ORGANIZATIONAL REACTION TO CONSUMER VOICE

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ORGANIZATIONAL REACTION TO
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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.

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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 dissatis-
faction 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 per-
sonal 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.

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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 within 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 information, 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 unobserved constructs from observed independent variables (x's) and observed dependent variables (y's). The equations are written as
\[ y = \lambda_y \eta + \varepsilon \]
\[ x = \lambda_x \xi + \delta, \]

where \( \lambda_y \) and \( \lambda_x \) are the factor loading matrices associated with the dependent constructs \( (\eta) \) and independent constructs \( (\xi) \), respectively, and

\( \varepsilon \) and \( \delta \) are the matrices of measurement errors associated with the variables \( y \) and \( x \), respectively.

Further, the measurement error variances for the \( y \) variables, \( E(\varepsilon_y) \), and the \( x \) variables, \( E(\delta_x) \), are denoted \( \theta^2_\varepsilon \) and \( \theta^2_\delta \), respectively.

The structural equation is

\[ \Xi \eta = \Gamma \xi + \xi, \]

where \( \Xi \) refers to the matrix of relationships among the dependent constructs, \( \eta \),

\( \Gamma \) refers to the matrix of relationships among the dependent constructs, \( \eta \), and the independent constructs, \( \xi \), and

\( \xi \) refers to the matrix of errors in the structural equations.

The variance associated with the error in the structural equation, \( E(\varepsilon_x) \), is denoted as \( \psi \) and the correlation between the \( x \) constructs, \( E(\varepsilon_x) \), is denoted \( \phi \). It is assumed that \( E(\eta) = E(\xi) = E(\varepsilon) = E(\delta) = E(\varepsilon_x) = E(\delta_x) = E(\varepsilon_x') = E(\delta_x') = E(\delta_x') = 0. \)

If the system of equations is identified (see [29]), then consistent, asymptotically 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 departments' 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 communication opportunity for the consumer affairs department to spread its influence (cf. [45]). The more a particular organizational unit is involved in education 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 development 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 suggested 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
\[
\begin{bmatrix}
  y_1 \\
  y_2 \\
  y_3 \\
  y_4 \\
  y_5
\end{bmatrix}
= \begin{bmatrix}
  \lambda y_1 \\
  0 \\
  \lambda y_2 \\
  0 \\
  \lambda y_3 \\
  \lambda y_4 \\
  0 \\
  \lambda y_5
\end{bmatrix}
\begin{bmatrix}
  \eta_1 \\
  \eta_2
\end{bmatrix}
+ \begin{bmatrix}
  \varepsilon_1 \\
  \varepsilon_2 \\
  \varepsilon_3 \\
  \varepsilon_4 \\
  \varepsilon_5
\end{bmatrix}
\]

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

\[
\begin{bmatrix}
  1 \\
  \beta_{12}
\end{bmatrix}
\begin{bmatrix}
  \eta_1 \\
  \eta_2
\end{bmatrix}
= \begin{bmatrix}
  \gamma_{11} \lambda_{12} \\
  \gamma_{21} \lambda_{22} \lambda_{23} \lambda_{24} \lambda_{25}
\end{bmatrix}
\begin{bmatrix}
  \xi_1 \\
  \xi_2 \\
  \xi_3 \\
  \xi_4 \\
  \xi_5
\end{bmatrix}
+ \begin{bmatrix}
  \varepsilon_1 \\
  \varepsilon_2
\end{bmatrix}
\]

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 development,

\( y_3 \) = participation in product management,

\( y_4 \) = participation in advertising/promotion,

\( y_5 \) = participation in pricing, and

\( \Psi \) and \( \Theta^2 \) are assumed to be diagonal, \( \Theta^2 = 0 \), and \( \phi \) 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 ($\chi^2 = 33.5, p \leq .03$) 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 contributes to isolation (standardized $\beta_{21} = .14$) and isolation contributes to increasing complaint proportions (standardized $\beta_{12} = .20$). These two parameters 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 $\beta_{12}$ and $\beta_{21}$ were significant at the .07 and .08 level, respectively. The F-test suggested that $\beta_{12}$ was significant at the .05 level. Regarding the measurement properties, the participation construct achieved convergent validity: the loadings ($\lambda_{y2}$, $\lambda_{y3}$, $\lambda_{y4}$, $\lambda_{y5}$) 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

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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 assessment 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 proportion 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 ($\lambda_{y1}$, $\lambda_{y2}$, $\lambda_{y3}$, $\lambda_{y4}$, $\lambda_{y5}$) are higher than the parameter estimates between constructs ($\beta_{12}$, $\beta_{21}$). Only one of the covariate coefficients ($\gamma_{23}$) has an estimated (standardized) value that is higher than the lowest of the indicator loadings.

Three of the five covariates ($\xi_1$, $\xi_2$, $\xi_3$) present critical ratios that are at least twice their standard errors ($\gamma_{21}$, $\gamma_{22}$, $\gamma_{23}$). As expected, committee membership appears to be a strong contributor to participation (standardized $\gamma_{23} = .64$). 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 $\gamma_{22} = -.21$). Contrary to what was expected, it was found that the number of consumer programs is positively related to participation (standardized $\gamma_{21} = .20$). 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 ($\chi^2 = 9.82, p \leq .99$). The principal parameter estimates ($\beta_{12}, \beta_{21}$) 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.  

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 auxiliary nature of complaint processing itself feeds high complaint ratios. This type of reaction to consumer criticism is dysfunctional. It describes a defense

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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 respondents 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 descriptive 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 respondent'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 (\( \xi \)) affects participation (\( \eta_1 \)) and participation affects changes in complaint proportion over time (\( \eta_2 \)). The structural measurement equations are
\[
\begin{bmatrix}
1 & 0 \\
\beta & 1 \\
\end{bmatrix}
\begin{bmatrix}
\eta_1 \\
\eta_2 \\
\end{bmatrix}
= \gamma \xi + \begin{bmatrix}
\zeta_1 \\
\zeta_2 \\
\end{bmatrix}
\]

\[
\begin{bmatrix}
y_1 \\
y_2 \\
y_3 \\
y_4 \\
y_5 \\
\end{bmatrix}
= \begin{bmatrix}
\lambda y_1 & 0 \\
\lambda y_2 & 0 \\
\lambda y_3 & 0 \\
\lambda y_4 & 0 \\
0 & \lambda y_5 \\
\end{bmatrix}
\begin{bmatrix}
\eta_1 \\
\eta_2 \\
\end{bmatrix}
+ \begin{bmatrix}
e_1 \\
e_2 \\
e_3 \\
e_4 \\
e_5 \\
\end{bmatrix}
\]

\[x_1 = \lambda x_1 \xi + \delta_1,\]

where
\[x_1 = \text{complaint proportion},\]
\[y_1 = \text{participation in sales promotion},\]
\[y_2 = \text{participation in product design},\]
\[y_3 = \text{participation in advertising},\]
\[y_4 = \text{participation in marketing},\]
\[y_5 = \text{change in complaint proportion},\]

\[\psi \text{ and } \frac{\theta^2}{\delta}, \frac{\theta^2}{\epsilon} \text{ are diagonal, and } \phi \text{ has only one element. The model associated with these equations is presented in Figure 3.}\]

Table 8 presents the results from the maximum likelihood estimation. As in Study 1, the standardized loadings (\(\lambda\)'s) and the measurement error variance (\(\theta^2\)'s) of the participation construct indicate that both convergent and discriminant validity were obtained: the loadings of \(\eta_1\) (participation) are high, statistically significant, and uniform; none is lower than the estimated parameters between constructs (\(\gamma\) and \(\beta\)). As the corresponding parameters in Study 1, \(\beta\) and \(\gamma\) 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. 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,

---

4This 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 criticism 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

<table>
<thead>
<tr>
<th>Complaint Ratio(^a) ((y_1))</th>
<th>Percentage of Firms ((N=128))</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to .25</td>
<td>27%</td>
</tr>
<tr>
<td>.26 to .50</td>
<td>28%</td>
</tr>
<tr>
<td>.51 to .75</td>
<td>23%</td>
</tr>
<tr>
<td>.76 to 1.0</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Mean Proportion .47

\(^a\)Actual ratios ranged from .01 to .98.
TABLE 2

STUDY 1: PARTICIPATION OF CONSUMER AFFAIRS DEPARTMENTS IN MARKETING DECISIONS

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

*Cronbach's Alpha
TABLE 3

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimated Value</th>
<th>Standardized Value</th>
<th>Standard Error</th>
<th>Critical Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \lambda_{y1} )</td>
<td>1.0*</td>
<td>1.0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>( \lambda_{y2} )</td>
<td>1.0*</td>
<td>.78</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>( \lambda_{y3} )</td>
<td>.93</td>
<td>.73</td>
<td>.12</td>
<td>7.7a</td>
</tr>
<tr>
<td>( \lambda_{y4} )</td>
<td>.68</td>
<td>.53</td>
<td>.12</td>
<td>5.6a</td>
</tr>
<tr>
<td>( \lambda_{y5} )</td>
<td>.61</td>
<td>.47</td>
<td>.12</td>
<td>4.9a</td>
</tr>
<tr>
<td>( \gamma_{11} )</td>
<td>.10</td>
<td>.10</td>
<td>.12</td>
<td>.8</td>
</tr>
<tr>
<td>( \gamma_{12} )</td>
<td>-.11</td>
<td>-.11</td>
<td>.11</td>
<td>-1.0</td>
</tr>
<tr>
<td>( \gamma_{21} )</td>
<td>.16</td>
<td>.20</td>
<td>.08</td>
<td>2.1a</td>
</tr>
<tr>
<td>( \gamma_{22} )</td>
<td>-.17</td>
<td>-.21</td>
<td>.08</td>
<td>-2.0a</td>
</tr>
<tr>
<td>( \gamma_{23} )</td>
<td>.50</td>
<td>.64</td>
<td>.07</td>
<td>7.0a</td>
</tr>
<tr>
<td>( \gamma_{24} )</td>
<td>.07</td>
<td>.09</td>
<td>.08</td>
<td>.9</td>
</tr>
<tr>
<td>( \gamma_{25} )</td>
<td>.05</td>
<td>.06</td>
<td>.08</td>
<td>.6</td>
</tr>
<tr>
<td>( \beta_{12} )</td>
<td>.25</td>
<td>.20</td>
<td>.17</td>
<td>1.5b</td>
</tr>
<tr>
<td>( \beta_{21} )</td>
<td>.11</td>
<td>.14</td>
<td>.07</td>
<td>1.4c</td>
</tr>
<tr>
<td>( \psi_{11} )</td>
<td>.91</td>
<td>.91</td>
<td>.12</td>
<td>7.6a</td>
</tr>
<tr>
<td>( \psi_{22} )</td>
<td>.23</td>
<td>.38</td>
<td>.06</td>
<td>3.6a</td>
</tr>
<tr>
<td>( \theta_{e1} )</td>
<td>0*</td>
<td>0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>( \theta_{e2} )</td>
<td>.38</td>
<td>.38</td>
<td>.07</td>
<td>5.3a</td>
</tr>
<tr>
<td>( \theta_{e3} )</td>
<td>.46</td>
<td>.46</td>
<td>.08</td>
<td>6.1a</td>
</tr>
<tr>
<td>( \theta_{e4} )</td>
<td>.72</td>
<td>.72</td>
<td>.10</td>
<td>7.4a</td>
</tr>
<tr>
<td>( \theta_{e5} )</td>
<td>.77</td>
<td>.77</td>
<td>.10</td>
<td>7.5a</td>
</tr>
</tbody>
</table>

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

b = significant at .07 (one-tail)

c = significant at .08 (one-tail)

F - Value for \( \beta_{12} = 5.25 \)

F - Value for \( \beta_{21} = 2.49 \)

*Fixed parameters
TABLE 4

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimated Value</th>
<th>Standardized Value</th>
<th>Standard Error</th>
<th>Critical Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\lambda_{y1}$</td>
<td>1.0*</td>
<td>1.0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>$\lambda_{y2}$</td>
<td>1.0*</td>
<td>.78</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>$\lambda_{y3}$</td>
<td>.84</td>
<td>.65</td>
<td>.17</td>
<td>4.9a</td>
</tr>
<tr>
<td>$\lambda_{y4}$</td>
<td>.85</td>
<td>.66</td>
<td>.17</td>
<td>5.0a</td>
</tr>
<tr>
<td>$\lambda_{y5}$</td>
<td>.59</td>
<td>.46</td>
<td>.17</td>
<td>3.5a</td>
</tr>
<tr>
<td>$\psi_{11}$</td>
<td>.19</td>
<td>.19</td>
<td>.15</td>
<td>1.3</td>
</tr>
<tr>
<td>$\gamma_{12}$</td>
<td>-.28</td>
<td>-.28</td>
<td>.14</td>
<td>-1.9a</td>
</tr>
<tr>
<td>$\gamma_{21}$</td>
<td>.11</td>
<td>.14</td>
<td>.10</td>
<td>1.1</td>
</tr>
<tr>
<td>$\gamma_{22}$</td>
<td>-.19</td>
<td>-.24</td>
<td>.11</td>
<td>-1.8a</td>
</tr>
<tr>
<td>$\gamma_{23}$</td>
<td>.57</td>
<td>.73</td>
<td>.10</td>
<td>5.8a</td>
</tr>
<tr>
<td>$\gamma_{24}$</td>
<td>.07</td>
<td>.09</td>
<td>.10</td>
<td>.7</td>
</tr>
<tr>
<td>$\gamma_{25}$</td>
<td>.01</td>
<td>.01</td>
<td>.10</td>
<td>.05</td>
</tr>
<tr>
<td>$\beta_{12}$</td>
<td>.33</td>
<td>.26</td>
<td>.20</td>
<td>1.7a</td>
</tr>
<tr>
<td>$\beta_{21}$</td>
<td>.21</td>
<td>.27</td>
<td>.09</td>
<td>2.4a</td>
</tr>
<tr>
<td>$\psi_{11}$</td>
<td>.78</td>
<td>.78</td>
<td>.16</td>
<td>4.9a</td>
</tr>
<tr>
<td>$\psi_{22}$</td>
<td>.14</td>
<td>.23</td>
<td>.07</td>
<td>2.0a</td>
</tr>
<tr>
<td>$\theta^2_{e1}$</td>
<td>0*</td>
<td>0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>$\theta^2_{e2}$</td>
<td>.40</td>
<td>.40</td>
<td>.10</td>
<td>4.0a</td>
</tr>
<tr>
<td>$\theta^2_{e3}$</td>
<td>.58</td>
<td>.58</td>
<td>.12</td>
<td>4.9a</td>
</tr>
<tr>
<td>$\theta^2_{e4}$</td>
<td>.57</td>
<td>.57</td>
<td>.12</td>
<td>4.9a</td>
</tr>
<tr>
<td>$\theta^2_{e5}$</td>
<td>.79</td>
<td>.79</td>
<td>.15</td>
<td>5.5a</td>
</tr>
</tbody>
</table>

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

F - Value for $\beta_{12} = 4.34$

F - Value for $\beta_{21} = 4.72$

*Fixed parameters
TABLE 5

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

<table>
<thead>
<tr>
<th>Complaint Ratio&lt;sup&gt;a&lt;/sup&gt; (x&lt;sub&gt;1&lt;/sub&gt;)</th>
<th>Percentage of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>25%</td>
</tr>
<tr>
<td>.26</td>
<td>16%</td>
</tr>
<tr>
<td>.51</td>
<td>30%</td>
</tr>
<tr>
<td>.76</td>
<td>30%</td>
</tr>
</tbody>
</table>

Mean Proportion .49

<sup>a</sup>Actual ratios ranged from 0 to .91.

TABLE 6

STUDY 2: CHANGES IN COMPLAINT PROPORTIONS IN THE PAST YEAR (y<sub>5</sub>) (N = 85)

<table>
<thead>
<tr>
<th>Change Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased Significantly</td>
<td>12%</td>
</tr>
<tr>
<td>Decreased Slightly</td>
<td>20%</td>
</tr>
<tr>
<td>Remained About the Same</td>
<td>34%</td>
</tr>
<tr>
<td>Increased Slightly</td>
<td>24%</td>
</tr>
<tr>
<td>Increased Significantly</td>
<td>5%</td>
</tr>
</tbody>
</table>
TABLE 7

STUDY 2: CONSUMER AFFAIRS DEPARTMENTS' INVOLVEMENT IN SELECTED ACTIVITIES

<table>
<thead>
<tr>
<th>Activity</th>
<th>Primary Responsibility</th>
<th>Great Deal of Say</th>
<th>Participation (But Not a Great Deal of Say)</th>
<th>No Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Promotion ($y_1$)</td>
<td>11%</td>
<td>20%</td>
<td>29%</td>
<td>40%</td>
</tr>
<tr>
<td>Product Service Design ($y_2$)</td>
<td>5%</td>
<td>22%</td>
<td>36%</td>
<td>37%</td>
</tr>
<tr>
<td>Advertising ($y_3$)</td>
<td>9%</td>
<td>19%</td>
<td>33%</td>
<td>38%</td>
</tr>
<tr>
<td>Marketing ($y_4$)</td>
<td>9%</td>
<td>19%</td>
<td>36%</td>
<td>37%</td>
</tr>
</tbody>
</table>
TABLE 8  

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimated Value</th>
<th>Standardized Value</th>
<th>Standard Error</th>
<th>Critical Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\lambda_{x1}$</td>
<td>1.0*</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\lambda_{y1}$</td>
<td>1.0*</td>
<td>.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\lambda_{y2}$</td>
<td>.82</td>
<td>.56</td>
<td>.18</td>
<td>4.5(^a)</td>
</tr>
<tr>
<td>$\lambda_{y3}$</td>
<td>1.10</td>
<td>.74</td>
<td>.19</td>
<td>5.9(^a)</td>
</tr>
<tr>
<td>$\lambda_{y4}$</td>
<td>1.32</td>
<td>.89</td>
<td>.21</td>
<td>6.2(^a)</td>
</tr>
<tr>
<td>$\lambda_{y5}$</td>
<td>1.0*</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\gamma$</td>
<td>-.09</td>
<td>-.13</td>
<td>.08</td>
<td>-1.1</td>
</tr>
<tr>
<td>$\beta$</td>
<td>.37</td>
<td>.25</td>
<td>.17</td>
<td>2.1(^a)</td>
</tr>
<tr>
<td>$\psi_{i1}$</td>
<td>.45</td>
<td>.98</td>
<td>.14</td>
<td>3.3(^a)</td>
</tr>
<tr>
<td>$\psi_{i2}$</td>
<td>.93</td>
<td>.94</td>
<td>.15</td>
<td>6.4(^a)</td>
</tr>
<tr>
<td>$\theta_{i1}^2$</td>
<td>0*</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\theta_{i2}^2$</td>
<td>.54</td>
<td>.54</td>
<td>.01</td>
<td>5.5(^a)</td>
</tr>
<tr>
<td>$\theta_{i3}^2$</td>
<td>.69</td>
<td>.69</td>
<td>.12</td>
<td>6.0(^a)</td>
</tr>
<tr>
<td>$\theta_{i3}^2$</td>
<td>.45</td>
<td>.45</td>
<td>.09</td>
<td>4.9(^a)</td>
</tr>
<tr>
<td>$\theta_{i4}^2$</td>
<td>.20</td>
<td>.20</td>
<td>.09</td>
<td>2.3(^a)</td>
</tr>
<tr>
<td>$\theta_{i5}^2$</td>
<td>0*</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(a = \text{significant beyond .05 (one-tail)}\)  
\(\chi^2 = 15.54\)  
\(\text{d.f.} = 9\)  
\(p \leq .09\)  
\(F = \text{Value for } \beta = 5.53\)  
\(F = \text{Value for } \gamma = 1.43\)  

*Fixed parameters
TABLE 9

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimated Value</th>
<th>Standardized Value</th>
<th>Standard Error</th>
<th>Critical Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\lambda_1$</td>
<td>1.0*</td>
<td>1.0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>$\lambda_{y1}$</td>
<td>1.0*</td>
<td>1.0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>$\lambda_{y2}$</td>
<td>.89</td>
<td>.60</td>
<td>.23</td>
<td>$3.8^a$</td>
</tr>
<tr>
<td>$\lambda_{y3}$</td>
<td>1.17</td>
<td>.79</td>
<td>.24</td>
<td>$4.9^a$</td>
</tr>
<tr>
<td>$\lambda_{y4}$</td>
<td>1.41</td>
<td>.95</td>
<td>.27</td>
<td>$5.3^a$</td>
</tr>
<tr>
<td>$\lambda_{y5}$</td>
<td>1.0*</td>
<td>1.0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>$\gamma$</td>
<td>-.11</td>
<td>-.17</td>
<td>.10</td>
<td>-1.1</td>
</tr>
<tr>
<td>$\beta$</td>
<td>.48</td>
<td>.52</td>
<td>.22</td>
<td>$2.2^a$</td>
</tr>
<tr>
<td>$\psi_1$</td>
<td>.44</td>
<td>.97</td>
<td>.17</td>
<td>$2.6^a$</td>
</tr>
<tr>
<td>$\psi_2$</td>
<td>.90</td>
<td>.90</td>
<td>.18</td>
<td>$4.9^a$</td>
</tr>
<tr>
<td>$\theta^2_{\delta_1}$</td>
<td>0*</td>
<td>0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>$\theta^2_{\epsilon_1}$</td>
<td>.55</td>
<td>.55</td>
<td>.12</td>
<td>$4.5^a$</td>
</tr>
<tr>
<td>$\theta^2_{\epsilon_2}$</td>
<td>.65</td>
<td>.65</td>
<td>.14</td>
<td>$4.7^a$</td>
</tr>
<tr>
<td>$\theta^2_{\epsilon_3}$</td>
<td>.38</td>
<td>.38</td>
<td>.10</td>
<td>$3.8^a$</td>
</tr>
<tr>
<td>$\theta^2_{\epsilon_4}$</td>
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<td>.11</td>
<td>.09</td>
<td>1.2</td>
</tr>
<tr>
<td>$\theta^2_{\epsilon_5}$</td>
<td>0*</td>
<td>0</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

$a =$ significant beyond .05 (one-tail) $\chi^2 = 15.21$ d.f. = 9 $p \leq .09$

F - Value for $\beta = 5.47$
F - Value for $\gamma = 1.43$

*Fixed parameters
FIGURE 1

THE HYPOTHESIZED NONRECURSIVE RELATIONSHIP

High Consumer Complaint Level

Isolation of Complaint Processing
STUDY 1: A NONRECURSIVE MODEL WITH COVARIATES*

* Correlations between the ξ constructs are omitted for simplification.
FIGURE 3

STUDY 2: A RECURSIVE MODEL

\[ \xi \rightarrow y \rightarrow \eta_1 \rightarrow \eta_2 \]

- \( \lambda_{x_1} \)
- \( \lambda_{y_1} \)
- \( \lambda_{y_2} \)
- \( \lambda_{y_3} \)
- \( \lambda_{y_4} \)
- \( \lambda_{y_5} \)
- \( \epsilon_1 \)
- \( \epsilon_2 \)
- \( \epsilon_3 \)
- \( \epsilon_4 \)
- \( \epsilon_5 \)

\( \delta_1 \)

\( \zeta_1 \)

\( \zeta_2 \)
APPENDIX 1

STUDY 1: VARIABLE CORRELATIONS (N = 128)

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## APPENDIX 2

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APPENDIX 3

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

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REFERENCES


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.


