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PREDICTING SALESFORCE REACTIONS TO NEW TERRITORY DESIGN
ACCORDING TO EQUITY THEORY PROPOSITIONS

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by

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More money is spent on personal selling than any other aspect of marketing, and the average cost per dollar of sale is rising each year. Given this level of investment, it is not surprising that increased sales force productivity was identified as a key concern of top management (Webster 1981). Though not appropriate in all situations, deploying salespeople according to specific geographic boundaries is one avenue to increased sales productivity. Whether increased sales productivity is indeed realized will depend both on how well management structures these sales territories and the salesforce's reaction to the new territory structure.

A number of good computer based models have been developed to aid management in designing and redefining sales territories (Beswick and Cravens 1977, Hess and Samuels 1971, Lodish 1974 and 1975, Parsuraman and Day 1977). While differing somewhat in software and inputs, all territory design models attempt to create territories consistent with management's marketing strategy, while treating salespeople "fairly." Territories consistent with marketing strategy should increase the sales manager's effectiveness in planning sales strategy, assigning accountability, and monitoring performance (Stanton and Buskirk 1979, Churchill et al. 1981). At the same time, it is important that salespeople see these territories as having been fairly constructed since these perceptions will influence motivation, effort, and satisfaction (Klein 1973).

While presently available territory design models are capable of designing territories consistent with management's marketing strategy, a better understanding of salespeople's perceptions of fairness will help management realize some of the potential productivity gains of which these models are capable. The total potential of these models is not being presently realized because management is only partially implementing the new designs out of fear of

disrupting the salesforce (Beswick and Cravens 1977, Lodish 1975). However, harmful disruptions are likely to be minimized if the salespeople see the new territories as being fair. Existing analytical models attempt to create "fair" territories by equalizing objective measures of each territory's workload. However, empirical studies of territory sales response have frequently found that the relationship between sales and objective workload measures were inconsistent with the prior workload hypotheses of lower sales (Cravens et al. 1972, Cravens and Woodruff 1973, and Lucas et al. 1975). In a review of these studies, Ryans and Weinberg (1979) concluded that "new operationalization (of workload) will be required." This suggests that management's concern for salespeople's reactions to these designs may be justified. A number of studies (Farkas and Anderson 1979, Hinrichs 1969) have shown that individuals will differ in their judgments of the fairness of a situation. This suggests that explicit consideration of salespeople's fairness perceptions should be incorporated into the territory design process in order to minimize disruptions.

As a result, this paper will outline a new approach to incorporating workload measures into the territory design process. To the extent that workload equalization is intended to create fair territories and to minimize the disruptions that may result, then perceptions of the individual salesperson should be incorporated into the design process. It will be argued here that these perceptions should be based on recent developments in equity theory. This theory for predicting people's equity evaluations will be reviewed and its main propositions explicated. Recent field research efforts will be used to expand the application of equity theory to the sales territory situation. Finally, a process for anticipating judgments of inequity in the territory design process is outlined.

Sales Territories

A sales territory is a group of present and potential customers that are assigned to an individual salesperson [Churchill et al. 1981]. Though frequently including specific geographic boundaries, the customer is the key element of the sales territory. So, for example, specific geographic boundaries may not be necessary when personal friendships and acquaintances are important to the transaction or when sales personnel are highly specialized in a technical area. However, specific geographical boundaries are usually found in most regional and national firms.

Sales managers generally are very aware of the critical nature of sales territory design to the productivity and success of the sales organization. In a 1977 survey of sales managers, time and territory management was ranked the number one problem for salespeople [Research Institute for Sales Executives, 1977]. Actually, time management includes at least three levels of decision making: the total size of the sales force, the designing of territories, and the routing or call-pattern between customers. In one study, territory design was estimated to have a greater influence on results than variations in size [Beswick 1973]. Properly designed sales territories will facilitate management of the sales force as a result of clarifying accountability as well as providing a basis for performance evaluation. Furthermore, sound territory arrangement should encourage salespeople to cultivate their customers more thoroughly and to improve the quality of account service.

In addition to serving as a useful and effective management tool, properly designed sales territories can also dramatically influence the individual salesperson's interest and morale. For example, the delineation of territories is likely to encourage feelings of results responsibilities similar to

"being in business for themselves." However, for territories to be a motivating force, the sales force must perceive the territory design as being fair. "Certainly no man will be content with what he considers an inferior assignment while his colleagues seem to be making more money with less effort because of superior territories" [Brice 1967].

In summary, increased productivity may result from properly designed territories because of their value as a management aid and as a stimulus to greater salesperson motivation. So, how should sales managers go about attempting to design sales territories that are equal in terms of both sales potential and sales representatives' workload? Although no survey of how sales managers design territories has been conducted recently, the most popular technique is probably the "build-up" process which involves the following five steps [Dalrymple 1982]:

- ° Select geographic control unit (i.e., state, county, city, SMSA, etc.)
- ° Decide on allocation criteria
- ° Choose starting points
- ° Combine adjacent control units
- ° Compare initial territories on allocation criteria.

Each of these steps is discussed thoroughly in a number of the leading sales management texts and so will not be reviewed here. However, it is important to point out that the most fundamental objective of this process is to create territories that are equal along some allocation criteria. Ideally, these criteria should have both managerial significance as well as being important to the salespeople's perceptions of equity and fairness. In practice, a number of difficulties arise in attempting to follow these five steps.

- The size of the computation problem involved in designing territories may be prohibitive for large firms or those with a large customer base. While computers can be very helpful in handling and storing the large data bases usually required, software packages are needed to assimilate the information to meet multiple allocation criteria.
- Sales may not be maximized because of rigid call frequency procedures based on account sales or potential. The basic problem is that other call frequency policies may result in higher sales and drastically altered sales territory designs (Lodish 1974). What is needed is an explicit sales response function based on sales effort towards different customers.
- Firm profits are not explicitly considered because the cost implications of various designs are not related to their demand potential. For example, minimizing travel time may also result in lower demand when nonproductive accounts are called on in a geographic area (Lodish 1974).
- Sales force time allocation involves more than just a redesign of territory boundaries. For example, the size of the sales force will determine the total number of hours that are available and thereby influence territory design. There is also interaction between call frequency decisions and territory design. Concentrating on territory redesign without explicitly attacking the problems of sales force size and customer call frequency is likely to lead to significant suboptimization in sales force time allocation (Beswick 1977).
- Most companies are selling multiple products, so optimal time allocation must consider the responsiveness of different customer segments to the various product offerings. Presently, sales effort allocation to products is typically a negotiated compromise among product managers (Lodish 1980).
- This process treats effort as being essentially homogeneous. That is, the quality of effort is identical between different salespeople and under all circumstances for the same salesperson. Most sales managers are very aware of ability and motivation differences between their salespeople, but how territory characteristics influence the salesperson's motivation and perceptions of fairness is not understood as well. Despite considerable evidence that task environment will influence the worker's feelings of satisfaction and motivation (Greene and Organ 1973, Schwab and Cummings 1970), no explicit guidelines have been developed for territory designs that maximize salesperson satisfaction and motivation.

Analytical Models for Designing Territories

To help in alleviating the problems noted in designing sales territories, a variety of analytical models have been developed over the past ten years to assist managers in the time allocation problem. Though these models differ in terms of their data base requirements, use of management judgments, and criterion for territory equalization they all address one or a combination of the following resource questions:

- ° How large should the sales force be?
- ° Which customers, control units, or customer segments should be assigned to each salesperson?
- ° Within their territories, how often should the salespeople call on each customer?

These models have evolved such that later models explicitly deal with most of the problems noted earlier while retaining the essentially "build-up" approach of the five-step process noted earlier.

The earliest analytical approaches attacked the problems of large data requirements by attempting to create territories that are equal in terms of workload. As an outgrowth of legislative districting problems, Hess and Samuels (1971) developed a model to equalize "activity" between territories while minimizing travel time within each territory. Easingwood (1973) took a somewhat similar approach by attempting to equalize workload between territories, but did not attempt to minimize travel time. Though both models are fairly efficient in handling the large amounts of data required in territory design, neither explicitly considered either the sales or profit consequences of their designs. In addition, the quality of effort is considered to be homogeneous between different salespeople.

Using integer-programming, Shanker et al. (1975) developed a procedure that generated a set of territory designs from which the one that maximizes

total sales is chosen. A piecewise linear sales response function of sales versus number of calls was developed for each customer based on salesperson estimates. In this manner both sales results and implicit differences in effort quality are incorporated in the final territory design. Furthermore, this model also specifies the optimum call frequency for each customer.

While the Shanker et al. model made significant advances from earlier models, it fails to explicitly consider profit consequences of its design and does not address the issue of sales force size. Basically as an outgrowth of experience with CALLPLAN (1971), a model-based system for determining the optimum number of sales calls to individual customers, Lodish (1975) developed an allocation model using mathematical programming and a heuristic solution process to organize geographic subareas into territories. Profits are maximized by allocating additional sales effort to territories where the marginal increases in profits from additional effort are greatest. While this solution process assumes a fixed sales force size, estimates of marginal profits from additional effort can be compared to marginal costs to determine the optimum sales force size. In addition, the program is designed to answer such questions as: which salespeople should cover each subarea, how many trips should be made to each subarea, and how much time should be spent calling on accounts once the salesperson is in the subarea. Though the results are not optimum, this model can also be modified to determine which products are more or less responsive to detailing efforts to multiple customer segments (Lodish 1980).

Despite the many advances achieved by the Lodish model, approximately correct sales response estimates are essential to the results of the process. A number of authors have found that people tend to be very conservative in estimating probabilities at the extremities of distributions (Holstein 1971, Winkler 1967). Managements' estimates of sales responses to zero calls and

saturation call levels are essential to constructing the sales response functions in the Lodish model. Since these are not likely to be within the experience of the salesperson or sales manager, these estimates will tend to be very conservative resulting in incorrect response function designs.

When a company has been operating in multiple territories over a period of time, it may not always be necessary to rely on management estimates of response functions because empirically based response functions can be constructed using multivariate data analysis. Beswick and Cravens (1977) have shown that an empirically based response function can be estimated for customer control units when data are available. Sales response is estimated to be a function of selling effort, workload, potential, company effort, company experience, salesman quality, and other marketing variables. Beswick (1977) has also developed an extremely fast dynamic programming algorithm in which the output indicates optimum sales force size, aids in redesigning sales territories, as well as forecasting and evaluating salesperson performance. Profits can also be forecasted by this model when salespeople are paid on commission and production costs per unit remain the same.

In summary, analytical models have come a long way in addressing many of the key problems in developing theoretically optimal sales territories. However, actually generating the sales and profits predicted by the models will greatly depend on the quality of effort put forth by the sales force. One important influence on the sales force's effort levels will be their reaction to territory changes.

The importance of salesperson acceptance of the redesigned territories has been recognized by the various territory design model builders. In discussing the different types of territory alignment models Zoltners (1979) considered management adjustments for behavioral factors such as a final and

formal step in the redesign process. When using their territory model in an actual company situation Beswick and Cravens (1977) noted that few of the recommended changes were initiated immediately so as to not disrupt the sales force. Even in models calling for considerable management inputs in formulating territories, the final territory design is likely to require adjustments. Lodish recommended that:

The model should not be solved exactly and implemented without any adjustments. Large scale restructuring of the sales force typically involves many emotional consequences. Behavioral variables, such as the salesmen's personal relationship with certain accounts, their habit patterns, their prestige, and their remuneration may be affected by territory realignment and are not included explicitly in the model (1975, p. 33).

While some disruption and uncertainty is likely to accompany any change in a salesperson's work environment, adverse reactions will probably be minimized when the salesforce sees the resulting territories as being fair. In anticipation of possibly adverse reactions to territory changes, some companies will guarantee an income level over a period of time to salespeople whose territories have been altered (Plane 1962).

Perhaps somewhat more subtle, but potentially of equal importance to pay, are salespeople's reactions to the workload of the new sales territories. For example, people would probably consider it to be unfair if they have to work harder in the new territory to achieve the same income level as before the change. Salespeople are also likely to react negatively to territory changes when they think it results in their having to work harder than other salespeople either inside or outside of the firm. Again, adverse reactions are especially likely when they do not see an equitable payoff from this higher workload level.

The analytical models for developing sales territories have attempted to correct for problems arising from workload comparisons by balancing the workload between the new territories. For example, Hess and Samuels attempted to minimize travel time within each territory in conjunction with equalizing a number of activity measures such as number of calls, number of customers, or total salesperson's time. Later models that focused on sales and profit maximization also took workload level into account. Beswick and Cravens included a workload factor, average account size, when developing their empirically based sales response function. A potential problem with using objective measures is that the salesperson's perceptions of workload are likely to be influenced heavily by such individualistic factors as their own personality, career stage, sex, etc. As a result, salespeople are likely to perceive even perfectly balanced objective workload measures as being unfair.

The results of territory sales response studies have also raised questions concerning the limits of current objective measures of territory workload. In a review of the empirical research efforts devoted to identifying and measuring factors directly influencing the performance of individual salespeople, Ryans and Weinberg (1979) concluded that workload, as operationalized by the number of accounts in the territory, had not been found to be an important determinant of sales in a territory. In two instances, workload was positively related to sales volume, while in the other three cases no statistically significant relationship to sales volume was found. In conclusion, they noted that: "To the extent that workload is to be retained as a construct in sales response models, new operationalizations will be required." (p. 464) It may be that the workload situation can be better modeled within the psychology of the individual.

As it presently stands, some of the productivity gains stemming from the territory design models may not be realized because of salespeople's reactions to the final design. In fact, the recommended territory design may never actually be implemented because of possible disruption to the salesforce. Therefore, a better understanding of possible reactions by the salesforce to territory adjustments may be necessary to realize the full potential of these models. While it may not be possible to satisfy each salesperson, and this is probably not an appropriate objective, it is necessary that most salespeople perceive the new territories as being fair and equitable. It may therefore be beneficial for the salesmanager to understand how people go about making judgments as to the fairness of a proposed organizational change.

Equity Theory

Though theories of equity perceptions can be traced back as far as Aristotle (Walster and Walster 1975), there has been a considerable amount of research on equity/inequity in the recent management literature. Though the early research on equity theory concentrated on perceptions of pay inequity and its relationship to performance (Campbell and Pritchard 1976), the more recent studies have extended the application of equity theory to a variety of employee/organization interactions (Telly, French and Scott 1971). These recent studies have found strong support for the equity theory propositions which suggests that equity theory may be an appropriate framework within which managers can evaluate and predict reactions to territory changes.

Based on cognitive dissonance and social comparison processes, equity theory is a cognitive theory concerning individual perceptions of the equity between inputs and outcomes. Although several models dealing with equity concepts have been proposed (Homans 1961, Jacques 1961, Patchen 1961), Adam's

formulation (1965) has stimulated the greatest amount of research. Included in this formulation are (a) the nature of a person's inputs and outcomes in an exchange relationship, (b) the social comparison process that is used by the individual, (c) conditions leading to perceptions of equity or inequity, (d) the amount of psychological stress that is likely to occur as a result of inequity, and (e) the behavioral and cognitive actions a person may take to reduce feelings of inequity. Though equity theory is amenable to analyzing entire cultures, Adams was particularly concerned with the exchange process that takes place between the organization and the individual occupying an organizational role.

The primary proposition of equity theory, referred to as the "equity norm," is that individuals review the inputs and outcomes of themselves and others, and in situations of inequity, experience greater cognitive dissonance than individuals in equitable situations. When participant A perceives a relationship to be equitable, then:

$$\frac{\text{Outcomes}_A}{\text{Inputs}_A} = \frac{\text{Outcomes}_B}{\text{Inputs}_B}$$

Outcomes may be either positive rewards or negative costs resulting from the relationship. Likewise, inputs may take the form of either assets or liabilities. Inequity occurs when one person (A) perceives that their input/outcome ratio is less than that for person or group (B). Outcomes refer to the results that are being evaluated. These results may be positive, such as rewards, or negative in the sense of costs. Although pay as an outcome has received the most attention in the equity literature, feelings of recognition, achievement and satisfaction are also considered to be possible outcomes. Inputs represent both the assets and liabilities that the person brings to the job such as age, education, effort and skill (Goodman 1974). That inputs and

outcomes may be either positive or negative may lead to potential ambiguities in constructing the input/outcome ratio for the comparison person. For example, if a comparison person persistently gets to work late, the observer may view this either as a low input (less time put into the job) or as a high outcome (shorter hours and more time for himself). In noting this ambiguity, Weich (1966) suggested that this may lead a person to cognitively distort their comparison ratio so as to achieve equity. Also, most recent research indicates that people use multiple equity referants and construct general equity standards for their comparison. As a result, ambiguities with single person comparisons as in the above example may not reflect the comparison process in the natural field setting.

Early equity theory tests were almost exclusively laboratory experiments (Austin and Walster 1974, Meese et al. 1973, Radinsky 1969, Wicker and Bushweiler 1970) in which pay level served as the only outcome. Inputs were manipulated by informing subjects that they were either over or under qualified for the task. These manipulated inputs and outcomes served as the independent variable(s) with subjects' perceptions of equity as the dependent variable(s). Several good reviews of these experiments have been compiled (Pritchard 1969, Goodman and Friedman 1971, Adams and Freedman 1976) and have each concluded that the equity norm and its propositions have received strong empirical support.

While laboratory experiments have provided strong support for the equity norm, they also have a number of limitations. Certainly student subjects, specified comparison persons, and a limited number of inputs and outcomes restrict the generalizability of these results to members of existing organizations. As a result, a limited number of field studies (Finn and Lee 1972, Goodman 1974, Telly et al. 1971, Zedeck and Smith 1968) have been conducted

using employees in existing organizations. As expected, the relationship between equity and performance is somewhat weaker in these studies by comparison to earlier laboratory settings, but the influence of exogenous variables can not be controlled as well in the field. In general, these studies have supported the equity norm. In addition, they have added to our understanding of the equity valuation process in showing that employees differ in their sensitivity to pay inequities (Zedeck and Smith 1968), that perceptions of inequity are among the reasons for turnover and absenteeism (Telly et al. 1971), that multiple comparisons with people both inside and outside of the organization are likely (Klein 1973, Goodman 1974), and that multiple aspects of pay are likely to be evaluated (Carrell and Dittrich 1976, Carrell 1978). Primarily, these studies have shown that while equity valuation may be a complex and dynamic process in the organizational setting, it can be measured and an improved understanding of the process is possible.

Measurement of Inequity

One of the basic propositions of equity theory is that the greater the perceived inequity, the greater is the strength of the behavioral tendency towards reducing inequity (Campbell and Pritchard 1976). Determining the degree of perceived inequity is therefore important to predicting whether a proposed change will actually have a disruptive influence on people in the organization. For example, the greater the perceived inequity of the new sales territory, the more likely that the salesperson will adjust their inputs or change perceptions of their customers. A number of mathematical models of psychological inequity have been proposed in the theoretical inequity literature. Adams' (1965) representation was that equality could be represented by the following equation:

$$\frac{O_A}{|I_A|} = \frac{O_B}{|I_B|}$$

One problem with this representation is that negative inputs are not accounted for in Adams' equation. More recently, Farkas and Anderson (1979) have proposed a formula for describing the cognitive algebra involved in equity judgments. Based on an information integration theoretic viewpoint, their model is:

$$\frac{I_A}{(I_A + I_B)} = \frac{O_A}{(O_A + O_B)}$$

Vecchio (1982) found that the Anderson-Farkas mathematical representation of psychological inequity was marginally superior to the Adams' model for predicting worker performance.

In both the Adams and Anderson-Farkas models, an index of inequity can be represented by a single ratio by transforming the resulting inequality. For example, if $I_A = 2$, $I_B = 2$, $O_A = 2$, $O_B = 1$, then the equation result for the Anderson-Farkas model is the following:

$$\frac{2}{(2 + 2)} \neq \frac{2}{(2 + 1)}$$

.50 .67

The transformation of this inequality into a single ratio obtains an inequity index of 1.34. In general, an index value of 1 represents equity, while an index value greater than 1 represents the relative degree of overcompensation inequity, and an index value less than 1 represents the relative degree of undercompensation inequity. It is important to distinguish between the inequities of over- and undercompensation because people are likely to take different strategies in resolving these inequities.

In addition to examining the degree of perceived inequity researchers have examined the effects of demographic factors on equity perceptions. In one study (Hinrichs 1969) individuals' perceptions of equitable pay was significantly affected by their current pay level, education, age and sex. Other laboratory studies (Taynor and Deaux 1973 and 1975) have found that the sex of a comparison person influences perceptions of the comparison person's inputs. As further influence that sex is an important demographic variable in influencing a person's equity perceptions, Wahba (1979) found that the individual's own sex influenced their equity perceptions. Although these studies have all used student subjects in a contrived laboratory setting, these results do suggest that management should be aware of demographic differences between people in attempting to predict their reactions to organizational changes. In the sales territory context, it may be especially important in making final adjustments to proposed territory changes to consider both the person's previous territory characteristics as well as their age and sex.

Resolution of Inequities

In addition to examining the amount of perceived inequity, theoretical discussions and studies in equity theory have also concentrated on how people will act to resolve inequitable situations. Recall that one of the basic propositions of equity theory is that an inequitable exchange situation will create a tension within a person and that the person will be moved to act in order to release this tension. Adams (1965) listed several ways in which a person may act to resolve perceived inequities. First, a person may vary their inputs by either decreasing or increasing them, depending on whether the inequity is advantageous or disadvantageous. Specifically, a person can resolve feelings of inequity in an overpayment situation by increasing their

inputs, while a decrease in inputs is most likely in an underpayment situation. Whether a person actually alters their inputs in an inequitable situation will depend partially on whether relevant inputs can in fact be altered in this particular relationship. Sex, age, seniority and ethnicity, for example, cannot be changed. Likewise, education and skill cannot be easily changed and require time to substantially alter. In an organizational situation daily starting and quitting time, absenteeism, work preparation, efficient work scheduling, and quality of work are more easily and immediately altered to resolve inequity. This is particularly true in the sales force situation because these inputs are generally free from direct observation and the salesperson may not perceive a close relationship between these inputs and sales volume. The salesperson is especially prone to make these judgments when performance formance is checked infrequently, thereby allowing the person time to later make up for any present performance shortcomings.

There are a number of situations in which a person is most likely to alter their inputs to resolve inequity. If the person perceives that the discrepancy between inputs and outcomes is primarily a function of his inputs being at variance with the comparison person or group, then they are most likely to change their own inputs. Inequities in territory workload are most likely to be interpreted as causing discrepancies in inputs. For example, a person with a territory requiring an exceptional amount of overnight traveling and roughly equivalent sales potential is most likely to resolve any perceived inequities by changing his inputs. Although workload has not been conceptually defined in previous empirical works, it can be thought of as the relative amount of input required to generate the same sales volume. However, inputs are perceived by the individual and these perceptions may or may not conform with objective measures because people will weight inputs differently.

Adams also suggested that inputs are not as likely to be adjusted in the overpayment situation as in underpayment. This is based on the assumption that people are basically selfish and therefore prone to maximize outcomes while minimizing inputs. Adams also proposed that a person's threshold for perceived inequity is higher in the overpayment than in the underpayment situation. That is, people are more sensitive to underpayment than to overpayment. Input reduction in the underpayment situation has been examined in a number of laboratory studies (Evan and Simmons 1969, Pritchard et al. 1970). Previous reviews of these studies (Goodman and Friedman 1971, Pritchard 1969) have concurred in that people may reduce inputs to resolve underpayment inequity. Mixed support was found for the overpayment situation.

A second general means for resolving inequities is for the person to alter their outcomes. Increasing outcomes will reduce inequity in the underpayment situation, while reducing outcomes will resolve inequity in the overpayment situation. Because people are basically driven to maximize their outcomes, subject to social and organizational restrictions, it is far less likely that people will reduce their outcomes voluntarily. Laboratory studies (Andrews 1967, Lawler and O'Gara 1967), in which subjects are paid piece rate, have supported the proposition that people will resolve underpayment inequity by increasing outcomes. In these studies, subjects would increase the number of units that they produced, but decreased quality in an effort to maintain the same level of inputs. In his discussion of the underpayment situation, Adams cited two studies (Thibaut 1950, Homans 1953) in which underpaid subjects attempted to increase their outcomes through renegotiation of outcomes and roles.

Examples of outcome adjustment in the sales force setting would include salesperson attempts to alter management's standards and performance

expectations from the territory. For example, if the salesperson can negotiate a lower quota, then they can increase his outcomes while maintaining their inputs. Therefore, salesperson dissatisfaction with territory design may not lead to demands to change territory boundaries since this may result in negative feelings from other salespeople as a result of changes in their boundaries. However, changes in quota may be perceived as being easier to achieve without having any negative social results in their relationship with other salespeople.

A third resolution strategy available to the person is to distort his inputs and outcomes cognitively. The direction of this distortion will be similar to that previously discussed in which inputs are decreased (increased) and outcomes increased (decreased) in situations of underpayment (overpayment). Though it may be difficult for people to actually distort reality entirely, it is possible, within limits, to alter the utility of different inputs and outcomes. For example, people cannot cognitively change the fact that they are making \$1500 per month. However, they may either consider this to be enough to buy the basic necessities of life and a few luxuries for their family or, conversely, that it will not allow them to lead the exciting life that their former college roommate is leading. There is ample evidence in the cognitive dissonance literature (Brehm and Cohen 1962) that individuals will modify their cognitions in an effort to reduce perceived inequities.

In the case of sales territory changes, a person required to do considerably more overnight traveling may change the value of this input. They may, for example, conclude that it is a good opportunity to get away from the children, do their paper work to free up the weekend, meet other people, etc. In addition to changing the utility of inputs and outcomes, the person may also become "aware" of new outcomes. For the new salesperson, a particularly

difficult territory assignment may be seen as a good opportunity to show what he or she can do in such a situation so as to get promoted sooner. In this case, faster promotion may be a new outcome which may justify higher input levels.

A fourth resolution strategy is to leave the present exchange relationship. This strategy may take several forms in the organizational setting. Quitting, obtaining a transfer, or absenteeism are all examples of decreasing levels of disengagement. While quitting is probably used as a last resort in a highly inequitable relationship in which other resolution strategies are seen as impossible, absenteeism is relatively cost free for the salesperson in the short-term. Although Adams proposed disengagement as a distinct resolution strategy, it may simply be an extreme example of input adjustment. However, Teely et al. (1971) did find that turnover was significantly related to perceptions of inequity and that, in addition to pay, these inequities may include supervision, advancement, working conditions, and intrinsic and social aspects of the job. The findings of this field study are significant because most laboratory studies of equity theory have restricted outcomes to pay, leading some authors (Campbell and Pritchard 1971) to view equity theory as limited to the pay situation.

Fifth, a person may attempt to alter or cognitively distort the comparison of others' inputs or outcomes, or try to force them to leave the exchange situation. In the production line situation this strategy would take the form of inducing a "rate buster" to decrease their inputs. In the sales force situation, this resolution strategy may take a number of subtle forms. For example, older professional salespeople may be uncomfortable with the extreme energy and inputs of an aggressive new salesperson who is attempting to impress the sales manager in an effort to get promoted. The older person may ridicule

the new salesperson's high energy level as being inefficient and misplaced, or even assume a false mentor position in an effort to get the new person to conform to either his personal standards or those of the sales group. This is especially likely to occur when the sales manager uses the new salesperson's actions as bait for getting the older person to increase their inputs and efforts. Another alternative may be for the salesperson to change the other person's outcomes by influencing the people responsible for distributing these outcomes. In this case, a salesperson may attempt to influence the sales manager's evaluation of another salesperson's territory situation and performance. Again, these are examples of where territory design may be responsible for perceptions of inequity, but that the salesperson will attempt to resolve these inequities by means other than territory changes.

A last strategy for resolving inequities is to change the person or group with which the person has been making comparisons. Adams felt that this alternative was not very likely, especially when the comparison person(s) has been used for a long period of time. This is felt to be too unstable. However, several studies (Austin and Walster 1974, Middlemist and Peterson 1976) have shown that the comparison input-outcome ratio may not be related to any particular person or group, but to some internalized social standard or comparison. If this is the case, then management may be able to alter this standard by providing explicit others with which the person "should" compare themselves.

This discussion of inequity resolution strategies indicates that a number of strategies are available to the person. It is also important to note that all resolutions do not lead to undesirable behaviors and performance levels. However, a number of important questions remain before sales managers can effectively predict how a person will react to organizational changes and how

they can influence the person's resolution process: What are the inputs that are affected by territory design? How important are these different inputs to the individual salespeople? What outcomes are influenced by territory changes? Is the choice of resolution strategy related to demographic variables or performance levels? What is the internalized social standard that people use to make equity judgments? Because the large number of laboratory studies have concentrated on the pay situation and on confirming the basic propositions of equity theory, these questions have not been fully explored. However, a number of field experiments have been conducted on testing certain aspects of equity theory. Their methodologies can be used in the sales territory change situation to help managers in answering these questions and in implementing territory design changes.

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