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EQUIVOCAL INFORMATION AND ATTRIBUTION: AN INVESTIGATION OF PATTERNS OF MANAGERIAL SENSEMAKING

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Organizational research has revealed ample evidence of self-serving attributional patterns in managerial sensemaking, but has not yet resolved whether actor–observer attributional effects also influence managers' sensemaking tendencies. The primary purpose of this study was to investigate whether such actor–observer effects can be detected in managers' interpretation of equivocal information. Results indicate that managers receiving equivocal information about the performance of an organization described as their own credited positive outcomes to organizational strengths and blamed negative outcomes on environmental threats. In contrast, managers receiving equivocal information about an organization described as managed by others associated positive outcomes with environmental opportunities and linked negative outcomes to organizational weaknesses. Both self-serving and actor–observer attributional patterns were thus detected. © 1997 by John Wiley & Sons, Ltd

How do managers develop an understanding of the world around them? What interpretive processes influence managerial activities such as strategic planning, implementation, and evaluation? To answer these and similar questions, organizational researchers have begun to develop models of how managers think and make sense as they perform their jobs. In many of these models, special emphasis is placed on sensemaking under conditions of equivocality (e.g., Kiesler and Sproull, 1982; Smircich and Stubbart, 1985). Typically, sensemaking is defined as an interpretive process in which people assign meanings to ongoing occurrences (Gioia and Chittipeddi, 1991; Weick, 1995). As such, it is a necessary precursor to all purposive activities—planning actions, forming judgments, reaching decisions, and so forth. Equivocality is defined as existing when two or more prospective meanings appear clearly applicable and equally valid (Weick, 1979; Daft and Weick, 1984). In models incorporating sensemaking and equivocality as basic concepts, equivocality usually serves as a sensemaking stimulant that triggers a search for evidence favoring one prospective meaning over others. Related research thus focuses on the kinds of information that managers assimilate—and upon the assimilation process that unfolds—as they try to infuse equivocal situations with unequivocal meanings.

Prominent in this stream of research are studies that focus on attributional processes and related tendencies in managerial sensemaking (e.g., Bettman and Weitz, 1983; Salancik and Meindl, 1984; Clapham and Schwenk, 1991). As initially developed by Heider (1958), attribution theory suggested that people in everyday situations act as 'naive psychologists', collecting data about human behaviors and attempting to assign meanings to those behaviors. Later attribution researchers refined Heider's ideas by describing the types of information that people might consider (Kelley, 1967) and the kinds of dispositional inferences they might make (Jones and Davis, 1965; Jones and Nisbett, 1972) while seeking to reduce equivocality among alternative expla-

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nations (i.e., personal vs. situational causes) for observed behaviors. Based on these refinements, researchers in the field of social psychology have since developed generalized descriptions of the information and processes people bring to bear as they strive to make sense of the surrounding world (Weiner, 1995).

SELF-SERVING BIAS

In one domain of attribution research, social psychologists have focused attention on the tendency people often exhibit to attribute instances of personal success to internal, personal (dispositional) causes, and to attribute instances of personal failure to external, situational (environmental) causes (Snyder, Stephan, and Rosenfield, 1976, 1978; Monson and Snyder, 1977; Kelley and Michela, 1980). For example, applicants awarded jobs often attribute their success to their performance during the employment interview, possession of job-relevant skills, or similar personal factors, while applicants denied positions frequently blame their failure on the interviewer who screened them, the selection procedure used to reach a final decision, or other situational considerations. Likewise, employees receiving promotions tend to explain their success in terms of personal abilities, job performance, or merit, while employees passed over for promotions often attribute their failure to supervisors, company policies, or similar situational factors.

This pattern of sensemaking, called self-serving bias, has been traced to both motivational and informational origins. Researchers describing the motivational underpinnings of self-serving bias have suggested that people attribute success more than failure to personal factors because they are motivated to protect feelings of self-esteem, maintain a sense of mastery over their environment, or project favorable self-images to others (Bradley, 1978; Schlenker, 1980). From this point of view, self-serving attributions grow out of desires to create in oneself and others positive perceptions of one's actions and personal worth (Zuckerman, 1979). Researchers characterizing the informational origins of self-serving bias have suggested that individuals such as the college students selected as subjects in most attributional research are accustomed to success, and tend to associate success with personal effort on the basis of prior experience (Miller and Ross, 1975; Ross, 1977). From this perspective, self-serving bias originates in cognitive structures or mental maps that develop as repeatedly successful individuals grow accustomed to accepting personal responsibility for occurrences of success.

Organizational researchers have detected evidence of analogous self-serving patterns in numerous studies of managerial sensemaking. In an early study, Bowman (1976) analyzed the contents of annual reports published in the food-processing industry. Results indicated that the management of firms with returns on equity in the bottom quartile of the industry blamed this failure on the effects of external, environmental factors such as market competition and government regulation, while the management of firms with returns on equity in the top quartile explained this success in terms of internal, organizational factors such as corporate planning and management expertise. Other studies (Bettman and Weitz, 1983; Staw, McKechnie, and Puffer, 1983; Salancik and Meindl, 1984; Clapham and Schwenk, 1991) then focused analysis on the letters to shareholders published in the annual reports of firms in a variety of industries. Findings, drawn from data that often spanned several years of observation, indicated that such positive outcomes as high profit margins, sales, earnings per share, and revenue growth were routinely credited to internal, organizational origins, whereas such negative outcomes as low profit margins, sales, earnings per share, and revenue decline were typically ascribed to external, environmental considerations.

In related research, Huff and Schwenk (1990) analyzed speeches made by Chrysler executives in the 1970s and 1980s and found greater evidence of the pairing of negative outcomes with environmental causes in speeches given in years in which the company performed poorly, and of positive outcomes with managerial actions in speeches given in years that were better for the firm. Finally, Bateman and Schwenk (1986) reported anecdotal evidence that business executives often attribute favorable corporate performance to their own actions in order to create positive public images, and Duhaime and Schwenk (1985) noted a trend among divisional managers to credit good divisional performance to personal actions and bad performance to external events.

Several of these organizational studies have provided evidence supporting the motivational explanation for self-serving bias (Bowman, 1976; Bettman and Weitz, 1983; Staw *et al*., 1983; Salancik and Meindl, 1984) and some have produced results supporting the informational explanation (Huff and Schwenk, 1990; Clapham and Schwenk, 1991). In common, however, all such research has supported the underlying premise that managers see their organizations as causal extensions of themselves, therefore, that they extend the concept of personal cause to include internal, organizational factors as well as themselves, and that they enlarge the concept of situational cause to include all aspects of the external environment surrounding their organizations. Among managers, then, the self-serving bias identified in attribution research often manifests itself as a tendency to attribute the successful performance of one's own organization to internal, organizational factors. Such factors, typically referred to as *strengths* in the literature on strategic management and organizational performance, are exemplified by beneficial organizational characteristics such as plentiful financial reserves, proprietary cutting-edge technology, and proven management (Hussey, 1968; Stevenson, 1976; Andrews, 1980; Weihrich, 1982; King, 1983; Ireland *et al*., 1987). Suggested by this observation and supported by existing research is the prediction that:

Hypothesis 1: Managers will attribute positive outcomes (successes) of their own organizations to internal, organizational strengths.

In addition, the same self-serving sensemaking bias tends to occur as an inclination to attribute the unsuccessful performance of one's own organization to external, environmental factors. These factors, often called *threats* in the organizational literature, are defined as negative environmental conditions likely to stimulate loss and over which organizational management has relatively little control (Dutton and Jackson, 1987; Jackson and Dutton, 1988). Significant environmental threats include industry competition, consumer hostility, raw material shortages, restrictive regulation, government intervention, and economic stagnation. This definition and related research supports the prediction that:

Hypothesis 2: Managers will attribute negative outcomes (failures) of their own organizations to external, environmental threats.

ACTOR–OBSERVER EFFECTS

Social psychologists studying patterns of attributional sensemaking have also noted the tendency for individuals in the role of observers interpreting others' actions to produce causal explanations that differ markedly from those they produce as actors making sense of their own behaviors. Specifically, in contrast to actors' self-serving inclinations to attribute their own successes to personal causes, observers tend to perceive the situation surrounding other individuals as the primary source of those individuals' successes (Beckman, 1970; Kelley and Michela, 1980). For example, the same individuals who attribute their own successes in gaining employment to personal skills or abilities might credit others' successes in similar endeavors to such external causes as lenient employment criteria or a tight labor market. In addition, in contrast to actors' self-serving tendency to associate their own failures with situational causes, observers tend to attribute observed individuals' failure to characteristics of the individuals themselves (Harvey, Harris, and Barnes, 1975; Snyder *et al*., 1976; Bradley, 1978). Thus, the same employees who blame their supervisors or company policies when passed over for promotion are likely to interpret other employees' career failures as being caused by limitations in those employees' skills, efforts, abilities, and so forth.

Explanations offered by social psychologists for this attributional pattern are again motivational and informational in nature. Motivational explanations are based on the idea that the actor–observer effect contributes to increases in the degree of self-enhancement and self-protection experienced by actors, since it enables each actor–attributor to create a reality in which he or she is more personally responsible for successes and less personally accountable for failures than are other observed individuals (Miller and Norman, 1975; Monson and Snyder, 1977). Comparisons with others thus strengthen self-esteem, positive impressions, and the sense of control over the surrounding environment. Informational

explanations suggest that actor–observer effects grow out of differences between actors and observers in perceptual and experiential perspectives, and that these differences affect the salience and presumed validity of different kinds of information (e.g., Bem, 1972; Jones and Nisbett, 1972). For instance, an actor's visual attention tends to focus more on the surrounding environment than on personal movements, whereas those same movements are primary focal points within observers' visual range. Attributional tendencies are thus pulled in different directions. Exemplifying the consequences of this pull is the 'fundamental attribution error', a pronounced tendency on the part of observers to overestimate the importance of personal factors relative to environmental influences in shaping observed individuals' behaviors (Heider, 1958; Ross, 1977). This and related informational differences explain the origins of actor–observer attributional differences (Goldberg, 1978; Jones, 1979).

Given the apparent validity of the premise that managers in the role of actors extend the concept of personal cause to include both themselves and their own organizations, and that they extend the concept of situational cause to include all aspects of the extraorganizational environment, it seems but a small step to suggest that managers in the role of observers might expand the concept of personal cause to include other managers and the organizations they manage, and that they might also extend the concept of situation to include all aspects of the environments surrounding those organizations. Piecemeal evidence of the resulting actor–observer effects in managerial sensemaking can be culled from several sources. For example, in describing his experience as a strategic planner, Dimma (1985) indicated that he had often noted a tendency among the managers of industry-leading firms to overestimate the strengths of their own companies and underestimate the strengths of other managers' firms. Empirical research by Staw *et al*. (1983) and Barr, Stimpert, and Huff (1992) appears to verify this tendency. Beyond limited evidence such as this, however, our search of the literature indicates that organizational researchers have neither looked for nor discovered direct confirmation of the existence of actor–observer attributional patterns in managerial sensemaking.

Were organizational research to search for this confirmation, two additional hypotheses would need to be added to the two actor-oriented propositions already considered in studies of managerial self-serving biases. One of these concerns the attributional patterns of managers in the role of observers making sense of the successes of other managers' organizations, and reflects findings in social psychological research that observers attribute others' successes to situational origins. In organizational research, such origins are often labelled *opportunities*, and are defined as positive environmental situations in which gain is likely and over which organizational management has at least a fair amount of control (Dutton and Jackson, 1987; Jackson and Dutton, 1988). This leads to the prediction that:

> *Hypothesis 3: Managers will attribute positive outcomes (successes) of other managers' organizations to external, environmental opportunities.*

The final actor–observer hypothesis concerns the attributional patterns of managers as observers making sense of the failures of other managers' firms, and grows out of social psychological findings that observers attribute others' failures to personal origins. In organizational research, these personal origins extend to include negative organizational characteristics, labelled *weaknesses*, that are exemplified by such features as outdated manufacturing facilities, unoriginal research and development, and ineffective marketing (Hussey, 1968; Stevenson, 1976; Andrews, 1980; Weihrich, 1982; King, 1983; Ireland *et al*., 1987). Thus we predict that:

> *Hypothesis 4: Managers will attribute negative outcomes (failures) of other managers' organizations to internal, organizational weaknesses.*

THE PRESENT STUDY

Hypotheses 1 and 2 have received extensive verification in organizational research. However, empirical support for Hypotheses 3 and 4 has yet to be established. To move in the direction of filling this void, the following study was designed to test all four hypotheses. In so doing, its purpose was to provide empirical evidence pertinent to Hypotheses 3 and 4, while also assessing the

larger model of managerial sensemaking formed by the set of four hypotheses proposed in this paper.

METHOD

Analyses for this study were performed in two phases. The first, preliminary phase focused on development of a business scenario patterned after those used in prior research on managerial sensemaking (e.g., Fredrickson, 1985; Jackson and Dutton, 1988; Thomas, Clark and Gioia, 1993; Gooding and Kinicki, 1995) but fitted to the hypotheses raised in this paper. The development process and resulting scenario are described immediately below. The second, primary phase involved administration of the completed scenario to the research sample and assessment of the resulting data. Method information pertinent to this phase of the study is reported later in this section.

SCENARIO DEVELOPMENT

Preparation for our study began with the development of a business scenario consisting of three interrelated parts: first, one of two versions of an introductory description of a fictitious auto supplier company named Clark, either a version written from the point of view of a manager–actor or one written from the perspective of a manager–observer; second, a collection of four statements about outcomes experienced by Clark that were intentionally equivocal in their internal or external origin but well defined in their positive or negative implications; and third, eight questions used to tap respondents' endorsement of internal (organizational) and external (environmental) explanations for Clark's experience of the organizational outcomes described in the scenario.

We began developing the scenario by writing a paragraph introducing Clark and describing its business. The resulting paragraph appears first in the sample scenario instrument shown in Figure 1. Parentheses in this and the second paragraph signify information embedded to produce actor–observer effects, with the first element of each pairing meant to stimulate the actor perspective and the second intended to stimulate the observer perspective.

Our next step was to identify several performance outcomes of businesses like Clark that could be perceived as equally attributable to internal factors (organizational strengths and weaknesses) or external factors (environmental opportunities and threats). For this purpose we recruited a pilot sample of 52 managers from 16 auto-suppliers located in the state of Michigan. Of this sample, 17 (33%) were presidents or general managers, 23 (44%) were senior vice presidents, and 12 (23%) were vice presidents. They had been in the automotive industry for an average of 15.26 years (S.D. = 7.93), in the same firm for an average of 9.96 years (S.D. = 7.74), and in the same management position for an average of 6.08 years (S.D. = 5.68). Each manager in this sample received 40 statements that were drawn from prior research on business performance (Hussey, 1968; Stevenson, 1976; Porter, 1980; Weihrich, 1982; King, 1983; Ireland *et al*., 1987; Ansoff, 1990). Twenty-three of the managers rated the extent to which the 40 statements seemed associated with internal factors, and 29 rated the extent to which the statements appeared related to external factors. Analysis of the resulting data consisted of *t*-tests conducted between averages of the internal and external ratings collected for each statement. The four statements with the smallest differences between averages and the largest averages were selected for use as equivocal statements since the managers in our pilot sample rated them as important but equally reflective of internal or external circumstances. These four statements served as the focus of sensemaking activities in our primary study.

Italicized phrases in the second paragraph of the sample scenario in Figure 1 are the four equivocal statements identified by the pilot sample. Neither parentheses nor italics appeared in the scenarios distributed during the course of our research. All four statements shown in the example are worded to suggest negative outcomes and failure. To create the opposite condition of positive outcomes and success, we reworded the same statements to reflect favorable outcomes for Clark: competitors are failing to introduce more efficient production technologies, suppliers to the firm are becoming more reliable in their delivery of raw materials, the relative quality and performance of substitute products is declining, buyers are more willing to pay a premium price for the firm's product.

For 30 years (your company Clark, Inc./the Clark, Inc. Company) has made hydraulic lines for auto brake systems. About half of (your/the) firm's output is sold to the replacement market and half to auto manufacturers. (Your/The) firm employs 160 people and has annual sales of approximately $17 milliion and total assets of $8 million.

Through your investigation of (your company's/Clark's) situation you have uncovered the following facts. First, *competitors are successfully introducing more efficient production technologies*. Second, *suppliers to (your/the) firm are becoming less reliable in their delivery of raw materials*. Third, *the relative quality and performance of substitute products is improving*. Finally, *buyers are less willing to pay a premium price for (your/the) firm's product*.

Based on the information you have gathered, please answer the following questions. For each item circle the response level that is most consistent with your overall impression. To indicate a response of 'no difference', circle '0'.

1. Clark's productivity will	IMPROVE								DETERIORATE
	+4	+3	+2	+1	0	−1	−2	−3	−4
2. Profit margins in the hydraulic line industry will	IMPROVE								DETERIORATE
	+4	+3	+2	+1	0	−1	−2	−3	−4
3. Clark's competitive position will	IMPROVE								DETERIORATE
	+4	+3	+2	+1	0	−1	−2	−3	−4
4. Industry wide sales will	INCREASE								DECREASE
	+4	+3	+2	+1	0	−1	−2	−3	−4
5. Clark's management is	EFFECTIVE								INEFFECTIVE
	+4	+3	+2	+1	0	−1	−2	−3	−4
6. The hydraulic line industry is	ATTRACTIVE								UNATTRACTIVE
	+4	+3	+2	+1	0	−1	−2	−3	−4
7. Clark has a number of	STRENGTHS								WEAKNESSES
	+4	+3	+2	+1	0	−1	−2	−3	−4
8. Clark's environment presents a number of	OPPORTUNITIES								THREATS
	+4	+3	+2	+1	0	−1	−2	−3	−4

Figure 1. Clark, Inc. scenario

We completed the scenario by constructing two response scales intended to enable respondents in our primary study to record internal (organizational) and external (environmental) attributions after reading the scenario. Items in both scales were written to elicit projective, predictive attributions as opposed to the sort of retrospective, reflective attributions often studied by social psychologists and organizational researchers. This format was chosen due to the observation that the motivational and informational proclivities giving rise to self-serving attributions and actor–observer effects are strengthened by forward-looking concerns about uncertainty reduction and control, but can sometimes be weakened by a sense of inevitability perceived as residing in retrospective accounts (Fischhoff, 1975; Fischoff and Beyth, 1975; Ross and Fletcher, 1985). One of the two scales consisted of four bipolar items asking about perceptions of Clark's strengths and weaknesses (internal factors), and the other consisted of four bipolar items asking about perceptions of opportunities and threats in Clark's environment (external factors). Two items in each scale were written to produce conspicuous face validity: for the internal scale, one of these items asked for an evaluation of Clark's management, and the other asked for an assessment of Clark's organizational strength or weakness; for the external scale, one of the items asked for an appraisal

of Clark's industry, and the other asked for an evaluation of the opportunity or threat present in the firm's environment. The remaining two items in each scale were included on the basis of responses from the pilot sample of 52 managers, 23 of whom rated the extent to which 16 items seemed indicative of internal factors and 29 of whom assessed the degree to which the same 16 items appeared indicative of external factors. Items chosen for inclusion in our scales were those with the largest mean internal or external rating and the greatest difference between internal and external mean ratings. Consequently, the four items thus chosen were both distinctive and characteristic examples of either internal or external factors. The final set of eight response items appears last in the scenario instrument shown in Figure 1. Items 1, 3, 5, and 7 form the internal scale and items 2, 4, 6, and 8 make up the external scale.

For the pilot sample the four items in the internal scale yielded a coefficient alpha of 0.92 and the four items in the external scale produced an alpha of 0.75. Marginally acceptable scale reliability such as that of the external scale is a common characteristic of instruments devised to measure the internal–external dimension in attribution research (Peterson and Villanova, 1988; Kent and Martinko, 1995). In addition, the two scales showed significant intercorrelation ($r = 0.57,\ p \leq 0.01$) although in every instance each item comprising one of the scales was more strongly correlated with its own scale (after exclusion of the item from the scale) than the other. As argued by Solomon (1978), this interscale obliqueness reflects the fact that internal and external attributions are not inversely related—instead they tend to be produced together as alternative explanations for observed behaviors—and thus is actually a desirable measurement quality. Relative to the present study, its principal effect was to make the tests performed during the primary phase of our analyses more conservative than would have been the case had the scales proven to be orthogonal.

PRIMARY SAMPLE AND PROCEDURE

The sample for the primary phase of our study consisted of participants in an executive MBA program held near Detroit, Michigan, a metropolitan area in the United States known for its ties to the auto industry. Program records indicated that all 102 individuals in our sample were current managers with an average of 9.16 years of managerial experience (S.D. = 5.40). Twenty-four held the position of president or vice president, 37 worked as middle managers, and 41 were supervisors or technical managers. Sixty-one were from the automotive manufacturing or supplier industries, 16 were employed in the computer industry, 8 worked in medicine and health care, and the remaining 17 were from various other service-oriented industries (e.g., advertising, banking, insurance).

Instruments containing a scenario and the eight response items were distributed and returned during a single classroom session. One-fourth of the sample ($n = 26$) responded to a scenario written from the perspective of a manager–actor making sense of his or her own organization's receipt of positive outcomes; one-fourth ($n = 26$) responded to a scenario written from the viewpoint of a manager–actor making sense of his or her own organization's receipt of negative outcomes; one-fourth ($n = 26$) responded to a scenario written from the perspective of a manager–observer making sense of the receipt by another manager's organization of positive outcomes; and one-fourth ($n = 24$) responded to a scenario written from the perspective of a manager–observer making sense of the receipt by another manager's organization of negative outcomes.

To simplify the computation and interpretation of results, responses were rescaled such that the original response interval of +4 to −4 was converted to one of 1 to 9. For each individual in the sample, rescaled responses were then averaged across the four internal items and the four external items to produce internal and external scale scores, respectively. Intercorrelation between the two scales was 0.55 ($p \leq 0.01$); the coefficient alpha for the internal scale was 0.74 and for the external scale was 0.71. Hypothesis testing was performed using difference scores computed by subtracting internal scale scores from external scale scores. In addition, we also examined trends in each scale (internal and external) independently, in deference to Edwards' (1993, 1994; Edwards and Parry, 1993) suggestion that arithmetic differences sometimes obscure important effects of each of the measures incorporated in

difference calculation, thus contributing to troublesome conceptual ambiguity and clouding the assignment of empirical cause. Each of the three types of measure (difference, internal, external) was averaged for each of the four groups of respondents, and *a priori* comparisons were then conducted among group averages.

RESULTS

Consistent with the four hypotheses considered in this study, the results of a 2 (perspective—actor, observer) × 2 (outcome—sucess, failure) ANOVA of averaged difference (internal–external) scores failed to show evidence of statistically significant main effects for perspective ($F(1, 101) = 0.42$, n.s.) or outcome ($F(1, 101) = 0.02$, n.s.), but succeeded in revealing a statistically significant interaction between perspective and outcome ($F(3, 99) = 19.22$, $p \leq 0.01$). Shown in the first row of Table 1 are the four cell means examined in this analysis. Positive means denote instances of respondent sensemaking dominated by internal, organizational attributions, and negative means denote instances of respondent sensemaking dominated by external, environmental attributions. As indicated by Bonferroni *t*-statistic comparisons among these means, both internal means are of approximately the same magnitude, as are both external means, but the two internal means differ in size from the two external means to a statistically significant degree ($p \leq 0.05$). This pattern of results corresponds precisely with the predictions of Hypotheses 1–4. Specifically, as predicted by Hypothesis 1, managers in the role of actors making sense of successes of their own organizations attributed positive outcomes to internal (organizational) strengths; as proposed in Hypothesis 2, managers in the role of actors making sense of failures of their own organizations attributed negative outcomes to external (environmental) threats; as advanced in Hypothesis 3, managers in the role of observers making sense of successes of other managers' organizations attributed positive outcomes to external (environmental) opportunities; and, as suggested in Hypothesis 4, managers in the role of observers making sense of failures of other managers' organizations attributed negative outcomes to internal (organizational) weaknesses.

Results of the two ANOVAs of the underlying internal and external measures, shown in the second and third rows of Table 1, indicated that both had effects in determining the difference scores assessed in the primary ANOVA, since for each type of measure the test of interaction effects and planned comparisons among cell means showed evidence of statistical significance. Both of these ANOVAs also revealed statistically significant outcome effects, and comparisons among cell means showed evidence of larger effects under conditions in which respondents were asked to make sense of negative outcomes. Besides being traceable to the interscale obliqueness described earlier, this latter finding seems most parsimoniously explained as resulting from a scaling or consistency effect in which respondents reacting to positively worded scenarios registered positive (lower-numbered) scale responses, while respondents reacting to negatively worded scenarios recorded negative (higher-numbered) scale responses. Thus, for example, scenarios indicative of lower supplier reliability and lower price elasticity led respondents, whether in the role of actor

Table 1. ANOVA Results

Attribution type	*F* (Effect)			Cell means[a] (Hypothesis number)			
	Perspective	Outcome	Interaction	1	2	3	4
Difference	0.42	0.02	19.22**	0.42_a	-0.79_b	-0.64_b	0.71_a
Internal	0.05	60.94**	10.95**	3.82_a	5.04_b	2.88_c	5.88_b
External	1.51	57.88**	3.36*	3.39_a	5.83_b	3.52_a	5.04_c

[a]For each row, differing cell mean subscripts designate statistically significant differences ($p \leq 0.05$) per Dunn's Multiple Comparison tests performed using Bonferroni *t*-statistics.
*$p \leq 0.05$; **$p \leq 0.01$

or observer, to register responses suggesting that both Clark and its automotive supply industry would likely suffer ill effects. A similar pattern did not emerge in the results of our primary ANOVA of difference scores due to the standardizing effects of differencing.

In revealing this response tendency, the results of our ANOVAs of internal and external scale scores are in conformance with Solomon's (1978) observation, noted previously, that internal and external attributions tend to be produced together in reaction to observed phenomena. This finding does not jeopardize our ability to interpret the primary results of this study, since the study was designed with the intention that positive–negative differences would be clearly apparent and readily perceived. It was internal–external differences among outcomes that were developed to be equivocal and to serve as the focus of our research.

DISCUSSION

The results of our study confirm the pattern of attributional tendencies predicted by the four hypotheses reviewed in Figure 2. For the managers who served as respondents in our study, it mattered whether sensemaking was engaged in from the perspective of actors making sense of their own organizations or of observers making sense of other managers' firms. As actors, respondents' sensemaking showed evidence of self-serving inclinations to credit organizational strengths for organizational successes and blame environmental threats for organizational failures. As observers, respondents' sensemaking showed the contrasting inclination to attribute organizational successes to the environmental opportunities and explain organizational failures in terms of organizational weaknesses.

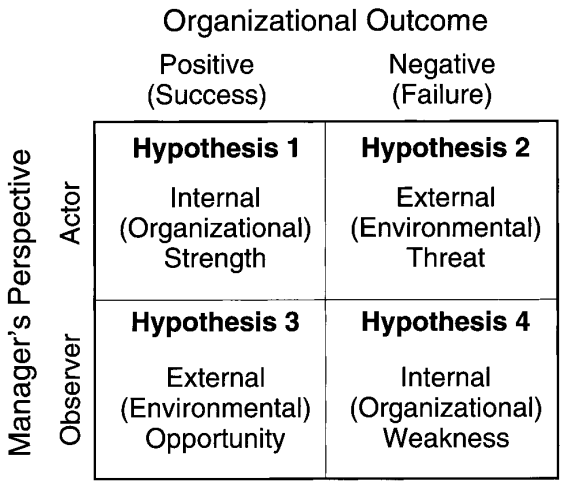

Figure 2. Attributional tendencies under different sensemaking conditions—manager–actors are making sense of the outcomes of their own organizations; manager–observers are making sense of the outcomes of other managers' organizations

To the degree that these results generalize across sites and settings, as seems probable based on corollary evidence reported elsewhere (e.g., Dimma, 1985; Barr *et al.*, 1992), they hold importance for research on managerial sensemaking and for managers engaged in sensemaking processes. In providing additional evidence of self-serving bias, they replicate the findings of prior organizational research (e.g. Bowman, 1976; Staw *et al.*, 1983; Huff and Schwenk, 1990) and strengthen confidence in the validity and generalizability of those findings. In providing initial evidence of actor–observer effects, they suggest for the first time that attributional biases that influence the sense made of other managers' actions typically differ from those that influence the sense made of one's own managerial activities. Managers in the role of actors are likely to exhibit significantly different sensemaking proclivities than are managers in the role of observers.

Implied by these findings is the possibility that everyday attributional tendencies form a pattern of managerial sensemaking having dire consequences for organizational success and survival. Research in other domains has indicated that competitive actors engaged in the assessment of themselves relative to their competition tend to show evidence of overconfidence, either by overrating themselves or by underrating competitors (Einhorn and Hogarth, 1981; Farber, 1982; Fischhoff, 1982; Zajac and Bazerman, 1991). We now suggest that this tendency may originate in self-serving bias that leads managers to credit themselves and their firms for organizational success and attribute failure to external, environmental factors outside their control, and in actor–observer differences that lead these same managers to discount the success of other managers' organizations by ascribing them to environmental origins even as blame for organizational failure

is placed on the organizations and their management.

Overconfidence in 'self' and underestimation of 'other' seem capable of promoting a dangerous drift toward managerial complacency and self-satisfied inaction. Evidence that this scenario actually occurs can be found throughout the contemporary business world, including the pattern of overconfidence, underestimation, and complacency exemplified by IBM's unwillingness, in the late 1980s, to reduce dependence on mainframe sales despite declining worldwide sales of centralized computer systems and competitors' gains in sales of smaller units; in Kodak's continued entrenchment, during the early 1990s, in the U.S. market for photographic film, paper, and chemicals despite increasing competition from Fuji, Inc. and other low-cost producers; in American Express's steadfast refusal, also during the early 1990s, to lower processing fees to those of competitors Visa and Mastercard and stave off merchant defections; and in General Motors' refusal, until the late 1980s, to acknowledge and respond to the quality advantages enjoyed by foreign competitors. In each of these companies and in many others like them, managerial inactivity was disrupted only by stockholder actions that forced management to downgrade its assessments of its own firm and readjust upward its evaluations of competitor organizations. Wholesale replacement of top management communicated the unequivocal message to those managers who remained that prior interpretations of the relative merits of the organization and its competitors would no longer be considered acceptable.

A complacency effect of this sort has been speculated about in prior sensemaking research (e.g., Bettman and Weitz, 1983; Clapham and Schwenk, 1991). For researchers, the present study adds a new explanation for this effect that seems plausible and merits additional investigation. For practicing managers, it outlines a pattern of faulty sensemaking that should be anticipated, sought out, and when discovered, corrected.

More generally, the findings and implications of this study suggest important theoretical and practical reasons for continuing research on managerial sensemaking under equivocal conditions. In indicating that managers' interpretations of organizational performance depend on whether they are considering the performance of their own organizations or the organizations of other managers, this study adds to what is already known about managerial sensemaking and supports continued attention to interpretive outcomes as described in the framework of attributional tendencies developed herein. In research along these lines, we suggest that future studies look for additional evidence of actor–observer effects, so as to better ascertain their generalizability and further assess their consequences, and that researchers also continue to examine the process of managerial complacency and drift toward organizational failure that seems traceable to such attributional biases. Resulting research on managerial sensemaking will contribute to a more complete understanding of how managers reduce equivocality and create meaning in the course of performing their work.

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