

Demarketing as a Differentiation Strategy

EITAN GERSTNER

Department of Business Management, North Carolina State University, Raleigh, North Carolina 27695-7229

JAMES HESS

John M. Olin School of Business, Washington University, Campus Box 1133, One Brookings Drive, St. Louis, MO 63130-4899

WUJIN CHU¹

Sloan School of Management, MIT, 50 Memorial Drive, Cambridge, MA 02139

Key words: Demarketing, Product Differentiation, Pricing

[August 21, 1992]

Abstract

Demarketing discourages consumers from buying. This paper shows that demarketing can be a profitable alternative when differentiation through product improvements is not cost effective. The impact of differentiating demarketing on profit, market share, consumers, and total welfare is investigated.

Demarketing activities discourage demand. This stands in sharp contrast to the objectives of marketing: create utility and enhance exchanges. In their provocative article "Demarketing, Yes, Demarketing," Kotler and Levy (1971) distinguish three types of demarketing situations.

General demarketing occurs when a seller shrinks the level of total demand. Suppliers of electricity and water use advertisements and publicity campaigns during periods of excess demand.

Selective demarketing occurs when a company discourages demand from certain classes of consumers. Adult communities demarket properties to families with children, and producers of goods with a snob appeal avoid low-image retailers.

Ostensible demarketing occurs when a seller creates an artificial or perceived shortage to whet consumer appetites. Limited distribution of goods may induce consumers to stockpile these "hard-to-get" items.

¹Gerstner, University of Haifa/North Carolina State University, Hess, North Carolina State University, and Chu, Massachusetts Institute of Technology. This research began while Hess was visiting MIT's Sloan School of Management and was finished while visiting University of Haifa; he thanks both for their support.

Although Kotler and Levy (1971) emphasized the need for careful research into these phenomena, little effort has been devoted to the formal study of demarketing by marketers. This is not surprising, as marketers are trained to build demand rather than destroy it.

On the other hand, there has been growing scholarly interest in issues that can be construed as demarketing, although the demarketing terminology is not used. This stream of research focuses on the following areas.

Price discriminating demarketing. Salop (1977), Chiang and Spatt (1982), Narasimhan (1984), and Gerstner and Holthausen (1986) have shown that price discriminating firms may create transaction costs deliberately to discourage consumers from seeking the lowest price. Busy consumers pay higher prices, whereas those with small transaction costs pay lower prices. For example, some retailers hold "3-hour sales" from 8 to 11 Saturday morning. Consumers who get to the store before 11 o'clock pay lower prices but incur the inconvenience of early morning shopping.

Bait and switch demarketing. Gerstner and Hess (1990) and Chu, Gerstner and Hess (1992) studied disparagement of products in sales presentations or in point-of-purchase displays that are designed to discourage consumers from buying featured brands. The intent is to switch consumers to buying other more profitable products. These practices, however, might be illegal (Howard, 1983, p. 218).

Stock outage demarketing. Stock outages frustrate consumers, but stores often offer rain checks that guarantee delivery at a future date. Nevertheless, Hess and Gerstner (1987) showed that stores may profit from planned stock outages with rain checks because customers may visit the stores twice and buy complementary products on each visit. Balachander and Farquhar (1991) showed that deliberate stock outages help stores charge higher prices and earn higher profits. The possibility of a stock outage in one store makes customers more eager to buy when the other store has the product in stock.

Crowding costs demarketing. Retail stores, hotels, and airlines have limited capacities. A low price usually attracts large numbers of shoppers, so customers must hunt for space in crowded parking lots and stand in long checkout lines. Businesses may deliberately accept capacity constraints, recognizing that some customers would trade the higher prices for reduced crowding. Gerstner (1986) derived symmetric equilibrium prices and crowding costs in such markets.

This paper highlights a different and intriguing type of demarketing, **Differentiating Demarketing**. Here a firm demarkets to differentiate itself from its competitor. This type of "unwholesome" differentiation brings about the desired end of avoiding a profit-dissipating price war. Demarketing as a differentiation strategy has not been addressed in the literature. The idea is that a low-price firm may purposely introduce a nuisance attribute to the product to drive customers who

cannot tolerate it into the camp of the higher-priced competitor. Why would a firm ever engage in demarketing to secure customers for its rival?

The reasoning is as follows. Without differentiating demarketing, both firms have identical products that would engender a price war, driving prices to costs. In contrast, demarketing by the low-price firm gives the higher-price competitor a captive market of consumers who dislike the demarketed product, so it can raise its price. The higher price of the competitor, in turn, allows the demarketing firm to increase its price. In the resulting equilibrium, both firms profit from this segmentation scheme by charging prices above costs.

Differentiating demarketing does not encourage new customers to buy; it only introduces a nuisance to the market. The purpose is to exploit differences in consumers attitudes towards this nuisance through higher prices. As a result, economic inefficiencies are created. The model used to derive these results is outlined next.

1. A description of the model

For clarity of exposition, our model is constructed in the context of market entry, where there is an incumbent and an entrant. A different framework, one in which firms choose their strategies simultaneously, leads to similar results. The Entrant produces a product that is identical to the Incumbent's, and product improvements are cost-ineffective. Will the Entrant ever find it profitable to discourage customers from buying his product? That is, will the Entrant discourage demand even when this demarketing reduces the utility of *all* consumers?

To answer this, we consider a model in which the motive for demarketing is different from any of the forms addressed in previous studies. Price discriminating demarketing is excluded by assuming that all consumers have the same willingness to pay. To eliminate bait and switch and stock outage demarketing, we assume that firms sell only one product. Finally, selective demarketing is excluded by assuming that demarketing reduces the utility of *all* the consumers in the market.

Competitors. We analyze a market with two firms, an established firm called the Incumbent and a new entrant called the Entrant. Both firms have identical cost structures with constant unit cost of producing the basic product, C .

Each firm strategically chooses whether to demarket the basic product. If a firm demarkets, it introduces a nuisance attribute that reduces the buyers' utilities for the basic product. Examples of this might be slow delivery, inconvenient hours, stock outages, aggressive selling or other practices discussed above. For simplicity, demarketing is assumed to be costless, although none of the results depend upon this.

Consumers. Consumers buy at most one unit of the product and are willing to pay V for the basic product. Demarketing reduces this utility by Δ , which is distributed randomly within the unit population uniformly between $\mu - h$ and

$\mu + h$. The mean utility reduction is μ , and h is a measure of its dispersion (the half width of the interval). To focus on demarketing, we assume that the nuisance attribute reduces the utility of all consumers, so $\mu - h > 0$. Consumers select firms to maximize their surplus based upon the firms' prices and demarketing strategies.

Let E stand for Entrant and I stand for Incumbent. Consumer surplus, CS_i , obtained when buying from firm $i = E$ or I is

$$CS_i = \begin{cases} V - \Delta - P_i & \text{with demarketing,} \\ V - P_i & \text{without demarketing.} \end{cases} \quad (1)$$

Profits. Let X_i represent the market share of firm i . The profit of firm i is

$$\pi_i = (P_i - C)X_i. \quad (2)$$

Competition. The price competition in the market is of a Bertrand-type. If the firms chose identical demarketing strategies, the firm with the lowest price attracts all the customers. Bidding for customers, each firm undercuts the price of its rival to provide consumers with higher surpluses. This price-cutting process continues until in equilibrium both retailers earn zero profits.

Can the firms earn positive profits if one firm demarkets the product and the other does not? In the next section we will show that it is profitable for only the Entrant to demarket the product. The Incumbent may reduce its price when entry occurs but refuses to demarket its product.

2. Demarketing in equilibrium

Without competition from the Entrant, the established Incumbent could extract all consumer surplus by charging a price V for the basic product. Demarketing does not pay because it reduces all consumers' willingness to pay. This leaves a profitable opportunity for the Entrant using a demarketing strategy, as we will now show.

If the Entrant does not demarket, then its product is identical to that of the Incumbent. The head-to-head competition for customers will drive both prices down to unit costs: $P_I = P_E = C$. Beyond this point, gaining additional market share is unprofitable because price-cost margins are negative.

Clearly, if the Entrant demarkets the product, its price must be lower than the Incumbent's price. The demarketing has a negative impact on the attitudes of all customers who would prefer the Incumbent's basic product if the prices are identical. However, the degree of disutility for the nuisance attribute varies with the population. If $P_E < P_I$, some consumers accept the inherently less attractive product of the Entrant to obtain the financial savings. Others prefer to pay more to avoid the nuisance attribute.

To find the dividing point between these two segments, Δ_0 , equate the surpluses obtained from each firm to get

$$V - P_I = V - \Delta_0 - P_E. \quad (3)$$

Solving for Δ_0 gives

$$\Delta_0 = P_I - P_E. \quad (4)$$

Consumers' transaction costs are distributed uniformly in the interval $\mu - h$ and $\mu + h$, so the Incumbent will maintain a market share of

$$X_I = \frac{\mu + h - \Delta_0}{2h} = \frac{P_E - P_I + \mu + h}{2h}, \quad (5)$$

and the Entrant will obtain market share of $X_E = 1 - X_I$ (see figure 1).

Finally, profits can be written as functions of P_I and P_E by substituting each firm's market share into (2):

$$\pi_I = (P_I - C) \frac{P_E - P_I + \mu + h}{2h}, \text{ and} \quad (6)$$

$$\pi_E = (P_E - C) \frac{P_I - P_E - \mu + h}{2h}. \quad (7)$$

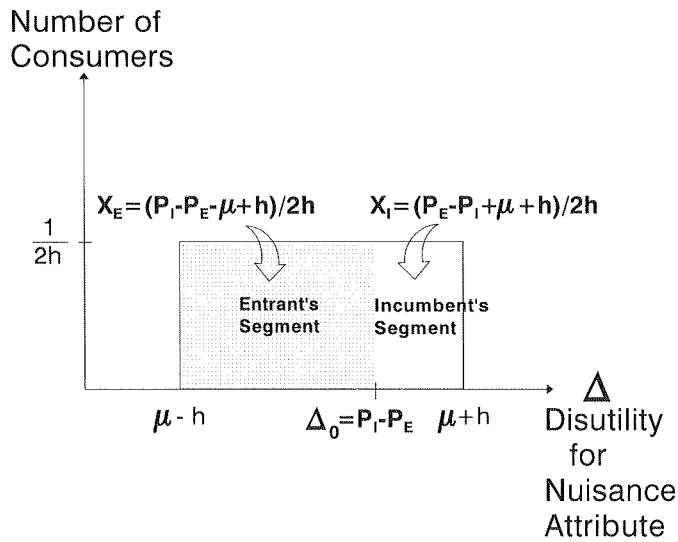


Figure 1. Market segmentation based on disutility

The equilibrium prices P_I and P_E can be found by maximizing (6) and (7), respectively, and solving simultaneously for the two prices. Back substituting the equilibrium prices into (5), (6) and (7) gives the equilibrium market shares and profits for each firm (see table 1).

Intuitively, the asymmetric equilibrium is obtained as follows. Before entry, the Incumbent maximizes profit by extracting all the consumer surplus, charging V for its product and selling it to all customers. When entry occurs, the Entrant demarkets its product, thus giving the Incumbent a captive market of customers with great distaste for the nuisance attribute. This captive market induces the Incumbent to respond with only a mild price reduction, leaving price well above cost. Facing moderate price competition, the Entrant can also charge a price above unit cost and both firms earn positive profit. Without demarketing, head-on competition would drive both prices to unit cost and both profits to zero. As a result, the demarketing firm obtains a higher price than it would without the nuisance attribute. See figure 2.

Because the most interesting case is one in which both firms have positive demand, assume that $X_I > 0$ and $X_E > 0$. A condition that guarantees this is

$$\mu/h < 3. \quad (8)$$

Table 1. Equilibrium prices, market shares and profits

	Prices	Market shares	Profits
Incumbent	$P_I = C + h + \mu/3$	$X_I = 1/2 + \mu/6h$	$\pi_I = 2h[1/2 + \mu/6h]^2$
Entrant	$P_E = C + h - \mu/3$	$X_E = 1/2 - \mu/6h$	$\pi_E = 2h[1/2 - \mu/6h]^2$
Difference	$2\mu/3$	$\mu/3h$	$2\mu/3$

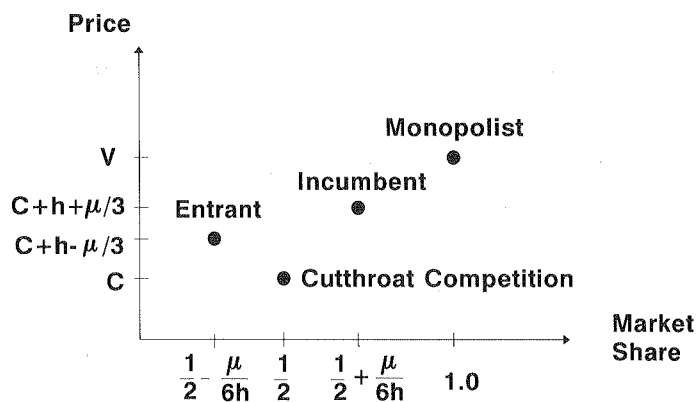


Figure 2. Optimal entry and response

Condition (8) implies that the asymmetric equilibrium occurs only when the diversity in disutility, h , is sufficiently large relative to its mean, μ . A large diversity gives each firm an opportunity to exploit consumer differences in tastes by catering to a distinct segment. A small mean implies that price reduction to compensate for the nuisance attribute need not be large. Therefore, a combination of large diversity and small mean creates the right condition for differentiating demarketing. If (8) does not hold, the Entrant will not demarket and both firms will earn zero profit.

The equilibrium seen in table 1 demonstrates the following result.

Result 1: Demarketing by the Entrant deters the Incumbent from instigating a profit-dissipating price war, and both firms earn positive profits if (8) holds.

Both firms profit if the measure of consumer heterogeneity, h , increases. From inequality (8) and table 1, one finds that price competition is less intense and profits are higher when the dispersion of disutility increases. The explanation is simple. If consumers' disutilities from the demarketing nuisance attribute are more polarized, but the mean disutility is unchanged, those with very high disutilities will pay more to avoid the demarketing, so the Incumbent raises prices. Because the average disutility from the nuisance attribute is unchanged, the Entrant can also raise its price without losing a significant market share. The higher prices give both firms larger profits.

Result 2: Price competition is less intense and profits are higher for both firms when the diversity in disutility from demarketing is larger.

On the other hand, demarketing is less profitable for the Entrant when the mean disutility is higher. In this case, demarketing turns away consumers in large numbers, so the price reduction needed to compensate customers to stay with the Entrant is large. These results are formally stated.

Result 3: Demarketing is less profitable for the Entrant and more profitable for the Incumbent when the average disutility is larger.

The equilibrium shown in table 1 will persist even when average disutility is very small. If the majority of people enjoy the attribute, so average disutility is negative, the Entrant will have a higher price and profit. Put differently, if the Entrant can produce an attribute that benefits most consumers, he will earn higher profits than the Incumbent by entering with a higher price.

3. Who gains and who loses from differentiating demarketing?

Total economic welfare is the sum of consumer surplus and profits. Under differentiating demarketing the firms obtain positive profits. In comparison, both firms obtain zero profits when the Entrant does not demarket and head-on competition takes place (zero economic profits means normal returns on invested capital). The gains in profits from demarketing only constitute a transfer of wealth from consumers to firms. The demarketing does not encourage new customers to buy; it only creates a nuisance. Furthermore, it can be shown that the Entrant may use demarketing even if the nuisance attribute must be produced at a cost. Therefore, differentiating marketing is economically inefficient.

Demarketing can improve economic efficiency when it is used as part of a strategy to expand market size (in our model the size of the market is fixed). Two examples are rebates and bait-and-switch.

Manufacturers' rebates impose high transaction costs on consumers who receive the refunds. The purpose is to target price sensitive customers who would trade lower price for transaction costs, and to discourage less price sensitive customers from claiming the rebates. However, the additional surplus created through increased consumption can exceed the reduction in utility that occurs because of the transaction cost. Therefore, the rebates might enhance economic efficiency (Gerstner and Hess 1991).

Retailers who understock low-price advertised brands and in-store promote more expensive brands practice illegal bait-and-switch. Gerstner and Hess (1990) showed, however, that bait and switch can be economically efficient because the benefits to some consumers from better product matching can offset the difficulty resulting from the stockoutages.

4. Conclusion

Differentiating demarketing is attractive for an entrant firm when product improvements are cost-ineffective. The entrant offers a lower price and introduces a nuisance attribute to differentiate itself from the higher quality established firm, thus avoiding profit-dissipating cutthroat price competition. This strategy is profitable for both firms if consumer disutilities from the nuisance attribute vary significantly across the population and if the average disutility is not too large. Initial derivations shows that these results are likely to hold even if the disutility from demarketing is not uniformly distributed.

Under differentiating demarketing, consumers with low tolerance to demarketing stick with the high-price, established firm, and those with high tolerance prefer to buy from the demarketer to obtain financial savings. But these customers are deliberately put through hassles by the demarketing firm. As a result, economic inefficiencies are created. Demarketing can increase welfare, however, when it is used as part of a strategy to create market growth.

References

- Balachander, Subramanian, and Peter Farquhar. (1991). "Gaining More by Stocking Less: A Competitive Analysis of Product Availability," Working Paper 91-07-B, Carnegie Mellon University, Pittsburgh, December.
- Chiang, R., and C. S. Spatt. (1982). "Imperfect Price Discrimination and Welfare," *Review of Economic Studies* 49, 153-181.
- Chu, Wujin, Eitan Gerstner, and James D. Hess. (1992). "Hard Sell Dies Hard: Order Taking Versus Order Getting," MIT Marketing Center Working Paper 92-1, Cambridge, Massachusetts.
- Gerstner, Eitan. (1986). "Peak Load Pricing in Competitive Market," *Economic Inquiry* 24, April, 349-361.
- Gerstner, Eitan, and Duncan Holthausen. (1986). "Profitable Pricing When Market Segments Overlap," *Marketing Science* 5, Winter, 55-69.
- Gerstner, Eitan, and James Hess. (1990). "Can Bait and Switch Benefit Consumers?" *Marketing Science* 9, Spring, 114-124.
- Gerstner, Eitan, and James Hess. (1991). "A Theory of Channel Price Promotions," *American Economic Review* September, 872-886.
- Hess, James, and Eitan Gerstner. (1987). "Loss Leader Pricing and Rain Check Policy," *Marketing Science* 6, Fall, 358-374.
- Howard, M. C. (1983). *Antitrust and Trade Regulation: Selected Issues and Case Studies*. Englewood Cliffs, NJ: Prentice-Hall.
- Kotler, Philip, and Sidney Levy. (1971). "Demarketing, Yes, Demarketing," *Harvard Business Review* November-December, 74-80.
- Narasimhan, Chakravarthi. (1984). "A Price Discrimination Theory of Coupons," *Marketing Science* 3, 128-147.
- Salop, Steven. (1977). "The Noisy Monopolist," *Review of Economic Studies* 44, 393-406.

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200

201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300

301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400