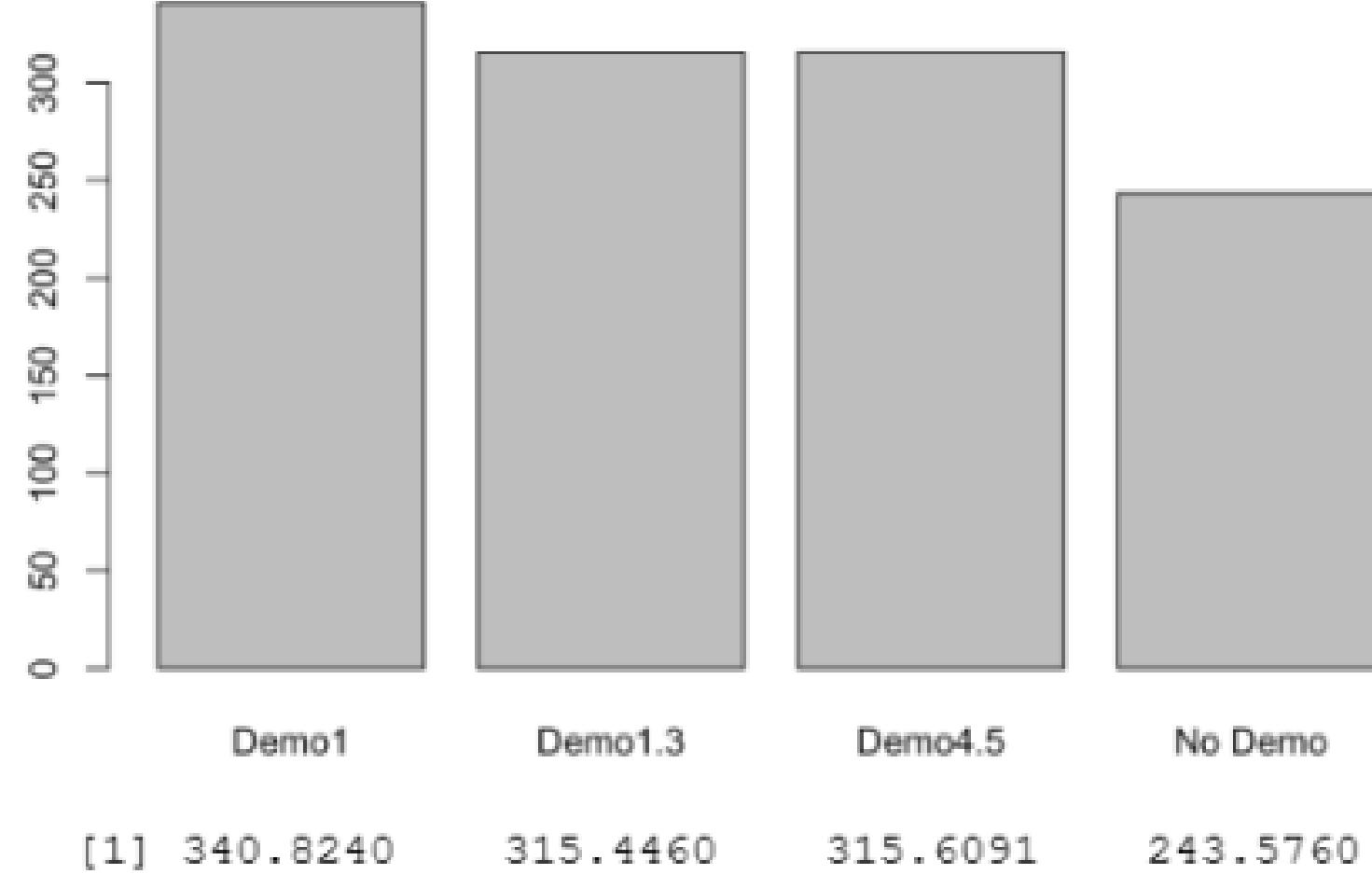
Sales.Rep: Endcap, Endcap: Demo

- DV: Sales volume
- adjusted R-squared: 0.8049
- Inclusion of Interaction Variables

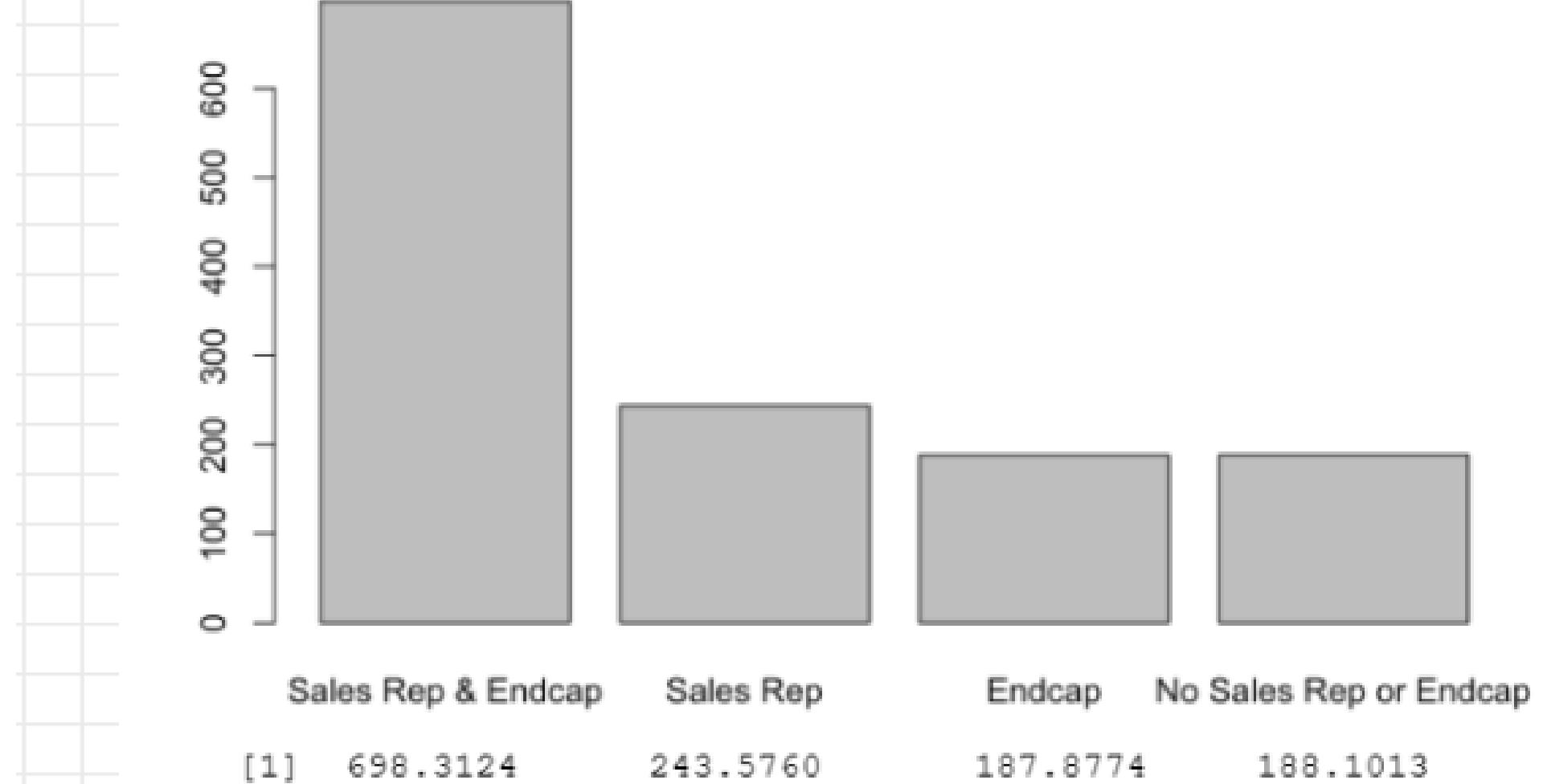
5. Other Factors

2nd Model : Inclusion of **Interaction Variables**

Average Units Sold - Demo & Sales Rep



Sales Rep & Endcap interaction



Final Model

2nd Model

Call:

```
lm(formula = Units.Sold ~ Average.Retail.Price + Sales.Rep *  
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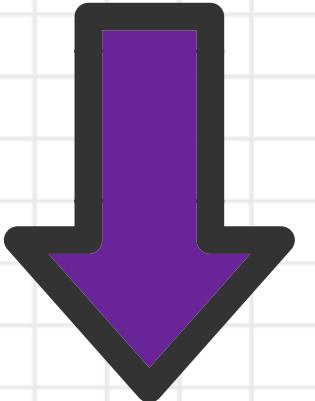
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Recommendation

- Endcap placement → didn't affect the overall sales
- Use of Demos : effective way for sales increase
- Customers: price aware → prefer discounted product



redirect the budget to more demos, endcap with demos,
and planned discounts

Discussion Questions

1. What would work better, higher price but demo, endcap and sales rep or lower price with just a demo?
2. Where in a store they would place the product instead endcap?
3. Will it be beneficial in the long run to offer discounts at the expense of losing money?
4. How exactly GoodBelly should spend on marketing?

Thank You