



Providing Vision and
Leadership for the Future
of the HVAC and
Sheet Metal Industry

MEASURING CUSTOMER LOYALTY

**A BENCHMARK STUDY OF
HVAC & SHEET METAL
CUSTOMERS' SATISFACTION**

vision

future

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A BENCHMARK STUDY OF HVAC & SHEET METAL CUSTOMERS' SATISFACTION

2006 Research Funded by
New Horizons Foundation

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NEW HORIZONS FOUNDATION SUPPORTERS

Education, information, and merit performance are the cornerstones essential to the continued vitality of the sheet metal and air conditioning contracting industry.

EXECUTIVE SUMMARY

The New Horizons Foundation (NHF) initiated and funded this study to gain a greater understanding of heating, ventilation, and air-conditioning (HVAC) and sheet metal customers' requirements with the intent of discovering specific paths to improving the competitiveness of HVAC and sheet metal contractors. The challenges faced by this industry during recent years have created an imperative to fully and factually understand one of the keys to success of high-performing contracting companies: What is the "voice" of the customer? HVAC and sheet metal contractors must know the forces that drive customers' buying decisions, create customer confidence, and build enduring customer trust and loyalty.

The foundation also launched this study to help determine the need for and direction of more in-depth research and development of services to help contractors gain and retain loyal customers. HVAC and sheet metal contractors must be equipped with leading-edge tools to remain competitive and to build a vital customer base that looks beyond price and bid and to sustain contractor profitability in any economic climate. Without this deep knowledge and understanding, contractors will be far more vulnerable to market shifts and economic downturns.

This research project provides the first industry-wide measure of customers' perceptions of the factors that are most important to purchasing successful HVAC work and of the quality of performance of sheet metal and HVAC contractors.

Key findings of the research include the following:

- Customers have an overall satisfaction rating of 8.2 on a scale of 1 to 10, indicating a "near" loyal but not loyal customer base. Loyal customers consistently rate their suppliers 9 or often the "top box" rating (10).
- Areas that HVAC and sheet metal contractors should address first, as identified by the research, are: Meeting the Schedule, Quality of Work, Price, and Customer Service.
- The "value provided by the main HVAC and sheet metal contractor" received a rating of 8.3, while the customer rated the competition 7.1. (For this study, a difference in ratings of 0.5 or greater is considered statistically significant, so a gap of 1.2 points is very significant.)
- Eighty-one percent of the customers surveyed said they would enthusiastically recommend their main HVAC and sheet metal contractor to others; only 2% said they would not recommend the contractor.
- The lowest satisfaction/loyalty ratings are expressed by design engineers/architects, an important finding because of the role these customers play in contractor selection.
- Of the factors the customer rated as most important to the success of projects, quality of work and safety performance were rated significantly more important than the contractors perceived.

- Contractors rated their own performance higher than did their customers in six out of the eight performance factors. The biggest gap was in problem solving.
- Customer loyalty levels do vary with the type of customer with general and mechanical contractors showing the highest levels; and design engineers/architects and government/schools indicating the least loyalty.

To apply this research, industry organizations and individual contractors need to understand the details of these findings, to give feedback to the customers that their voices were heard, and to take action to improve performance in the areas identified as most important to their customers. Individual contractors will realize the most value from this study by using the self-survey kit to do their own satisfaction survey of all their customers. They can benchmark the results with these findings and identify specific actions that meet their own customers' needs and expectations.

This first-ever industry survey points to the need to continue research to monitor customers' changing requirements and perceptions. Future customer loyalty research is essential to maintaining and building a competitive edge for HVAC and sheet metal contractors. Ongoing discovery of emerging patterns of customer perceptions and buying decisions is critical and will permit the following:

- Benchmarking with and learning from customer loyalty leaders in other industries and adaptation of their best practices to the sheet metal industry,

- Building on the capabilities of individual HVAC and sheet metal contractors to easily conduct their own customer satisfaction surveys and studies,
- Greater understanding of those specific contractor actions that build and maintain customer loyalty in any economic climate, and
- The ability to forecast future market trends and customers' possible reactions to market shifts, enabling HVAC and sheet metal contractors to position themselves to remain competitive and profitable during turbulent economic conditions.

1 SUMMARY OF RESEARCH FINDINGS

The customer satisfaction survey was conducted by sending e-mails to customers and to HVAC and sheet metal contractors inviting them to participate in the survey. E-mail addresses that were returned as “undeliverable” were removed from the survey. Customers and HVAC and sheet metal contractors were provided a link to a web site where the survey questions were provided electronically (shown in Appendix A and Appendix B, respectively). Response rates for both surveys are shown below.

	Survey Population	% Responded
Customer Survey	248	56
Contractor Survey	1,100	13

While 144 contractors participated in the survey, only 52 provided customers’ names for the survey, or an average of 4.8 customer names per participating contractor.

Most Important to Project Success

The survey asked the same questions of both customers and HVAC and sheet metal contractors. Each was asked to rate on a scale of 1 to 10 the factors they believe are most important to the success of their projects, with 1 being the least important and 10 being the most important. (See Appendix C for the definitions given in the survey instruments for the various performance factors.) Their answers, sorted by customers’ ranking of importance, are presented above.

Factor	Customer Opinion	Contractor Opinion
Quality of Work	9.4	8.3
Meeting the Schedule	9.2	9.1
Customer Service	8.9	8.4
Business Relationship	8.8	8.1
Safety Performance	8.8	7.8
Problem Solving	8.5	8.3
Flexibility	8.4	7.8
Price	8.3	8.6

Contractor Performance

Customers were asked to rate the contractors’ actual performance, and the contractors were asked to rate how they thought the customers would rate their performance. Both rated performance using the same factors that were used in the “areas important to a project’s success” question asked first and described above. These performance ratings (on a 10-point scale with 1 meaning very poor performance and 10 meaning excellent performance), sorted by the customers’ importance rankings, are provided below.

Factor	Customer Opinion	Contractor Opinion
Quality of Work	8.6	9.0
Meeting the Schedule	8.4	8.8
Customer Service	8.3	8.4
Business Relationship	8.5	8.6
Safety Performance	8.8	8.6
Problem Solving	8.3	8.8
Flexibility	8.3	8.4
Price	7.6	7.4

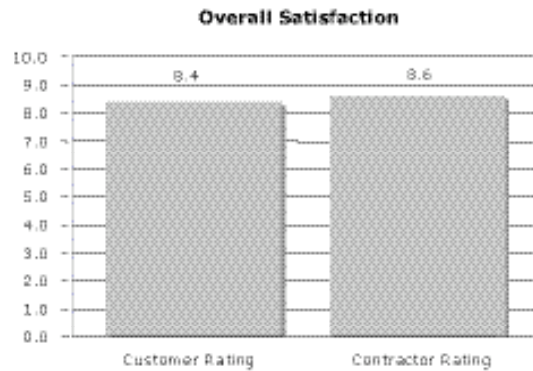
Value to the Customer

The survey defined “value” as “the quality of services/products received for the price paid.” Customers were asked to rate the value provided by their primary HVAC union contractor. Customers then were asked to rate the value of the services provided to them by other HVAC/mechanical contractors. (These “other” contractors may be union or non-union contractors, depending on the customer.) The contractors were asked to rate how they thought the customers would answer these questions, on a scale of 1 to 10, with 1 being very unsatisfactory value and 10 being excellent value. The results are shown below.

	Customer Rating	Contractor Rating
Value of the services your primary HVAC union contractor provides you	8.3	8.3
Value of services provided to you by other HVAC/mechanical contractors	7.1	6.7

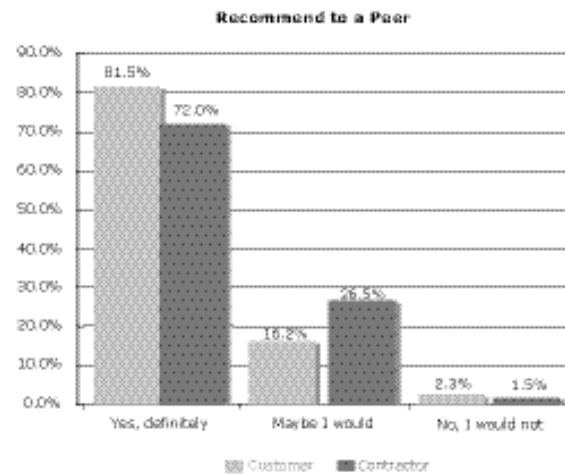
Overall Satisfaction

Customers were asked to rate their overall satisfaction with their primary HVAC union contractor’s performance in meeting their needs. The HVAC and sheet metal contractors were asked to rate how they thought the customers would score this question. A 10-point scale again was used, yielding these results:



Recommending the Contractor

Customers were provided with three possible answers regarding whether they would “enthusiastically recommend their primary HVAC union contractor to a business associate in need of HVAC services.” HVAC and sheet metal contractors were asked how they thought their customers would respond to this question. Their answers are shown below.



The *Net Promoter Score*, according to Frederick F. Reichheld,¹ is the single best measure for indicating customer growth. This measure is calculated by subtracting the percent of

¹ Reichheld, Frederick F, The One Number You Need to Grow, Harvard Business Review, December 2003

customers that said “No” from the percent that said “Yes, definitely” **For all customer responses this score is 79%.** For the various types of customers and work performed, scores are shown in the table below.

Customer Type	Net Promoter Score (%)
Design Engineer/Architect	33
General Contractor	89
Government/Schools	67
Home Builder	80
Mechanical	88
Owner	91
Work Type	
New Construction	81
Retrofit	79
Service	73

To date, the construction industry lacks industry research data to use as benchmarks for the Net Promoter Score. Higher is obviously better. Amazon, eBay, and USAA have scores in the 75% to more than 80% range; these are companies generally considered to have very enthusiastic, loyal customers.²

Areas for Improvement

The customers were asked for the “one thing that their primary HVAC Union union contractors could do to maintain or increase their loyalty.” The most frequent comments made related to the following issues:

- Business Relationships (22 comments) - Keeping contractors’ promises
- Quality of Work (20 comments) - Continue to provide quality work

- Price (17 comments) - Be more price competitive
- Meeting Schedule (12 comments) - Need to improve closing out the job.
- Meeting schedule (12 comments) - Need to improve closing out the job.

2 CONCLUSIONS

The survey found a high overall satisfaction with HVAC and sheet metal contractors as demonstrated by:

- An overall satisfaction rating of 8.2 out of 10.
- The value provided by the HVAC and sheet metal contractor received a rating of 8.3, and the customer rated the competition 7.1. (A gap of 1.2 points is very significant.)
- Eighty-one percent of customers surveyed said they would enthusiastically recommend the contractor to others; only 2% said they would not recommend the contractor. The Net Promoter Score is 79 percent, – a very high number.²

These measures indicate a near loyal customer base. While the survey points out a very high level of satisfaction with HVAC and sheet metal contractors, room remains to improve if the contractors seek to achieve comparable ratings enjoyed by world-class leaders in other industries. The various ratings average 8+; however, research shows that loyalty is usually maintained only when the ratings are in the 9 to 10 range. Many world-class companies use the measure of the percent of customers

² Ibid, p. 7.

who gave the “top box” or top rating (which would be a 10 in this survey). These world-class companies receive top-box ratings from over 50% of their customers. For this survey, 25% of the customers gave a 10 rating of overall satisfaction.

A gap also exists between what how the contractors expected to be rated by their customers and the actual customer ratings:

- Of factors rated most important by customers, the biggest gaps were that the customers rated quality of work and safety performance significantly more important than did the contractors.
- In areas related to performance, six out of the eight factors were rated higher by the contractors than by the customers. The biggest gap was in problem solving.
- The contractors also rated their competition’s “value added” lower than did their customers. In other words, HVAC and Sheet metal contractors surveyed are not performing as well as they think they are, and the customers feel the competition performs better than the contractors think.

Which areas should HVAC and sheet metal contractors address first? An *Importance-Performance* (I-P) decision matrix is used to determine which areas to work on and in which order. This matrix classifies the customer’s ratings into one of four quadrants based on how importance and performance are rated (high or low). For the combined survey responses, all data points are in the high-importance/ high performance quadrant. Using the I-P gap (the difference between the importance and performance

scores), which looks to match the importance to performance levels, the top “gap” areas are shown below.

Area	I-P Gap
Meeting the Schedule	0.8
Quality of Work	0.7
Price	0.6
Customer Service	0.6

The I-P gap identified different priorities for improvement for each customer and type of work.

The Net Promoter Score is very high for the combined customers’ results and for most customer types. The score for the design engineer/architect customer type, however, is very low at 33%. The high level of influence of this group on owners and general contractors’ selection of contractors makes their perceptions a key area upon which to improve.

Most contractors provided only four to five names of their customers for the survey, and the data may be skewed on the high side if these contractors included only their most positive (loyal) customers. However, any measures taken to increase the satisfaction and repeat business of these loyal customers should also improve the perceptions of other, less loyal customers whose needs are the same as those surveyed.

3 SURVEY RESEARCH DETAILS

The Survey Process

Developing the Survey Questions

The survey team was composed of the author and the NHF steering team; the Zeryn Company was employed for its electronic survey capabilities. The eight performance factors used in the survey were selected from more than 50 possible indicators felt most likely to be important customers. (Appendix D gives a complete list of factors considered.)

Identifying the Survey Populations

Two survey populations were targeted: the customers and the HVAC and sheet metal contractors. To obtain customer names to survey, requests were made by e-mail and fax to Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) members. (See Appendix E for a copy of the request.) Initially, the process required contractors to submit their customer names by faxing in a form. Later a web site was created that allowed contractors to enter their customer names directly, saving data entry time. Many of the customer names submitted did not include an e-mail address. Personal telephone calls first were made to the submitting contractor to see whether he/she had the e-mail address. If not, calls were made to the customer to obtain the missing addresses. The total population of eligible customers is 248.

Obtaining the contractors to survey was achieved using the complete list of members of SMACNA. From that roster, all members

with e-mail addresses were selected. That list was further narrowed to only members who operate within the United States. SMACNA members who are not contractors were deleted to avoid skewed results. The final population count excluded any e-mails that bounced back as "undeliverable." The survey process began with 1,260 names that had e-mail addresses; two were later eliminated when it was discovered they were not contractors, and 158 names were eliminated because e-mails were returned as undeliverable. The final total survey population was 1,100.

Conducting the Survey

The research was targeted to be completed in time to present the preliminary results of this project at the 2005 SMACNA Convention in October. The Zeryn Company offered new technology and experienced support staff to meet a tight timeframe. The initial e-mail announcing the survey and providing a link to the web site that contained the electronic survey for both customers (Appendix A) and contractors (Appendix B) was sent on August 30, 2005.

The initial survey response rate for the HVAC and sheet metal contractors was good, and within a few days had reached 131. A second e-mail was sent on September 9, and 13 additional responses were received.

The initial responses for the customer survey did not achieve the same rapid response. Only 14 customers had replied by the time the second e-mail sent on September 9. Telephone calls were made directly to the customers asking if they had seen the survey and requesting their participation. Many said

they had received the survey request but had not associated the survey with a specific contractor and had deleted the e-mail. Some customers reported never having seen the initial e-mail, possibly due to aggressive e-mail spam filters. By September 30, the direct calls and re-sends of the survey individually to customers with the specific contractor's name in the subject line had yielded 113 responses. The survey was ended on October 21, 2005, with 138 responses.

Survey Results – Customer

Survey Response Summaries

Survey responses are summarized below. The first two tables below show all customer responses compared to all HVAC and Sheet Metal metal contractor's' responses.

Survey Question: *Of the items listed below, which are the most important to the success of your projects?*

Area	Rating		Rating Gap	Ranking	
	Customer	Contractor		Customer	Contractor
Meeting the Schedule	9.2	9.1	0.1	2	1
Problem Solving	8.5	8.3	0.2	6	4
Price	8.3	8.6	-0.3	8	2
Business Relationship	8.8	8.1	0.7	4	6
Customer Service	8.9	8.4	0.5	3	3
Quality of Work	9.4	8.3	1.1	1	5
Safety Performance	8.8	7.8	1.0	5	8
Flexibility	8.4	7.8	0.6	7	7

Survey Question: *Rate how your primary HVAC union contractor is performing in those same areas of importance.*

Area	Rating		Rating Gap	Ranking	
	Customer	Contractor		Customer	Contractor
Meeting the Schedule	8.4	8.8	-0.4	4	3
Problem Solving	8.3	8.8	-0.5	7	2
Price	7.6	7.4	0.2	8	8
Business Relationship	8.5	8.6	-0.2	3	4
Customer Service	8.3	8.4	-0.1	6	7
Quality of Work	8.6	9.0	-0.4	2	1
Safety Performance	8.8	8.6	0.2	1	5
Flexibility	8.3	8.4	-0.1	5	6

The table below shows the comparison of the customer's rating of importance to the customer's rating of the contractor's performance.

Area	Customer Importance	Performance	I-P Gap
Meeting the Schedule	9.2	8.4	0.8
Problem Solving	8.5	8.3	0.2
Price	8.3	7.6	0.7
Business Relationship	8.8	8.5	0.3
Customer Service	8.9	8.3	0.6
Quality of Work	9.4	8.6	0.8
Safety Performance	8.8	8.8	0.0
Flexibility	8.4	8.3	0.1

This table displays the comparison of the contractor’s ratings of what they believe is most important to customers and their perceptions of customers ratings of their performance.

Area	Customer Importance	Performance	I-P Gap
Meeting the Schedule	9.1	8.8	0.3
Problem Solving	8.3	8.8	-0.5
Price	8.6	7.4	1.2
Business Relationship	8.1	8.6	-0.5
Customer Service	8.4	8.4	0.0
Quality of Work	8.3	9.0	-0.7
Safety Performance	7.8	8.6	-0.8
Flexibility	7.8	8.4	-0.6

Survey Question: *If value is defined as “the quality of services/products received for the price paid,”*

Question	Rating	
	Customer	Contractor
How would you rate the value of the services your primary HVAC union contractor provides?	8.3	8.3
Other than your primary HVAC union contractor, how would you rate the value of services provided to you by other HVAC/mechanical contractors?	7.1	6.7
Overall, how satisfied are you with your primary HVAC union contractor’s performance in meeting your needs?	8.4	8.6

Survey Question: *Would you enthusiastically recommend your primary HVAC union contractor to a business associate in need of HVAC services?*

Response	Customer (%)	Contractor (%)
Yes, definitely	81.5	72.0
Maybe I would	16.2	26.5
No, I would not	2.3	1.5
Net Promoter Score	79.2	70.5

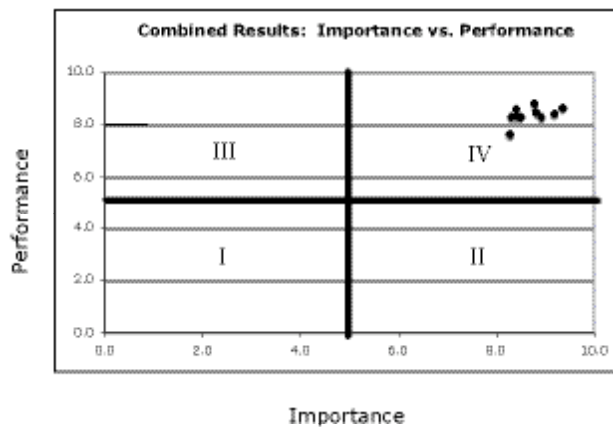
The Importance-Performance Matrix

A useful analysis tool for determining improvement opportunities is the *Importance-Performance Matrix*. The matrix plots the survey responses into four quadrants relative to low/high importance and performance (rating). Depending on the quadrant, different improvement strategies can be identified. The I-P matrix quadrants, and possible improvement actions, are shown on the next page.

Quadrant	Opportunity
I Low Importance/ Low Performance	Typically, data in this quadrant are not immediately addressed because these factors are of low importance to customers. However, data in this quadrant present an opportunity to challenge and change conventional thinking. Market advantage can be created by turning a low-importance factor into a high one, creating a new desire in the mind of the customer.
II High Importance/ Low Performance	Neglecting any data in this quadrant can seriously impair business success. These issues are of utmost importance to the customer and indicate poor or inadequate performance. Lack of action can result in loss of a customer, multiple customers, and market share.
III Low Importance/ High Performance	Data in this quadrant typically indicate that performance is above the customers' expectations of importance. Corrective action is not indicated.
IV High Importance/ High Performance	Ideally, a business wants to have all data points in this quadrant for all important customer requirements. Opportunities still exist to move performance up to the highest levels (9 and 10) to achieve genuine and potentially lasting loyalty.

The difference between the importance and performance scores (the I-P gap) indicates the magnitude of the opportunity and necessity to improve performance and customer perceptions. The larger the positive difference, the greater the need to improve.

The I-P matrix for this survey shows all the factors most important to customers in Quadrant IV.



With the combined customer responses data points for this survey all landing in Quadrant IV, the improvement strategy would focus on increasing the performance to all 9 or 10 ratings. The I-P gap can help prioritize which areas to address first, and ideally a contractor would work to improve the largest gap between what is important to the customer and the customer’s rating of the contractor’s actual performance. In this survey, the responses indicate these I-P gap priority areas to address:

Area	I-P Gap
Meeting the Schedule	0.8
Quality of Work	0.8
Price	0.6
Customer Service	0.6

Throughout this report, the recommended I-P gap areas to address are those with a positive value of 0.5 or greater.

The Net Promoter Score

Frederick Reichheld has done extensive research on which types of survey questions best predict customer loyalty and growth. Reichheld’s research found the two questions that best indicate potential for growth are

1. Would you recommend us to a peer? and
2. Why or why not would you recommend us?

Reichheld uses a 10-point scale to measure the power of the responses and calculates the Net Promoter Score by subtracting all responses that were 6 or less from all responses that were 9 or 10. He has found a very positive correlation between the Net Promoter Score and actual behavior by customers in purchasing the product or service again.

Reichheld suggests using responses to the second question as feedback to identify actions to continue (if customers will recommend us) or actions that require improvement (if customers will not recommend us).

This study did not use a 10-point scale but offered three choices by asking whether the customer would “enthusiastically recommend your primary HVAC union contractor to a business associate in need of HVAC services?” The choices were

- Yes, definitely
- Maybe I would
- No, I would not

The Net Promoter Score is thus calculated:
 Net Promoter Score = [% responses that said “Yes, definitely”] minus [% of responses that said “No, I would not”].

Similar research done by JD Power & Associates on the customer satisfaction of home buyers on the performance by their home builders states, “truly delighted home buyers [those rating their builders a 10 on a 10-point scale] recommend their builder to nearly twice as many people compared to the average new-home buyer.”³

The Net Promoter Scores for these surveys are shown below.

Overall	Customer Responses Net Promoter Score (%)	Contractor Responses Net Promoter Score (%)
All Responses Combined	79	71
Customer Type		
Design Engineer/Architect	33	*
General Contractor	89	*
Government/Schools	67	*
Home Builder	80	*
Mechanical	88	*
Owner	91	*
Work Type		
New Construction	81	72
Retrofit	79	73
Service	73	71

*Note: This survey did not inquire into the contractor's perceptions related to customer types.

4 RESPONSES SUMMARIZED BY CUSTOMER TYPE

Design Engineer/Architect

Of 23 customers in this subgroup, 13 responded to the survey, yielding a response rate of 57%.

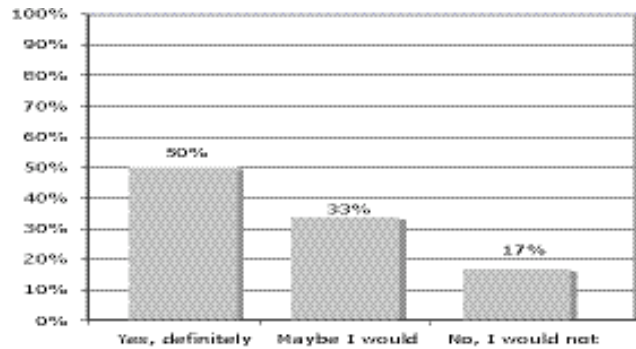
Ratings (on a 10-point scale) from design engineer/architect customers on the areas of importance and contractor performance are shown below.

Area	Importance	Performance	I-P Gap
Meeting the Schedule	8.9	7.2	1.7
Problem Solving	8.7	7.2	1.5
Price	7.7	6.6	1.1
Business Relationship	8.9	7.2	1.7
Customer Service	9.0	7.3	1.7
Quality of Work	9.7	7.0	2.7
Safety Performance	7.0	8.5	-1.5
Flexibility	8.3	7.3	1.0

When asked, “If value is defined as ‘the quality of services/products received for the price paid,’” the design engineer/architect customers responded as follows:

Question	Rating
How would you rate the value of the services your primary HVAC union contractor provides?	6.4
Other than your primary HVAC union contractor, how would you rate the value of services provided to you by other HVAC/mechanical contractors?	7.2
Overall, how satisfied are you with your primary HVAC union contractor’s performance in meeting your needs?	6.6

Design engineer/architect customers responded in these rating categories to the question, “Would you enthusiastically recommend your primary HVAC union contractor to a business associate in need of HVAC services?”



Net Promoter Score = 33%.

The I-P gap priority areas to address are shown below.

Area	I-P Gap
Quality of Work	2.7
Meeting the Schedule	1.7
Business Relationship	1.7
Customer Service	1.7
Problem Solving	1.5
Price	1.1
Flexibility	1.0

Design engineer/architect responses show a relatively low level of satisfaction, and this group also gave some of the lowest ratings for performance (average = 7.3). They rated the value of the HVAC union contractors' work at 6.4 and the competition at 7.2. The Net Promoter Score is 33%, the lowest score of the survey groupings. These scores are critical because design engineers/architects are key decision-makers in selection of contractors.

General Contractor

Of 81 customers in this subgroup, 45 responded to the survey, yielding a response rate of 56%. Construction managers' responses were included with those of the general contractors.

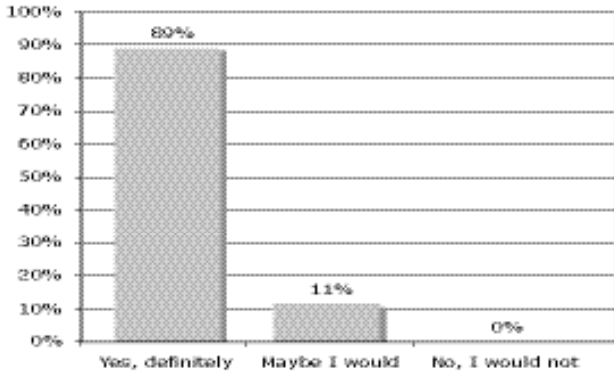
Ratings from the general contractor customers on the areas of importance and contractor performance are shown above.

Area	Importance	Performance	I-P Gap
Meeting the Schedule	9.2	8.7	0.5
Problem Solving	8.6	8.9	-0.3
Price	8.2	7.9	0.3
Business Relationship	8.8	8.8	0.0
Customer Service	8.8	8.6	0.2
Quality of Work	9.3	8.9	0.4
Safety Performance	9.2	9.0	0.2
Flexibility	8.4	8.4	0.0

When asked, "If value is defined as 'the quality of services/products received for the price paid,'" the general contractors responded as shown below.

Question	Rating
How would you rate the value of the services your primary HVAC union contractor provides?	8.6
Other than your primary HVAC union contractor, how would you rate the value of services provided to you by other HVAC/mechanical contractors?	7.0
Overall, how satisfied are you with your primary HVAC union contractor's performance in meeting your needs?	8.6

In answer to the promoter question, “*Would you enthusiastically recommend your primary HVAC union contractor to a business associate in need of HVAC services?*” the customers replied as shown below.



Net Promoter Score = 89%.

The I-P gap priority area to address is shown below.

Area	I-P Gap
Meeting the Schedule	0.5

The general contractor responses are very positive. Safety received an average of 9 in performance, and value provided by the HVAC union contractor was rated at 8.6, compared to 7.0 for the competition. The Net Promoter Score is 89%, the second highest of all customer types.

Government/Schools

Of 27 customers in this subgroup, 11 responded to the survey, yielding a response rate of 41%.

Ratings from the government/schools customers on the areas of importance and

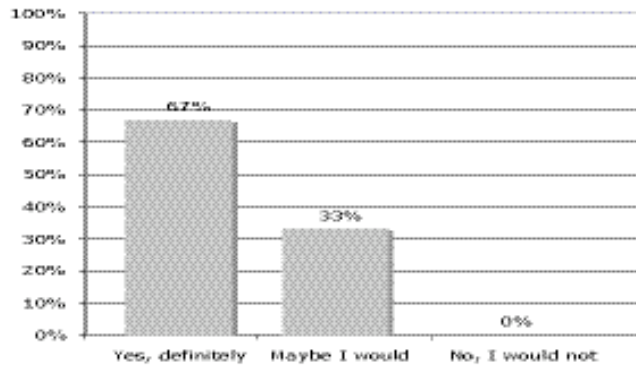
HVAC and sheet metal contractor performance are shown below.

Area	Importance	Performance	I-P Gap
Meeting the Schedule	9.0	8.0	1.0
Problem Solving	9.3	7.9	1.4
Price	8.8	8.0	0.8
Business Relationship	8.7	8.5	0.2
Customer Service	9.5	8.3	1.2
Quality of Work	9.8	8.2	1.6
Safety Performance	9.4	9.0	0.4
Flexibility	8.9	8.4	0.5

In response to the question, “*If value is defined as ‘the quality of services/products received for the price paid,’*” government/schools customers replied as shown below.

Question	Rating
How would you rate the value of the services your primary HVAC union contractor provides?	8.4
Other than your primary HVAC union contractor, how would you rate the value of services provided to you by other HVAC/mechanical contractors?	8.3
Overall, how satisfied are you with your primary HVAC union contractor’s performance in meeting your needs?	8.5

In reply to whether they would enthusiastically recommend their primary HVAC union contractor to a business associate in need of HVAC services, government/schools customers answered as shown in the chart on the next page.



Net Promoter Score = 67%.

The I-P gap priority areas to address are shown below.

Area	I-P Gap
Quality of Work	1.6
Problem Solving	1.4
Customer Service	1.2
Meeting the Schedule	1.0
Price	0.8
Flexibility	0.5

Government and schools customers' responses indicate a less-than-loyal customer base. While safety received a 9 rating in performance, the performance ratings in the other areas were much lower than for general contractors. Value provided by the HVAC union contractor is rated at 8.4, compared to 8.3 for the competition, not a statistically significant difference. The Net Promoter Score is 67%, the second lowest of all customer types.

Home Builders

Of 7 customers in this subgroup, 5 responded to the survey, yielding a response rate of 71%.

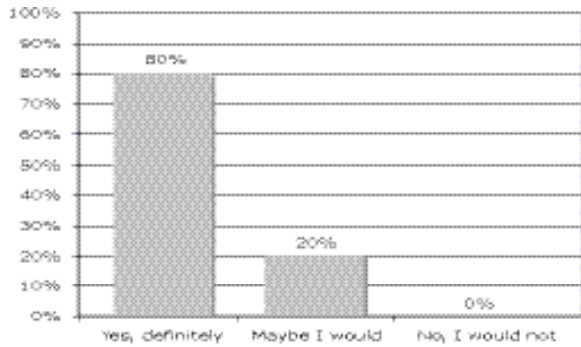
Ratings from the home builder customers on the areas of importance and HVAC and sheet metal contractor performance are shown below.

Area	Importance	Performance	I-P Gap
Meeting the Schedule	9.0	8.0	1.0
Problem Solving	7.0	7.5	-0.5
Price	9.0	6.5	2.5
Business Relationship	8.5	9.0	-0.5
Customer Service	9.5	8.3	1.2
Quality of Work	9.3	8.5	0.8
Safety Performance	8.3	8.3	0.0
Flexibility	8.3	8.3	0.0

Home builders' responses to the question "If value is defined as 'the quality of services/products received for the price paid'" are shown below.

Question	Rating
How would you rate the value of the services your primary HVAC union contractor provides?	8.3
Other than your primary HVAC union contractor, how would you rate the value of services provided to you by other HVAC/mechanical contractors?	7.5
Overall, how satisfied are you with your primary HVAC union contractor's performance in meeting your needs?	8.5

Home builders answered the promoter question, “Would you enthusiastically recommend your primary HVAC union contractor to a business associate in need of HVAC services?” with these ratings:



Net Promoter Score = 80%.

The I-P gap priority areas to address are

Area	I-P Gap
Price	2.5
Customer Service	1.3
Meeting the Schedule	1.0
Quality of Work	0.8

shown below.

Home builder customer responses indicate a somewhat satisfied but not loyal customer. Business relationship received the only 9 rating in performance. Value provided by the HVAC union contractor was rated at 8.3, compared to 7.5 for the competition, a significant gap.

Mechanical

Of 49 customers in this subgroup, 35 responded to the survey, yielding a response rate of 71%.

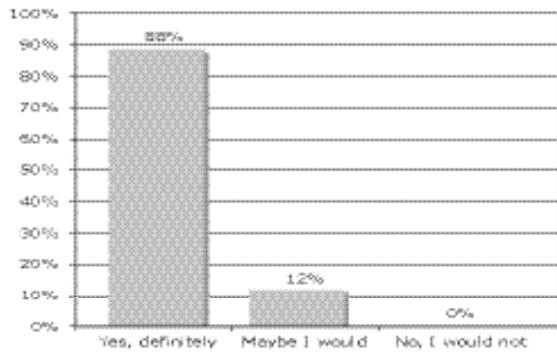
Ratings from the mechanical customers on the areas of importance and HVAC and sheet metal contractor performance are shown below.

Area	Importance	Performance	I-P Gap
Meeting the Schedule	9.6	8.4	1.2
Problem Solving	8.4	8.2	0.2
Price	8.6	7.8	0.8
Business Relationship	8.8	8.5	0.3
Customer Service	9.1	8.0	1.1
Quality of Work	9.4	9.0	0.4
Safety Performance	9.1	8.8	0.3
Flexibility	8.7	8.3	0.4

Mechanical contractors responded to the question of “value is defined as ‘the quality of services/products received for the price paid,’” with these ratings:

Question	Rating
How would you rate the value of the services your primary HVAC union contractor provides?	8.6
Other than your primary HVAC union contractor, how would you rate the value of services provided to you by other HVAC/mechanical contractors?	7.3
Overall, how satisfied are you with your primary HVAC union contractor’s performance in meeting your needs?	8.8

Mechanical contractors responded to the promoter question “*Would you enthusiastically recommend your primary HVAC union contractor to a business associate in need of HVAC services?*” with these ratings:



Net Promoter Score = 88%.

The I-P gap priority areas to address are shown below.

Area	I-P Gap
Meeting the Schedule	1.2
Customer Service	1.1
Price	0.8

The responses of mechanical contractors show a more loyal customer. Quality of work received the only 9 rating in performance. Value provided by the HVAC union contractor was rated at 8.6, compared to 7.3 for the competition, a significant positive gap. The Net Promoter Score of 88% is the third highest score.

Owners

Of 57 customers in this subgroup, 25 responded to the survey, yielding a response rate of 44%.

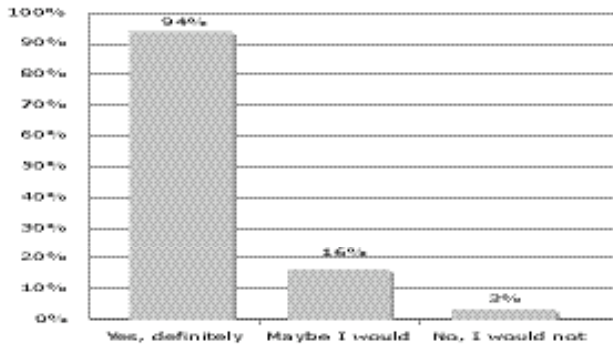
Ratings from the business-owner customers on the areas of importance and HVAC and sheet metal contractor performance are shown below.

Area	Importance	Performance	I-P Gap
Meeting the Schedule	9.0	8.5	0.5
Problem Solving	8.4	8.2	0.2
Price	8.0	7.5	0.5
Business Relationship	8.7	8.4	0.3
Customer Service	8.6	8.4	0.2
Quality of Work	9.2	8.6	0.6
Safety Performance	8.2	8.6	-0.4
Flexibility	8.1	8.5	-0.4

When value is defined as “*the quality of services/products received for the price paid,*” owners replied as follows:

Question	Rating
How would you rate the value of the services your primary HVAC union contractor provides?	8.3
Other than your primary HVAC union contractor, how would you rate the value of services provided to you by other HVAC/mechanical contractors?	6.7
Overall, how satisfied are you with your primary HVAC union contractor’s performance in meeting your needs?	8.3

Owners answered the promoter question “Would you enthusiastically recommend your primary HVAC union contractor to a business associate in need of HVAC services?” with these ratings:



Net Promoter Score = 91%.

The I-P gap priority areas to address are shown below.

Area	I-P Gap
Price	0.6
Quality of Work	0.5
Meeting the Schedule	0.5

The owner responses indicate a near loyal customer. While no area received a 9 rating in performance, the rating for the value provided by the HVAC union contractor was rated at 8.3, compared to 6.7 for the competition, a significant gap. The Net Promoter Score is 91%, the highest score achieved.

5 RESPONSES SUMMARIZED BY TYPE OF WORK

New Construction

There were 117 customers who said they do new-construction work.

Ratings from the new-construction customers in the areas of importance and HVAC and sheet metal contractor performance are shown below.

Area	Rating	
	Customer	Contractor
Meeting the Schedule	9.2	9.1
Problem Solving	8.5	8.2
Price	8.3	8.6
Business Relationship	8.8	8.0
Customer Service	8.8	8.3
Quality of Work	9.3	8.2
Safety Performance	8.7	7.7
Flexibility	8.4	7.8

Customers’ and HVAC and sheet metal contractors’ ratings of performance are shown below.

Area	Rating	
	Customer	Contractor
Meeting the Schedule	8.4	8.8
Problem Solving	8.3	8.7
Price	7.6	7.4
Business Relationship	8.5	8.6
Customer Service	8.3	8.4
Quality of Work	8.7	9.0
Safety Performance	8.8	8.6
Flexibility	8.3	8.5

New-construction customers’ rating of importance and performance are shown in the table below.

Area	Importance	Performance	I-P Gap
Meeting the Schedule	9.2	8.4	0.8
Problem Solving	8.5	8.3	0.2
Price	8.3	7.6	0.7
Business Relationship	8.8	8.5	0.3
Customer Service	8.8	8.3	0.5
Quality of Work	9.3	8.7	0.6
Safety Performance	8.7	8.8	-0.1
Flexibility	8.4	8.3	0.1

New-construction customers and contractors replied to “If value is defined as ‘the quality of services/products received for the price paid’” with these ratings:

Question	Rating	Contractor
How would you rate the value of the services your primary HVAC union contractor provides?	8.3	8.3
Other than your primary HVAC union contractor, how would you rate the value of services provided to you by other HVAC/mechanical contractors?	7.1	6.7
Overall, how satisfied are you with your primary HVAC union contractor’s performance in meeting your needs?	8.4	8.5

New-construction customers replied to “Would you enthusiastically recommend your primary HVAC Union contractor to a business associate in need of HVAC services?” with these responses:

Response	Customer (%)	Contractor (%)
Yes, definitely	84	74
Maybe I would	14	25
No, I would not	3	1
Net Promoter Score	81	73

The I-P gap priority areas to address are shown below.

Area	I-P Gap
Meeting the Schedule	0.8
Price	0.7
Quality of Work	0.6
Customer Service	0.5

New-construction customer responses yielded no 9 ratings in any of the performance areas, but the contractors rated themselves a 9 in quality of work. The HVAC and sheet metal contractors believed meeting schedule is the most important area to the customer, yet this customer group rated quality of work as most important. The rating for value provided by the HVAC union contractor is at 8.3 by both the new-construction customer and contractors, but the HVAC and sheet metal contractors saw the competition as 6.7, compared to a 7.1 rating by the customer. The customers’ Net Promoter Score is 81%, compared to a perceived 73% by the contractor.

Retrofit

There were 96 customers who said they do retrofit work.

Ratings from retrofit customers and HVAC and sheet metal contractors on the areas of importance are shown below.

Area	Rating	
	Customer	Contractor
Meeting the Schedule	9.2	9.1
Problem Solving	8.6	8.3
Price	8.2	8.6
Business Relationship	8.8	8.1
Customer Service	8.8	8.3
Quality of Work	9.4	8.3
Safety Performance	8.9	7.9
Flexibility	8.4	7.9

Retrofit customers and contractors' ratings of actual performance compare as shown below:

Area	Rating	
	Customer	Contractor
Meeting the Schedule	8.5	8.9
Problem Solving	8.4	8.8
Price	7.7	7.4
Business Relationship	8.6	8.6
Customer Service	8.4	8.4
Quality of Work	8.7	9.0
Safety Performance	8.9	8.7
Flexibility	8.4	8.5

Retrofit customers' ratings of importance and performance are shown below.

Area	Importance	Performance	I-P Gap
Meeting the Schedule	9.2	8.5	0.7
Problem Solving	8.6	8.4	0.2
Price	8.2	7.7	0.5
Business Relationship	8.8	8.6	0.2
Customer Service	8.8	8.4	0.4
Quality of Work	9.4	8.7	0.7
Safety Performance	8.9	8.9	0.0
Flexibility	8.4	8.4	0.0

When value is defined as *"the quality of services/products received for the price paid,"* retrofit customers and contractors responded as follows:

Question	Customer	Contractor
How would you rate the value of the services your primary HVAC union contractor provides?	8.4	8.3
Other than your primary HVAC union contractor, how would you rate the value of services provided to you by other HVAC/mechanical contractors?	7.2	6.7
Overall, how satisfied are you with your primary HVAC union contractor's performance in meeting your needs?	8.4	8.6

Retrofit customers and HVAC and sheet metal contractors responded to the question *"Would you enthusiastically recommend your primary HVAC Union contractor to a business associate in need of HVAC services?"* as follows:

Response	Customer (%)	Contractor (%)
Yes, definitely	82	73
Maybe I would	15	26
No, I would not	3	2
Net Promoter Score	79	71

The I-P gap priority areas to address are shown below.

Area	I-P Gap
Quality of Work	0.7
Meeting the Schedule	0.7
Price	0.5

For retrofit work, the customers did not give a 9 rating in any performance area, but the HVAC and sheet metal contractors rated themselves a 9 in quality of work. Similar to the responses of new-construction customers, the contractors thought that meeting schedule is the most important area to the customer; however, customers indicated that quality of work is most important. The rating for the value provided by the HVAC union contractor is essentially the same by both the customer and contractor, but the contractor saw the competition as 6.7, compared to a 7.2 rating by the customer. This 0.5-point spread is significant. The customer's Net Promoter Score is 79%, compared to a perceived 71% by the contractor; both scores are lower than those of new-construction customers.

Service

There were 33 customers that said they do service work.

Ratings from service customers and HVAC and sheet metal contractors on areas of importance are as follows:

Area	Rating	
	Customer	Contractor
Meeting the Schedule	9.2	9.1
Problem Solving	8.7	8.3
Price	8.2	8.7
Business Relationship	8.8	8.1
Customer Service	9.1	8.3
Quality of Work	9.4	8.2
Safety Performance	8.8	7.9
Flexibility	8.7	7.9

Service customers and contractors rated performance as follows:

Area	Rating	
	Customer	Contractor
Meeting the Schedule	8.5	8.9
Problem Solving	8.4	8.7
Price	7.7	7.3
Business Relationship	8.6	8.6
Customer Service	8.4	8.4
Quality of Work	8.7	9.0
Safety Performance	8.9	8.7
Flexibility	8.4	8.5

Service customers' rating of importance and performance are shown below.

Area	Importance	Performance	I-P Gap
Meeting the Schedule	9.1	8.5	0.6
Problem Solving	8.6	8.4	0.2
Price	8.2	7.7	0.5
Business Relationship	8.8	8.6	0.2
Customer Service	9.1	8.4	0.7
Quality of Work	9.4	8.7	0.7
Safety Performance	8.8	8.9	-0.1
Flexibility	8.7	8.4	0.3

Service customers and HVAC and sheet metal contractors responded to “value is defined as ‘the quality of services/products received for the price paid,’” with these ratings:

Question	Rating	Contractor
How would you rate the value of the services your primary HVAC union contractor provides?	8.1	8.3
Other than your primary HVAC union contractor, how would you rate the value of services provided to you by other HVAC/mechanical contractors?	6.9	6.6
Overall, how satisfied are you with your primary HVAC union contractor’s performance in meeting your needs?	8.4	8.6

When asked, “Would you enthusiastically recommend your primary HVAC union contractor to a business associate in need of HVAC services?” service customers and contractors replied:

Response	Customer (%)	Contractor (%)
Yes, definitely	79	75
Maybe I would	15	23
No, I would not	6	2
Net Promoter Score	73	73

The I-P gap priority areas to address are shown below.

Area	I-P Gap
Quality of Work	0.7
Customer Service	0.7
Meeting the Schedule	0.6
Price	0.5

For service work, customers rated no areas a 9 or above in performance, but the contractors rated themselves a 9 in quality of work. As in responses from new-construction and retrofit customers, contractors thought that meeting schedule was the most important area to the customer, but customers replied that quality of work is most important. The rating for the value provided by the HVAC union contractor was rated essentially the same by both the customer and contractor and for their ratings of the competition. Both saw a significant gap between the union contractor and the competition. The customer’s Net Promoter Score is 73% for both customer and contractor.

Comments Received

Comments were received for two questions on the customer survey:

1. The customers’ answers to the question “Please tell us one thing that primary HVAC union contractors can do to maintain or increase your loyalty?”
2. The customers’ answers to an open-ended question asking if they had additional comments.

The comments for these questions are included in Appendixes F and G, respectively. The customers’ answers to question inquiring about the “one thing” that would improve loyalty have been grouped into similar issues and offer some insight into customers’ ratings of the eight areas on performance and their expectations. Some observations are presented below:

- Business Relationships. Comments fell into two main sub-themes: (1) being “honest” in informing customers about what is really planned and then keeping promises, and (2)

doing a better job of keeping the same key personnel on a job.

- **Quality of Work.** Many very positive comments suggested the contractors should continue doing the quality of work now performed; some comments suggested the need for improvements in doing the work right the first time and better troubleshooting.
- **Meeting the Schedule.** Comments offer little insight into particular concerns related to scheduling issues; several comments concerned closeout issues.

No effort was made to create subgroups for the open-ended comments.

Caution should be taken with all surveys that invite comments to avoid overreacting to any specific comment; rather, only trends or groups of similar comments should be considered.

6 BENCHMARKING THE SURVEY RESULTS

Because this is the first sheet metal industry customer satisfaction survey performed, there are no previous survey results to use for comparison. To date, the construction industry lacks published survey results, with the exception of the JD Power & Associates' home builder customer satisfaction survey.³ The JD Power study reports the top home builders by 30 markets and calculates satisfaction scores using a weighted score of

10 factors. Several questions are asked within each factor. The average score for home builders in 2005 was 112 out of 160 possible, which would correlate to 7.0 on a scale of 10. Their highest score is 122 out of 160 or 7.6 on our scale. However, because the JD Power report studies customer satisfaction with home builders (not subcontractors) and uses much more in-depth questions and weighted calculations to create its overall score, a true direct comparison cannot be made to the findings of this study.

Comparisons can be made to survey results from other industries for which benchmark data are published. For example, winners of the Malcolm Baldrige National Quality Award, a benchmark award for world-class excellence, shows that an average of 54% of customers gave the top-box rating to Baldrige award winners.⁴ Responses in the survey showed only 25% of customers give the top-box rating for overall satisfaction. As mentioned earlier, Reichheld's research found that a best-practice score for the Net Promoter Score is between 75% and 80%.

The American Society for Quality and the University of Michigan publish the *American Consumer Satisfaction Index* (ACSI). The ACSI reports scores using a 0-to-100 scale at the national level. Data are based on telephone interviews with customers who are actual users of products and services. According to the ACSI, "Data are collected at the individual customer level, with scores for a company's customers aggregated to produce the company-level results. The score for a

³ Press Release, JD Power & Associates, 2005: http://www.jdpower.com/cc/homes/ratings/home_builders/FindHomeBuilderResults.

⁴ NIST, Companies 2004, 2003 and 2002 Award Recipient Application Summaries. See http://www.quality.nist.gov/Contacts_Profiles.htm.

particular industry consists of an average of its company scores, weighted by the revenues of the companies included. Sector scores consist of industry scores, weighted by industry revenues. The national ACSI score is composed of sector scores, weighted by each sector’s contribution to the GDP.⁵

While ACSI does not yet collect data on construction companies, ASCI results can casually be compared to the satisfaction scores of this survey by dividing the ASCI scale by 10. Some 2005 first-quarter scores for ACSI categories are shown below.

Category/Company	2005 Q1 ACSI Score
Airlines	82.4
Gas & electric service companies	80
Local governments	63
Federal government	72
Banks	75
Healthcare insurance	67
US Postal Service	73
Federal Express	84
United Parcel Service	82
Manufacturing durable goods	78.9
Auto & light vehicle manufacturing	80

7 CONTRACTOR SELF-SURVEYS

This industry-wide survey provides contractors with information on overall performance indicators. Unless the individual contractor has done a similar survey with his/her specific customers, benchmarking to industry results is limited. High-performing

contractors do survey their customers regularly to ensure that they track and understand the changing needs and expectations of their customers.⁶ However, the majority of contractors do not currently perform their own customer satisfaction surveys.

As part of this research project, a self-survey kit has been developed and will be made available to contractors through the New Horizons Foundation. Included are instructions for determining the survey questions, setting up a simple customer database, and conducting a survey either by hard copy or electronically. The kit is designed to give contractors interested in conducting a survey the expertise needed to self-perform their own customer survey.

8 FEEDBACK TO THE CUSTOMER

No survey process is complete unless feedback is given to customers regarding the results and action plans. Customers want to know that their time and ideas produced meaningful results and what, if any, actions are planned based on their survey contributions. Giving customers this feedback not only closes the loop, but also ensures a greater possibility of participation in similar surveys in the future.

The following approach is recommended for giving feedback to customers who were surveyed.

⁵ The American Customer Satisfaction Index, see http://www.theacsi.org/what_it_measures.htm.

⁶ Schwartz, Linda; Skinner, David; and Sowards, Dennis, *Creating the High-Performing Contractor Company*, Sheet Metal and Air Conditioning Contractors National Association, Inc., 2002, page 54.

HVAC and sheet metal contractors who provided customer names should communicate the results directly to their customers. The researcher will provide a sample cover letter and copy of this report to the participating contractors. They are encouraged to share the report to their customers. It is recommended that these contractors meet personally with their customers to deliver the report and discuss its findings. They can use the meeting as an opportunity to thank their customers for participating (even if some did not) and ask a few key follow-up questions to gain additional information on ways to better serve their customers. For example, contractors can begin a discussion saying, *“The survey found that the most important areas to improve are: (list overall areas or those specific to the customer type or work type). Can you tell us which ones are most important to you and what specifically we can improve upon to be even better in serving your needs?”*

Contractors should focus on truly listening to customers’ responses and avoid becoming defensive when customers make suggestions or point out weaknesses. Additionally, contractors should avoid using this meeting as a sales opportunity; simply holding the meeting will help improve the customer relationship. In the event a customer makes a specific recommendation, follow-up should occur, informing the customer how the suggestion was implemented.

Contractors should give feedback to all customers that they submitted to be surveyed regardless of which ones actually participated in the survey.

9 LESSONS LEARNED

Every research effort has lessons to be learned and applied in future initiatives. For this research, the first of its kind undertaken for the industry, the following lessons are noted, in no specific priority:

- The eight areas used in this survey for rating importance and performance were selected from a list of more than 50 potential topics. The chosen areas were selected based on the experience of the task force guiding the research. The task force’s choices later were validated because all eight were identified as very important to the customers, as evidenced by their high importance ratings. However, a risk still exists that a factor of equal or greater importance to the customer was overlooked. Future surveys can include additional factors. Another option is to include a longer list of possible areas and ask the customer to select the most important ones, and then have the customer rate performance on only the ones he/she selected. Using this approach with a hard-copy survey is cumbersome, but it can easily be programmed into an electronic format. Contractors, to be successful, must continuously seek to understand what is important to customers in order to ensure their requirements are being met.
- Obtaining customers’ names was a challenge, and even more effort was expended in gathering their e-mail addresses. Only about 50% of names provided by contractors included e-mail addresses, and telephone calls had to be made to obtain the rest. For future surveys to be more

efficient, the customers' names need to be supplied with current e-mail addresses.

- More customer names also are needed to increase the validity of the results. While this research experienced a very high response rate for an electronic survey, the entire population consisted of only 248 customer names. Of the 144 HVAC and sheet metal contractors who participated in the survey, only 52 contractors submitted customers' names. Prior to any future survey, it may prove useful to understand contractors' reluctance to offer their customers' names and to address any barriers they are experiencing. Contractors have, in other situations, expressed a fear of sharing customers' names for competitive reasons. Researchers may need to reinforce that any names submitted remain confidential.
- Two forms of data entry were used for inputting the customers' information. One was a faxed form that was manually entered by the research team. Later in the study, the web-based survey was implemented, and data were entered directly when participants filled out the customer information online. A few problems occurred deciphering handwriting on the faxed forms and required calls to the participants. The web-based method avoids this problem and remains the most efficient process for future surveys.
- The original e-mail inviting customers to participate in the survey was initiated by the research team. Many of these e-mails were either filtered out as junk e-mail by the customer's software or deleted by the customer him/herself. Later follow-up e-mails contained the name of the contractor who submitted the customer's name in the subject line and in the text. These e-mails resulted in a greater number of responses. Future surveys should include these format ideas.
- Many electronic surveys are preceded with an announcement and sometimes an incentive encouraging response. The response rate to this survey was high, and an incentive may not be needed for future surveys, but consideration should be given on how and who announces the coming survey. Providing follow-up feedback to the customers on the survey results, as mentioned previously, may also ensure a better response in the future.

10 FUTURE RESEARCH RECOMMENDATIONS

A periodic customer survey is needed to gain additional insight into expectations and satisfaction levels of HVAC and sheet metal contractors' customers. Comparing the responses to the questions year-to-year will allow contractors to better hear and respond to the customers' expectations and to track new or changing customer requirements.

The NHF should consider doing a survey in a few years to measure the impact of improvements made within the industry.

Using a web-based survey process allows for quick survey responses. This technology should be employed in future surveys.

This survey was designed to create a baseline upon which to build deeper research and continued study of areas most important to HVAC and sheet metal contractors' customers. Future surveys may want to add to and expand the current focus and include

- Exploration of how customers' front-line supervision and project managers would reply to the survey questions.
- Inquiry into how customers' definitions of the eight areas of importance might differ from the survey definitions. For example, how do customers define "meeting the schedule?" Would their definitions make any difference in the responses related to service, air balance, or for large or small jobs?
- Discovery of reasons former customers are no longer using a specific HVAC and sheet metal contractor.
- Developing an understanding of the responses to these questions by customers who do not currently use union contractors
- Identification of which specific actions, if taken by HVAC and sheet metal contractors, would increase the likelihood of retaining customers and attracting new ones.
- Exploration of any actions contractors should cease performing to maintain loyal customers.
- Identification of other factors that are most important to customers that may not have been included in this initial research.
- Development of a composite score for the contractors using a weighting for each factor and combining all factors for one score, similar to the scores JD Power gives for home builders.

II APPENDIX A – SAMPLE CUSTOMER SURVEY

Note: The actual survey instrument was on the web site. The questions were as follows:

Customer Survey

The New Horizons Foundation, an HVAC and Sheet Metal Industry Initiative, has commissioned a research project on customer requirements and satisfaction levels in our industry. We want to know what customers of HVAC/Mechanical contractors feel is important to the success of their projects and the contractors are performing in meeting the customer's requirements.

We are asking for your feedback on these following questions. All responses will be held strictly confidential.

The New Horizons Foundation believes the information gained from this survey will be very useful to the Foundation in helping members of the Sheet Metal and Air Conditioning Contractors National Association (SMACNA) continuously improve their customer service and in establishing future research projects.

Of the items listed below, which are the most important to the **success of your projects**? Please rate the importance on a scale from 1 to 10 where one means very low importance and 10 means most important.

Meeting the Schedule: Includes being able to deliver the project on time and meet our promises. Also includes timely closeouts of the job.

Problem Solving: Includes a solid problem identification process and root cause analysis; identifying a solution; communicating that solution and follow through to resolve the problem.

Price: Includes the cost/budget of the project that you pay.

Business Relationship: Includes the ability to work cooperatively, deal with changing project requirements and trust the contractor.

Customer Service: Includes effective communications throughout the project and after the completion of construction.

Quality of Work: Includes performing work that meets the customer requirements and specifications.

Safety Performance: Includes performing all work safely by meeting all safety requirements and maintaining a safe work force.

Flexibility: Includes being easy to do business with, able to adjust to project requirements and not be rigid in work performance. Are union contractors flexible enough for you to have a successful project?

Rate how your primary HVAC Union contractor is performing in those same areas of importance using a scale of 1 to 10 (1 being Unsatisfactory to 10 being Excellent). (Use the List from above)

On a scale of 1 to 10 (1 being Unsatisfactory to 10 being Excellent), if value is defined as *“the quality of services/products received for the price paid,”*

- How would you rate the value of the services your primary HVAC Union contractor provides?
- Other than your primary HVAC Union contractor, how would you rate the value of services provided to you by other HVAC/Mechanical contractors?
- Overall, how satisfied are you with your primary HVAC Union contractor’s performance in meeting your needs?

Would you enthusiastically recommend your primary HVAC Union contractor to a business associate in need of HVAC services?

- Yes, definitely
- Maybe I would
- No, I would not

What type of work do your primary HVAC Union contractors perform for you?

Mark all that apply:

- New Construction
- Retrofit
- Service

Please tell us one thing that primary HVAC Union contractors can do to maintain or increase your loyalty?

Please feel free to share any additional comments you might have.

12 APPENDIX B – SAMPLE CONTRACTOR SURVEY

Note: The actual survey instrument was on the web site. The questions were as follows:

HVAC and Sheet Metal Survey

The New Horizons Foundation, an HVAC and Sheet Metal Industry Initiative, has commissioned a research project on customer requirements and satisfaction levels in our industry. We want to know what SMACNA members feel their customers see as most important to the success of their projects and how they as contractors are performing in meeting the customer’s requirements.

We are asking for your feedback on these following questions. All responses will be held strictly confidential.

The New Horizons Foundation believes the information gained from this survey will be very useful to the Foundation in helping members of the Sheet Metal and Air Conditioning Contractors National Association (SMACNA) continuously improve their customer service and in establishing future research projects.

Of the items listed below, which do you feel your customers see as most important to the **success of your projects?** Please rate the importance on a scale from 1 to 10 where one means very low importance and 10 means most important.

- Meeting the Schedule:** Includes being able to deliver the project on time and meet our promises. Also includes timely closeouts of the job.

- ❑ **Problem Solving:** Includes a solid problem identification process and root cause analysis; identifying a solution; communicating that solution and follow through to resolve the problem.
- ❑ **Price:** Includes the cost/budget of the project that you pay.
- ❑ **Business Relationship:** Includes the ability to work cooperatively, deal with changing project requirements and trust the contractor.
- ❑ **Customer Service:** Includes effective communications throughout the project and after the completion of construction.
- ❑ **Quality of Work:** Includes performing work that meets the customer requirements and specifications.
- ❑ **Safety performance:** Includes performing all work safely by meeting all safety requirements and maintaining a safe work force.
- ❑ **Flexibility:** Includes being easy to do business with, able to adjust to project requirements and not be rigid in work performance. Are union contractors flexible enough for you to have a successful project?

Rate how you feel you are performing in those same areas of importance using a scale of 1 to 10 (1 being Unsatisfactory to 10 being Excellent).

Same List from above

On a scale of 1 to 10 (1 being Unsatisfactory to 10 being Excellent), if value is defined as *“the quality of services/products received for the price paid,”*

- Rate how you feel your customers would rate the value of the services you provide to them?
- Rate how you feel your customers would rate the value of services provided to them by other HVAC/Mechanical contractors?
- Overall, rate how satisfied your customers are with your performance in meeting their needs?

Answer this question based on how you feel your customers would answer it. “Would you enthusiastically recommend your primary HVAC Union contractor to a business associate in need of HVAC services?”

- ❑ Yes, definitely
- ❑ Maybe I would
- ❑ No, I would not

What type of work do you perform for your customers? Select all that apply:

- ❑ New Construction
- ❑ Retrofit
- ❑ Service

Please feel free to share any additional comments you might have.

13 APPENDIX C – TERMS USED TO DESCRIBE THE IMPORTANCE/ PERFORMANCE FACTORS

These eight factors were used in the survey questions, and participants were asked to rate both importance and performance:

Meeting the Schedule: Includes being able to deliver the project on time and meet contractor commitments. Also includes timely closeouts of the job.

Problem Solving: Includes a solid problem-identification process and root-cause analysis, identifying a solution, communicating that solution, and follow-through to resolve the problem.

Price: Includes the cost/budget of the project that is paid.

Business Relationship: Includes the ability to work cooperatively, deal with changing project requirements, and trust the contractor.

Customer Service: Includes effective communications throughout the project and after the completion of construction.

Quality of Work: Includes performing work that meets the customer requirements and specifications.

Safety Performance: Includes performing all work safely by meeting all safety requirements and maintaining a safe work force.

Flexibility: Includes being easy to do business with, being able to adjust to project requirements, and not being rigid in work performance. Are union contractors flexible enough for you to have a successful project?

14 APPENDIX D – MENU OF POSSIBLE PROJECT PERFORMANCE FACTORS

The following factors were considered in determining the survey questions.

1. Accurate billings
2. Adherence to schedule
3. Approach to changes in scope of work
4. Approach to problem solving
5. Attitude of workers
6. Bid price
7. Bonding capability
8. Budget performance
9. Business relationship
10. Certifications
11. Communication with customer
12. Control of subcontractors
13. Customer service
14. Design capability
15. Documentation
16. Financial stability
17. Follow-through on problems
18. Guarantee of work
19. Industry knowledge
20. Innovation
21. Integrity
22. Job site management
23. Job clean-up
24. Licenses

25. Life-cycle cost
26. Negotiate contracts
27. On-time performance
28. Past experience with contractor
29. Productivity
30. Professional employees
31. Project execution plan
32. Project management skills
33. Project status reporting
34. Quality of contractor's management
35. Quality of work
36. Reliability
37. Reputation
38. Resolving issues
39. Resources to get the job done
40. Responsive to changes
41. Safety performance
42. Schedule of fees
43. Size of contractor
44. Skill of workforce
45. Stable personnel start to end of job
46. Teamwork
47. Timely billings
48. Timely closeouts
49. Trust
50. Union work
51. Value of work ("gots" [usefulness] compared to costs)
52. Warranty

15 APPENDIX E – CUSTOMER REQUEST LETTER

The follow is the letter used to request that HVAC and sheet metal contractors provide customer names for the survey.

New Horizons Foundation
An HVAC and Sheet Metal Industry Initiative
P.O. Box 222784
Chantilly, Virginia 20153-1230

Dear SMACNA Member:

Subject: Increasing Customer Loyalty - A New Horizons Foundation Project

WE NEED YOUR HELP. The New Horizons Foundation, an HVAC and Sheet Metal Industry Initiative, has commissioned Dennis Sowards to do a research project on customer requirements and satisfaction levels in our industry. This research involves doing a survey of customers of SMACNA members. He will be asking customers on a one or two page survey (via email) to tell what is important in work performance and services rendered by contractors. The survey will also seek to determine their satisfaction level with the value of the work they receive.

All responses will be held strictly confidential and will be presented in a summarized format to provide overall industry answers.

He will also survey SMACNA members on what they believe customers feel is important on work performance and services. This research will help identify any perception gaps that may exist between customers and contractors. The research will also form the baseline for a periodic industry customer satisfaction measure. This can help SMACNA members benchmark their performance with the national satisfaction levels.

The responses will be gathered by type of customer – general contractor, mechanical, owner and home builder and by these types of work: new construction, retrofit and service.

The New Horizons Foundation believes the information gained from this survey will be very useful to the Foundation in establishing future research projects and for SMACNA by enhancing services to SMACNA members.

To perform this research we need information on your customers. As this will need to be a large survey, please provide as many customers names as possible. I am requesting that you provide information on a minimum of three of your active customers by filling out the attached form and faxing it to Debbie Daniels at (703) 803-3732. We intend to conduct the customer survey by electronic e-mail, so we will need a correct e-mail address for each customer.

We respect your need to safeguard your customers. We will not share this information with any contractors, associations or other consultants. The database will be part of this research project funded by the New Horizons Foundation and solely used for the project and purpose described here.

One of the deliverables of the research project will be a customer satisfaction self-survey kit. For your willingness to participate in this survey, you will receive a free CD-Rom of this kit, once it is developed.

If at all possible, we intend to share the preliminary results of this project at the 2005 SMACNA Convention in October. Your timely cooperation in this valuable research is very much appreciated.

Sincerely,
George L. "Butch" Welsch
Chairman
New Horizons Foundation

16 APPENDIX F – ANSWERS SUPPLIED BY CUSTOMERS TO THE QUESTION, “ONE THING WE CAN DO TO IMPROVE...”

The customers we re asked for the “one thing” that their primary HVAC union contractors can do to maintain or increase their loyalty. Their answers are grouped below.

Note: Comments with names of contractors or individuals have been removed. [“the contractor”] is used to indicate where a specific contractor was named.

Business Relationships

- Improve relationships with all purchasing personnel in this organization.
- Keep working with us and the whole project team.
- Maintain good working relationships with site (owners) personnel.
- Be honest at all times and do what you say you are going to do!
- Be honest.
- Be more upfront, don't CYA.
- Meeting our promises.
- Simply treat my client fairly.
- Continue with a high standard of integrity and customer service.
- Stay honest.
- Union or non-union, all we expect from our subcontractors is to be honest and straightforward with us.

- Be straightforward and honest. We are not perfect and make mistakes and we know they make mistakes. Let's work together to get the best result for our mutual client.
- Assign a consistent team (i.e., same people) to my projects so a new learning curve isn't required for each new project.
- Keep key people available.
- Keep same lead tinner on job start to completion.
- Maintain key personnel.
- Provide the same people consistently.
- Stop shuffling multiple people in and out of project.
- They can continue to provide sterling, knowledgeable, and kind estimators & project managers.
- Retain personnel in area, on our fourth person.
- Better full-time on-site supervision of subs under the Div 15 contractor...insulators, control people.

Customer Service

- Increase communications. Help the mechanical contractor to look after other subcontractors (controls & insulation).
- Be prompt in returning all communications and manning the projects.
- Stronger communication of project coordination.
- Continue to provide excellent pre-construction and consulting services to their, and our, clients.

- Be responsive on short notice work. No longer responsive or have a sales representative call on us.
- Communication to maintain and cooperation for loyalty. Keep these two in mind at all times and everything will be all right.
- Keep open communications about what is going on.
- Have more resources trained/available/certified in air balancing.
- Push their subcontractors more.

Flexibility

- Deliver on promises and be flexible when conditions are changing.
- Remain flexible.
- Remain flexible to changing job conditions.

General

- I do not have one, primary HVAC union contractor that I deal with. All of our projects are competitive bid, so there are a number of mostly union HVAC contractors that I deal with. In addition, all of our projects are plan and spec jobs, having been designed by a mechanical engineer.
- Luckily for me, [the contractor] has shown me what a quality shop they are with great leadership and outstanding employees. I cannot think of anything that could better their business or increase my enjoyment in working with them.
- I would like to clarify that we are the primary HVAC contractor on all of our own work. We are both an MCA member

and a SMACNA member. [The contractor] is a temperature control subcontractor who also performs service work. Many times we are each competing for the same service contract at the completion of a project. This is a point of contention.

Meeting the Schedule

- Job completion at a set date.
- Job completion in a timely manner.
- Meet schedules.
- Do better on scheduling.
- Meet time frame of job for completion.
- Become more efficient in submitting close out paperwork.
- Try to have better control of delivery dates.
- Follow through on project completeness items from commission & start up.
- Maintain a presence after all the bills are paid.
- Do better scheduling.
- Be able to man-up when necessary.
- Provide manpower; that's about it.

Price

- Accurate budgets. Accurate bids.
- Competitive pricing (two comments received with exactly the same wording).
- Control union costs to make union contractors more competitive with the marketplace. The last job union contracts added \$14,000 to the cost of the job.
- Don't start creeping up prices due to sole sourcing over a period of time.

- In the larger design build I believe [the contractor] to be excellent. In the smaller projects they have a very hard time being competitive, and we usually have a non-union sub on these projects.
- Lower rates for services performed — the cost of union labor is forcing us to look for alternative contractors.
- More realistic change-order pricing.
- Pay invoices on time.
- Pricing stays the same even though they may be busy. I need to be competitive and not jump around.
- Since labor costs for union contractors (and we're one) are high and going higher, we have to find new and innovative ways to reduce overall job costs, mainly through materials, prefabrication, construction efficiencies, and other factors to keep the overall project price at a competitive level. The owner always looks at the bottom line. This type of idea producing is vital to keeping the union contractor in business in the Southeast US.
- Stay price competitive.
- You need to be able to economically compete with smaller residential contractor pricing if you are going to participate in a majority of the downtown housing boom—condos and apartments.
- Provide competitive pricing.
- Keep wages competitive.
- Find ways to come up with more competitive pricing.
- More “flexible” pricing for repeat, long-term customers.

- Get more competitive.

Problem Solving

- Follow through on problem installations.
- Keep maintaining the problem-solving capabilities. Often on rehabilitation projects we, the engineer, are unable to tear a ceiling down to see what is actually above it and there are no drawings showing what is above the ceiling. Once the project begins it is often the first time we are allowed to see above the ceiling. This is when the duct installer must be willing to help figure out how to run the ductwork around previously unknown obstacles.
- Provide solutions rather than bringing up problems.
- The ability to understand technical issues, and to be part of the solution in problem solving.
- When a problem arises, and they always do, be more proactive.

Quality of Work

- Good end product!
- Improve the quality of work provided in the field by the union workforce.
- Continue to provide the service and quality that they provide.
- Maintain the quality of service and performance we currently receive.
- Provide the level of quality as in the past.
- Be better technically.
- Have people who can use their experience to see if something is going to work correctly when they are installing it.

- Improve their ability to fully commission each system including providing a commissioning agent who is involved early and has a detailed understanding of wet-side, dry-side, controls, and balancing and can effectively interface with the user, engineer, vendors, and foreman. Systems integration is one of the most critical and least tended-to aspects of HVAC work.
- Arrive at the job site ready to work, with all the tools and supplies necessary to complete the trouble call.
- Be quicker on doing the work.
- They bring a higher level of talent missing from many other contractors.
- Provide knowledgeable technicians and good troubleshooting techniques.
- Institute project controls. Be the expert in their field.
- Pay attention to detail.
- My biggest complaint is that there is never enough debugging/troubleshooting at the completion of a project to ensure that the HVAC system is operating properly.
- It is always critical to the front-end process to identify the system that will be used, and the tonnage/capacity, which relates to what the ultimate budget will be. The earlier we hit that performance spec the better.
- [The contractor] does it correct the first time...you don't have to worry about them or baby-sit them compared to others.
- Quality, quality, quality.
- Make sure that the key people working on the project are up to speed with current trends and solutions. Make sure that

expectations are clearly defined and successfully completed.

- Provide qualified technicians for the project.

Safety Performance

- Safe working environment.

Union

- Avoid jurisdictional disputes.
- Be as competitive as open shops. Drop the union attitude—we all need to work together to get the job done. I do not want to know about nor do I care about your union work agreements. I just want you to get “r” done.
- Organize and get rid of non-union contractors.

Value

- Complete projects in a timely fashion within the not-to-exceed proposal value.
- Continue to deliver the best price while maintaining good customer service.
- Control costs while maintaining quality.
- Provide services at a fair price to maintain client loyalty. Non-union shops are becoming more and more experienced and can easily sell the benefit of “lower cost than union” when union contractors are out of line on bid day. As an owner’s representative, nothing hurts a union shop more than having an over-inflated bid and justifying it as “higher trained labor” when we see non-union shops do high-quality work time and time again.

17 APPENDIX G – OTHER COMMENTS BY CUSTOMERS

The last part of the survey asked the customer to share additional comments. No attempt was made to group the comments. Note: To maintain confidentiality the term [HVAC and sheet metal contractor] has been used to replace specific contractors named by the customer.

- Another local union HVAC/mechanical contractor is not in the same league as SMACNA contractor. It must be the leadership that does not stress like the [HVAC and sheet metal contractor] does...quality, do it right, professionalism, attention to schedule, etc.
- [HVAC and sheet metal contractor] is a true asset to have on any job. Working with them is a pleasure.
- Do not send out my information.
- Our requirements for sheet metal center more on traditional roofing and ornamental metal work that is part of our historic preservation practice.
- I recommend this [HVAC and sheet metal contractor] to all! (unless of course the additional work will have a negative impact on my deliveries! hahaha).
- Our union HVAC subcontractor is not a primary subcontractor but rather is a sub of our primary mechanical subcontractor.
- [HVAC and sheet metal contractor] is an outstanding company. They deliver a top-quality project and work to meet all schedules.

- I have a lot of contractor friends in the HVAC industry and “all” of them are honest guys, otherwise they wouldn’t be friends! When they make mistakes they fix them...and everyone makes mistakes once in a while.
- I believe most contractors would be union if it wasn’t for all the politics involved. The employees are the real bosses in a union and having the union heads take the memberships fringe benefits is criminal. It would also make unions more competitive, which will ultimately be the unions’ downfall if not corrected.
- Thank you!
- [HVAC and sheet metal contractor] does outstanding work for us.
- I typically do not have any problems with management; most problems arise with the quality of the installation in the field.
- We are a large sheet metal contractor and the largest mechanical contractor in this area. I’m not sure how this survey applies to our situation, but I tried to base my responses on using the [HVAC and sheet metal contractor] as a temperature control subcontractor.
- I have personally worked with the [HVAC and sheet metal contractor] nearly 35 years extremely successfully.
- All union shops are not the same. I prefer to use [HVAC and sheet metal contractor], because they have a solid core of employees that take personal responsibility for the job. They insure customer satisfaction before they leave the job.
- The entire ownership and upper management of [HVAC and sheet metal contractor] have provided the very best in HVAC services.
- Quality is slipping in the name of speed. Everyone wants it done today to reduce the length of time that the funds need to be borrowed. This is the “Bean Counters” trying to max the profit rather than doing quality work.
- As you may detect, we are a mechanical contractor. We do subcontract our sheet metal business to a few other mechanicals, but choose to do business as a prime as much as possible. We started out as a sheet metal contractor and quickly evolved into a mechanical contractor.
- Overall our union HVAC contractors do an excellent job. They make our life easy for the most part. Budgeting is the one area that can always use improvement as systems change, drawings get less precise, and the market changes. We need the most realistic and accurate pricing possible. Again, our relationship is strong with these subcontractors, and we enjoy partnering with them on our projects.
- I feel confident that [HVAC and sheet metal contractor] will care for and manage our account in an effective, professional, and positive manner. A few of the newer/younger project managers occasionally concern me. [HVAC and sheet metal contractor] continued involvement and mentoring is important.
- It is extremely difficult to address all projects by a survey. Projects are owner driven with priority varying from client to client regarding importance of budget/schedule/safety/etc.

18 ABOUT THE AUTHOR

Dennis Sowards has more than 8 years of experience in mechanical contracting and 25 years in helping companies improve the quality of how they manage. He was formerly with Kinetics Systems, where he was the manager of continuous improvement and communications. While at Kinetics, he conducted the company's first international customer satisfaction study. Dennis now consults with contractors helping them to achieve operational excellence and customer loyalty. He also provides training and coaching in Lean applications and total quality improvement. He has presented at SMACNA and MCAA national conventions and many local chapters.

Prior to coming to Kinetics, Dennis was the quality manager for J. B. Rodgers Mechanical Contractors. He was the founding executive director of the Arizona Quality Alliance, the state's organization that helps companies become world-class. He has served as a judge for the Arizona State Quality Awards program. He has published articles in several national publications including Contractor magazine and is the lead author of the SMACNA book, *Creating the High-Performing Contracting Company*. In 2004, Dennis completed the research and authored the New Horizons Foundation's *Lean Production Principles* paper. Dennis holds a BSE and MBA from Arizona State University. You can reach him at (480) 835-1185 and through www.YourQSS.com.