

**Redemption of Coupons Online:
Profit Implications of Dissatisfying Price Discrimination**

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INTRODUCTION

Popular Web Retailers

amazon.com.



VICTORIA'S
SECRET

INTRODUCTION

Promotion Codes



**Have a gift certificate
or promotional code?**

Enter code here:

Apply



gap.com

gap.com coupon code

If you have received a gap.com coupon code that you would like to use for this order, enter it below.

enter code:



Gift Certificates & Promotion/Discount Codes

Enter your caSe SeNsitiVe code and click "Apply" to apply it to your order.

Apply

**VICTORIA'S
SECRET**

If you have an offer code,
please enter it here



CHECKOUT

INTRODUCTION

Traditional Coupons

Targeted coupons:

Provide better prices for those we know
to have lower values for the products
(e.g., zip codes, alternate products)

Screening coupons:

Make obtaining coupons more expensive
for higher valued consumers
(e.g., newspaper search)

Social-Psychological Factors

Not having coupons while others do may lead to price inequity,
lower satisfaction, etc.

Why is the Web different?

Channels of coupon distribution are a mystery

All customers are prompted for coupons

Coupons are easy to “copy”

Distribution channels for coupons not company controlled

INTRODUCTION

Searching for Promotion Codes



Google Search

I'm Feeling Lucky

[1-800-flowers.com Coupons and Coupon Codes for 1800flowers](#)

... **1-800-flowers.com** Coupons **\$20 off \$100** purchase **coupon code: DA2**, expires: Unknown. **1-800-flowers** ...

[1-800-flowers.com.coupons-coupon-codes.com/](#) - 16k - [Cached](#) - [Similar pages](#)

[Red Hot Boutiques: Flowers-Gifts](#)

... \$10 OFF on Tulips. (Report a Badlink) **1-800-FLOWERS.COM** * **10% off \$29.99** Use **Coupon Code: IDO**. Expires: 07/31/02. (Report a Badlink) 800wine.com ...

[www.redhotboutiques.com/Flowers-Gifts/?from=rhss](#) - 28k - [Cached](#) - [Similar pages](#)

[Flowers online discount coupons, coupon codes and deals](#)

... Unknown. Save **10% off** your purchase at **1-800-Flowers.com** **Coupon Code: 76M** Expires: 04/15/2002. Save ...

[www.247coupon.com/flowers.html](#) - 23k - [Cached](#) - [Similar pages](#)

[1click2save.com - Discounts, Online Coupons, Deals and Savings ...](#)

... **1-800-FLOWERS.COM** **10% off** any purchase - **Coupon code 26S** Exp. 11/12. **1-800-FLOWERS.COM** 10% off - **Coupon code 32H** Exp. 12/31. ...

[www.1click2save.com/finance.asp](#) - 34k - [Cached](#) - [Similar pages](#)

INTRODUCTION

Research Questions

“Few things stir up a consumer revolt quicker than the notion that someone else is getting a better deal.”

- David Streitfield, Washington Post (2000)

- What effect does online coupon prompting play on satisfaction and purchase intention?
- What role does the suggestion of the existence of coupons play in the shopping cart abandonment problem?
- Does the suppression of purchase intention negate the benefits of price discrimination (market segmentation)?
- Is the screening role of price discrimination achievable?

METHOD

Fictitious Purchasing Decision

- Context
 - purchasing a toy for a friend's daughter's birthday
- Subjects were guided through a shopping experience
 - searching for their item
 - adding their item to their cart
 - check-out
- Pre and post-testing
 - Price fairness
 - Satisfaction
 - Intention
 - (Non)Completion
 - Willingness to Pay (Value)
- Treatments
 - Presented with Code Field but without a code (N=78)
 - Presented with Code Field and had a code (N=78)
 - No Code Field or mention of a code (N=50)

Online shopping experience

In what follows, you will be walked through an online shopping experience, from finding the item at the online retailer through final checkout. You will be shown what you would have likely seen had you been a real customer of this store, but you don't have to interact with the store (entering search terms, selecting items, etc.) as this has been done for you.

Your good friend invited you to her daughter's eighth birthday party. Unfamiliar with the desires of eight year olds, you asked your friend what present to bring. She suggested that her daughter has been wanting a *Cuddles Baby*, a new and popular toy for the age group. Not wanting to go to a store, you remember seeing a number of ads on television recently for ToyMart.com, an online toy retailer.

Upon visiting the site, you entered the query "Cuddles Baby" into its search facility.



TOY MART.com

Upon locating the toy, you added it to your virtual shopping cart.

Top result for your search

Cuddles Baby

by Fun Time, Inc.

Description

The latest craze, Cuddles Baby is always ready when your child wants to share a caring experience!

Our Price: \$39.99

Standard shipping is **free** for this item.



[Add to cart](#)

Proceeding to check-out, you entered your shipping and credit card information, and decided that the free standard shipping would be adequate since the party is still two weeks away. Before finalizing your order, you will complete a brief survey about your experiences so far.

[Proceed](#)

Checkout

Review your order

Items

 Cuddles Baby Fun Time, Inc. **\$39.99**

Shipping options

- Standard Shipping (3-7 business days) **Free**
- Two Day Shipping (2 business days) \$2.00
- Overnight Shipping (1 business days) \$11.00

Payment method

Method selected

Credit Card No.

Expiration Date

Cardholder's Name

Promotions

Do you have a discount code?

Enter discount code:

If your discount code does not cover the cost of your order, we will use the card you entered above for the balance.

Order Summary

Items **\$39.99**
Shipping **Free**
Total **\$39.99**

[Process Order](#)

RESULTS

Price Fairness & Satisfaction

The existence of a code (and not having one) leads to lower sense of price fairness, satisfaction, purchase intention, and likelihood of purchase completion than the control group.

Post-test scale values
(1-7 scale, 7=*strongly agree*)

	Have Code (N=78)	Control (N=50)	No Code (N=78)
Price Fairness	4.96	4.50	3.90
Satisfaction	4.93	4.32	3.87
Intention	4.73	4.58	4.27
(Non)Completion	3.55	3.88	4.53

All differences significant at 5% via ANOVA.

RESULTS

Price Discrimination

What happens to the probability of purchase in each of these treatments?

Subjects noted the likelihood of purchase completion on a seven point scale.

(7 = strongly agree would not complete the purchase)

GOAL: translate scale into *probability* of completion

Let r denote the response on seven point scale

And q_t the likelihood of completion in treatment t

$$q_t \equiv \Pr\{\text{completion}\} = \mathbf{a} + \frac{7 - r}{6(1 - 2\mathbf{a})}$$

We then estimate (regress):

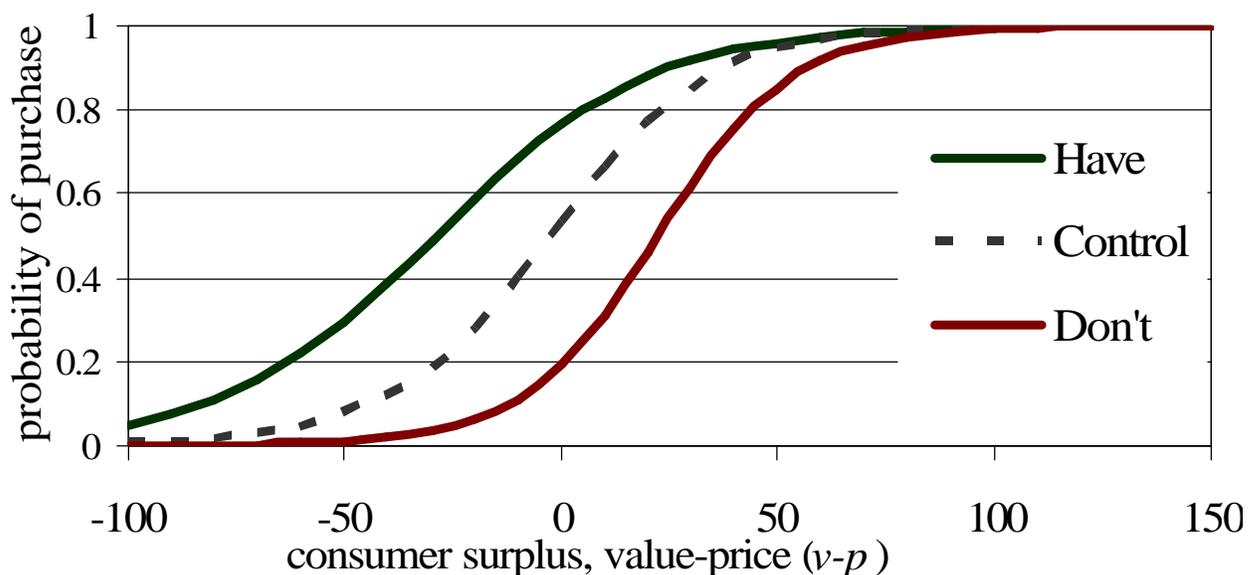
$$\ln\left(\frac{q_t}{1 - q_t}\right) = \mathbf{b}_0 + \mathbf{b}_1(v - p)$$

RESULTS

Price Discrimination

Substantial and significant differences in purchase intention exist between the three experimental groups.

Treatment	Intercept	Slope ($v-p$)
Have Code	1.182 ($p = .036$)	0.041 ($p = .027$)
Control	0.146 ($p = .424$)	0.054 ($p = .046$)
No Code	-1.453 ($p = .028$)	0.064 ($p = .022$)



RESULTS

Intensity-Adjusted Demand

Traditional Economic Notion of Demand:

(v^* is the “segregation point”)

$$\begin{array}{ll} \max_p \sum_{v \geq p_l} f(v)p & \text{without price} \\ & \text{discrimination} \\ \max_{p_l, p_h} \sum_{v^* > v \geq p_l} f(v)p_l + \sum_{v \geq \max(p_h, v^*)} f(v)p_h & \text{with price} \\ & \text{discrimination} \end{array}$$

Firm always earns at least as large of a profit with price discrimination as it does without it.

“Intensity-Adjusted Demand”

$$\begin{array}{ll} p \sum_{v \in V} f(v)q_C(v-p) & \text{without price} \\ & \text{discrimination} \\ p_l \sum_{v < v^*} f(v)q_H(v-p_l) & \\ + p_h \sum_{v \geq v^*} f(v)q_D(v-p_h) & \text{with price} \\ & \text{discrimination} \end{array}$$

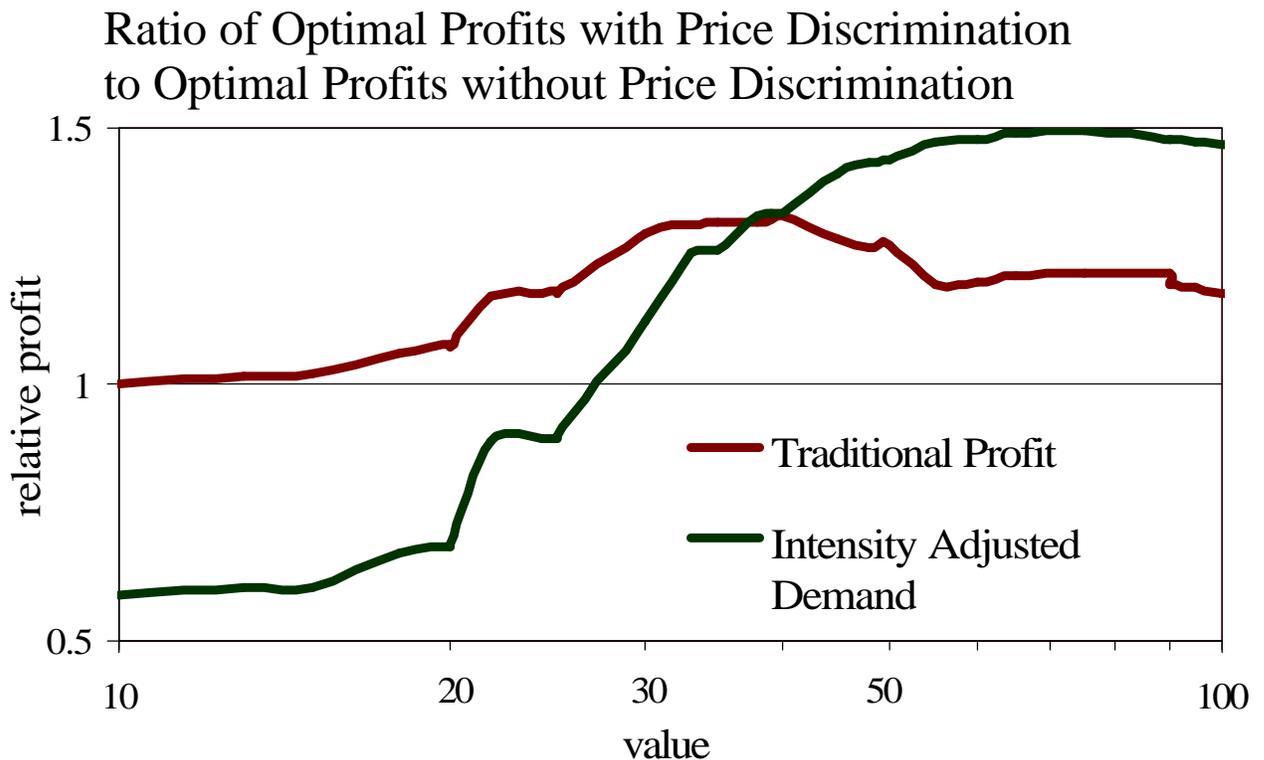
RESULTS

Intensity-Adjusted Demand

Introducing price discrimination through promotion code prompting may decrease firm profits.

Question:

for what segregation points (v^*) is the profit with price discrimination greater than the profit without?



RESULTS

Screening Role

Whether a consumer believes it is worthwhile to search for online coupons depends on one's technical savvy and not on one's value.

Variable	parameter	t, p-value
Technical competency	0.4126	t = 3.617, p = 0.000
Value	-0.0003	t = 0.074, p = 0.941

The existence of coupon distribution channels outside of the control of the firm implies that coupons go to the technically savvy and not the price sensitive.

CONCLUSIONS

- **Coupon Prompting**

Noting the existence of coupons may lead to lower satisfaction, purchase intention, etc., and suggests a role for equity theory.

- **Purchase Suppression**

Lower likelihood of purchase among the “couponless” may offset the benefits of market segmentation.

- **Self-Selection**

Traditional “cost of time” segregation may not be effective in online environments.

- **Practice**

Initially, technology dictated the method of coupon redemption online.

Now, it is time to let “age old” economics and marketing drive practices in the “new” medium.