A multistage model of the process by which an industrial salesperson influences a customer's preferences is introduced. The relationship between a salesperson's abilities during the two initial stages—impression formation and strategy formulation—and relative sales performance was examined. Industrial salespeople's perceptions of their customers' brand attribute perceptions were matched against the customers' actual perceptions, and a normative change strategy model was matched against the salespeople's reported change strategies. Variations in these abilities accounted for 20% of the variance in actual field sales performance.

Relationship Between Salesperson Performance and Understanding of Customer Decision Making

Though academic research and student interest have centered on advertising, personal selling is the most important element in marketing communications to most business concerns. Kotler estimated that in 1970 American firms spent $32 billion on personal selling and only $21 billion on advertising [15]. This estimate is substantiated by a survey of marketing executives in 476 companies [21]. In response to a question on the relative importance of various marketing elements, the executives in industrial, consumer durable, and consumer nondurable companies indicated personal selling and sales management were respectively 5.2, 1.8, and 1.1 times more important than advertising in their company's marketing efforts.

In addition to being a major marketing function for most companies, the personal selling effort involves substantial individual differences in the performance of its principal component—the salesperson. A survey of 80 companies listed in the American Institute of Management's "Manual of Excellent Managements—1957" indicated that one third of the industrial salespeople typically account for 62% of orders received by a company [26]. Because of this high variance in sales performance, it is important for sales management to identify the factors associated with the individual differences. Isolating these factors has important implications for the criteria used in selecting salespeople, the amount of emphasis placed on training, and the specific elements that should be incorporated in a training program.

Some variance in performance is related to the environment in which the salesperson operates and thus cannot be attributed to the individual salesperson's activities [6, 18]. Walker et al. reviewed factors that can be related directly to salespeople and proposed that a salesperson's performance is a function of "(1) his level of motivation, (2) his sales aptitude, and (3) his perception of how his role should be performed" [22, p. 158]. These three components are central to most job performance theories in industrial psychology. Though Walker et al. developed models and hypotheses about the motivation and role perception components, little attention was directed to the aptitude component. The research reported here addresses this component.

Ghiselli [12] summarized the relationship between job performance and scores on various aptitude tests used to assess intellectual, spatial, mechanical, perceptual, and motor abilities. Because these standard ability measures did not consider the skills required...
for successful sales performance, it is not surprising that Ghiselli concluded the tests (other than intelligence) had little predictive validity.

To isolate and measure the specific abilities required by salespeople, one first must examine the tasks they perform. Often salespeople are required to perform several functions such as checking stock, installing equipment, finding key decision makers, and securing commitments from these decision makers. Effective performance of each of these tasks requires a unique set of abilities or skills. Only one specific task, influencing a customer's choice decision, is examined in the research reported here. In the following sections, the specific skills used in performing this task are identified by examining a model of a salesperson's activities in attempting to influence a customer's choice decision. After these activities are identified, a method for assessing a salesperson's ability to perform two of these activities is developed. Then these ability measures are related to performance in a correlational field study.

SALES PROCESS MODEL

A model describing a salesperson's activities in attempting to influence a customer's choice decision is shown in Figure 1. This descriptive model suggests that the salesperson's success in influencing the customer is related to ability to perform the following five activities: (1) developing impressions, (2) formulating strategies, (3) transmitting messages, (4) evaluating reactions, and (5) making appropriate adjustments. Thus the model is referred to as ISTEA for "impression, strategy, transmission, evaluation, and adjustment."

The sequence of activities described in the model starts when the customer recognizes a need for the product type and concludes when the customer makes a brand choice decision. Thus the model is related to a salesperson's performance with a specific customer after contact with that customer has been made. Sources of individual differences related to the salesperson's motivation or role perception, ability to allocate effort efficiently across customers, or understanding of the relative influences of various individuals in the buying decision are not considered. The sequence of activities described in the model can be concluded during one interaction or may involve several separate interactions over time.

In the first activity, the salesperson combines information gained through past experience with information relevant to the specific interaction to develop an impression of the customer. The salesperson can derive information about the target customer by examining past experiences with the target customer and other customers, by observing the target customer during an interaction, and by projecting himself into the target customer's decision-making situation.

In the second activity, the salesperson analyzes his impression of the customer and develops a communication strategy which includes an objective for the strategy, a method for implementing the strategy, and specific message formats. The objective of the strategy is defined in another section as the specific cognitive element to which the messages are directed.

Having formulated the strategy, the salesperson transmits the messages to the customer. As the salesperson delivers the messages, he evaluates their effects by observing the customer's reactions and soliciting his opinions. On the basis of these evaluations, the salesperson can make adjustments by either reformulating his impression of the customer, selecting a new strategic objective, or changing the method for achieving the strategic objective, or the salesperson can continue to implement the same strategy.

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Relation to Previous Research

The approach taken in this research on the abilities related to salesperson performance is a departure from previous approaches to this problem. Two paradigms have been used to study variables related to salesperson performance in customer interactions [24]. One has concentrated on identifying the relationship between salesperson performance and dispositional characteristics of the salesperson or salesperson-customer dyad. Generally, this research has not been based on prior theory and thus the relationships found are of limited use in assisting sales management or providing a foundation for future research. For example, Evans [8] reported a significant relationship between performance and the similarity of the customer-salesperson dyad on several dimensions. Without a theoretical basis for this relationship, the implications are ambiguous. The salesperson’s similarity with the customer might increase the salesperson’s source credibility (or referent power base) because the customer would feel that the salesperson shares his values. The implication of this interpretation would be to match salespeople with specific customers or to have salespeople imply that they are similar to their customers during sales interactions. The similarity between the salesperson and customer might improve the accuracy of the salesperson’s impression and lead to more effective targeting or messages. Essentially the salesperson might be assuming the customer has needs and beliefs similar to his own. He would develop strategies that would effectively influence himself. When the customer is indeed similar, the salesperson is effective. If this interpretation is correct, training in impression formation ability would accomplish the same goals as careful matching of salespeople and customers. The ISTEA model provides a theoretical basis for identifying the skills related to successful performance. Once these skills are identified a clear direction for improving performance is provided.

The second research paradigm reviewed in [24] is based on the source-message-receiver (SMR) model used in most attitude change research. Though this is an appealing framework, it does not include consideration of the salesperson's ability to cope with the interactive nature of the sales process. The SMR studies have not captured an important feature of the salesperson’s attempts to influence a customer’s choice decision that differentiates interpersonal influence from mass media advertising. The salesperson has an opportunity to collect information about each customer and to develop messages that can be maximally effective in influencing that customer. The impression formation and strategy formulation activities in the ISTEA model capture this element of the customer-salesperson interaction that is ignored in the SMR studies.

IMPRESSION FORMATION AND STRATEGY FORMULATION ACTIVITIES

The ISTEA model suggests that the salesperson engages in five activities in attempting to influence a customer's decision. Only the salesperson’s ability to perform two of these activities, impression formation and strategy formulation, is considered in this research. These activities were selected because they appear to be fundamental to the sales process. In addition to being the initial activities in which a salesperson engages, these activities require basic skills used in the performance of other activities. Perceptual skills employed in the impression formation activity also are used in the evaluation activity. Both the strategy formulation and the adjustment activities require analytical skills. Thus it was deemed appropriate to limit the scope of the research, leaving the other activities for future study. In the following sections an overview of the relationships studied is presented and hypotheses are developed. Specific operationalizations of the concepts then are described.

Impression Formation Activity

Research directly addressing the relationship between a salesperson’s performance and ability to formulate accurate customer impressions and to select effective influence strategies has not been reported in the marketing literature. However, the relationship between accuracy of social perception and social behavior has been a popular topic for social psychologists.

Steiner [20] examined the research related to the proposition that:

The more knowledge an individual has concerning the intentions, preferences and beliefs of other people, the more effectively he can participate in group activities with those people. This proposition provides the rationale for much of the training we give to teachers, social workers, clinical psychologists, and others whose work involves continuing interaction with people [p. 269].

Though Steiner discusses eight studies that have supported this proposition, he also cites several studies that failed to find this relationship. After examining these contradictory findings, Steiner concluded that the following two conditions must obtain for accurate social perception to promote interpersonal competence: (1) the accurately perceived qualities must be relevant to the group activities and (2) the group members must be free from role constraints that limit their ability to alter their behavior in response to their social perceptions.

This conclusion suggests that the accuracy of the salesperson’s perception of the customer will be related to ability to influence the customer’s decision, if the accuracy measure is based on factors related to the customer’s decision process and if the salesperson
is free to adjust his behavior on the basis of his perceptions. Because the salesperson's activities are rarely restricted in a customer interaction, the second condition is usually met. Even though the salesperson's impression of the customer may contain a wide variety of information, the first condition implies that his performance in influencing the customer's decision will be related to the accuracy of his information about the customer's decision processes.

Elements of a salesperson's impression. The salesperson's impression of the customer's decision process can be decomposed into his impression of the customer's choice space and his impression of how the customer will combine information in the choice space to arrive at an overall judgment or choice. For many theories of human judgment [1, 9, 10], a choice space can be used to represent the information a customer uses in arriving at a choice decision. The dimensions of the space are the product dimensions on which the customer compares the alternatives in the consideration set. The customer assigns a value or importance weight to each dimension reflecting the benefits he anticipates deriving from a product's performance on that dimension. The product alternatives are represented by points in this multidimensional choice space. The position of each product in the customer's choice space represents the customer's beliefs about the product's performance on the dimensions. Thus, the salesperson's impression of the customer's choice space would consist of the following elements: (1) the customer's salient product dimensions, (2) his importance weights for each dimension, (3) his consideration set, and (4) his beliefs about the performance of products in his consideration set on each salient dimension.

In addition to information about the customer's choice space, the salesperson's impression should include his perception of how the customer will combine information in the choice space to reach a decision. The customer's method for combining information is referred to as his choice rule. Though many models have been proposed for combining information in a choice space to arrive at an overall judgment or choice, the linear compensatory model has received the most attention and has been the most successful in predicting choice behavior in correlational studies [7]. Thus only this rule is considered here, and not the many other rules that could be used. The linear compensatory model proposes that an overall judgment of each alternative in the choice space is formed by multiplying the beliefs about the alternative's performance on each dimension by a weight assigned to the dimension and then summing this product over all dimensions. Then the overall values of the alternatives are compared and the one with the highest overall value is selected.

Because the salesperson is interested in influencing the customer's choice, an additional aspect of his impression is his perception of the potential changes which he can realize in the customer's choice space or choice rule. It has been suggested that confidence or degree of uncertainty in an attitude or belief is related to modifiability [16]. Thus, a customer's confidence in his importance weights and beliefs about alternative products should be related inversely to the degree to which these elements can be changed by the salesperson's influence attempts.

In summary, the salesperson's impression of the customer's decision process consists of information about the following elements: (1) the customer's choice space, (2) the customer's choice rule, and (3) the modifiability of the customer's choice space and choice rule. One can hypothesize that the salesperson's performance will be related to the accuracy of his impression of each element. However, in the research described only the salesperson's impression of his customer's importance weights, performance beliefs, and their susceptibility to change is considered.

Components of impression accuracy. Research in person perception has identified two components of person perception accuracy—stereotype and differential accuracy [13]. Stereotype accuracy is defined as the accuracy in perceiving typical characteristics of a class of objects or persons, whereas differential accuracy is defined as the accuracy in perceiving how a specific object or person differs from the typical or average object. In the context of this research, a salesperson's stereotype accuracy is defined as the accuracy of the salesperson's perception of the typical customer's decision process. The accuracy of a salesperson's perception of the difference between a specific target customer's and the typical customer's decision processes is defined as differential accuracy.

Different managerial implications are suggested by the relative importance of differential and stereotype accuracy. If differential accuracy is important, sales management should develop training programs to improve interpersonal perception. If stereotype accuracy is important, sales management should concentrate on providing salespeople with accurate average descriptions of customers in various categories.

Research on accuracy in perceiving personality traits indicates that stereotype and differential accuracy are uncorrelated and that stereotype accuracy contributes more to overall accuracy than differential accuracy [13]. Extending these results to the present study, one can hypothesize that a salesperson's stereotype accuracy of a customer's decision process contributes more to overall impression accuracy and ultimate sales performance than his differential accuracy. Operationalization of these concepts is described hereafter.

Strategy Formulation Ability

Though little research has been directed to the strategy formulation activity of salespeople, several researchers [4, 5, 27] have suggested the use of
multiattribute models for developing the objectives of advertising strategies. If this framework were applied to the salesperson’s strategy formulation activity, some potential strategic objectives would be:

1. Changing the dimensionality of the customer’s choice space (e.g., adding a new dimension).
2. Increasing or decreasing the weights attached to specific product dimensions.
3. Adding or deleting products from the customer’s consideration set.
4. Altering the customer’s beliefs about the performance of the product in relation to competitive products.
5. Modifying the customer’s choice rule.

Within the Fishbein attitude model framework, Lutz [19] examined the effect of altering the value (strategy type 2) of a product attribute and the probability of a product’s possessing the attribute (strategy type 4) on cognitive structure and attitude toward the product. This research provides support for the use of multiattribute models for generating attitude change strategies. It also provides some suggestive evidence that the potential effects of change strategies directed to the value component are not as effective as change strategies directed to belief components.

Within the context of a linear compensatory choice model, some strategic objectives are better than others in terms of their potential effectiveness on a customer’s decision. The “goodness” or effectiveness of each strategic objective can be evaluated in terms of the expected improvement in the customer’s relative evaluation of (or probability of choice for) the salesperson’s product. Strategies for altering relative performance beliefs on a dimension with a high importance weight would have a greater effectiveness than altering beliefs on a dimension with a low weight. Increasing the importance weight of a dimension on which the customer perceives the salesperson’s product as having superior performance would have a greater effectiveness than increasing the weight of a dimension for which the product is perceived as having performance similar to that of competitive products. However, the probability of altering the belief or importance weight must be considered. The customer may be very confident in his belief about relative performance on the most important dimension; thus it would be difficult for the salesperson to change that belief. A belief change strategy directed to a dimension with lower importance might be more effective. Because there are significant differences in the utilities of strategic objectives, one would hypothesize that a salesperson’s performance is related to ability to select effective strategic objectives.

One would predict a strong interaction between the salesperson’s impression formation and strategy formulation abilities and his sales performance. A salesperson with an accurate impression of the customer who is not able to focus his influence attempts toward critical cognitive elements (e.g., beliefs or weights) will be much less effective than a salesperson having both skills. Similarly, the impact of a salesperson with good strategy formulation ability would be severely limited if his strategies were based on an inaccurate impression of the customer’s decision process.

**Research Hypotheses**

On the basis of the foregoing discussion, the following hypotheses were formulated and tested.

- **H₁**: The salesperson’s performance is related to ability to perceive accurately the following aspects of the customers’ decision processes:
  a. Beliefs about the performance of the salesperson’s product in relation to competitive products.
  b. Importance weights for product dimensions.
  c. Susceptibility to changing performance beliefs and importance weights.

- **H₂**: The salesperson’s stereotype accuracy contributes more to overall accuracy than differential accuracy with regard to the following elements of his impression:
  a. Performance beliefs.
  b. Importance weights.
  c. Susceptibility to changing performance beliefs and importance weights.

- **H₃**: A salesperson’s performance is related to ability to select effective strategic objectives.

- **H₄**: A salesperson’s performance is related significantly to the interaction of strategy formulation ability and accuracy of impression.

**METHOD**

The accuracy of a salesperson’s impression was assessed by comparing the salesperson’s perception of customers’ choice spaces with the customers’ self-reports about their spaces. Strategy formulation ability was assessed by evaluating a salesperson’s strategic objectives based on his impressions of customers’ choice spaces. Hypotheses were tested by examining the correlations between measures of each salesperson’s performance and measures of his impression formation and strategy formulation abilities.

Questionnaires were used to collect information about the salespersons’ impressions and the customers’ choice spaces. A survey design was used because it provided an economical means of assessing specific abilities of actual salespeople. The high cost of a salesperson’s time precluded the assessment of these skills in a laboratory environment. The use of surrogate salespeople and customers was rejected because research has indicated that salespeople have unique interest patterns and skills [24].

Hypotheses were tested in two field studies. In Study I, hypotheses were tested across salespeople to indicate whether a salesperson’s impression formation and
strategy formulation abilities were related to differences in relative performance. Abilities measures were developed for each salesperson and these measures were related to the performance of the salesperson. A second study was undertaken to test H1, H2, and H4 across a salesperson’s customers. In this study, abilities measures were developed for each salesperson with each of his customers. These measures then were related to the salesperson’s performance with the specific customer. By testing hypotheses across customers, differences in performance between customers could be related to variations in a salesperson’s abilities across customers.

Similar methods were used in both studies. The specific method used in the across-salesperson study is discussed in detail. The setting for the research, the method for operationalizing variables and testing the hypotheses, and the results of these tests are presented. (See [23] for a more detailed treatment).

Research Setting

The specific brand choice decision studied was the selection of vendors for a 100 MHz, non-plug-in oscilloscope. In 1976, the annual sales of this product was approximately $100 million dollars. Two manufacturers accounted for more than 95% of the sales. The participating company had a market share of 10 to 20%.

The 100 MHz oscilloscope is a general-purpose electronic instrument. Most people in the electronics industry either used or had some familiarity with the product category. The vendor choice decision was an important one. The product was priced at $1500 and generally was purchased with capital equipment funds. Customers rely on the performance of their oscilloscopes in the design, production, installation, and maintenance of their products. Though several people participated in the vendor choice decision, there were usually one or two key people in each company. For large quantity purchases these key people would be managers of the departments in which the unit would be used. For individual unit purchases, the eventual user of the oscilloscope, usually an engineer, would make the decision.

Data Collection

All 58 salespeople from the East and West Coast sales territories of a large industrial company participated in the study. The salespeople sold products produced by several manufacturing divisions, one of which manufactured oscilloscopes. Each salesperson was asked to submit the names of seven potential customers for general-purpose oscilloscopes. The

salespeople were told that these names would be used in a survey of the oscilloscope market performed by the Stanford Graduate School of Business. There was no suggestion that the study was concerned with salespeople or their performance.

Ideally, the sample of customers used in the study would be randomly selected from a list of each salesperson’s customers. Such lists did not exist. One might hypothesize that salespeople would recommend customers with whom they were most familiar. The high familiarity would lead to greater impression accuracy. The method used to draw the customer sample would bias the results toward significance only if there were a positive relationship between the salesperson’s performance and bias in selecting customers. If both high and low performance salespeople selected very familiar customers, the hypothesis testing would not be biased toward significance. One might actually hypothesize a negative relationship between performance and selection bias. Better salespeople are more secure in their jobs and do not feel the need to supply only names of good customers. Such a negative relationship would bias the results toward insignificance.

A questionnaire was sent to each individual named by the salespeople. The accompanying cover letter indicated the questionnaire was related to a study of industrial purchasing behavior. There was no indication that a company was cooperating in the study or that the study was related to salesperson performance.

Discussion with marketing and sales personnel from the participating company and pretests with oscilloscope customers indicated that eight product dimensions were considered in the vendor choice decision: (1) reliability, (2) price, (3) after-sales support, (4) ease of calibration and maintenance, (5) ease of use, (6) trace brightness, (7) size, and (8) compatibility with oscilloscopes in use now. In the questionnaires sent to customers, each customer was asked to indicate his importance weights and relative brand beliefs on each dimension on the scales shown in Figure 2. The emphasis on importance in application was used to reduce the potential ambiguity resulting when a dimension had greater importance in the product’s application but had no relevance in the brand choice decision because all products in the consideration set had the same performance on the dimension. Similar measures of importance weights and brand belief have been used in multiattribute studies to predict preference successfully [2, 17, 25].

Susceptibility to changing the importance of or the relative brand belief on a dimension was assessed by asking the customer to indicate confidence in his

1 The sales management of the participating company restricted the amount of information that could be collected from each salesperson. Each salesperson could only be requested to provide information that could be collected in one hour. This restriction limited the number of customers for which information could be collected and the amount of background information that could be requested.
ratings on an 11-point scale anchored by "not sure about importance of ____ (or relative ____)") and "very sure about importance of ____ (or relative ____)."

At the same time the questionnaires were sent to customers, each salesperson was sent a group of questionnaires—one for each of the customer names submitted. The salesperson was asked to indicate his impression of the customer's importance weights and relative brand beliefs on the same 11-point scales used by the customers. The salesperson's indication of the customer's susceptibility to change was assessed by asking him to indicate his chances of altering the customer's importance weights and brand beliefs on each dimension on an 11-point scale anchored by "very difficult to change importance of ____ (or belief about relative ____)") and "very easy to change importance of ____ (or belief about relative ____)." Different change potential measures were used for salespeople and customers because the protests indicated that customers had difficulty in assessing the likelihood of changing their opinions without knowing what new information they might encounter.

Before completing the scales on the customer's choice space, each salesperson was asked to select three strategic objectives from a potential set of 24 that best described the goals of his influence attempts directed to the customer. The 24 potential objectives were increasing or decreasing the customer's importance weight for one of the eight product dimensions (16 potential objectives) or changing the customer's belief about the relative performance of the product on one of the eight dimensions (8 potential objectives). (It was assumed that a change in belief about relative performance would be in a positive direction—an improvement in the belief about the product's relative performance.) The salesperson was instructed to select objectives that he was using at the time he completed the questionnaire, not objectives used previously. This selection of present objectives was critical, because the objectives were evaluated on the salesperson's present impression of the customer. The salesperson also was informed that all of the objectives selected could be of one type, such as increasing importance weights, or a mixture of the three types.

A total of 306 questionnaires were sent to both customers and salespeople. The response rate was 79% from the customers and 75% from the salespeople. Of the initial 58 salespeople contacted, 44 submitted completed questionnaires for some portion of their customers. Of the 473 questionnaires returned by customers and salespeople, there were 171 matched pairs of questionnaires from which an impression accuracy measure could be derived.

The customer and salesperson responses to additional questions indicated that the customers sampled had most of the influence in the vendor choice decision. The mean number of units purchased during the last 12 months was 17, and the two brands considered in the study represented 98% of the units purchased in this product class. The average length of time the salespeople had been calling on the customers was 29 months, although only 3.5 calls during the last 8 months were related to this product class.

**Impression Formation Ability Measure**

Two problems arise in attempting to assess impression accuracy by comparing the salesperson's and customer's responses. The first problem is related to the effects of potential differences in response biases between the salesperson and the customer. For example, a customer might have indicated that his importance weights for the eight dimensions were [5, 2, 1, 1, 1, 1, 1, 1], whereas the salesperson indicated the customer's importance weights were [10, 4, 2, 2, 2, 2, 2, 2]. Even though these sets of weights are numerically different, there would be no difference in the relative evaluation of the products when either set of weights is used in a linear compensatory model. The customer and salesperson responses were normalized in a manner similar to that used by Bass

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2 Each customer's and salesperson's responses were normalized, by a multiplicative transformation, so that the highest importance weight was a ten, the most discriminating belief had an absolute rating of ten, and the element most susceptible to change had
and Wilkie [3]. Bass and Wilkie demonstrated that removing the effects of response bias improved the degree of relationship between overall evaluation and predictions based on a multiattribute model for cross-sectional data.

The mean absolute difference (MAD) across the eight dimensions between a salesperson’s responses about an element and the customer’s self-report of the element was used to measure the salesperson’s impression accuracy for each of his customers. The salesperson’s ability to perceive each of the three impression elements—importance weights, relative performance beliefs, and change potentials—was assessed by averaging his accuracies for his customers. The number of customers on which this average was based ranged from 2 to 7 and the mean was 4.2 customers per salesperson.

**Stereotype and Differential Accuracy Measures**

A salesperson’s stereotype accuracy was assessed by comparing the salesperson’s impression of his typical customer’s choice space (his stereotype impression) with the choice space of his typical customer. The salesperson’s stereotype impression was determined by averaging the salesperson’s responses about the customers for which he completed questionnaires. This stereotype impression could have been assessed by asking the salesperson to complete a questionnaire for his typical customer. However, this approach would have required collecting additional information from the salesperson. The mean importance weights, performance beliefs, and change potentials of the salesperson’s customers who responded to the survey were used to represent the choice space of the salesperson’s typical customer. The salesperson’s stereotype accuracy for each component was calculated by comparing the salesperson’s stereotype impression and the mean responses from his customers by use of the MAD statistic.

The method used to assess a salesperson’s stereotype impression was based on the assumption that salespeople have one stereotype for all their customers. A one rating. The normalization used was based on the assumptions that (1) response bias could differ between importance weights (0 to 10 scale) and brand beliefs (−5 to 5 scale) but it would be consistent across importance weights and brand beliefs, (2) bias in the change potential scales would be consistent across importance weights and brand beliefs, and (3) bias in a salesperson’s response would be consistent across his customers.

The inappropriateness of the correlation coefficient can be seen in an example. Assume that the salesperson’s importance weight vector for a customer was (10, 8, 10, 8, 10, 10, 8) and the customer’s vector was (4, 5, 4, 5, 4, 5, 4, 5). Thus, the salesperson perceived the customer as believing, and the customer reported, that all dimensions were approximately equal in importance. The correlation coefficient of these two vectors is −1, which indicates the salesperson’s impression was very inaccurate, whereas the MAD statistic on the normalized vectors would be .2, indicating moderate accuracy.

**Strategy Formulation Ability Measure**

A score for each strategic objective selected by the salesperson for the customer was determined by assessing the expected impact on the customer’s relative evaluation based on the salesperson’s perception of the customer’s choice space. Because the salesperson’s rather than the customer’s impression is used to evaluate strategies, the accuracy of the salesperson’s impression does not affect the measure of his strategy formulation ability. The assessment of expected impact was based on the following assumptions.

1. If the strategic objective was realized, the customer’s importance weight or performance belief would be changed by one unit. Thus, a normalized belief would be increased by one unit (−3 to −2 or +2 to +3) and a normalized importance weight would be either increased by one unit (8 to 9) or decreased by one unit (8 to 7) depending on the objective.

2. The probability of realizing the objective was the salesperson’s assessment of his ability to change the specific element in the customer’s cognitive structure.

The assumption that the realization of an objective would lead to a unit change in the cognitive element permitted the evaluation of each strategy without requiring the collection of additional information from the salesperson. To consider changes of various degrees in cognitive elements, it would have been necessary to determine the salesmen’s perceptions of the probability of realizing different levels of change in each element. Responses on several additional scales would have been required for each element. These scales might have been difficult for the salespeople to understand and respond to meaningfully. However, with this additional information, an expected effect could have been calculated that included a range of changes in each element.

On the basis of these assumptions, the value of increasing the importance weight of a dimension was the salesperson’s impression of the customer’s relative belief on the dimension times his impression of the ease with which he could change the importance the customer placed on the dimension. Similarly, the strategy value of changing a brand belief was the
importance of the dimension times the probability of changing the belief.

The overall value of the expected change in relative evaluation for a salesperson's strategies for a customer was determined by summing the values of his three strategies. Calculating the overall value by summing the three strategy values selected was based on the assumption that there was no interaction among elements in the customer's cognitive structure. Thus, a strategy that realized a change in an importance weight on a dimension would not also change the relative belief or the importance weight of another dimension. However, an obvious interaction between objectives occurred when a salesperson selected an importance weight and belief objective on the same dimension. In this case, the overall value of a salesperson's strategies was increased by the expected effect of this interaction. The expected effect of changing both the importance weight and the relative belief on a dimension was the expected value of each objective separately plus the probability of changing the importance weight times the probability of changing the belief.4

The overall value for each customer was normalized by subtracting the value of his three strategies from the three highest strategy values and dividing by the difference between the three highest and lowest strategy values. The ability measure ranged from zero to one5 and represented the fraction of the maximum expected change in the customer's relative evaluation that the salesperson would realize by using the three strategies he indicated. The salesperson's overall strategy formulation ability was determined by averaging the scores for each of his customers. The number of customers on which this measure was based ranged from 2 to 7 and the mean was 5 customers per salesperson.

The operationalization of the impression accuracy and strategy formulation abilities was based on the assumption that the customer’s brand choice decision could be represented by a linear compensatory model. The correlation between a customer's relative evaluation of the salesperson’s product (based on the product of the normalized importance weights and relative brand belief for a dimension summed over the eight dimensions) and the percentage of 100 MHz non-plug-in oscilloscopes he planned to purchase from the salesperson during the next 12 months was .68 (N = 141, p < .001). (An arcsine transformation was used on the dependent variable and resulted in a similar correlation.) This high correlation indicated the assumption was appropriate.

Summary of Salesperson Ability Measures—the Independent Variables

The following variables represent measures of salesperson performance, impression formation ability, and strategy formulation ability that were used in testing hypotheses.

\[ IA_k = \text{salesperson } k \text{'s overall accuracy (impression formation ability) for importance weights.} \]

\[ BA_k = \text{salesperson } k \text{'s overall accuracy (impression formation ability) for relative brand beliefs.} \]

\[ CA_k = \text{salesperson } k \text{'s overall accuracy (impression formation ability) for change potentials.} \]

\[ IA_{k}^{*}, BA_{k}^{*}, CA_{k}^{*} = \text{salesperson } k \text{'s stereotype accuracy for importance weights, performance beliefs, and change potentials, respectively.} \]

\[ IA_{k}^{*}, BA_{k}^{*}, CA_{k}^{*} = \text{salesperson } k \text{'s differential accuracy for importance weights, performance beliefs, and change potentials, respectively.} \]

\[ SF_k = \text{the effectiveness of salesperson } k \text{'s strategies (strategy formulation ability).} \]

\[ IA_k \times SF_k = \text{interaction of importance weight accuracy and strategy effectiveness for salesperson } k. \]

\[ BA_k \times SF_k = \text{interaction of brand belief accuracy and strategy effectiveness for salesperson } k. \]

\[ CA_k \times SF_k = \text{interaction of change potential accuracy and strategy effectiveness for salesperson } k. \]

The correlations between measures of salesperson impression formation and strategy formulation abilities are shown in Table 1. In general, the abilities are uncorrelated. There are significant correlations between the interaction measures and each of the components of the interaction. There are also significant correlations between the overall accuracy measure and each of its two components—differential and stereotype accuracy. This relationship between each component of overall accuracy and the overall accuracy
measure is found for importance weight, relative brand belief, and change potential accuracy. However, few of the other correlations between independent variables are significant at the .05 level. Thus, it appears that accuracy in perceiving one element was not related to accuracy in perceiving other elements, and that impression accuracy was not related to strategy formulation ability. In addition, stereotype and differential accuracy were not related. This lack of correlation is consistent with findings about stereotype and differential accuracy in person perception [13].

Salesperson Performance Measure—
the Dependent Variable

The national sales manager provided the following objective information about each salesperson’s performance for the fiscal year that ended when the data for this study were collected: (1) total instrument sales, (2) total instrument sales to quota, (3) total “oscilloscope” division sales, and (4) total “oscilloscope” division sales to quota. Each of these measures had limitations when used as a surrogate for 100 MHz oscilloscope sales. The sales volume measures (1, 3) did not account for differences in territory potential and workload. The quota measures (2, 4) were considered unreliable by the national and regional sales managers. The oscilloscope division sales measures (3, 4) were misleading because the product of interest, the 100 MHz oscilloscope, only accounts for 30% of the oscilloscope division’s sales. The sales managers believed the sale of a 100 MHz oscilloscope was more similar to the sale of other general-purpose instruments than to the sale of other oscilloscope division products. Because of the problems with these four objective measures, the national sales manager was asked to evaluate each salesperson’s performance in selling 100 MHz oscilloscopes on a 10-point scale. Even this measure was imperfect because the sales manager had limited exposure to some of the salespeople.

Because of the limitations of all five performance measures, the measures were subjected to a principal component analysis to extract an underlying performance factor common in all measures. The principal component analysis yielded one factor with an eigenvalue greater than one that accounted for 51% of the variance in the five performance measures. The correlation matrix for the five performance measures and the factor scores for the 44 participating salespeople are shown in Table 2. Each salesperson’s

### Table 1
CORRELATIONS BETWEEN MEASURES OF SALESPERSON ABILITIES

<table>
<thead>
<tr>
<th></th>
<th>IA</th>
<th>IA²</th>
<th>IA³</th>
<th>BA</th>
<th>BA²</th>
<th>BA³</th>
<th>BA⁴</th>
<th>CA</th>
<th>CA²</th>
<th>CA³</th>
<th>CA⁴</th>
<th>SF</th>
<th>I</th>
<th>I²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance weight accuracy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall (IA)</td>
<td>.78*</td>
<td></td>
<td>.68*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stereotype (IA²)</td>
<td></td>
<td>.00</td>
<td></td>
<td></td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differential (IA³)</td>
<td></td>
<td>.12</td>
<td></td>
<td></td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand belief accuracy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall (BA)</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td>.18</td>
<td></td>
<td></td>
<td></td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stereotype (BA²)</td>
<td></td>
<td>.12</td>
<td></td>
<td></td>
<td>.14</td>
<td></td>
<td></td>
<td></td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differential (BA³)</td>
<td></td>
<td>.04</td>
<td></td>
<td></td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change potential accuracy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall (CA)</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td>.15</td>
<td></td>
<td></td>
<td></td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Stereotype (CA²)</td>
<td></td>
<td>.01</td>
<td></td>
<td></td>
<td>.16</td>
<td></td>
<td></td>
<td></td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differential (CA³)</td>
<td></td>
<td>.03</td>
<td></td>
<td></td>
<td>.08</td>
<td></td>
<td></td>
<td></td>
<td>.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategy formulation ability (SF)</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td>.13</td>
<td></td>
<td></td>
<td></td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Interactions**

|                           |    |     |     |    |     |     |    |    |     |     |     |    |   |   |
| SF × IA (I)              | .68*|     | .56*| .46*| .21 | .07 | .01 | .04 | .10 | .13 | .75*|    |   |   |
| SF × BA (I²)             |    | .00 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |    |   |   |
| SF × CA (I³)             |    | .11 |     | .10 | .04 | .05 | .04 | .17 | .02 | .73 | .53*|    |   |   |

* p < .01, N = 40.

p < .05, N = 40.

### Table 2
CORRELATIONS BETWEEN PERFORMANCE MEASURES

<table>
<thead>
<tr>
<th></th>
<th>FA</th>
<th>IS</th>
<th>ISQ</th>
<th>OS</th>
<th>OSQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor scores (FA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument sales in dollars (IS)</td>
<td>.69*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument sales as a percentage of quota (ISQ)</td>
<td>.81*</td>
<td>.39*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oscilloscope division sales in dollars (OS)</td>
<td>.77*</td>
<td>.37*</td>
<td>.31*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oscilloscope division sales to quota (OSQ)</td>
<td>.77*</td>
<td>.31*</td>
<td>.67*</td>
<td>.47*</td>
<td></td>
</tr>
<tr>
<td>National sales manager rating (NSMR)</td>
<td>.56*</td>
<td>.28*</td>
<td>.30*</td>
<td>.43*</td>
<td>.17</td>
</tr>
</tbody>
</table>

* p < .01, N = 44.

p < .05, N = 44.
factor score was used as the primary measure of performance for testing hypotheses. Tests with the other measures are also reported.

**TESTS OF HYPOTHESES**

The following model was used to examine H₁, H₃, and H₄.

\[
SP_k = B_0 + B_1 \times IA_k + B_2 \times BA_k + B_3 \times CA_k + B_4 \times SF_k + B_5 \times IA_k \times CA_k + B_6 \times SF_k \times IA_k
\]

where \( SP_k \) is performance of salesperson \( k \). Because of the high collinearity between the interaction terms and the specific ability measures (see Table 1), the hypotheses could not be tested by examining the significance of individual coefficients in this full model. Thus, the first test was made on the significance of the interaction terms.

H₄ on the relationship between the interaction of impression formation and strategy formulation abilities and salesperson’s performance was tested by comparing the variance explained by the full model (equation 1) with the variance explained by a restricted model not including the interaction terms (equation 2).

\[
SP_k = B_0 + B_1 \times IA_k + B_2 \times BA_k + B_3 \times CA_k
\]

The results of this test are shown in Table 3. The full model explained 28% \( (R^2 = .282) \) of the variance and the restricted model explained 25% \( (R^2 = .252) \) of the variance in salesperson performance based on the factor scores. The null hypothesis that the interaction terms did not account for significant variance \( (B_4 = B_5 = B_6 = 0) \) could not be rejected \( (F(3, 32) = .43, p > .25) \). Thus H₄ was not supported.

Because there was no significant interaction, the interaction terms were eliminated from the full model. Without the interaction terms, there was little multicollinearity and H₁ and H₃ could be tested by looking at the significance of the coefficients in the restricted model (equation 2). These coefficients are also reported in Table 3. The coefficient for brand belief impression accuracy is significant at the .01 level \( (t(35) = 2.53) \) as is the coefficient for strategy effectiveness \( (t(35) = 2.41) \). One-tailed tests were used because of the directionality of the hypotheses. Thus H₁b on the relationship of salesperson performance and ability to perceive brand beliefs accurately and H₃ on the relationship between sales performance and strategy formulation ability were accepted. The null hypotheses for H₁a and H₃a were not rejected.

\( a \) The \( F \)-statistic was calculated in the following manner.

\[
F(df_r, df_f - df_r) = \frac{(R^2_f - R^2_r) / df_r}{(1 - R^2_f) / df_f}
\]

where:

- \( R^2_f \) = variance explained by the full model (equation 1),
- \( R^2_r \) = variance explained by the restricted model (equation 2),
- \( df_r \) = degrees of freedom in the full model,
- \( df_f \) = degrees of freedom in the restricted model.

\( b \) The hypothesized sign of the regression coefficients for impression accuracy is negative. Higher mean absolute differences are associated with lower accuracy.
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people by the same procedure as used in Study I. Ten salespeople participated in Study II. Measures of impression accuracy and strategy effectiveness were developed for individual customers by the same method as used in Study I.

The full model used to test hypotheses is:

\[
SP_i = A_0 + \sum_{k=1}^{9} B_k \times I_A \times S_k + B_0 \times BA_i + C_0 \times BA_i \quad \text{(1)}
\]

\[
+ \sum_{k=1}^{9} C_k \times BA_i \times S_k + D_0 \times CA_i \quad \text{(2)}
\]

\[
+ \sum_{k=1}^{9} D_k \times CA_i \times S_k + E_0 \times SF_i \quad \text{(3)}
\]

\[
+ \sum_{k=1}^{9} E_k \times SF_i \times S_k + F_0 \times SF_i \times IA_i \quad \text{(4)}
\]

\[
+ G_0 \times SF_i \times BA_i + H_0 \times SF_i \times CA_i \quad \text{(5)}
\]

where:

- \( SP_i \) = probability of customer \( i \) contacting the cooperating company first (salesperson’s performance with customer \( i \)),
- \( T_k \) = the set of customers on whom salesperson \( k \) calls,
- \( S_k \) = 0 if \( i \notin T_k \) (salesperson \( k \) does not call on customer \( i \)), 1 if \( i \in T_k \) (salesperson \( k \) calls on customer \( i \)),
- \( I_A \) = salesperson’s importance weight accuracy for customer \( i \),
- \( BA_i \) = salesperson’s relative brand belief accuracy for customer \( i \),
- \( CA_i \) = salesperson’s change potential accuracy for customer \( i \), and
- \( SF_i \) = the effectiveness of a salesperson’s strategies for customer \( i \).

\( A_0, B_k, C_k, D_k, E_k, F_0, G_0, H_0 \) = estimated constants.

This model includes the following variables that can account for individual differences between salespeople:

1. Performance with customers due to factors related to specific salespeople other than the ability measures included in the model (term 2).
2. Performance due to differences in salespeople importance weight accuracy ability (term 4).
3. Performance due to differences in salespeople relative brand belief accuracy abilities (term 6).
4. Performance due to differences in salespeople change potential accuracy abilities (term 8).

5. Performance due to strategy formulation ability differences (term 10).

Though there could be performance differences due to individual difference in interactions between strategy formulation and impression formation abilities, their inclusion would have introduced a level of complexity that was not considered in this study.

The significance of individual difference terms was examined by testing the difference between the variance explained with the full model and the variance explained by a model in which a specific individual difference term was deleted. The null hypothesis that the coefficients for each salesperson in the individual difference term were equal to zero could only be rejected at the .05 level for term 2. This implies that the only significant individual differences between salespeople that relate to their performance with their customers are due to variables other than those examined in this research.

For the other four terms, the null hypotheses could not be rejected at the .25 level. Thus, these individual difference terms were deleted from the full model, and the following restricted model was used to test hypotheses.

\[
SP_i = A_0 + \sum_{k=1}^{9} S_k + B_0 \times I_A + C_0 \times BA_i + D_0 \times CA_i + E_0 \times SF_i +
\]

\[
+ F_0 \times SF_i \times I_A + G_0 \times SF_i \times BA_i + H_0 \times SF_i \times CA_i \quad \text{(7)}
\]

The results of multiple regression with the restricted model (equation 7) are shown in Table 6. These results indicate that \( H_i \) on the relationship of salesperson performance and impression formation abilities cannot be supported across a salesperson’s customers. The coefficients for importance weight, brand belief, and change potential accuracy are not significant. In addition, the signs of the coefficients are not in the hypothesized direction.

An examination of the mean salesperson and customer responses indicates that salespeople and customers perceived little difference in the performance of competitive companies on the selected dimensions. Thus the inability to support \( H_i \) in Study II may have been due to lack of variance in the responses used to measure belief accuracy.

The null hypothesis of no relationship between strategy formulation ability and a salesperson’s performance across customers can be rejected because the coefficient for strategy formulation ability is significant at the .05 level. Thus, \( H_i \) was accepted.

\( H_4 \) on the relationship between salesperson performance and the interaction of impression formation and strategy formulation abilities was tested by comparing the variance explained by the restricted
Table 6
MULTIPLE REGRESSION OF PERFORMANCE WITH ABILITY MEASURES—ACROSS CUSTOMERS STUDY

<table>
<thead>
<tr>
<th>Independent variables related to salesperson</th>
<th>Standardized coefficient</th>
<th>Beta weight</th>
<th>t (81)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_1$</td>
<td>-.05</td>
<td>.38</td>
<td></td>
</tr>
<tr>
<td>$S_2$</td>
<td>-.45</td>
<td>3.35*</td>
<td></td>
</tr>
<tr>
<td>$S_3$</td>
<td>-.34</td>
<td>2.41*</td>
<td></td>
</tr>
<tr>
<td>$S_4$</td>
<td>-.08</td>
<td>.46</td>
<td></td>
</tr>
<tr>
<td>$S_5$</td>
<td>-.29</td>
<td>2.20*</td>
<td></td>
</tr>
<tr>
<td>$S_6$</td>
<td>-.21</td>
<td>1.62</td>
<td></td>
</tr>
<tr>
<td>$S_7$</td>
<td>-.30</td>
<td>2.30*</td>
<td></td>
</tr>
<tr>
<td>$S_8$</td>
<td>-.38</td>
<td>2.86*</td>
<td></td>
</tr>
<tr>
<td>$S_9$</td>
<td>-.04</td>
<td>.34</td>
<td></td>
</tr>
</tbody>
</table>

Impression accuracy for:

Importance weights (IA) .26 .95
Brand beliefs (BA) .14 .48
Change potential (CA) .51 1.61
Strategy formulation ability (NV) .81 1.91b

Interaction of strategy formation ability with:

Importance weight accuracy
$(NV \times IA)$ -.58 1.61
Brand belief accuracy
$(NV \times BA)$ -.20 .53
Change potential accuracy
$(NV \times CA)$ -.48 1.42

$R^2 = .136, F(16,81) = 1.96$.b

*p < .01.

$b p < .05.$

model (equation 7) with the variance explained by a model from which the interaction terms had been deleted. The null hypothesis that the interaction terms do not explain significant variance in salesperson performance across customers ($F_o = H_o = G_o = 0$) was rejected ($F(3,84) = 4.32, p < .01$) and $H_4$ was accepted.

$H_2$ on the relative contributions of the stereotype and differential accuracy components to overall accuracy cannot be tested across customers. The contribution of stereotype accuracy to overall accuracy cannot be separated from individual differences in impression formation ability among salespeople.

DISCUSSION

The results of this research are very encouraging. Significant relationships between performance and strategy formulation abilities were found across salespeople and across customers. Relationships between accuracy in perceiving performance beliefs and salesperson performance were found across salespeople. The strength of these relationships is impressive if one considers the substantial sources of errors inherent in the method used. First, numerous variables that affect performance were not controlled in these studies. As mentioned, salesperson performance is related to characteristics of the salesperson’s territory, motivation, and role perception, besides ability to influence customers. In addition, the ISTEA model suggests that five abilities are related to performance in influencing customer decision. Only two of these abilities were examined in the studies. Those variables not considered in this research increased the amount of error when the relationships of interest were tested.

Second, there could have been substantial error in the measures of impression formation and strategy formulation. In the across-salesperson study, the measures of these abilities were based on only four or five of the salesperson’s customers. In addition, the operationalization of these abilities assumed that a linear compensatory model based on eight product dimensions explained the customer’s evaluation and selection of products. Because the linear compensatory model explained only 40% of the variance of customer behavioral intention, other factors related to a customer’s choice probably could have been part of a salesperson’s impression.

Managerial Implications

This research indicates that salespeople might improve their performance if they attempted to improve their understanding of their customers’ choice decision. This suggestion can be made only tentatively because the study did not examine the costs of obtaining this information. Possibly the costs of spending more time with the customer and potentially alienating the customer by probing could outweigh the benefits. In addition, because the study was correlational, it is possible that sales performance causes better strategy formulation and impression formation, rather than the converse. Customers who purchased a salesperson’s product could have been more communicative with the salesperson, disclosing more information about their beliefs and opinions.

Finally, the cognitive emphasis of the ISTEA model is consistent with both the specific sales situations to which this research is directed and recent approaches to planning and monitoring promotional efforts. However, this cognitive emphasis may not be applicable in other sales situations. This research addresses industrial sales situations rather than retail situations. Industrial sales situations are characterized by a relatively high level of involvement by both the salesperson and customer and a continuing relationship between both parties of the interaction. In most industrial sales situations, the eventual outcome of the interaction is important to the salesperson and the customer. Even if the price per unit is low, the purchase orders are generally large with significant carryover effects to future reorders. In contrast to retail sales situations, the relationship between the salesperson and the customer is long term. Even if the salesperson is not successful in one interaction, he will probably be contacting the same customer in the future about other products or other requirements.
for the same product. Because of the continuing relationship and high involvement decision, one would expect a cognitive approach to influencing purchase behavior to be more useful than a manipulative approach such as "foot-in-the-door." A technique like "foot-in-the-door" [11] might be effective in influencing a brand choice decision in the short run but may well have a negative effect on the salesperson's long-term performance because the customer eventually would realize that his behavior was being manipulated.

The results of both studies indicate that a salesperson's performance could be improved by improving ability to select objectives for influence attempts. The significant relationship between performance and strategy formulation ability suggests that a salesperson's performance is related to ability to analyze correctly his impressions of the customers even if the impressions are not completely accurate. The assessment of strategy formulation was based on the assumption that the customer's evaluations could be represented by a linear compensatory model. Salespeople whose strategies were consistent with those indicated by a linear compensatory model had better sales performance than salespeople who selected strategies that were inconsistent. Thus, the linear compensatory model might be a useful tool for salespeople in developing strategies for influencing their customers.

**Future Research Directions**

The significant relationships between impression formation and strategy formulation and sales performance indicates more research in customer-salesperson interaction could be directed to these and other elements of the ISTEA model. Three aspects of the model (transmission, evaluation, and adjustment) have not been investigated. Though the ISTEA model was used only to derive abilities related to sales performance, additional research should be directed to the process described in the model. For example, the impression formation process can be examined to determine the methods salespeople can use effectively to collect information about their customers, how much and what kind of information should be collected, and whether the information collection behavior of successful salespeople differs from that of unsuccessful salespeople.

In this research, a new direction for examining the customer-salesperson interaction was proposed. This new perspective offers some distinct advantages over previous approaches in terms of providing information for managerial decisions and improving the general understanding of salesperson effectiveness. The empirical study confirms the foundations of this new approach and indicates that future research can be built on this foundation.

**REFERENCES**


