The Evaluative Criteria of Industrial Buyers: Implications for Sales Training,

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The Evaluative Criteria of Industrial Buyers: Implications for Sales Training

Dan McQuiston

Rockney G. Walters

Previous research has shown that salespeople who have more knowledge about their buyers give more effective presentations. An understanding of the industrial purchase situation and how the various buyers progress through it is one very viable way to gain this knowledge. This study addresses this issue by examining the evaluative criteria held by different functional roles represented in the decision-making unit, how these criteria differ across the various roles, and how knowledge of this can be incorporated into sales training programs to give salespeople more information on their customers and help them be more effective during the sales interaction.

Knowing how an industrial buyer will evaluate and choose a product is critical to the success of a sales representative. While the majority of sales training programs give adequate instruction in such important topics as product knowledge and planning and giving a sales presentation, research indicates that a large number of these programs do not give adequate attention to the actual decision process that buyers go through when selecting a product. There are four basic stages industrial buyers go through when making a purchase decision: perception, evaluation, preference, and choice. For the industrial sales representative, perhaps the most important stage is the evaluation stage, for it is here that buyers will compare the attributes of one product against those of another. A salesperson who is trained to know how a buyer will evaluate a product can make better presentations, be more attuned to buyer needs, have more effective sales communications, and generally make the selling effort more productive.

The research presented here will examine the process industrial buyers use to determine their evaluative criteria, how these criteria differ between the functional roles represented in the decision-making unit (DMU), and how this information could be included in a sales training program.

Background

The sales training program fits into the overall strategic mission of the firm (Figure 1) and has as its general objective to increase the effectiveness of sales representatives attempting to sell to the customer. Because it is here that the company will teach the salespeople company knowledge, product knowledge, selling skills, and how best to communicate the differential advantages of its product, this stage is perhaps the most crucial element in determining the effectiveness of salesperson performance. Research in the area has found that the most effective sales approaches are those that center around a customer orientation, and will include such things as stressing the benefits and availability of the product, having the ability to serve the customer, and knowing the customer and being able to meet his or her needs. While research has shown that sales training programs give a fair amount of coverage to the first two, knowing the customers and being able to meet their needs rarely receives as much consideration. This is unfortunate, because if salespeople are given basic instruction on how different buyers will evaluate a product, they can empathize with them and better understand their problems. With this knowledge, together with the information they glean in any personal interaction with the buyer, they can tailor their presentations to each specific buyer within the DMU.
Thus an understanding of the evaluative criteria of the different people represented in a decision-making unit is important to a salesperson's success.

### Evaluative Criteria of Organizational Buyers

There have been a number of studies examining the evaluative criteria of organizational buyers. Generally, these studies found: (a) when evaluating a product, industrial buyers consider a long list of product attributes; (b) different roles (e.g., purchasing, engineering) within an organization attach different degrees of importance to these attributes; and (c) the individuals involved and their evaluative criteria can vary by both the product and the type of purchase situation.

However, even though these decision makers will consider a lengthy list of attributes, research has shown they will not be able to recall all the positive and negative points about each attribute. This is so because individuals have a finite memory capacity and can therefore process only a limited amount of information at any given time. In situations where buyers must process a large amount of information, they are likely to adopt a "simplifying strategy": They group a large number of product attributes into a smaller number of composite evaluative dimensions, with all attributes in the same dimension having something in common.
The dimensions that are most likely to be remembered will be those that are most important to the individual buyer.

These composite dimensions are then used in place of the individual attributes in any future evaluations. For example, an industrial buyer may consider the attributes of past experience, vendor reputation, product test results, and extent of warranty in their evaluation. However, rather than try to remember each point about each attribute, the buyer will combine them into a single evaluative dimension and assign it a name such as "Product Quality." In any future evaluation of the product, the individual will refer to this one composite dimension rather than the individual attributes. Training that includes information on buyer evaluative criteria will increase the effectiveness of salespeople in their interactions with buyers. By having a basic background knowledge of the buyer's evaluation process, salespeople can spend more time getting to know each individual's needs in that specific situation and can use this information to show the buyer how the product being considered is the best to meet these needs.

The Research Project

Determination of Attributes

Data for the study were collected with the aid of a large manufacturer of capital equipment. Customer firms that had purchased one of three models of a product line (commercial weighing equipment) within the 18 months immediately preceding the collection of the data were chosen for study (company records previous to that time were incomplete). Even though a single product line was chosen, there were sufficient differences in size, features, and price such that each model was considered a separate product. The product was "high tech", possessing features and technology generally new to the marketplace. Prices ranged from $25,000 to $40,000, so the product was a major expenditure or a "once-in-a-lifetime" purchase for most firms, The actual data collection methodology is found in the Appendix.

The product attributes chosen for study were determined through a two-step procedure. An initial session was held by a researcher with the director of marketing research and two product managers of the sponsoring company. On the basis of their experience in dealing with the sale of this product, this session produced a list of 23 possible product attributes that prospective purchasers might consider in their evaluation of this equipment (product attributes include both core and augmented attributes--e.g., service quality, compatibility with facility, etc.). A pretest was then conducted with individuals in organizations that had actually purchased the product, and they offered their suggestions as to any additions or deletions from this list. On the basis of their recommendations, some attributes were added, subtracted, or combined. The result was a final list of 18 attributes. A second pretest was then conducted with a different set of actual purchasers to gain their opinions of the revisions, and the general conclusion was that these 18 attributes included all the important considerations they had used when evaluating the equipment. Therefore, no further revision was deemed necessary.

Each respondent in this study rated how important each of the 18 product attributes was to him or her when he or she evaluated this equipment. A 5-point scale was employed, with the 1 designating "very unimportant" and the 5 designating "very important."
The attributes rated were as follows:

1. Vendor offers broad product line
2. Many product options available
3. Ease of maintenance of equipment
4. Competence of service technician
5. Quality of service
6. Product warranty
7. Delivery (lead time)
8. Construction costs
9. Time needed to install equipment
10. Vendor has lowest price
11. Vendor willing to negotiate price
12. Financial stability of vendor
13. Vendor reputation for quality
14. Salesperson competence
15. Compatibility with equipment
16. Available computer interface
17. Turnkey installation available
18. Recommendations from other customers

Results

Respondents self-selected themselves into one of four groups: purchasing, plant management, engineering, or operations, and then rated the importance of each attribute. Table 1 shows the mean importance ratings for each group on each attribute. The composite dimensions each functional role is likely to form was then determined through a statistical technique known as factor analysis. This technique takes a large number of attributes and condenses them into a smaller number of composite dimensions. This method of analysis is described more fully in the Appendix.
The results of the factor analysis, provided in Table 2, show some interesting findings. The most obvious is that purchasing and plant management have two evaluative dimensions of criteria while engineering and operations have four. While purchasing and plant management have only two dimensions, more product attributes were contained in these dimensions. While having fewer dimensions suggests that perhaps purchasing and plant management employed a less complex evaluative process than did engineering and operations, the fact that more attributes are contained in these dimensions reflects a more global frame of reference and shows that there are similar ratings on a number of different attributes.

### Table 1

<table>
<thead>
<tr>
<th>Vendor offers a broad line</th>
<th>Purchasing</th>
<th>Management</th>
<th>Engineering</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendations from other purchasers</td>
<td>3.19</td>
<td>3.75</td>
<td>3.57</td>
<td>3.73</td>
</tr>
<tr>
<td>Many options available</td>
<td>4.03</td>
<td>3.72</td>
<td>3.04</td>
<td>3.84</td>
</tr>
<tr>
<td>Turnkey installation</td>
<td>3.41</td>
<td>3.60</td>
<td>3.44</td>
<td>4.04</td>
</tr>
<tr>
<td>Ease of maintenance</td>
<td>4.19</td>
<td>4.41</td>
<td>4.45</td>
<td>4.41</td>
</tr>
<tr>
<td>Computer interface</td>
<td>3.72</td>
<td>3.47</td>
<td>3.07</td>
<td>3.48</td>
</tr>
<tr>
<td>Competence of service rep</td>
<td>4.24</td>
<td>4.49</td>
<td>4.46</td>
<td>4.49</td>
</tr>
<tr>
<td>Compatibility with existing facility</td>
<td>3.72</td>
<td>3.74</td>
<td>3.65</td>
<td>4.09</td>
</tr>
<tr>
<td>Overall quality of service</td>
<td>4.38</td>
<td>4.19</td>
<td>4.59</td>
<td>4.55</td>
</tr>
<tr>
<td>Salesperson competence</td>
<td>3.72</td>
<td>4.10</td>
<td>3.89</td>
<td>3.93</td>
</tr>
<tr>
<td>Product warranty</td>
<td>4.18</td>
<td>4.24</td>
<td>4.20</td>
<td>4.22</td>
</tr>
<tr>
<td>Vendors reputation for quality</td>
<td>4.27</td>
<td>4.49</td>
<td>4.50</td>
<td>4.58</td>
</tr>
<tr>
<td>Delivery (lead time)</td>
<td>4.68</td>
<td>4.04</td>
<td>4.00</td>
<td>4.06</td>
</tr>
<tr>
<td>Financial stability of vendor</td>
<td>4.05</td>
<td>3.90</td>
<td>4.07</td>
<td>3.93</td>
</tr>
<tr>
<td>Construction costs</td>
<td>4.16</td>
<td>4.15</td>
<td>4.26</td>
<td>4.54</td>
</tr>
<tr>
<td>Vendor willingness to negotiate price</td>
<td>3.50</td>
<td>3.83</td>
<td>3.32</td>
<td>3.66</td>
</tr>
<tr>
<td>Time to install</td>
<td>4.14</td>
<td>4.02</td>
<td>4.08</td>
<td>4.00</td>
</tr>
<tr>
<td>Lowest price</td>
<td>3.55</td>
<td>3.37</td>
<td>3.43</td>
<td>3.15</td>
</tr>
</tbody>
</table>

Key: 1 = very unimportant, 2 = unimportant, 3 = neutral, 4 = important, 5 = very important
Discussion

Distinct differences are noticed between the evaluative dimensions of the four functional roles. A general observation in this regard is that the four roles formed their evaluative criteria on the basis of how the product purchased would affect the completion of their assigned job responsibility. For this particular buying decision, purchasing and plant management had a broad set of responsibilities that encompassed a wide range of factors. This is reflected in the larger number and apparently equal ratings of the attributes in their evaluative dimensions. Engineering and operations, on the other hand, have a much narrower set of responsibilities and therefore have a set of criteria that relate more specifically to their appointed task. This finding is in line with previous research that has proposed that employees will strive to improve their performance on those activities of their job that are measured and rewarded. The lesser number of dimensions used by purchasing and management suggests that these groups have an evaluation process that cognitively is not as complex as that of the engineering function, a finding that has been supported in previous research.9
Implications For Sales Training

The study revealed several interesting findings that can provide useful information for developing sales training programs. This section will take the major findings of the study and put them in the form of implications which will suggest how firms can incorporate these findings into their sales training.

Implication I: Training programs need to stress discovering each buyer’s evaluative dimensions, the attributes within those dimensions, and how best to present these attributes to create a differential advantage for the company.

The implications of this proposition for training is that the salesperson must first concentrate on discovering the dimensions each buyer will use when evaluating the product, and then on determining the attributes that comprise each dimension. The tendency for many salespeople, particularly those who are inexperienced, is to present all the attributes of the product to each buyer. However, the buyer not only is not interested in all the attributes, but will remember only those attributes that are most important to him or her.

Training programs need to teach salespeople to approach the buyer first with a series of questions that will enable them to determine the evaluative dimensions each buyer will employ. They then need to discover what attributes are within that dimension. Initially, the salesperson might ask something like, "What are you looking for in a product?" or "What problem do you want to solve with this product?" The buyer’s response will give the sales representative a good indication of the buyer’s evaluative dimensions. The representative can then respond with another series of questions to discover the attributes within that dimension. For example, the salesperson could respond with, "You say that 'product quality' is important to you. Tell me what does 'product quality' mean to you?". Salespeople can use the answer to this question to create a differential advantage for their product along these important attributes.

Training programs need to instruct salespeople to present their product in such a way as to show each organizational buyer how it will assist the buyer in the completion of his or her primary job task. Even though an individual is a member of the decision-making unit, he or she will still have as a primary goal the satisfactory completion of an assigned job task. In the evaluation of a new product, then, the buyer will be concerned mainly with the features and benefits of the product that will help him or her in the completion of this job. The buyer’s evaluative dimensions and attributes within these dimensions will be directly related to how he or she perceives the product will help complete the job. Training programs must help sales representatives understand that each member of the DMU has a job to do and will be rewarded on the basis of how well it is completed. The results of this study would indicate that salespeople need to find out how their product can aid prospective buyers in the completion of that task. Questions such as, "How do you see this product affecting your job?" or "What is the biggest problem you have to deal with?" will give the salesperson direction as to the main job task of that particular individual. The salesperson can then endeavor to show how the product will help the buyer complete that task. For example, if the customer is a retailer, the salesperson should show how the product will generate profits and inventory turnover; if a manufacturer, how the product will fit into the production scheme and create more profits.
Implication 3: The job responsibility of each individual will affect how that individual views the time horizon of a commitment to the vendor. Training programs need to emphasize that different functional roles have different time horizons.

Industrial buyers will evaluate a product on the basis of what they perceive to be the time horizon of their commitment to the vendor? If the product is relatively undifferentiated and can be purchased from anyone of a number of vendors, the buyer will view the commitment with a short time horizon. However, if the product is such that it will impact the operations of the buying firm over a period of time, then the buyer will view this purchase with a long time horizon. The product chosen for this research was highly technical in nature and involved some changes in both facilities and procedures. Therefore, the members of the DMU perceived that this purchase would be a long-term commitment. This view is reflected in the evaluative dimensions of the four functional roles represented in this study.

Purchasing had a concern not only with the product meeting’s immediate needs (Factor 1) but future needs as well (Factor 2). Plant managers were concerned not only that the product would be able to be integrated quickly and easily into the facility, but that it would operate profitably over a period of time. Engineering showed their emphasis for the long term by their concern for the service capabilities of the vendor (Factor 1), reputation of the vendor (Factor 3), and vendor financial strength (Factor 4).

An interesting finding is that Factor 2 indicates that engineering considered the cost of the product in their evaluation, contradicting conventional wisdom which traditionally has stated that engineering is not concerned with price. Operations personnel had as their main concern getting the product up and running and keeping it so. They had a smaller number of attributes in their evaluative dimensions, and those that were included reflect their main job concern (time to install/delivery, ease of maintenance/competence of service technician).

Therefore, in the training program the salesperson must be directed to view the time horizon of the commitment with the same time frame with which the customer views it. The buyer who feels the commitment to be of a short-term nature will be influenced by the immediate attractiveness of the offer. The salesperson must therefore make every attempt to satisfy the buyer’s needs for that particular transaction (i.e. price reductions, fast delivery, sales promotions). The buyer who views the product as a commitment for the long-term will be much more concerned with how the vendor will perform over an extended period. Buyers will then respond to attributes of the product or firm that will perform well over that period of time (vendor reputation, financial stability, quality of service).

Implication 4: Advance knowledge of buyer evaluative criteria will allow the salesperson to spend less time getting to know the buyer and more time focusing on his or her specific needs. Thus higher productivity levels can be reached sooner in the salesperson’s career.

Salespeople generally become more productive as they gain more experience. However, because the vast majority of sales training programs concentrate only on giving them product knowledge and selling skills, they are forced to spend a lot of time getting to know the buyers, their needs, wants, and preferences. Of course, experienced or inexperienced the salesperson is. However, if salespeople had a general framework with which they could classify the general evaluative process of each buyer, they would already have a certain degree of knowledge that otherwise would have been learned only through experience.
Any new knowledge gained in interactions with the buyer could be added to this framework, which in turn would give the salesperson a better picture of what the buyer wants. Sales representatives could now tailor that framework to fit the dynamics of each specific interaction. Thus they could spend more time educating the buyer on the differential advantages of the product, increasing the chances for a sale and generally making the sales effort more productive.

Implication 5: Better knowledge of the customer will lead to greater role clarity for the salesperson and thereby promote greater job satisfaction. The result will be lower turnover, which in turn will reduce hiring and training costs.

Beginning a new job is frustrating for any salesperson. Often they are faced with the task of becoming familiar with a new product, a new territory, and a new set of customers each with different needs and wants—all at the same time. Very few sales are generated during the first few months, and the salesperson can become frustrated as a result. If this frustration becomes pronounced enough, the salesperson will resign. Management is then faced with the cost of recruiting, hiring, and training a person to take his or her place, with no guarantee that the new hire will not have the same set of problems that the previous one did.

A number of companies found themselves faced with just such a dilemma. Several have instituted programs supplementing their instruction in selling and product training by teaching salespeople to observe buyer behavior and then determine how best to proceed with each particular sales call. The success of these programs was universal. Salespeople were better able to suit their customers’ needs. Made more sales, were generally more satisfied. And had a lower turnover rate.

**Summary**

The present study is subject to some limitations. First, since factor analysis is used to assess differences in evaluative criteria across different functional roles, the various limitations associated with the technique apply. Second is the generalizability of the findings to all industrial purchase decisions. The product examined in this study was a highly technical infrequently purchased, major piece of capital equipment, and the findings are generalizable only to purchases of this type. It has been shown that the product attributes regarded as salient by different roles in the organization will change according to the nature of the purchase decision, and this same research conducted using a variety of purchase decisions would increase the generalizability of the findings further.

The findings of this study indicate that training programs should not only stress that buyers differ in their criteria, but also tell their salespeople why these differences occur. Salespeople must be instructed early on to discover what the job function of each decision making unit member is and to get an idea of the primary problem the individual is trying to solve. They also must have instruction as to how buyers will take a large amount of information and condense it into a smaller number of evaluative dimensions. After discovering the attributes that are in those dimensions, salespeople can endeavor to create a differential advantage for their product along those dimensions that are salient to the buyer. These dimensions also differ by the time horizon with which the buyers will view their commitment to the vendor. Giving the salesperson basic instruction in buyer evaluative criteria will allow them to focus on the buyer's needs more quickly, and thereby make the salesperson more productive. The result will be greater job satisfaction, which in turn will reduce turnover and its associated costs.
If training programs can be modified to include these implications, sales representatives will become more attuned to the needs of the buyer and can increase the effectiveness of their presentation. The results of this study indicate that a number of different factors will affect the criteria which buyers evaluate the product. The task for future researchers is to determine if other factors present in an industrial purchase situation are responsible for any variation in the evaluative criteria employed. Researchers could examine factors such as the size and organizational structure of the firm, level of competitive activity, or nature of the purchase decision. If any of these are found to impact the criteria that purchasers use to evaluate a product, such results should also be incorporated into a training program. By gradually discovering more about the complex field of organizational decision making, Training programs can be revised, always with an eye toward increasing the sales representatives’ knowledge of the buyer and making them more effective in each sales interaction.

Appendix

Data Collection

The data came from a self-administered questionnaire mailed to respondents. For each of the purchasing organizations, sales representatives of the vendor company provided the name of one individual whom they felt to be the key informant. These key informants were sent a pre-notification letter and then contacted by telephone. The purpose of the telephone call was not only to secure their cooperation in the study but to obtain the names of other individuals in the organization who had had some input into the purchase decision. These other individuals were then contacted by telephone to secure their cooperation in the study. After agreeing to participate in the study, the individuals were sent the questionnaire. Those not contacted by telephone received the questionnaire with a cover letter that described the nature of the study, gave the name of the key informant as a reference, and asked for their participation. Individuals were given 21 days to respond to the initial questionnaire. If they did not respond, another questionnaire was sent with a reminder letter. A total of 273 questionnaires were sent out, of which 160 (58.6 percent) were returned and usable for this analysis. A total of 77 companies representing a variety of industries were contained in the sample. Respondents self-selected themselves into the following four categories: 33 (21 percent) in purchasing, 28 (17 percent) in plant management, 56 (35 percent) in engineering, and 43 (27 percent) in operations.

A Factor Analytic Approach

Factor analysis is a statistical technique that can take a large set of observed variables and combine them into a smaller number of hypothetical dimensions according to some type of commonality between the observed variables. It is ideally suited for the task of studying differences in evaluative criteria in that it can take the product attributes under consideration by different buyers and reduce them to a smaller set of composite evaluative dimensions.

Choffray and Lilien have developed a methodology for examining differences in evaluative criteria. Respondents are divided into homogeneous groups and asked to give importance ratings on a number of product attributes. A co-variance matrix is computed for each group on all attributes. The matrices between groups are then tested for equality. If the matrices are equal, a factor analysis is performed on the pooled sample; if they are not equal, a separate factor analysis is performed for each group.
The matrices for these data were all significantly different, meaning that a separate factor analysis could be performed for each of the four groups. A factor analysis on these data was performed. To improve interpretability, the factors were rotated orthogonally using the varimax solution. The factor loadings for each attribute are found in Appendix table 1.

### Appendix Table 1
A Comparison of Factor Solutions for the Four Functional Roles

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>Purchasing</th>
<th>Management</th>
<th>Engineering</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vendor offers a broad line</td>
<td>Competence of service technician</td>
<td>Competence of service technician</td>
<td>Ease of maintenance</td>
</tr>
<tr>
<td></td>
<td>Many product options available</td>
<td>Overall quality of service</td>
<td>Overall quality of service</td>
<td>Competence of service technician</td>
</tr>
<tr>
<td></td>
<td>Product warranty</td>
<td>Product warranty</td>
<td>Product warranty</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Time to install</td>
<td>Salesperson competence</td>
<td>Vendors reputation for quality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equipment is lowest price</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial stability of vendor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vendors reputation for quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ability to interface with computer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Ease of maintenance</td>
<td>Vendor offers a broad line</td>
<td>Construction costs</td>
<td>Construction costs</td>
</tr>
<tr>
<td></td>
<td>Overall quality of service</td>
<td>Many product options are available</td>
<td></td>
<td>Salesperson competence</td>
</tr>
<tr>
<td></td>
<td>Construction costs</td>
<td>Equipment is lowest price</td>
<td>Construction costs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compatibility with existing facilities</td>
<td>Compatibility with existing facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Vendors reputation for quality</td>
<td>Time to install</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Delivery (lead time)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Financial stability of vendor</td>
<td>Product warranty</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Salesperson competence</td>
<td>Vendors willingness to negotiate price</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Financial stability of vendor</td>
<td></td>
</tr>
</tbody>
</table>

*Evaluate criteria with factor loadings of approximately .5 or more presented in table. More than two attributes had to load on a factor for it to be considered.*
End Notes


