ORGANIZATIONAL REACTION TO CONSUMER VOICE

Working Paper No. 264

Claes Fornell
The University of Michigan

David F. Larcker
Northwestern University

FOR DISCUSSION PURPOSES ONLY

ORGANIZATIONAL REACTION TO
CONSUMER VOICE

Abstract

Consumer voice is a verbal protest directed at a firm in the form of a complaint. Despite its potential value as information and its linkage to sales, little is known about organization reaction to consumer voice.

Several theories suggest that the internal communication of received consumer complaints may be blocked by organizational members unwilling to transmit negative information. The findings of two empirical studies reported in this paper suggest that (1) high proportions of consumer complaints contribute to an isolation of complaint processing within the organization, and that (2) the auxiliary nature of such processing further increases consumer voice. Accordingly, the firm faced with high levels of consumer criticism reacts in a manner that seems dysfunctional and whose consequences can be described as a vicious circle.

INTRODUCTION

A principal thesis of traditional micro-economic theory is that consumer exit is a powerful corrective market mechanism. When a firm fails to meet consumer expectations, it is punished by consumer withdrawal or a shift in consumer patronage. The efficacy of competition is essential to the idea of exit as a means for affecting the firm's decision making; exit causes shifts in revenue among competing firms and sets into motion market forces such that faltering firms must either improve or face eventual elimination from the market. Thus, the successful business firm is highly sensitive to consumer exit.

Consumer exit is not necessarily the only way in which consumer dissatisfaction is communicated. Hirschman [20], for example, asserts that a firm has a combination of alert and inert customers and that only the former will resort directly to exit. One way for the firm to avoid potential revenue losses before they become severe is to identify the reasons for consumer exit, and analyze consumer problems communicated via voice.

Voice is a verbal consumer protest directed at the firm in the form of a complaint. Compared to exit, voice conveys more information [21]; it is personal and political rather than anonymous and economic. Like exit, it is a signal of consumer discontent. Yet very little is known about organizational reaction to voice, despite high reported levels of consumer dissatisfaction [3], [7], [16], [31], and growing consumer complaint activity [60], [10], which strongly suggest that responsiveness to consumer dissatisfaction is of considerable importance.

Since consumer voice, in competitive markets, is backed up with a direct or an implied threat to exit, a strong case can be made for integrating a firm's complaint processing within the overall organizational decision-making structure. When consumer problems are communicated to the decision-making authority within the organization, information is provided that can allow the firm to act and possibly prevent future consumer exit. However, research in organizational behavior suggests that certain behavioral impediments hamper the communication of consumer complaints <u>within</u> the organization. Internal communication of negative or adverse information, such as complaints, may be suppressed because organization members are unwilling to transmit "bad news." As a result, little can be done to prevent the consumer problems from recurring, and the firm risks continuing or growing dissatisfaction and an increased probability of consumer exit.

This study reviews several behavioral barriers to the organizational communication of consumer criticism, as well as the consequences of communication failure. Two separate data sets are then used to examine the following research hypotheses: (1) the more consumer criticism a firm receives, the less integrated becomes its complaint processing; and (2) as a result of the isolation of complaint processing, consumer criticism increases. The data were analyzed in terms of linear structural relations models that incorporate unobservable variables and measurement error. Support was found for both hypotheses.

THEORY AND PREVIOUS EMPIRICAL RESEARCH

Consumer Voice and Organizational Communication

Despite the importance of organizational communication of consumer complaint information and the integration of complaint processing with management decision making, the transmission of consumer voice may be impeded by various

behavioral barriers. Many theoretical and empirical studies suggest that organizational processing of information is subject to considerable selectivity and that only a limited portion of the information that is received is transmitted through the internal communication channels (e.g., [8], [40], [15]).

The role of "gate keepers" [37], [57] is relevant in this context, for it implies that organizations develop mechanisms for handling information that does not fit the extant classification schemes or for information entering overloaded systems [47]. In order to gain entry into the organization, the information must first pass through gate keepers who determine whether it is appropriate and relevant to the organization's needs. Once past the gate keepers, the information may be subjected to successive editings as it passes through various channels, each editing reflecting the influences of those individuals that may be affected by the information. It is well known that the potential for systematic error on the part of the human links in the communications systems is substantial. For example, Campbell [6] has presented a large inventory of such errors and biases, including loss of detail, closure, assimilation to expectations or attitudes, and distortion to please the receiver. Particularly relevant to the organizational reaction to consumer voice is the phenomenon of message blockage or distortion in upward communications from subordinates (e.g., consumer affairs) to superiors (e.g., marketing management). Previous research has examined numerous variables—such as trust, mobility aspirations, ascendancy and security needs, organizational climate, sex differences, motivation, message characteristics, and communication channels—that may determine the extent and occurrence of upward distortion. Among the most consistent findings is that an inverse relationship exists between message favorability and distortion. For example,

O'Reilly and Roberts [42] have observed that subordinates are more reluctant to communicate negative-unfavorable information than positive-favorable information. Similarly, Read [48] has shown that information about subordinates' achievements is more likely to be transmitted to superiors than information about errors or difficulties. The tendencies of upward distortion would appear to stem from the pervasive bias common to human communicators to encode (transmit) messages that are pleasant for the recipient, and to avoid those that are unpleasant [50], [54].

Independent of any distortions introduced by message senders as a result of individual factors, barriers to information transmission in organizations may result from the reluctance of message receivers to entertain certain types of messages. Janis and Mann [25] have termed such behavior "defensive avoidance," and characterize it as the tendency of an organization's executives to adopt cognitive defenses with respect to threats to their current policy decisions. Defensive avoidance is typified by such activities as misjudging the relevance of warnings from subordinates or peers, inventing new arguments to support current policy, failing to explore the ominous implications of ambiguous events, misinterpreting the signs of the onset of danger, etc. The motivation for such behavior is essentially the need for cognitive consistency. Similarly, Koehler and Huber [32] have noted that upwards communications from subordinates are less likely to be utilized by superiors if they are negative-unfavorable, not timely, not supportive of current policy, or not intuitively appealing.

In an attempt to account for the reluctance to transmit adverse information and patterns of defensive avoidance, as well as numerous other indications of human selectivity in perception, learning, cognition, attitudes, and

language, in which pleasant or positively valued items are favored, Matlin and Stang [38] have proposed the "Pollyana Principle." That is, pleasantness predominates in communication because pleasant items are processed more accurately and efficiently by human perceptual-cognitive structures. In an interesting study, Hildebrandt and Snyder [19] found support for the principle by examining annual letters to company shareholders. Regardless of the financial performance of the company, the letters were always positive in tone. Further, Matlin and Stang [38] have presented an impressive array of evidence from more than one thousand studies consistent with the theory that all phases of human information processing (from stimulus selection to encoding to short-term memory and rehearsal to long-term memory to output generation) involve a bias in favor of pleasant information.

The aforementioned barriers and biases in organizational communications are relevant to the transmission of consumer complaints within the business firm. Since complaints represent adverse or negative information, a consumer affairs department (the organizational unit receiving unsolicited consumer communications) may be reluctant to forward the criticism to management; in addition, management may not be inclined to accept or act upon these communications. Thus, a first research hypothesis can be formulated:

> The more consumer complaints a firm receives, the more isolated
> from marketing decision making becomes its complaint processing.

Hence, it is hypothesized that the level of consumer voice contributes to an approach to organizational complaint handling that serves to insulate and protect management from negative information and that has little input into marketing decision making.

Organizational Communication and Performance

Organizational theorists have long recognized the need for effective organizational communication for dealing with intra- as well as extra-organizational problems [35], [37], and [18]. Many empirical studies support this notion [5], [2], [23], particularly as it refers to openness in the communication from subordinates to superiors. Openness in this sense has been defined by Redding [49] as the candid disclosure of feelings or bad news on the part of the subordinate, and the willingness to listen to the discomforting information on the part of the superior. It has also been shown that isolation from participation (and thereby from communication) hampers individual performance [41], [43], [44], [46], [51] and that openness of communication is directly related to organizational performance [23].

The relationship between an organization's internal processing of consumer complaints and its performance can be described in stakeholder terms. An important stakeholder of any organization's environment is its customers—those individuals or institutions which use or consume the organization's products. Organizations that fail to satisfy their customers cannot survive in a competitive environment. Some dissatisfied consumers will voice complaints, others will exit, and some will do both. Although voice data are likely to be biased toward certain problems and populations [60], [7], there are numerous cases where consumer complaints have led to new or improved products [10]. At a more general level, it has also been found that many successful new product ideas originate from customer problems [59], [58].

As a response to consumerism and in order to take advantage of the information contained in unsolicited consumer communications, many business firms have added an internal consumer affairs department to their organizational structure [22], [39], [4], [17], [1], [9], [10], [27]. The primary purpose

of these new departmental units is to receive, analyze, and help resolve

consumer problems [9]. For the firm to effectively respond to collective

consumer problems, it is necessary that the consumer affairs department be

integrated into the decision making structure of the organization. In

addition, the information received from consumers must be transmitted to the

firm's marketing managers. Accordingly, a second research hypothesis is

advanced:

> The more isolated from marketing decision making complaint
> processing becomes, the more consumer complaints the firm will
> receive.

While the first hypothesis posits that complaints, as adverse external infor-

mation, contribute to isolated complaint processing, the second hypothesis

states that isolation, in itself, contributes to more complaints. Taken

together, the two hypotheses suggest the existence of a nonrecursive circular

relationship between consumer voice and its processing by the receiving

organization, as illustrated in Figure 1.

ANALYSIS METHODOLOGY

For both data sets, the parameter estimation and statistical testing were

completed by structural equations models with unobservable variables and

measurement error [28], [29]. The method involves a full information maximum

likelihood estimation with two sets of equations: measurement equations and

structural equations. The measurement equations are used to form the unob-

served constructs from observed independent variables (x's) and observed

dependent variables (y's). The equations are written as

$$\underset{\sim}{y} = \underset{\sim y}{\lambda} \underset{\sim}{\eta} + \underset{\sim}{\varepsilon} \qquad \text{and}$$

$$\underset{\sim}{x} = \underset{\sim x}{\lambda} \underset{\sim}{\xi} + \underset{\sim}{\delta},$$

where $\underset{\sim y}{\lambda}$ and $\underset{\sim x}{\lambda}$ are the factor loading matrices associated with the dependent constructs ($\underset{\sim}{\eta}$) and independent constructs ($\underset{\sim}{\xi}$), respectively, and

$\underset{\sim}{\varepsilon}$ and $\underset{\sim}{\delta}$ are the matrices of measurement errors associated with the variables $\underset{\sim}{y}$ and $\underset{\sim}{x}$, respectively.

Further, the measurement error variances for the y variables, $E(\underset{\sim}{\varepsilon}\underset{\sim}{\varepsilon}')$, and the x variables, $E(\underset{\sim}{\delta}\underset{\sim}{\delta}')$, are denoted θ_{ε}^2 and θ_{δ}^2, respectively.

The structural equation is

$$\underset{\sim}{\beta} \underset{\sim}{\eta} = \underset{\sim}{\Gamma} \underset{\sim}{\xi} + \underset{\sim}{\zeta},$$

where $\underset{\sim}{\beta}$ refers to the matrix of relationships among the dependent constructs, $\underset{\sim}{\eta}$,

$\underset{\sim}{\Gamma}$ refers to the matrix of relationships among the dependent constructs, $\underset{\sim}{\eta}$, and the independent constructs, $\underset{\sim}{\xi}$, and

$\underset{\sim}{\zeta}$ refers to the matrix of errors in the structural equations.

The variance associated with the error in the structural equation, $E(\underset{\sim}{\zeta}\underset{\sim}{\zeta}')$, is denoted as ψ and the correlation between the x constructs, $E(\underset{\sim}{\xi}\underset{\sim}{\xi}')$, is denoted Φ. It is assumed that $E(\underset{\sim}{\eta}) = E(\underset{\sim}{\xi}) = E(\underset{\sim}{\zeta}) = E(\underset{\sim}{\varepsilon}) = E(\underset{\sim}{\delta}) = E(\underset{\sim}{\zeta}\underset{\sim}{\xi}') = E(\underset{\sim}{\varepsilon}\underset{\sim}{\delta}') = E(\underset{\sim}{\varepsilon}\underset{\sim}{\eta}') = E(\underset{\sim}{\varepsilon}\underset{\sim}{\xi}') = E(\underset{\sim}{\delta}\underset{\sim}{\eta}') = E(\underset{\sim}{\delta}\underset{\sim}{\varepsilon}') = 0.$

If the system of equations is identified (see [29]), then consistent, asympotically normal, and efficient estimates for the unknown parameters are obtained. Further, statistical inference theory can be used to test the significance of individual parameter estimates. Finally, the analysis methodology provides a chi-square statistic which enables one to test whether the theoretical structure imposed by the measurement and structural equations is consistent with the data.

STUDY 1

Data

The data in Study 1 were obtained from a previous study of corporate consumer affairs departments [9]. On the basis of information provided by the Society of Consumer Affairs Professionals in Business (SOCAP), the U.S. Office of Consumer Affairs in Washington, D.C., and the Moss Congressional Inquiry of 1972, a total of 305 firms were identified as having a formal organizational unit for the handling of consumer complaints. The ranking consumer affairs executive in each of these firms was contacted by mail and asked to fill out a questionnaire. The response rate was 42%. Analysis of nonresponse did not detect any systematic bias.

Measures

The principal constructs (consumer complaints and the communication of complaint data in the organization) were measured by several indicators. Complaints, which are a part of the unsolicited consumer communications received by a company, were expressed as a percentage of the firm's total unsolicited consumer communication (complaints plus inquiries, suggestions, and compliments). Consequently, this variable indicated the portion of negative information in these communications. The variable was coded in such a way that its complement represented the percentage of positive communications. At the midpoint of the scale (.50), an equal amount of negative and positive communication would be received by the organization.

Participation (or lack of isolation) in decision making is more difficult to measure, for several reasons. First, participation is a perceptual variable with subjective qualities. Second, the conceptual domain of the construct is not precise. Third, unilateral measures of participation may contain an upward

bias. In view of these problems, a multimeasurement approach was used and subsequent analysis explicitly models the measurement error inherent in this construct.

Participation, as operationalized in Study 1, relates to, but is nevertheless distinct from, the concepts of interdepartmental power and interdepartmental representation. It is different from power in the sense that the participation of consumer affairs in, say, marketing decisions does not imply any particular outcome as a result of influence. Although participation cannot be interpreted as power, it is more than mere representation. In representation, there is no distinction between active and passive participation. The active participant provides suggestions, recommendations, and opinions, while the passive is only physically present.

To reflect the degree of communication and interaction between consumer affairs and marketing, several measures of active participation were used. Active participation was operationalized as the conveyance of information and opinion from consumer affairs to marketing in consumer-related decision areas. Four summary variables indicating participation in (1) new product development, (2) product management, (3) advertising/promotion, and (4) pricing were used to form an overall participation construct. Each of these four variables is an index composed of several dichotomous variables for which respondents indicated the marketing decision areas in which their unit made suggestions or recommendations for action. Tables 1 and 2 present descriptive characteristics and measurement statistics for the primary variables of the study.

Model Specification

In order to test the hypotheses that (1) a high proportion of consumer complaints contributes to the isolation of consumer affairs from marketing, and

that (2) isolation contributes to higher complaint ratios, a nonrecursive

simultaneous equation system was specified. Before presenting the model and

its results, it is important to discuss two problems: model identification

and the possibility of spurious relationships. Identification is related to

the number of parameters estimated relative to the information supplied to

the system. It is clear that a two-construct model with a nonrecursive

structure is not identified (see [29]). One way to add information to the

system and overcome the identification problem is to introduce covariates into

the theoretical model. An additional advantage of including covariates is

that the likelihood of detecting a spurious relationship between the primary

constructs (complaints and participation) is increased. Consequently, both

model identification and spurious relationship problems were addressed by

employing covariates.

The covariates used in this study are of two kinds: internal activities

and external activities. The internal activities refer to the consumer

affairs department's communication channel resources within the company:

(1) representation on company committees; (2) coordination of other depart-

ments' activities regarding consumer matters; and (3) education of personnel

in consumer affairs. The first variable was operationalized as the number of

committee memberships held by members of the consumer affairs department; the

other two variables were measured on a 5-point scale indicating the extent to

which coordinating and educating, respectively, were primary responsibilities

for the department. Each internal activity covariate represents a communica-

tion opportunity for the consumer affairs department to spread its influence

(cf. [45]). The more a particular organizational unit is involved in educa-

tion and coordination, the more opportunities would be available for that

unit's voice to be heard throughout the organization [30]. To some extent,
these three covariates control for the possibility of a structural isolation
of consumer affairs that may be due to factors other than the proportion of
consumer complaints. Because the possession of communication resources
can be used as a source of power and organizational influence (cf. [14]), it
is suggested that the internal activity covariates are positively related to
participation.

The external covariates are (1) consumer program development and
(2) consumer information development. The program development was measured on
a 5-point scale indicating the extent to which publishing and disseminating
consumer information represented a primary activity. Consumer program devel-
opment referred to such programs as toll-free telephones, consumer advisory
boards, and various sorts of counseling. The second external covariate was
measured on a similar 5-point scale. Accurate and timely information may help
consumers avoid product misusage and act in closer correspondence to their
preferences. If a certain amount of consumer dissatisfaction and complaints
can be attributed to consumer ignorance, the aforementioned external activities
may reduce the complaint proportion without involving management. Accordingly,
the consumer affairs department that is heavily engaged in external activities
may be less involved in management decision making. It is therefore sug-
gested that the external covariate is negatively related to both participation
and complaint proportion.

The nonrecursive model incorporating the three internal and two external
activities covariates is presented in Figure 2. The measurement and structural
equations for this model are

$$
\begin{bmatrix} y_1 \\ y_2 \\ y_3 \\ y_4 \\ y_5 \end{bmatrix} = \begin{bmatrix} \lambda_{y1} & 0 \\ 0 & \lambda_{y2} \\ 0 & \lambda_{y3} \\ 0 & \lambda_{y4} \\ 0 & \lambda_{y5} \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \end{bmatrix} + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \end{bmatrix}
$$

$$
\begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \\ x_5 \end{bmatrix} = \begin{bmatrix} 1 & & & \\ & 1 & & 0 \\ & & 1 & \\ 0 & & & 1 \\ & & & & 1 \end{bmatrix} \begin{bmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \\ \xi_5 \end{bmatrix} + \begin{bmatrix} \delta_1 = 0 \\ \delta_2 = 0 \\ \delta_3 = 0 \\ \delta_4 = 0 \\ \delta_5 = 0 \end{bmatrix}
$$

$$
\begin{bmatrix} 1 & \beta_{12} \\ \beta_{21} & 1 \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \end{bmatrix} = \begin{bmatrix} \gamma_{11} & \lambda_{12} & 0 & 0 & 0 \\ \gamma_{21} & \lambda_{22} & \lambda_{23} & \lambda_{24} & \lambda_{25} \end{bmatrix} \begin{bmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \\ \xi_5 \end{bmatrix} + \begin{bmatrix} \zeta_1 \\ \zeta_2 \end{bmatrix},
$$

where

x_1 = consumer program development,

x_2 = consumer information development,

x_3 = representation on planning committees,

x_4 = coordination of other departments' activities,

x_5 = educating personnel in consumer affairs,

y_1 = complaint proportion,

y_2 = participation in new product develoment,

y_3 = participation in product management,

y_4 = participation in advertising/promotion,

y_5 = participation in pricing, and

ψ and θ_{ε}^2 are assumed to be diagonal, $\theta_{\delta}^2 = 0$, and ϕ is fixed to the known correlations among the x variables.

Results
_____

The results from the nonrecursive model of Study 1 are presented in

Table 3. The chi-square statistic (χ^2 = 33.5, p $\leq$ .63) indicates a good

overall fit between the theoretical structure and the data. The signs of the

primary parameters are in the expected direction: complaint proportion con-

tributes to isolation (standardized β_{21} = .14) and isolation contributes to

increasing complaint proportions (standardized β_{12} = .20).[1] These two para-

meters were subjected to two significance tests: critical ratios (the

parameter estimate divided by its estimated standard error) and F-ratio tests

(see [12]). The reason for applying two significance tests is to avoid

complete reliance on standard errors, which may not always be accurate [34],

or on structural consistency, which may provide misleading interpretations of

the chi-square statistic [12], [13].

According to critical ratio both β_{12} and β_{21} were significant at the

.07 and .08 level, respectively. The F-test suggested that β_{12} was

significant at the .05 level. Regarding the measurement properties,[2] the

participation construct achieved <u>convergent validity</u>: the loadings

(λ_{y2}, λ_{y3}, λ_{y4}, λ_{y5}) are high, statistically significant, and uniform. As

expected, measurement error (which is excluded from the structural part of the

system and thus not involved in the substantive part of the analysis) is also

rather high. This is especially true for advertising/promotion (y_4) and

and pricing (y_5), with errors of .72 and .77, respectively. This suggests

that these two indicators are less represented in the overall participation

construct than are the variables measuring new product development (y_4) and

_____

[1] A positive Beta coefficient implies a negative relationship between the
dependent constructs in the structural model.

[2] See Fornell and Larcker [12] for a more complete discussion of the assess-
ment of convergent and discriminant validity via the estimated results from
the linear structural relations model.

product management (y_5). As a result, the estimated relationships between complaint porportion and overall participation relate mostly to consumer affairs involvement in product-related matters (i.e., concept generation for new products, new product launch, product service, warranties/guarantees, quality control, and packaging/labelling).

Discriminant validity was also obtained: all (standardized) indicator loadings (λ_{y1}, λ_{y2}, λ_{y3}, λ_{y4}, λ_{y5}) are higher than the parameter estimates between constructs (β_{12}, β_{21}). Only one of the covariate coefficients (γ_{23}) has an estimated (standardized) value that is higher than the lowest of the indicator loadings.

Three of the five covariates (ξ_1, ξ_2, ξ_3) present critical ratios that are at least twice their standard errors (γ_{21}, γ_{22}, γ_{23}). As expected, committee membership appears to be a strong contributor to participation (standardized γ_{23} = .64). Although the contribution of consumer programs and information in reducing complaint proportion is insignificant, it appears that the consumer affairs department which emphasizes supplying consumer information is less involved in marketing (standardized γ_{22} = -.21). Contrary to what was expected, it was found that the number of consumer programs is positively related to participation (standardized γ_{21} = .20). A possible explanation might be that the more consumer programs a firm sponsors, the higher the budget of consumer affairs, and the higher the budget, the more overall organizational power can be wielded by the department.

Given the operationalization of the complaint variable, one should expect stronger relationships at the extremes of the scale. At low values of the variable, the unsolicited communications are positive and their transmission is encouraged and welcomed within the organization. At high values, negative communications dominate and organizational communications may be suppressed.

In contrast, for the middle ranges of the scale neither positive nor negative communications clearly dominate. In such cases, the theories supporting our hypotheses make no predictions. Therefore, stronger relationships should be observed for firms with either high or low complaint ratios.

To examine this proposition, a second model was estimated on a subset of the data. Excluded from analysis were firms with middle-range complaint ratios (between .74 and .26). Thus, the analysis was limited to firms with either a dominating positive or a dominating negative mode of unsolicited consumer communication. The results presented in Table 4 indicate an excellent fit between the data and the theoretical model (χ^2 = 9.82, p $\leq$ .99). The principal parameter estimates (β_{12}, β_{21}) increase 30 percent and 93 percent, respectively, to .26 and .27, respectively. Despite the decrease in the number of observations (from 128 to 62), the critical ratios also increase and both estimates are significant at the .05 level according to both tests.[3]

The impact of the covariates remains basically the same, with the exception that the importance of consumer information in reducing complaint proportions is much higher for the reduced sample. Since the indicator loadings remain virtually unchanged, the conclusions regarding convergent and discriminant validity are also valid for the reduced sample analysis.

In sum, the results provide support for both hypotheses. High proportions of consumer complaints contribute to organizational isolation of complaint processing, and, as suggested by the nonrecursive model, the auxilary nature of complaint processing itself feeds high complaint ratios. This type of reaction to consumer criticism is dysfunctional. It describes a defense

---

[3]The sample size does affect the value of the chi-square statistic and the properties of the parameter estimates. The sample size using a subset of data is small. Therefore, statistical inference should be interpreted with caution.

mechanism whose purpose is to insulate and protect the company from bad news.
Because of the failure to communicate consumer voice to the upper echelons
within the organization, management remains unaware of the magnitude, nature,
and causes of the criticism. As a result, the firm is not in a position to
improve its handling of consumer dissatisfaction or to prevent future
dissatisfaction and subsequent consumer exit.

STUDY 2

Data

To further examine the relationship between consumer complaints and
organizational reaction and to provide a basis for validity assessment, a
second data set was analyzed. Since it was not possible to identify the re-
spondents of the first study for a follow-up on each individual company, a new
random sample of consumer affairs directors was drawn from the SOCAP 1979
membership directory. Each designated respondent was mailed a questionnaire
in the fall of 1980. A total of 115 questionnaires were returned (48%).
On the basis of a screening question about the respondent's responsibility for
complaint handling, a total of 85 companies were retained for analysis.

Measures

In addition to complaint proportion, a second measure of consumer voice
activity was obtained. Respondents were asked to indicate on a 5-point scale
the changes in complaint proportions during the past year (from decreased
significantly to increased significantly). Tables 5 and 6 present the descrip-
tive statistics for the complaint variables. As in Study 1, there were four
indicators of participation. To insure a strong test for nomological validity
of the findings in Study 1, these variables were measured in a different manner
in Study 2. In contrast to the prior construction of composite indices from

dichotomous variables, an approach similar to that of Lawrence and Lorsch

[33] and Tannenbaum and Kahn [53] was followed: respondents indicated

the degree of involvement on a 4-point scale ranging from no participation to

primary responsibility. Thus, this scale was designed to measure the respon-

dent's perceived influence on selected decision areas. As in previous studies

[61], it is likely that respondents' actual influence is overstated. While

the absolute amount of bias is less important for our analysis, the results

presented in Table 7 are consistent with previous research findings that a

majority of consumer affairs departments are not involved in corporate decision

making [9], [22]. More critical than absolute bias is the possibility that

the extent of the bias might vary across respondents. To control for this

possibility, measurement error was, as in Study 1, explicitly modelled for

this variable.

Model Specification

The inclusion of a second complaint variable enables the analysis to be

conducted with a recursive model for both hypotheses. Instead of estimating

two structural coefficients in a reciprocal fashion, these coefficients can

be estimated as a recursive system: complaint proportion (ξ) affects partic-

ipation (η_1) and participation affects changes in complaint proportion over

time (η_2). The structural measurement equations are

$$\begin{bmatrix} 1 & 0 \\ \beta & 1 \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \end{bmatrix} = \gamma \; \xi \; + \begin{bmatrix} \zeta_1 \\ \zeta_2 \end{bmatrix}$$

$$\begin{bmatrix} y_1 \\ y_2 \\ y_3 \\ y_4 \\ y_5 \end{bmatrix} = \begin{bmatrix} \lambda_{y1} & 0 \\ \lambda_{y2} & 0 \\ \lambda_{y3} & 0 \\ \lambda_{y4} & 0 \\ 0 & \lambda_{y5} \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \end{bmatrix} + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \end{bmatrix}$$

$$x_1 = \lambda_{x1} \; \xi \; + \; \delta_1,$$

where

x_1 = complaint proportion,

y_1 = participation in sales promotion,

y_2 = participation in product design,

y_3 = participation in advertising,

y_4 = participation in marketing,

y_5 = change in complaint proportion,

ψ and θ_δ^2, θ_ε^2 are diagonal, and ϕ has only one element. The model associated with these equations is presented in Figure 3.

Table 8 presents the results from the maximum likelihood estimation. As in Study 1, the standardized loadings (λ's) and the measurement error variance (θ_ε's) of the participation construct indicate that both convergent and discriminant validity were obtained: the loadings of η_1 (participation) are high, statistically significant, and uniform; none is lower than the estimated parameters between constructs (γ and β). As the corresponding parameters in Study 1, β and γ are both negative.

The results for both the full (Table 8) and the reduced sample (Table 9) indicate that the data and theoretical structure are associated with a reasonable goodness of fit ($p \leq .09$). In both cases, the relationship between

participation and change in complaint level (β) is statistically significant whereas the relationship between complaints and participation (γ) is not. As expected, both parameters increase when the analysis is restricted to firms with either high or low complaint proportions. Further, the sign of both parameter estimates is negative, and thus consistent with the research hypotheses and the results from Study 1.

DISCUSSION

Both studies provide consistent support for the hypothesis that organization processing of consumer criticism becomes increasingly hampered as consumer complaints (relative to other unsolicited consumer communications) increase. There is also support for the hypothesis that the failure to process consumer voice information, as a result of isolating the consumer affairs department from marketing decision making, contributes to increased consumer complaints.

The above conclusions should be somewhat tempered in view of the fact that not all estimated relationships between consumer criticism and participation were statistically significant. However, the support for the hypotheses is warranted when the total evidence for nomological validity is considered: (1) two different models and two different samples produced essentially identical results; (2) the results did not vary with different measures; (3) both studies exhibited convergent as well as discriminant validity; (4) the hypothesized relationships were stronger for firms where either positive or negative unsolicited consumer communications clearly dominated; (5) the inclusion of covariates in the first study did not alter the results; and (6) the signs of the parameter estimates were in the expected direction.

Thus, it seems that responsiveness to consumer voice depends, to some extent, on the magnitude of the criticism. Contrary to what may be in the best interest of both the firm and consumers, responsiveness in terms of integrated complaint processing is negatively related to the magnitude of voiced consumer problems. This contributes to a process that can be described as a vicious circle: high levels of consumer criticism tend to isolate complaint processing, which fuels more complaints, which further isolates processing, and so forth.[4] These findings are both serious and disturbing. Not only do a number of firms seem to behave in a dysfunctional manner with respect to consumer complaints, but these are also corporations which have committed resources to consumer affairs by establishing a formal organizational unit for the handling of consumer problems.

The findings of the two studies reported here suggest two conceptually distinct approaches to consumer complaint handling. If complaint proportions are high, there is a tendency to limit complaint processing to individual complaints. The complaints are dealt with on a case-by-case basis, and beyond this, complaint processing contributes little to the firm. The consumer affairs department probably receives little attention from management and has little input into decision making. Moreover, it has little authority in dealing with other functional areas such as marketing or production.

At the other extreme, complaint processing is fully integrated with other organizational units that make decisions affecting consumer satisfaction and welfare. In such cases, complaint processing is not limited to the alleviation of individual consumer grievances but also incorporates the identification,

_____

[4]This statement implicitly assumes that the benefits to be derived from processing consumer criticism outweigh its associated costs. For an analysis of this, see [11].

and ultimate elimination, of elements in company behavior and offerings that cause consumer problems. Thus, the task of this type of complaint processing is twofold: it addresses consumer dissatisfaction at (1) a disaggregate level by compensating and advising individual complaints and at (2) an aggregate level by finding, and, together with management, removing origins of collective consumer dissatisfactions. Ironically, in the face of high levels of consumer cirticism that call for integrated complaint management, there is a tendency to opt for limited and isolated complaint processing.

TABLE 1

STUDY 1: PROPORTION OF COMPLAINTS AMONG TOTAL
UNSOLICITED CONSUMER COMMUNICATIONS

Complaint Ratio[a] (y_1)	Percentage of Firms (N=128)
0 to .25	27%
.26 to .50	28%
.51 to .75	23%
.76 to 1.0	22%
	100%

Mean Proportion .47

---

[a]Actual ratios ranged from .01 to .98.

TABLE 2

STUDY 1: PARTICIPATION OF CONSUMER AFFAIRS DEPARTMENTS IN MARKETING DECISIONS

Decision Area	Questionnaire Items	Percentage of Firms N = 128	Reliability*
New Product Development (y_2)	Concept Generation	47%	
	New Product Launch	36%	.66
Product Management (y_3)	Service	75%	
	Warranties/Guarantees	54%	
	Quality Control	49%	
	Packaging/Labelling	44%	.57
Advertising/ Promotion (y_4)	Advertising Budget	11%	
	Advertising Copy	43%	
	Advertising Media	12%	
	Sales Promotion	23%	
	Personal Selling	10%	.70
Pricing (y_5)	Consumer Credit	21%	
	Pricing	15%	.54

*Cronbach's Alpha

TABLE 3

STUDY 1:   PARAMETER ESTIMATES FOR A NONRECURSIVE MODEL ($N = 128$)

Parameter	Estimated Value	Standardized Value	Standard Error	Critical Ratio
λ_{y1}	1.0*	1.0	—	—
λ_{y2}	1.0*	.78	—	—
λ_{y3}	.93	.73	.12	7.7[a]
λ_{y4}	.68	.53	.12	5.6[a]
λ_{y5}	.61	.47	.12	4.9[a]
γ_{11}	.10	.10	.12	.8
γ_{12}	-.11	-.11	.11	-1.0
γ_{21}	.16	.20	.08	2.1[a]
γ_{22}	-.17	-.21	.08	-2.0[a]
γ_{23}	.50	.64	.07	7.0[a]
γ_{24}	.07	.09	.08	.9
γ_{25}	.05	.06	.08	.6
β_{12}	.25	.20	.17	1.5[b]
β_{21}	.11	.14	.07	1.4[c]
ψ_{11}	.91	.91	.12	7.6[a]
ψ_{22}	.23	.38	.06	3.6[a]
$\theta^2_{\epsilon 1}$	0*	0	—	—
$\theta^2_{\epsilon 2}$	.38	.38	.07	5.3[a]
$\theta^2_{\epsilon 3}$	.46	.46	.08	6.1[a]
$\theta^2_{\epsilon 4}$	.72	.72	.10	7.4[a]
$\theta^2_{\epsilon 5}$	.77	.77	.10	7.5[a]

a = significant beyond .05 (one-tail) $\chi^2 = 33.5$ d.f. = 37 $p \le .63$

b = significant at .07 (one-tail)

c = significant at .08 (one-tail)

F - Value for β_{12} = 5.25

F - Value for β_{21} = 2.49

*Fixed parameters

TABLE 4

STUDY 1: PARAMETER ESTIMATION FOR FIRMS WITH EITHER HIGH OR
LOW COMPLAINT RATIOS VIA A NONRECURSIVE MODEL (N = 62)

Parameter	Estimated Value	Standardized Value	Standard Error	Critical Ratio
λ_{y1}	1.0*	1.0	---	---
λ_{y2}	1.0*	.78	---	---
λ_{y3}	.84	.65	.17	4.9[a]
λ_{y4}	.85	.66	.17	5.0[a]
λ_{y5}	.59	.46	.17	3.5[a]
γ_{11}	.19	.19	.15	1.3
γ_{12}	-.28	-.28	.14	-1.9[a]
γ_{21}	.11	.14	.10	1.1
γ_{22}	-.19	-.24	.11	-1.8[a]
γ_{23}	.57	.73	.10	5.8[a]
γ_{24}	.07	.09	.10	.7
γ_{25}	.01	.01	.10	.05
β_{12}	.33	.26	.20	1.7[a]
β_{21}	.21	.27	.09	2.4[a]
ψ_{11}	.78	.78	.16	4.9[a]
ψ_{22}	.14	.23	.07	2.0[a]
$\theta^2_{\varepsilon1}$	0*	0	---	---
$\theta^2_{\varepsilon2}$	.40	.40	.10	4.0[a]
$\theta^2_{\varepsilon3}$	.58	.58	.12	4.9[a]
$\theta^2_{\varepsilon4}$	.57	.57	.12	4.9[a]
$\theta^2_{\varepsilon5}$	.79	.79	.15	5.5[a]

a = significant beyond .05 (one-tail) χ^2 = 11.75   d.f. = 37   p $\leq$ .99

F - Value for β_{12} = 4.34

F - Value for β_{21} = 4.72

*Fixed parameters

TABLE 5

STUDY 2:   PROPORTION OF COMPLAINTS AMONG TOTAL
           UNSOLICITED CONSUMER COMMUNICATIONS (N = 85)

Complaint Ratio[a] (x_1)		Percentage of Firms
.0	.25	25%
.26	.50	16%
.51	.75	30%
.76	1.0	30%

Mean Proportion .49

[a]Actual ratios ranged from 0 to .91.

TABLE 6

STUDY 2:   CHANGES IN COMPLAINT PROPORTIONS IN THE PAST YEAR (y_5) (N = 85)

Decreased Significantly	12%
Decreased Slightly	20%
Remained About the Same	34%
Increased Slightly	24%
Increased Significantly	5%

TABLE 7

STUDY 2:   CONSUMER AFFAIRS DEPARTMENTS' INVOLVEMENT IN SELECTED ACTIVITIES

	Primary Responsibility	Great Deal of Say	Participation (But Not a Great Deal of Say)	No Participation
Sales Promotion (y_1)	11%	20%	29%	40%
Product Service Design (y_2)	5%	22%	36%	37%
Advertising (y_3)	9%	19%	33%	38%
Marketing (y_4)	9%	19%	36%	37%

TABLE 8

STUDY 2:   PARAMETER ESTIMATES FOR A RECURSIVE MODEL (N = 85)

Parameter	Estimated Value	Standardized Value	Standard Error	Critical Ratio
λ_{x1}	1.0*	1.0	—	—
λ_{y1}	1.0*	.68	—	—
λ_{y2}	.82	.56	.18	4.5[a]
λ_{y3}	1.10	.74	.19	5.9[a]
λ_{y4}	1.32	.89	.21	6.2[a]
λ_{y5}	1.0*	1.0	—	—
γ	-.09	-.13	.08	-1.1
β	.37	.25	.17	2.1[a]
ψ_1	.45	.98	.14	3.3[a]
ψ_2	.93	.94	.15	6.4[a]
$\theta^2_{\delta1}$	0*	0	—	—
$\theta^2_{\varepsilon1}$	.54	.54	.01	5.5[a]
$\theta^2_{\varepsilon2}$	.69	.69	.12	6.0[a]
$\theta^2_{\varepsilon3}$	.45	.45	.09	4.9[a]
$\theta^2_{\varepsilon4}$	.20	.20	.09	2.3[a]
$\theta^2_{\varepsilon5}$	0*	0	—	—

a = significant beyond .05 (one-tail) $\chi^2 = 15.54$ d.f. = 9 $p \leq .09$
F - Value for β = 5.53
F - Value for γ = 1.43

*Fixed parameters

TABLE 9

STUDY 2: PARAMETER ESTIMATES FOR FIRMS WITH EITHER HIGH OR
LOW COMPLAINT RATIOS VIA A RECURSIVE MODEL (N = 50)

Parameter	Estimated Value	Standardized Value	Standard Error	Critical Ratio
λ_{x1}	1.0*	1.0	—	—
λ_{y1}	1.0*	.67	—	—
λ_{y2}	.89	.60	.23	3.8[a]
λ_{y3}	1.17	.79	.24	4.9[a]
λ_{y4}	1.41	.95	.27	5.3[a]
λ_{y5}	1.0*	1.0	—	—
γ	-.11	-.17	.10	-1.1
β	.48	.52	.22	2.2[a]
ψ_1	.44	.97	.17	2.6[a]
ψ_2	.90	.90	.18	4.9[a]
$\theta^2_{\delta 1}$	0*	0	—	—
$\theta^2_{\varepsilon 1}$	.55	.55	.12	4.5[a]
$\theta^2_{\varepsilon 2}$	.65	.65	.14	4.7[a]
$\theta^2_{\varepsilon 3}$	.38	.38	.10	3.8[a]
$\theta^2_{\varepsilon 4}$	.11	.11	.09	1.2
$\theta^2_{\varepsilon 5}$	0*	0	—	—

a = significant beyond .05 (one-tail) χ^2 = 15.21   d.f. = 9 $p \leq$ .09
F - Value for β = 5.47
F - Value for γ = 1.43

*Fixed parameters

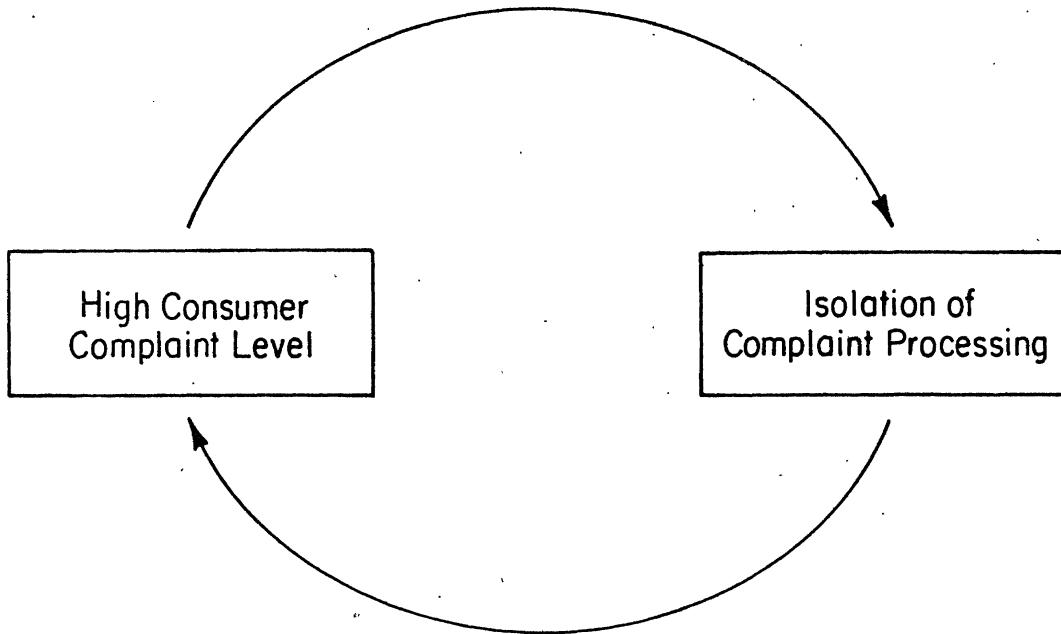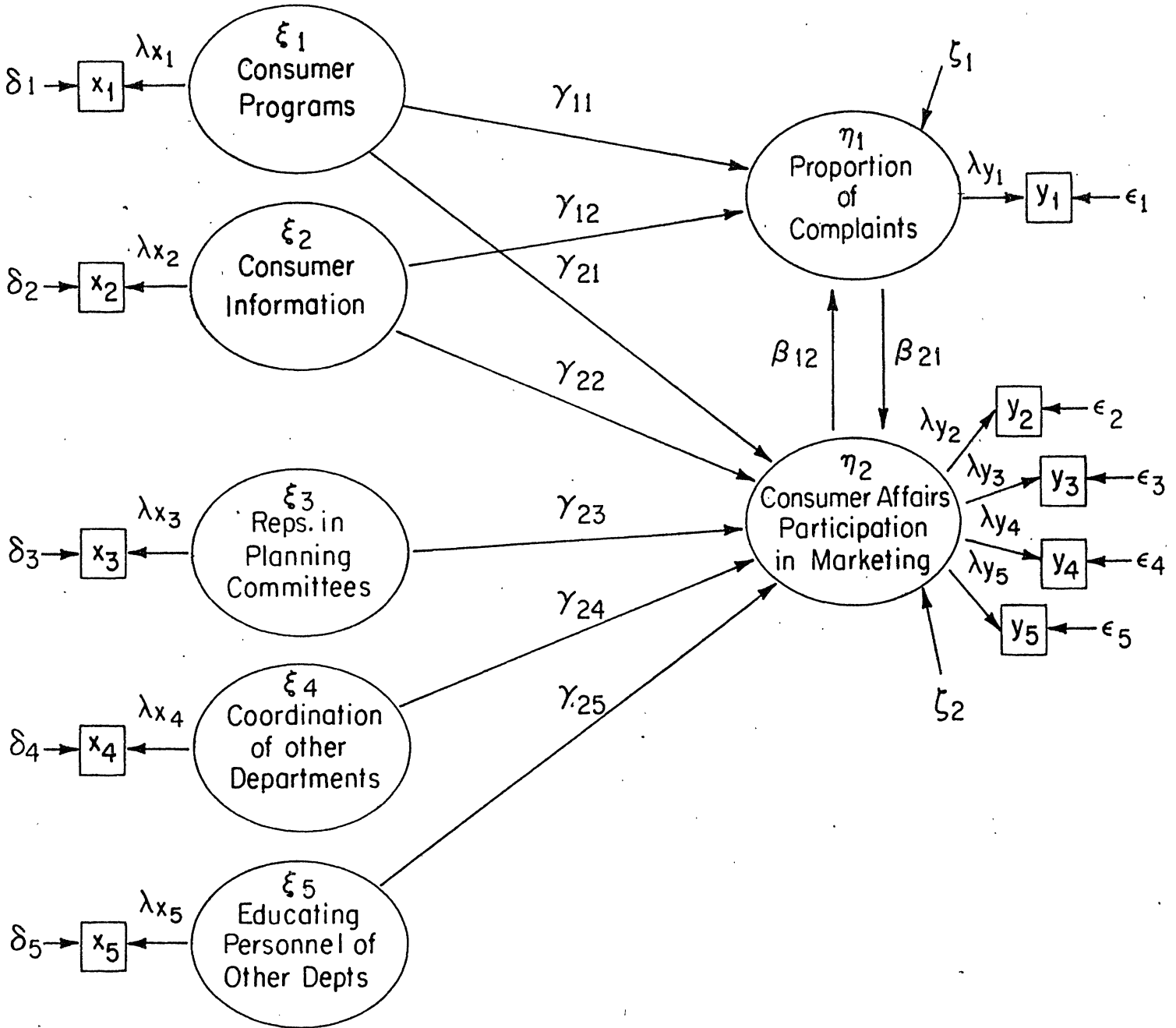FIGURE 1

THE HYPOTHESIZED NONRECURSIVE RELATIONSHIP
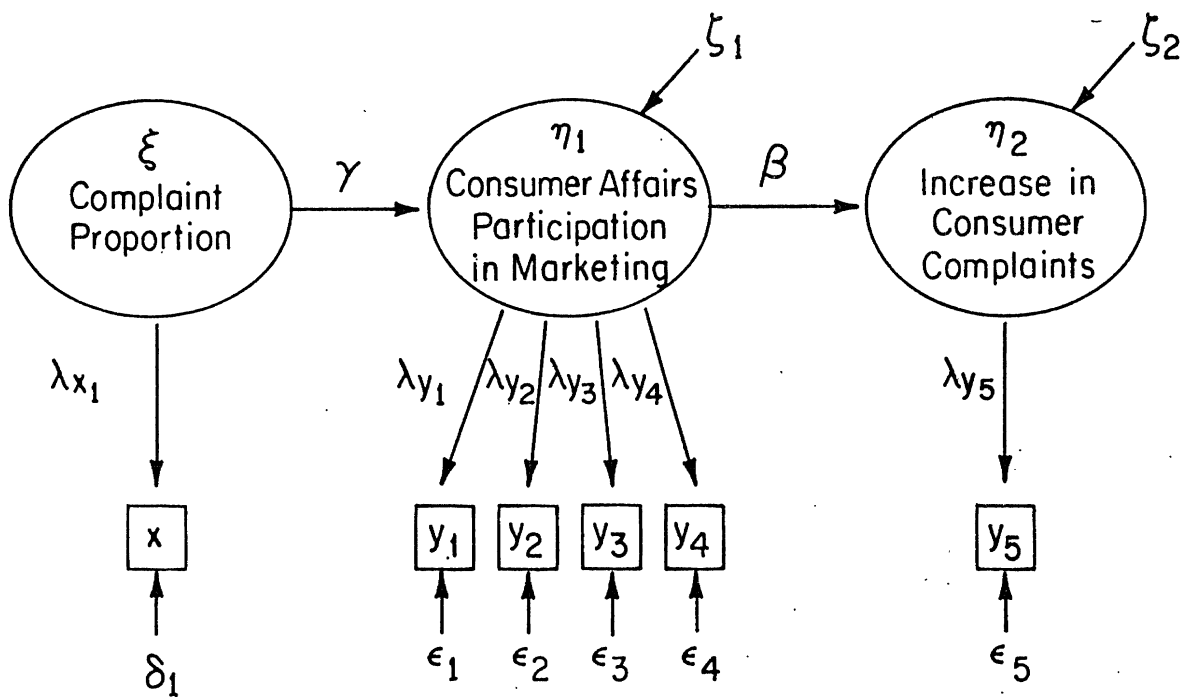

FIGURE 2

STUDY 1:   A NONRECURSIVE MODEL WITH COVARIATES[*]

[*] Correlations between the ξ constructs are omitted for simplication.

FIGURE 3

STUDY 2: A RECURSIVE MODEL

APPENDIX 1

STUDY 1: VARIABLE CORRELATIONS (N = 128)

---

	y_1	y_2	y_3	y_4	y_5	x_1	x_2	x_3	x_4	x_5
y_1	1									
y_2	-.327	1								
y_3	-.128	.610	1							
y_4	-.153	.384	.390	1						
y_5	-.077	.365	.306	.300	1					
x_1	-.035	.323	.290	.189	.236	1				
x_2	-.089	.100	.054	.106	.106	.460	1			
x_3	-.141	.542	.534	.452	.415	.343	.240	1		
x_4	-.108	.313	.367	.217	.203	.541	.450	.440	1	
x_5	-.025	.271	.198	.111	.117	.457	.573	.315	.549	1

APPENDIX 2

STUDY 1: VARIABLE CORRELATIONS (N = 62)

---

	y_1	y_2	y_3	y_4	y_5	x_1	x_2	x_3	x_4	x_5
y_1	1									
y_2	-.447	1								
y_3	-.193	.546	1							
y_4	-.246	.478	.452	1						
y_5	-.249	.349	.278	.272	1					
x_1	-.055	.219	.123	.240	.264	1				
x_2	-.204	.104	.062	.127	.159	.606	1			
x_3	-.226	.591	.543	.574	.384	.337	.287	1		
x_4	-.152	.287	.317	.305	.218	.531	.531	.476	1	
x_5	-.019	.153	.162	.147	.124	.457	.609	.316	.568	1

APPENDIX 3

STUDY 2: VARIABLE CORRELATIONS (N = 85)

	y_1	y_2	y_3	y_4	y_5	x
y_1	1					
y_2	.314	1				
y_3	.450	.545	1			
y_4	.639	.457	.655	1		
y_5	-.045	-.198	-.171	-.258	1	
x	-.161	-.157	-.135	-.068	-.047	1

STUDY 2: VARIABLE CORRELATIONS FOR FIRMS WITH EITHER HIGH OR LOW COMPLAINT RATIOS (N = 50)

	y_1	y_2	y_3	y_4	y_5	x
y_1	1					
y_2	.369	1				
y_3	.505	.572	1			
y_4	.649	.542	.740	1		
y_5	-.044	-.162	-.140	-.362	1	
x	-.241	-.200	-.235	-.112	-.065	1

REFERENCES

1. Aaker, D. A. and Day, G. S., "Corporate Responses to Consumerism Pressures," Harvard Business Review, Vol. 50 (Nov.-Dec., 1972), pp. 114-124.

2. Baird, J. W., "An Analytical Field Study of Open Communication as Perceived by Supervisors, Subordinates, and Peers," (unpublished doctoral dissertation, Purdue University, 1973, Diss. Abstracts International, 1974, 35, 562B, University Microfilms No. 74-15, 116).

3. Best, A. and Adreasen, A. R., "Consumer Response to Unsatisfactory Purchases: A Survey of Perceiving Defects, Voicing Complaints, and Obtaining Redress," Law and Society, Vol. 11 (Spring, 1977), pp. 701-742.

4. Blum, M. L., Stewart, J. B., and Weheatly, E. W., "Consumer Affairs: Viability of the Corporate Response," Journal of Marketing, Vol. 38 (April 1974), pp. 13-19.

5. Burke, R. J., and Wilcox, D. S., "Effects of Different Patterns and Degrees of Openness in Superior-Subordinate Communication on Subordinate Job Satisfaction," Academy of Management Journal, Vol. 12 (1969), pp. 319-326.

6. Campbell, Donald T. "Systematic Error on the Part of Human Links in Communication Systems," Information and Control, Vol. 1 (1958), pp. 334-369.

7. Day, R. L., and Landon, E. L., Jr., "Collecting Comprehensive Consumer Complaint Data by Survey Research," in Advances in Consumer Research, Vol. 3, Assn. for Consumer Research, Ann Arbor 1976, pp. 263-368.

8. Ference, T. P., "Organizational Communication Systems and the Decision Process," Management Science, Vol. 17, No. 2 (1970), pp. B83-B96.

9. Fornell, C., Consumer Input for Marketing Decisions--A Study of Corporate Departments for Consumer Affairs, N.Y.: Praeger Publishers, New York, 1976.

10. _____, "Corporate Consumer Affairs Departments--A Communications Perspective," Journal of Consumer Policy, Vol. 2, No. 4 (1978), pp. 289-302.

11. _____, "Increasing the Organizational Influence of Corporate Consumer Affairs Departments," Journal of Consumer Affairs, 1981 (in press).

12. _____ and Larcker, D. F., "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," Journal of Marketing Research, Feb., 1981, pp. 39-50.

13. _____ and _____, "Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics," Journal of Marketing Research, Aug., 1981, (in press).

14. French, J., and Raven, B., "The Bases of Social Power," in D. Cartwright (ed.), Studies in Social Power, Institute for Social Research, Ann Arbor, Mich., 1959, pp. 150-167.

15. Gordon, L. A., Larcker, D. F., and Tuggle, F. D., "Informational Impediments to the Use of Capital Budgeting Models," Omega, Vol. 7, No. 1 (1979), pp. 67-74.

16. Grainer, M. A., McEvoy, K. A., and King, D. W., "Consumer Problems and Complaints: A National View," in W. L. Wilkie (ed.), Advances in Consumer Research, Assn. for Consumer Research, Ann Arbor, 1979.

17. Greyser, S. A., and Diamond, S. L., "Business in Adapting to Consumerism," Harvard Business Review, Vol. 52 (Sept.-Oct., 1974), pp. 38-56.

18. Haney, W. V., Communication and Organizational Behavior--Text and Cases, 2nd ed., Irwin, Homewood, Ill., 1967.

19. Hildebrandt, H. W., and Snyder, R. D., "The Pollyana Hypothesis and Communication in the Annual Report," Division of Research, Graduate School of Business Administration, The University of Michigan, Working Paper No. 186, July 1979.

20. Hirschman, Albert O., Exit, Voice, and Loyalty--Responses to Decline in Firms, Organizations, and States, Harvard University Press, Cambridge, Mass., 1970.

21. _____, "Discussion," American Economic Association, Vol. 66 (May 1976), pp. 386-389.

22. Hise, R. T., Gillett, P. L., and Kelly, J. P., "The Corporate Consumer Affairs Effort," MSU Business Topics, Summer, 1978, pp. 17-26.

23. Jablin, F. M., "Message-Response and Openness in Superior-Subordinate Communication," in B. D. Ruben (ed.), Communication Yearbook II. Transaction Books, New Brunswick, N.J., 1978.

24. _____, "Superior-Subordinate Communication: The State of the Art," Psychological Bulletin, Vol. 86 (1979), pp. 1201-1222.

25. Janis, Irving, and Mann, Leon, Decision Making: A Psychological Analysis of, Conflict, Choice, and Commitment The Free Press, New York, 1977.

26. Janis, J. L., "Groupthink," in J. R. Hackman, E. E. Lawler, III, and L. W. Porter (eds.), Perspectives on Behavior in Organizations, McGraw-Hill Book Company, New York, 1977.

27. Jones, M. G., "The Consumer Affairs Office: Essential Element in Corporate Policy and Planning," California Management Review, Vol. 20, No. 4 (Summer, 1978), pp. 63-73.

28. Jöreskog, K. G., "A General Method for Estimating a Linear Structural Equation System," in A. S. Goldberger and O. D. Duncan (eds.), Structural Equation Models in the Social Sciences, Seminar Press, New York, 1973, pp. 85-117.

29. _____, and Sörbom, D., LISREL IV: Estimation of Linear Structural Equation Systems by the Method of Maximum Likelihood, National Educational Resources, Inc., Chicago, 1978.

30. Kahn, R., Wolfe, D., Quinn, R., and Snoek, J., Organizational Stress: Studies in Role Conflict and Ambiguity, Wiley, New York, 1964.

31. Kendall, C. L., and Russ, F., "Warranty and Complaint Policies: An Opportunity for Marketing Management," Journal of Marketing, Vol. 39 (April 1975), pp. 36-43.

32. Koehler, J. W., and Huber, G., "Effects of Upward Communication on Managerial Decision Making," International Communication Assn., New Orleans, 1974.

33. Lawrence, P. R., and Lorsch, J. W., Organization and Environment--Managing Differentiation and Integration, Division of Research, Graduate School of Business Administration, Harvard University, Cambridge, Mass., 1967.

34. Lee, S. Y., and Jennrich, R. I., "A Study of Algorithms for Covariance Structure Analysis with Specific Comparisons Using Factor Analysis," Psychometrika, Vol. 4 (March 1979, pp. 99-113.

35. Likert, R., The Human Organization, McGraw-Hill, New York, 1967.

36. Maier, Norman R. F., "Superior-Subordinate Communication: A Statistical Research Project," AMA Research Report, No. 52, American Marketing Assn., New York, 1961, pp. 9-30.

37. March, James G., and Simon, Herbert A., Organizations, Wiley, New York, 1958.

38. Matlin, Margaret W., and Stang, David J., The Pollyana Principle: Selectivity in Language, Memory, and Thought, Schankman, Cambridge, Mass., 1978.

39. McGuire, E. P., The Consumer Affairs Department: Organization and Functions, Report No. 609, The Conference Board, New York, 1973.

40. Mintzberg, H., Impediments to the Use of Management Information Systems, Society of Management Accountants, New York, 1975.

41. O'Reilly, C. A., III, "Supervisors and Peers as Information Sources, Group Supportiveness, and Individual Performance," Journal of Applied Psychology, Vol. 62 (1977), pp. 632-635.

42.   _____, and Roberts, K. H., "Information Filtration in Organizations: Three Experiments," Organizational Behavior and Human Performance, Vol. 11 (1974), pp. 253-265.

43.   _____, and _____, "Communication and Performance in Organizations," Proceedings of the Academy of Management, 1977, pp. 375-379.

44.   _____, and _____, "Supervisors and Peers as Information Sources, Group Supportiveness, and Individual Performance," Journal of Applied Psychology, Vol. 62 (1977), pp. 674-681.

45.   Pfeffer, J., Organizational Design, AHM Publishing Corp., Arlington Heights, Ill., 1978.

46.   Porat, A., and Haas, J., "Information Effects on Decision Making," Behavioral Science, Vol. 14 (1969), pp. 98-104.

47.   Porter, L., and Roberts, K. H., "Organizational Communication," in M. Dunnette (ed.), Handbook of Industrial and Organizational Psychology, Rand-McNally, 1976 Chicago, pp. 1553-1589.

48.   Read, William H., "Upward Communications in Industrial Hierarchies," Human Relations, Vol. 22 (1962), pp. 3-15.

49.   Redding, W. C., Communication within the Organization: An Interpretive Review of Theory and Research, Industrial Communication Council, New York, 1972.

50.   Roberts, K. H., and O'Reilly, C. A., III, "Failure in Upward Communication in Three Organizations: Three Possible Culprits," Academy of Management Journal, Vol. 17 (1974), pp. 205-215.

51.   _____, and _____, "Some Correlations of Communication Roles in Organizations," Academy of Management Journal, Vol. 22 (1979), pp. 42-57.

52.   Rosen, S., and Tesser, A., "On Reluctance to Communicate Undesirable Information: The MUM Effect," Sociometry, Vol. 33, (1970), pp. 253-263.

53.   Tannenbaum, A. S., and Kahn, R. L., "Organizational Control Structure: A General Descriptive Technique as Applied to Four Local Unions," Human Relations, Vol. 10, No. 2 (1957), pp. 127-140.

54.   Tesser, Abraham, and Rosen, Sidney, "The Reluctance to Transmit Bad News," Advances in Experimental Social Psychology, Vol. 8 (1975), pp. 193-232.

55.   _____, _____, and Conlee, M. C., "News Valence and Available Recipient as Determinants of News Transmission," Sociometry, Vol. 35 (1972), pp. 619-628.

56. Tompkins, P. K., "Organizational Communications: A State of the Art Review," in G. M. Richetto (ed.), Conference in Organizational Communication, National Aeronautics and Space Admin., Huntsville, Ala., 1967, pp. 12-13.

57. Tushman, M. L., and Katz, R., "External Communication and Project Performance: An Investigation of the Role of Gate Keepers," Management Science, Vol. 26, No. 11 (Nov., 1980), p. 1071-1085.

58. Urban, G. L., and Hauser, J. R., Design and Marketing of New Products, Prentice Hall, Englewood Cliffs, N.J., 1980.

59. Von Hippel, E., "Successful Industrial Products from Consumers' Ideas," Journal of Marketing, Vol. 42 (Jan., 1978), pp. 39-49.

60. Warland, R. H., Herrman, R. O., and Willits, J., "Dissatisfied Consumers: Who Gets Upset and Who Takes Action," Journal of Consumer Affairs, Vol. 9 (Winter 1975), pp. 148-163.

61. Webber, R. A., "Perceptions of Interactions between Superiors and Subordinates," Human Relations, Vol. 23 (1970), pp. 235-248.