Chapter 5

Firm Responses to Consumer Information Policy

Christine Moorman

There is a class of informational problems that arise in markets that cause price to be a poor signal of quality. These problems may emanate with the customer, the product, the seller, the nature of the transaction, or some combination of these factors. As a result, markets become inefficient (i.e., price and quality do not correlate), consumers make suboptimal choices, and market equilibrium is not achieved. The solution to these problems is not firm specific. Instead, an industry-wide solution, typically in the form of self-regulation or government regulation, is required to solve the problem.

This chapter is concerned with the use of a class of governmental remedies referred to as consumer information remedies. Consumer information remedies are defined as regulation that seeks to increase the number of speakers providing information (speaker remedies) and those affecting the content of the information provided by sellers (message remedies) (Federal Trade Commission [FTC] 1979, pp. 184-89). The function of these remedies is to improve the free flow of accurate information to consumers who may, in turn, increase their knowledge base or change their search and/or purchase behaviors.

Consumer information remedies are distinct from market restraint remedies that constrain the level of quality that firms offer to the market (Stern and

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Eovaldi 1984). Market restraint remedies, therefore, often involve banning or restricting the manufacture and sale of products and services in the market.

In this chapter, I examine firm responses to consumer information remedies. I have several goals. First, I provide a summary of the literature describing firm responses to consumer information remedies and develop a typology that identifies general types of firm responses. Second, I describe a set of mechanisms underlying firm responses to consumer information remedies. These include mechanisms reflecting compatible incentives, the strategic use of regulation, sense-making and enacting, interorganizational learning, market orientation, and consumer signaling. Third, drawing on these mechanisms influencing firm responses, I offer a set of recommendations for the design of consumer information remedies. Finally, I close the chapter by offering a set of recommendations for improving research on the topic of firm responses to consumer information remedies.

The Impact of Consumer Information Remedies on the Market

Firm responses to consumer information remedies are critical to market-level changes. The market-level changes of concern in this chapter are improved product quality, increased market efficiency (i.e., the correlation of price and quality), and greater competition (as revealed in lower prices and more rivalry). Linking information remedies, firm responses, and market-level outcomes such as these is a complex research question and policy design question. As a result, it should not be surprising that most consumer information policies involve a series of typically untested assumptions about these linkages (FTC 1979). Figure 5.1, borrowed in part from Bloom (1997) and drawing on economic, organizational, and marketing literature, highlights several of the key linkages assumed to occur when information required from a consumer information remedy enters markets.

Speaker and message remedies are assumed to reduce the costs of information search by consumers (Russo, Staelin, Nolan, Russell, and Metcalf 1986). In the case of speaker remedies, this cost reduction occurs because information is easier to collect; in the case of message remedies, it occurs because information is easier to process. Both of these effects, in turn, make it easier for consumers to compare choice alternatives. With information search costs reduced, consumers are in a better position to make informed choices and perhaps to make utility-maximizing choices. Better choices are the bonanza of information remedies and are not seen as a necessary condition in the evaluation of most information programs. Therefore, following Bettman (1975), consumer cognitive responses to information (e.g., better awareness, enhanced comprehension) are distinguished from behavioral responses to information (e.g., better choices, brand switching) (Step 1 in Figure 5.1). In an ideal word, cognitive responses and behavioral responses would be reinforcing. In other words, informed consumers would search for more information and make better choices, and more search and better choices might increase consumers’ information levels (from experi-
ence in both using products and searching for products). I use a reciprocal arrow within the consumer response box to depict this relationship.

The model shows that firms, like consumers, have reactions to information remedies. Sometimes, these responses are due to new consumer behaviors resulting from the information remedy (e.g., shifting choice patterns) (Step 2). Other times, they are due to firms’ direct reactions to the information regulation (Step 3). In this latter condition, firms anticipate consumer or competitive reactions to the information and respond with a variety of marketing responses (discussed in detail later). ¹

Firm responses, in turn, can influence the nature and degree of consumer responses (Step 4). For example, firms may decide to make the subject of the information remedy a prominent part of their marketing strategies. If this occurs, they may stimulate consumers to search more. For example, following the removal of advertising restrictions on professional price advertising, the number of low-cost/high-volume optometry service providers increased dramatically (Parker 1995).

This model suggests that firms also can learn how to respond to information remedies from other firms, not by making direct connections with consumer behavior or the original information policy (Step 5). These types of effects are due to diffusion and imitation and are discussed in detail later. To cite an example, the impact of the Business Week ratings on the design and delivery of M.B.A. programs (Bloom and Szykman 1998) is likely to be driven by lower-performing schools attempting to imitate higher-performing schools.

Step 6 depicts firm responses to consumer information responses as a critical mediating factor in determining whether an information remedy will have an impact on the market. This means that firm responses, either directly or indirectly (via consumer responses), to information regulation are central to the market-level effects.

Step 7 in Figure 5.1 suggests, on the other hand, that even if firms do not change, market performance can be directly influenced by consumer behavior. In this view, sales of products that perform well on featured attributes are purchased at higher rates and perhaps at higher margins by consumers interested in these qualities. The increase in sales for low-tar and low-nicotine cigarettes described by Mazis and colleagues (1981) is a good example of the direct impact of consumer behavior on market performance without firm response mediating this effect. It is true, however, that the market performance of low-tar and low-nicotine cigarettes prompted the development of more brands with this feature. This feedback effect is shown in Step 8.

Finally, changes in the overall market also can influence consumer responses (Step 9) (Moorman and Price 1989). For example, if consumers observe changes to the market (e.g., improved product quality or information), then they might display less skepticism and increased confidence in the quality of products and the effective functioning of markets. Moreover, consumers might learn that price is a good signal of quality or learn about various product quality features when a large number of firms respond in the market. These experiences, in turn, are likely to change consumer responses (Moorman 1996).

Table 5.1 summarizes the extant literature describing how firms respond to information remedies. The nature of the information stimulus is identified, and firm responses are documented where available. One of the surprising conclusions of this table is the relatively small number of studies of firm responses to consumer information remedies that have been conducted.

Wilkie (1985, 1986) provided an excellent description and categorization of the types of firm responses to FTC-ordered information remedies that occurred between 1970 and 1977. He observed that 36% of the affirmative disclosure orders issued by the FTC resulted in firms deciding to stop marketing the products or services. Wilkie (1985) noted that, in most cases, these were “smaller firms which had relied heavily on the allegedly deceptive practice to obtain customers” (p. 107). In 38% of the cases studied, firms made some alterations to the products or services in response to the information disclosure.

Firm responses can be categorized into a typology similar to Table 5.2. There are two dimensions associated with this typology. The first dimension involves the distinction between firm responses that are linked specifically to the information remedy (e.g., energy efficiency ratings linked to energy labels on home appliances) and those responses that are not linked to the information remedy (e.g., aesthetic features on home appliances linked to energy labels) but that are spurred by responses to the information remedy.

The second dimension is the distinction between tactical and strategic firm responses. Tactical-level changes are focused on changes to existing products and focus on marketing mix features (e.g., promotion, advertising, price). Strategic-level changes involve consideration of markets, product development, product management, and broader activities that a firm might undertake in response to an information remedy (e.g., forming an alliance with other manufacturers).

Firm Responses Directly Linked to Information Remedy Content

Regarding tactical responses within the marketing mix, firms can display a variety of responses. In the case where the information remedy content is focused on product features, firms can respond in one of three ways. First, firm responses can involve adding new product attributes (e.g., calcium to orange juice) or removing attributes (e.g., cigarettes with no tar). Second, firms can increase levels of current attributes (e.g., fiber content in ready-to-eat cereals) or decrease attributes (e.g., fat or sodium levels in food products). Third, firms can respond to information disclosure by changing the emphasis on benefits linked to product attributes. This could involve reducing risks (e.g., describing a
<table>
<thead>
<tr>
<th>Focal Area</th>
<th>Consumer Information Remedy</th>
<th>Citation</th>
<th>Research Findings on Firm Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition information</td>
<td>1973 nutritional labeling laws requiring the provision of recommended daily allowance information</td>
<td>Mazis et al. (1981)</td>
<td>An increase in vitamin fortification in ready-to-eat cereals was noted.</td>
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<td></td>
<td>Allowance of fiber health claims for ready-to-eat cereals</td>
<td>Ippolito and Mathios (1990, 1991)</td>
<td>Statistically significant increases in fiber content were noted between the pre-advertising period (1.64 grams per ounce) and the post-advertising period (1.75 grams per ounce) and in fiber content of new cereal introductions between the pre-advertising period (1.70 grams per ounce) and the post-advertising period (2.59 grams per ounce). Cereals also reflected a significant reduction in sodium content (14.7 milligrams/ounce vs. 178.6 milligrams/ounce).</td>
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<td></td>
<td>1990 Nutrition Labeling and Education Act</td>
<td>Moorman (1998)</td>
<td>Results from a longitudinal quasi-experiment showed a statistically significant increase in positive nutrients among firms’ current brands and a reduction in nutrients among firms’ brand extensions. A significant interaction between price promotion activity and healthiness of the product category also was discovered, revealing a significant increase in price promotion for unhealthy brands pre- and post-NLEA but no change in price promotion activity for healthy brands during the two time periods.</td>
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<td></td>
<td></td>
<td>Moorman and Slotegraff (1999)</td>
<td>Results from a longitudinal quasi-experiment showed that firm characteristics influenced the amount and speed of firm responses to the information produced by the NLEA. Specifically, firms with a complementarity of product marketing and product technology skills were likely to make more changes to product quality and to make those changes faster than were firms without such capabilities. Moreover, this interaction effect was discovered only during the post-NLEA period and not during the pre-NLEA period.</td>
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<td></td>
<td></td>
<td>Ghani and Childs (1999)</td>
<td>Using a standard event study methodology, results showed a reduction in shareholder wealth following the passage of the NLEA for a sample of large U.S. multinational food corporations.</td>
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<tr>
<td>Saccharin</td>
<td>Saccharin warning label</td>
<td>Schucker et al. (1984)</td>
<td>Media and retailer advertising expenditures for diet soft drinks and regular soft drinks increased significantly over the pre-warning label period, excluding 1978 (when a great deal of the negative news coverage occurred). Price also increased during the same time period.</td>
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<tr>
<td>Beef</td>
<td>U.S. Department of Agriculture beef grading information</td>
<td>Miller, Topel, and Rust (1976)</td>
<td>No firm responses were examined.</td>
</tr>
<tr>
<td>Baby food</td>
<td>Ingredient labels on baby food</td>
<td>Mazis et al. (1981)</td>
<td>A reduction in salt and artificial ingredients was devised.</td>
</tr>
<tr>
<td>Alcoholic beverages</td>
<td>Alcohol warning labels describing risks involved in consumption</td>
<td>Mazis, Morris, and Swasy (1991); Scammon, Mayer, and Smith (1991)</td>
<td>No firm responses were examined.</td>
</tr>
<tr>
<td>Professional advertising including</td>
<td>Bates v. State Bar of Arizona resulted in allowance of professional price advertising, beginning with lawyers and extending to veterinarians, optometrists/ophthalmologists, accountants, funeral homes, and physicians</td>
<td>Benham (1972); Benham and Benham (1975)</td>
<td>The removal of advertising restrictions increased expansion of low-cost/high-volume advertisers (e.g., retail firm operations), had no effect on medical quality, and decreased service prices.</td>
</tr>
<tr>
<td>price advertising</td>
<td></td>
<td>Schroeter, Smith, and Cox (1987)</td>
<td>It was found that advertising for routine legal services increased the demand elasticity, holding other possible influencing factors constant.</td>
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<td></td>
<td></td>
<td>Haus-Wilson (1986)</td>
<td>A statistically significant reduction in optometrist prices for states allowing media advertising (26.3% to 33.1% reduction) was noted.</td>
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<td></td>
<td></td>
<td>Parker (1995)</td>
<td>Longitudinal evidence indicated that price advertising had the effect of reducing the quality of optometry services, although consumers felt more satisfied with quality.</td>
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<td></td>
<td></td>
<td>Kwon, Safranski, and Kim (1993)</td>
<td>Evidence indicated that professional advertising raised prices in markets for dental services.</td>
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<tr>
<td>Focal Area</td>
<td>Consumer Information Remedy</td>
<td>Citation</td>
<td>Research Findings on Firm Responses</td>
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<tr>
<td>Separation of diagnosis and treatment</td>
<td>1978 FTC separation of diagnosis (prescription) and treatment (getting eyeglasses made and fitted) rule (the eyeglass rule)</td>
<td>FTC (1979); Mazis et al. (1981)</td>
<td>Price was found to be 5% higher in states that banned optometry advertising, holding quality constant. A ban on optician price advertising raised price 10%. An interaction effect between price and optometry advertising was found, and prices were significantly higher in states that banned both types of advertising. No firm responses were examined.</td>
</tr>
<tr>
<td>Prescription drugs</td>
<td>Removal of price advertising ban for prescription drugs (Virginia Citizens Council Inc. v. State Board of Pharmacy)</td>
<td>Cady (1976)</td>
<td>Following removal of the restriction, retail prescription drug prices were more than 5% higher in states that restricted retail prescription drug price advertising than in states that did not. No firm responses were examined.</td>
</tr>
<tr>
<td>Unit pricing of products</td>
<td>Unit pricing information in stores</td>
<td>Russo (1977)</td>
<td>A 1% to 3% reduction in consumer expenditures, some of which might include price reductions, was noted. A 5% increase in the market share for store brands also was noted. No firm responses were examined.</td>
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<tr>
<td>Energy efficiency</td>
<td>Energy Policy and Conservation Act, which required the use of energy efficiency ratings on all home appliances</td>
<td>McNeill and Wilkie (1979)</td>
<td>No firm responses were examined.</td>
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<td></td>
<td>FTC’s lumens disclosure, which contains information about light bulb brightness and average life disclosure in number of hours</td>
<td>FTC (1979); Katz and Rose (1976)</td>
<td>A positive effect on the development of long-lasting light bulbs was reported.</td>
</tr>
<tr>
<td>Credit and insurance</td>
<td>Consumer Credit Protection Act’s truth in lending provision requiring all sources of consumer credit to disclose the annual percentage rate and the dollar finance charges for any consumer credit transaction</td>
<td>Day and Brandt (1974)</td>
<td>No firm responses were examined.</td>
</tr>
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<td></td>
<td>National Association of Insurance Commissioners’ life insurance cost disclosure package</td>
<td>FTC (1979); Mazis and Stuelin (1981)</td>
<td>No firm responses were examined.</td>
</tr>
<tr>
<td>Hospitals and HMOs</td>
<td>1986 Health Care Financing Administration hospital mortality information dissemination HMO quality ratings</td>
<td>Rudd and Glanz (1991)</td>
<td>No firm responses were examined.</td>
</tr>
<tr>
<td>Automobile tires</td>
<td>National Highway Traffic Safety Administration’s uniform grading system for tires</td>
<td>Bloom and Syekman (1999)</td>
<td>Convergence of HMOs in terms of price and quality indicators was noted. High-quality/high-price firms and low-quality/low-price firms converged.</td>
</tr>
<tr>
<td>Gasoline</td>
<td>Petroleum Marketing Practices Act requiring the posting of octane ratings (the octane rule)</td>
<td>FTC (1979)</td>
<td>It was speculated to reduce entry barriers due to product differentiation, large-scale dollar investments in advertising, and brand loyalties created through association with automobile manufacturers. No firm responses were examined.</td>
</tr>
<tr>
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<tr>
<td>Garment labeling</td>
<td>Care labeling for garments</td>
<td>FTC (1979)</td>
<td>No firm responses were examined.</td>
</tr>
<tr>
<td>Funeral prices</td>
<td>Funeral rule requiring funeral directors to disseminate price information on the telephone, thereby reducing search costs</td>
<td>FTC (1979)</td>
<td>No firm responses were examined.</td>
</tr>
<tr>
<td>Tobacco</td>
<td>1954 cigarette advertising guides that prohibited reference to the physical effects of tobacco and all unsubstantiated tar and nicotine claims in advertising</td>
<td>Calfee (1997); Scheraga and Calfee (1996)</td>
<td>Event analyses of stock returns for tobacco firms showed negative returns (-2.3%) for all firms and no difference between large and small firms.</td>
</tr>
<tr>
<td></td>
<td>1957 ratings of tar and nicotine content of tobacco products in third-party sources such as Reader’s Digest and Consumer Reports</td>
<td>Ringold and Calfee (1989)</td>
<td>Content analyses of cigarette advertising indicated a significant reduction in the use of health claims and a significant increase in claims about taste and cigarette design.</td>
</tr>
<tr>
<td></td>
<td>1960 FTC “voluntary” ban on tar and nicotine claims in advertising</td>
<td>Calfee (1997); Scheraga and Calfee (1996)</td>
<td>Event analyses of stock returns for tobacco firms showed a significant positive effect for the entire industry. There also was a statistical difference between the average large firm (+1.8%) and the average small firm (+0.5%). Calfee (1997) noted that the “steep decline in tar and nicotine content was virtually halted” (p. 44).</td>
</tr>
<tr>
<td></td>
<td>1964 cigarette labeling law requiring standardized measurement and communication of tar and nicotine content of tobacco products</td>
<td>FTC (1979); Mazis et al. (1981)</td>
<td>Event analyses of stock returns for tobacco firms showed no change in the returns for firms.</td>
</tr>
<tr>
<td></td>
<td>1970 congressional ban on cigarette advertising on television and radio</td>
<td>Scheraga and Calfee (1996)</td>
<td>Longitudinal examination of industry indicators pre- and post-ban indicated that firm and brand shares were more stable after the ban, that measures of industry concentration that were decreasing before the ban began to increase after the ban, and that new brand entry virtually ceased during the first four years after the ban.</td>
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<td></td>
<td>Eckard (1991)</td>
<td>In examining a sample of 10 major cigarette brands from 1950 to 1979, it was found that brand loyalty was higher and price elasticities were higher after the ban.</td>
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<td></td>
<td>Holak and Reddy (1986)</td>
<td>Monthly stock market returns for 30 months (ending in December 1970) for four of the six large firms were examined. Findings indicated abnormally high, statistically significant returns following the ban.</td>
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<td></td>
<td></td>
<td>Mitchell and Mulherin (1988)</td>
<td>An increase in the level of objective information claims in advertising during the subsequent time period (1982 to 1992) was noted.</td>
</tr>
</tbody>
</table>

NOTE: NLEA = Nutrition Labeling and Education Act; FTC = Federal Trade Commission; FDA = Food and Drug Administration; HMO = Health maintenance organization.
TABLE 5.2 Typology of Firm Responses to Information Remedies

<table>
<thead>
<tr>
<th>Firm responses directly linked to information remedy content</th>
<th>Strategic Response</th>
<th>Tactical Response</th>
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</thead>
<tbody>
<tr>
<td>• Harvesting current brands (e.g., discontinuing high-fat and high-sodium baby foods)</td>
<td>• Add product attribute (e.g., calcium to juice)</td>
<td>• Delete product attribute (e.g., no-tar cigarettes)</td>
</tr>
<tr>
<td>• Develop new products (e.g., lower fat, higher vitamin content)</td>
<td>• Increase product attribute (e.g., fiber to cereals)</td>
<td>• Decrease product attribute (e.g., low-fat foods)</td>
</tr>
<tr>
<td>• Target new markets (e.g., remedy-sensitive consumers such as healthy consumers)</td>
<td>• Link attribute to benefit (e.g., diet-disease link)</td>
<td>• Lower price (e.g., as a result of unit price regulation)</td>
</tr>
<tr>
<td>• Use of a differentiated strategy (e.g., different products in a line for unique markets: regular, low-fat, and low-sodium versions)</td>
<td>• Raise price (e.g., higher price for no-sugar products)</td>
<td>• Higher promotion (e.g., greater advertising for low-price, high-volume optometry)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Firm responses indirectly linked to information remedy content</th>
<th>Strategic Response</th>
<th>Tactical Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Develop entirely new business models (e.g., high-volume/low-cost optometry store concept)</td>
<td>• Focus on related attributes (e.g., change in fat and sodium levels after the allowance of fiber claims)</td>
<td>• Focus on competitive attributes (e.g., compete on the basis of low fees for optometry services in line with the high-volume/low-cost store concept)</td>
</tr>
</tbody>
</table>

reduction in cancer threat from the use of high-fiber products) or increasing positive consequences (e.g., linking more efficient appliances to long-term cost savings).

In addition to product features, firms can respond to information remedies related to price, such as unit price requirements, by lowering their prices. On the other hand, a consumer information program related to advertising or promotion could trigger changes in the level of advertising or promotion used. For example, speaker remedies involving the allowance of advertising by professionals resulted in an enormous increase in the level of advertising by lawyers, physicians, and optometrists.

In addition to revising product attribute levels, firms can have more strategic responses to consumer information remedies. For example, firms may respond by introducing entirely new products or line extensions that perform better on

the disclosed attributes. Moorman (1998) found, for example, that firms responded to the Nutrition Labeling and Education Act of 1990 (NLEA) by introducing a statistically significant higher level of brand extensions with lower levels of negative nutrients such as sodium, fat, and cholesterol. Likewise, Levy and Stokes (1987) and Ippolito and Mathios (1990, 1991) reported an increase in the fiber content in ready-to-eat cereals in conjunction with the allowance of fiber health claims. Finally, firms respond to informational remedies by changing their targeting strategies. Firms can shift their foci to new target markets (e.g., healthier consumers) so as to gain a competitive advantage. They also can adopt a differentiated strategy that involves targeting multiple segments of consumers with unique products that perform differently on the disclosed attributes. This strategy is likely to involve new products or line extensions, as already noted.

**Firm Responses Indirectly Linked to Information Remedy Content**

There is evidence that information remedies also can stimulate firm responses that are indirectly linked to the remedies. In terms of tactical-level responses, the best example of this involves Ippolito and Mathios's (1991) finding that the allowance of fiber health claims resulted in a statistically significant decrease in ready-to-eat cereal brands' fat and sodium levels. They suggested, "Economic theory predicts that this ability to make health claims on individual health dimensions should increase the competitive pressure on producers to improve all the major health dimensions of their products" (p. 25). In addition, as described in an enormous literature on economics, information remedies involving advertising also can result in changes to price and quality. The level and efficacy of these changes are a contentious issue. However, many intended and unintended changes have been documented in the literature (see, e.g., Table 5.1).

**Drivers of Firm Responses to Consumer Information Remedies**

This section steps back from the types of firm responses and reviews the mechanisms underlying or driving firms to respond to consumer information remedies. The sections that follow describe each mechanism and link it to the various steps depicted in Figure 5.1.

**The Incentive Compatibility Mechanism**

One of the underlying drivers of firm response to regulation that has been documented quite a bit in the literature is the degree to which the regulation is compatible with firms' incentive structure, viewed as economic outcomes such as increased shareholder value, revenues, and profits (Ippolito and Schefman 1986). If the regulation is compatible with firms' incentives, then it should
minimize compliance and enforcement costs. As the FTC (1979) noted, this mechanism allows regulation to harness market forces to transform markets. The Commission cited the example of how disclosure of miles per gallon information for automobiles could promote competition in the industry. This mechanism appears in the link between the information regulation and the firm response (Step 3 in Figure 5.1).

Despite the importance of this mechanism, Wilkie (1986) reported that only 4% of all affirmative disclosures mandated by the FTC between 1970 and 1977 were definitely compatible with firms' economic incentives, whereas another 21% were possibly incompatible and 75% were definitely incompatible. Wilkie concluded, “The typical affirmative disclosure case had not lent itself to incentive compatible forms of remedy” (p. 134).

The Strategic Use of Regulation Mechanism

Posner (1974) and Stigler (1971, 1974) described an “economic theory of regulation” as opposed to a “public interest theory of regulation.” In the former, regulation is viewed as serving an industry agenda without concern for improving public interest. This agenda can include industry benefits from direct subsidies, control over entry, and price fixing. There is scholarly evidence to support this view of regulation. Wood’s (1986) historical analysis of the Pure Food and Drug Act of 1906 found, in part, that it served the industry’s interests, and there is some evidence that the regulators producing the act were “captured” by the industry. A series of other studies provide similar evidence that the tobacco industry might have supported the ban on broadcast advertising because it eliminated negative advertising (associated with the fair use laws), erected barriers to entry, and reduced costs (Eckard 1991; Holak and Reddy 1986).

Within this economic theory of regulation, Leone (1977) articulated the view that firms do not incur equal costs and benefits associated with regulation. Therefore, even within industries, there are likely to be some firms that experience higher marginal gains or lower marginal costs from information remedies relative to other firms. The idea here is that the remedy provides selective benefits to firms that are advantageously situated relative to other industry members. Mitnick (1980, 1981) provided an excellent summary of the types of firm features that create advantages in responding to regulation. For example, larger firms might be better able to respond to regulation because they have administrative or technical expertise that allows them to act more efficiently or effectively. Other advantages could accrue due to the ownership of particular technologies, locations (e.g., operating in smaller urban centers when pollution regulation occurs), or product market strategies (e.g., a healthy product portfolio in the wake of the NLEA).

Moorman and Slotegraaf (1999) found that firms did make strategic use of the NLEA. They provided empirical evidence that firms with a complementarity of technical and marketing expertise responded with more changes to the nutritional quality of their food products and did so in a significantly faster way.

Consumer Information Policy

Scheraga and Calfee (1996) also found evidence that larger tobacco firms benefited more than smaller firms from several regulatory activities over the years. Specifically, the 1955 FTC advertising guides prohibiting the use of fear appeals related to the “presence or absence of any physical effect of smoking” influenced the stock prices of large tobacco companies (e.g., R. J. Reynolds, American Tobacco) in a significantly more positive manner over the three smaller firms in the market at the time. Likewise, the 1960 FTC voluntary ban on tar and nicotine advertising benefited the industry overall but did so mainly by benefiting larger firms. Other events, such as the U.S. Surgeon General’s report and the subsequent labeling law, show no differences regarding the impacts on large and small firms.

The strategic use of regulation is likely to occur in Step 6 in Figure 5.1 (firm responses are tied to a differential marketplace benefit).

Sensemaking and Enactment Mechanisms

Another view of firm response is based on the view that regulation, like other environmental occurrences, must be processed and represented in organizations’ belief structures or cognitions (Daft and Weick 1984). It is important, therefore, to understand how information regulation is interpreted by organizations. This interpretation process is referred to by Weick (1995) as a “sense-making” process (see also Huber 1991; Moorman 1995; Sinkula 1994). Jackson and Dutton (1988) and Dutton and Jackson (1987) suggested that top management teams vary in their categorizations of environmental events as opportunities or threats. They found that organizational response is more likely when the event is coded as a threat rather than as an opportunity. Threats appeared to motivate responses, whereas opportunities seemed discretionary. Consistent with this approach, the corporate social responsibility literature also suggests that firms vary in the extent to which they view a threat as something they should resolve proactively or defensively (Post 1978). A defensive interpretation is unlikely to promote firm responses to information and resolution of issues. The sensemaking mechanism occurs in the links among firm responses to information stimulus (Step 3 in Figure 5.1), firm responses to consumer responses (Step 2), and firm responses to changes in the market (Step 8).

The concept of enactment follows from an emphasis on how organizations interpret environmental information. Enactment refers to the view that organizations facilitate the creation of environmental occurrences through their own beliefs and behaviors (Rosa et al. 1999). As Weick (1995, p. 30) noted, “In organizational life, people often produce part of the environment they face” (Pondy and Mitroff 1979, p. 17). Therefore, if a firm interprets a type of information regulation as an opportunity, creates new products or targets new markets as a result, and reaps higher revenues or profits, then its actions might have, in fact, contributed to the market response and the ultimate fulfillment of its own interpretation. However, if that same firm had reacted defensively to the remedy and labeled its products without any change to its strategies, then it would not likely have seen these financial gains.
The enactment mechanism appears to be at play in the link going from firm responses to consumer responses (Step 4 in Figure 5.1) and in the link going from firm responses to market-level outcomes (Step 6). In this case, firm beliefs and behaviors lead to changes in consumer beliefs and behaviors. An excellent example of this occurred in the case of Kellogg's decision to focus on the link between fiber and cancer in promoting its ready-to-eat cereal products. Although the linkage was known, the firm experimented with the explicit promotion of this linkage, thereby creating a positive consumer reaction, a great deal of competitive activity, and ultimately the regulation of health claims including diet-disease linkages.

The Consumer Response Mechanism

Information remedies increase the flow of information into markets, making it easier and less costly for consumers to use information (Mitra and Lynch 1995; Russo and Leclerc 1991; Stigler 1961). Some proportion of these consumers will, in turn, make different choices, exit relationships with firms, or express concern over quality levels (Hirschman 1970; Moorman 1998). Theory suggests that these changed search patterns and choice patterns, in turn, stimulate sellers to compete on the basis of the disclosed attribute or quality, resulting in positive market externalities such as improved products and lower prices. For example, the provision of fiber health claim information resulted in changes in consumer purchases, in turn stimulating firms to increase the fiber content in their ready-to-eat cereals (Ippolito and Mathios 1991).

What remains interesting about the impact of consumer behavior on competitive activity is the view that not all consumers in relevant markets need to change their search and choice behaviors. Instead, only a subset of "activist" consumers need to respond to the information. These activists, because of higher motivation and knowledge levels, have lower information search costs than do typical consumers. Therefore, when information hits markets, these consumers are likely to respond. A number of researchers have discussed the important role that these activist consumers play in keeping markets competitive and in generating externalities that are enjoyed by all consumers (Capon and Lutz 1979, 1983; Dunn and Ray 1980; Padberg 1977; Salop 1976). Moorman (1998) recently provided empirical evidence from a quasi-experiment that information-sensitive consumers are more likely to engage in direct activism behaviors aimed at the channel (e.g., return a product to a retail outlet) and the government (e.g., complain to a government agency) compared to average consumers following the NLEA. This mechanism is captured in the link going from consumer responses to firm responses (Step 2 in Figure 5.1).

The Interorganizational Learning Mechanism

Another perspective of the mechanisms underlying firm responses to information remedies lies in the view that organizations learn from the experiences of other organizations. Therefore, learning is as much an interorganizational phe-

Consumer Information Policy

omenon as it is an intraorganizational phenomenon (Huber 1991). In this view, firm responses are triggered by imitation effects and diffusion of the response within an industry (Baum and Ingram 1998; Miner and Haunschild 1995).

Interorganizational learning can occur by examining or tearing down products through corporate intelligence, leakage from consultants, or information in the popular press. The explosive increase in the number of high-fiber cereals occurring after Kellogg's tested the fiber-cancer health claim attests to the power of these learning effects (Ippolito and Mathios 1991). Another approach involves what Miner and Haunschild (1995) referred to as contact learning. This can occur in a variety of ways such as interfirm alliances or partnerships, gafting or recruitment of personnel, acquisition of the imitator, and benchmarking.

The transformation of markets due to information remedy effects would be conceptualized by theorists in this area as a "population-level learning" effect, defined by Miner and Haunschild (1995) as a "systematic impact on the nature and mix of organizational action routines in a population of organizations, arising from experience" (p. 118). This mechanism occurs between firms as they learn to respond from one another, not from the original information stimulus (Step 5 in Figure 5.1).

The Market Orientation Mechanism

This final mechanism involves the force of firm values, beliefs, and behaviors to understand and respond to market needs. Referred to as market orientation (Jaworski and Kohli 1993; Kohli and Jaworski 1990; Narver and Slater 1990), customer orientation (Deshpande, Farley, and Webster 1993), superior customer value (Narver and Slater 1990), or a market-driven focus (Day 1994), the underlying premise is that a market focus will lead to long-term profitability for the firm. In this sense, a market orientation is quite strategic. However, the sensitivity to customers—or, in the case of this chapter's focus, customers' information needs—is distinct from the strategic use of regulation mechanism, which views information as an economic tool without concern for the customer needs that are met or satisfied in the process of achieving economic ends.

There is evidence that some firms are proactive in trying to understand and meet the market's needs (Deshpandé, Farley, and Webster 1993; Jaworski and Kohli 1993; Moorman 1995; Narver and Slater 1990). However, applying this concept to the provision of consumer information programs is more novel. The idea here is that as consumers respond with different search and purchase patterns as a result of the information remedy, firms will respond to these activities both strategically and tactically.

The market orientation mechanism is, by definition, reactive. This mechanism is captured in the linkage going from consumer responses to firm responses (Step 2 in Figure 5.1). Therefore, like consumer response, firms are responding to what consumers are doing. However, a market-oriented firm reflects a deeper commitment and value to serving customers' needs. Therefore, consumer information will be systematically acquired, distributed to various firm functions, and acted on. This is contrasted with the consumer response mechanism in
Designing Information Remedies to Trigger Effective Firm Responses and Effective Markets

General

Following from a description of the firm mechanisms and their depiction in Figure 5.1, one important implication is that there are a number of different paths through which firm responses and positive market-level effects may be achieved. They are as follows:

1. Information remedy → consumer response → firm response → market response;
2. Information remedy → firm response → market response;
3. Information remedy → consumer response → market response → firm response;
4. Information remedy → firm response → consumer response → market response; and
5. Information remedy → firm response → firm response → market response.

Consumer information policies should consider these different paths and their underlying mechanisms in the design and diffusion of the policies. The FTC's (1979) consideration of the "incentive compatibility" motivation driving firms to react positively to information remedies is an important step in this process. However, a deeper consideration of the impact of various mechanisms and how they may play out in the case of a specific remedy is an important next step.

If, for example, an industry is highly competitive and used to the strategic leadership of certain firms, then the information remedy need only convert a few firms toward positive market responses and the remedy is likely to transform competition and consumer welfare in positive ways. On the other hand, in a very heterogeneous industry with diverse sources of power, a focus on stimulating a small group of activist consumers to exit, voice, and loyalty changes might be more effective in transforming the market. Another alternative would be to target firms with less to lose and more to gain from making effective implementation of the information program. For example, as described in Scheraga and Caffee (1997), small tobacco firms had an incentive to develop and promote low-tar and low-nicotine cigarettes relative to the industry leaders who generally would be shifting their own customers to new brands. In this situation, the small firms should be the focus in generating market-level effects.

The sensemaking and enactment mechanisms are useful in engaging firms that can perceive opportunities for new business opportunities and then help facilitate consumer and market responses through their enactment of these ideas. For example, the proliferation of low-cost/high-volume optometry service providers in response to the removal of advertising restrictions is an example of how the speaker remedy prompted the development of a strategy that, in turn, created consumer demand for these types of services. A firm with a strong market orientation may likewise respond early and creatively to consumer information remedies. Finally, industries with proportionally higher market orientation levels (e.g., consumer packaged good firms vs. industrial marketing firms) may respond sooner to consumer information remedies and with greater focus. Understanding and managing these mechanisms more explicitly, therefore, is likely to be important in generating positive market externalities.

One view is that policy should be designed and diffused so that it maximizes the number of these mechanisms it activates. If this occurs, then policy will increase the prospects of positive market-level outcomes such as improved quality, better correlation of price and quality, and more competition. There are important instances of this compatibility between mechanisms. For example, the consumer response and market orientation mechanisms both focus on consumer responses to guide firm reaction. Likewise, the enactment mechanism and the strategic use mechanism both focus on firm capabilities to behave opportunistically in the environment.

However, there also are examples of incompatibility between these different mechanisms. For example, research has suggested that it is hard for firms to be focused on competition and on consumers at the same time (Day and Nedungadi 1994). Likewise, the enactment mechanism is a more proactive view of strategy, whereas the market orientation and consumer response mechanisms tend to be reactive (to consumer responses). Finally, the incentive compatibility mechanism is focused on the ease of industry adoption. However, the strategic use mechanism allows some firms in the industry to benefit from information regulation.

Discussion Issues

This section discusses several issues that arise in designing remedies to trigger firm response.

Market leader defines remedy response. Market leaders, by virtue of their role and strategic benefits, are likely to define the way in which the industry responds to information regulation. If that response is strong and positive, then industry members are likely to respond in a similar way to remain competitive. On the other hand, if an industry leader responds by lowering quality or focusing on less important qualities of the regulation, the industry will similarly respond. Therefore, it is important to examine the leader's incentives and strategic benefit of market-perfecting responses. If they are not aligned, then the effectiveness of a remedy might be questionable.

Market maverick motivates remedy response. A counterpoint to the idea that market leaders must be motivated to lead response to a consumer information remedy is the fact that often the firms that have the greatest incentive to respond to a regulation are the small firms with less power and following in current markets (see, e.g., Moorman 1996; Scheraga and Caffee 1996). Therefore, if information remedies can be designed to induce these firms to innovate products and
marketing practices that are frontal assaults on large firms, then markets might be transformed when the remedies increase the chances of their success by giving consumers the opportunity to search more effectively and efficiently.

A lack of activist consumer representativeness exists. The assumption of the consumer response mechanism is that the activist consumers' choices and voices will create positive market externalities that benefit average consumers. However, if markets are transformed in a direction that benefits only highly motivated and knowledgeable consumers, then this might be suboptimal for the market overall.

Firms learn as well from one another as from the market. The value of the interorganizational learning mechanism is premised on the assumption that firms learn equally well from markets as they do from other firms. This might not be correct. Research suggests that firms focused on competitors tend to pay attention to a small set of firms and that they tend to imitate easy-to-copy features, often to the exclusion of true innovation (Kim and Mauborgne 1997). Therefore, if firms use other firms as their primary source of insight about how to respond to an information remedy, then we are likely to see more imitation and less innovation.

The strategic use of regulation may lead to unfair strategic advantages. Recall that the strategic use of regulation mechanism is premised on the idea that firms are differentially capable of responding to regulation. Certain skills, knowledge, or other sources of strategic advantage, therefore, may allow some firms to dominate in the level and speed of their responses (Moorman and Slotegraaf 1999). If this mechanism dominates market-level effects, then concurrent changes to market structure (e.g., increases in market power and consolidation) also are likely to occur. In the end, this change in market structure might have deleterious effects on the functioning of markets.

Manage what consumers are learning from the information remedy. Consumers' beliefs about information regulation might be as important as the information produced by the regulation. Specifically, if consumers believe that the information regulation will result in a more effective market, less deception, and better products, then they might be less vigilant in their searches and complaints (Moorman 1997). Therefore, although this chapter is about firm responses and associated mechanisms, one important consumer mechanism that occurs prior to signaling is the failure of the information remedy to disarm consumers' skepticism beliefs. If these beliefs are weakened, then we might see limited responses from consumers.

Incentive compatibility should be tempered with consumer welfare. Consistent with the incentive structure, Moorman (1998) showed that firms responded to the NLEA in a strategically conservative manner. Specifically, firms increased the levels of vitamins and minerals (positive nutrients) in their current brands and introduced brand extensions with lower levels of fat and sodium (negative nutrients). The approach protected firms' current brands from potentially nega-

tive attributions (less fat/sodium and lower taste) while enabling firms to offer brand extensions so as to compete for health-conscious consumers who were willing to make health-taste trade-offs.

Although this approach is strategically effective, the concern is that if the majority of consumers continue to buy the older brands, then health benefits to consumers will not have been maximized. If this were a well-considered choice on the part of consumers, then this outcome could be accepted as reflective of what consumers want in their diets. However, if consumers are using the NLEA as a cue that food quality has improved and, therefore, have reduced their skepticism levels, then this strategic approach that firms are taking is of deep concern.

Recommendations for Future Research

Theoretical Issues

Table 5.1 provides a striking commentary on the lack of research examining firm responses to consumer information remedies. In marketing in particular, we generally have been more concerned with the consumer mechanism underlying firm responses than with the other types of mechanisms. Future research should strive for a greater balance in understanding the nature of firm and consumer responses to regulation. Perhaps even more crucial is research on the overall transformation of markets in which consumer information remedies have been used.

Once a better balance among consumer responses, firm responses, and market transformation occurs, research needs to consider more carefully the interrelationships among them. An empirical test of the mechanisms driving firm responses to consumer information remedies would be very useful. Moorman (1998) provided a test of the direct effect of consumer responses on market transformation. However, it is not clear whether other competitive or economic incentives explained these market changes better.

The possibility that positive market transformation (e.g., higher quality products, greater market efficiency) may be generated by negative changes in market structure and conduct is another reason why examining the underlying mechanisms is important. The operation of the strategic use of regulation mechanism, in particular, is likely to create market dynamics that are not productive over the long run. Likewise, if interorganizational learning drives market-level effects along a dimension that benefits market leaders, then this might not create a healthy outlook for strategic diversity among industry members. The prior section highlights additional issues that might be examined in future research.

Methodological Issues

A critical element of work in this area is the adoption of longitudinal designs. A cross-sectional view of the impact of consumer information regulation is not helpful in identifying the linkages among the remedy, consumers, firms, and the overall market. Furthermore, using a quasi-experimental approach that captures
the impact of the information remedy intervention is very important in teasing out the complex set of causal relationships. Without a controlled approach, it is impossible to untangle cause and effect among these elements in the market.

Two additional approaches, in particular, might prove to be very helpful. First, a case study approach involving interviews with managers within firms, activist consumers, and regulators designing and implementing the remedy may provide insight into mechanisms at play in achieving market-level effects. Second, given the proliferation of secondary data now available to researchers, it is increasingly easy to examine actual market-level responses to information, such as changes to product quality and price, as well as promotion expenditures. Combining these data with secondary data regarding firm characteristics and market structure also can lend insight into the interconnections among elements in the model.

Note

1. Although not depicted, organizations, like consumers, have been viewed as having both cognitive and behavioral responses to information. They process information, make sense of it, and sometimes respond (Moorman 1995; Sinkula 1994).

References


**Consumer Information Policy**


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