

The logo consists of the letters 'E' and 'S' in a bold, blue, sans-serif font. The 'E' is on the left and the 'S' is on the right, both rendered in a thick, blocky style.

**Engineered Systems**

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## TABB Ad Recognition & Familiarity Custom Study



Market Research Division  
December 2006

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# Study Overview

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## BACKGROUND

In an effort to better understand TABB (Testing, Adjusting and Balancing Bureau) ad recognition and familiarity among readers who have purchasing influence for HVACR mechanical systems and/or components, TABB commissioned *Engineered Systems* magazine and BNP Media's Market Research Division to conduct a custom research study. A similar study was conducted among *ES* readers in July, 2005.

## PURPOSE AND OBJECTIVES

The purpose of the *Engineered Systems* TABB Custom Study is to measure TABB's ad recognition and familiarity amongst industry professionals and collect feedback regarding a 16-page advertisement (insert) appearing in the October issue.

- What is the level of recall of seeing and reading the 16 page insert in *ES* magazine?
- How familiar are HVACR purchase influencers with TABB?
- How do HVACR purchase influencers rate the ad/insert on specific advertising elements?
- How important are selected TABB program elements to HVACR purchase influencers?

# Study Overview

## STUDY DETAILS

**Target Audience:** 1,000 active, qualified *Engineered Systems* subscribers who have HVACR occupations of: Consulting Engineer/Architect, Mechanical Engineer, Operating Engineer, Facilities Manager/Engineer, or Mechanical, Design/Build or Service Contractor; who have purchasing influence for mechanical systems and/or components; and whose firm type is one of the following: Property Management/Developer, Institutional Firm, Commercial Firm, Consulting Engineering/Architectural Firm, Engineering/Design-Build Construction Firm.

**Sample Selection Method:** Systematic sample from the domestic circulation (on an Nth name basis)

**Survey Method:** Mail

**Incentive:** \$1

**Fielding Dates:** October 19 – November 17, 2006

### Completed Returns Summary:

Number Mailed	Undeliverable/ Unusable	Usable Base	Usable Returns	Response Rate
1,000	1	999	164	16%

## ANALYSIS AND PRESENTATION

Upon receipt at BNP Media, the questionnaires were coded and entered into a computer database. Tabulations were generated using SPSS, a statistical software package.

The data produced by SPSS is presented in graphical and tabular format with the number of respondents who answered that particular question. This number will change throughout the report since some respondents may skip or incorrectly answer a question.

Some questions in this survey requested respondents to write in a response. Other than minor editing for readability, these responses are presented as written by the respondent.

The questionnaire can be found in Appendix A. The glossary of terms can be found in Appendix B.

*The methods used in this research study were conducted in accordance with BNP Media's Market Research Code of Ethics. A copy of the Code is available upon request.*

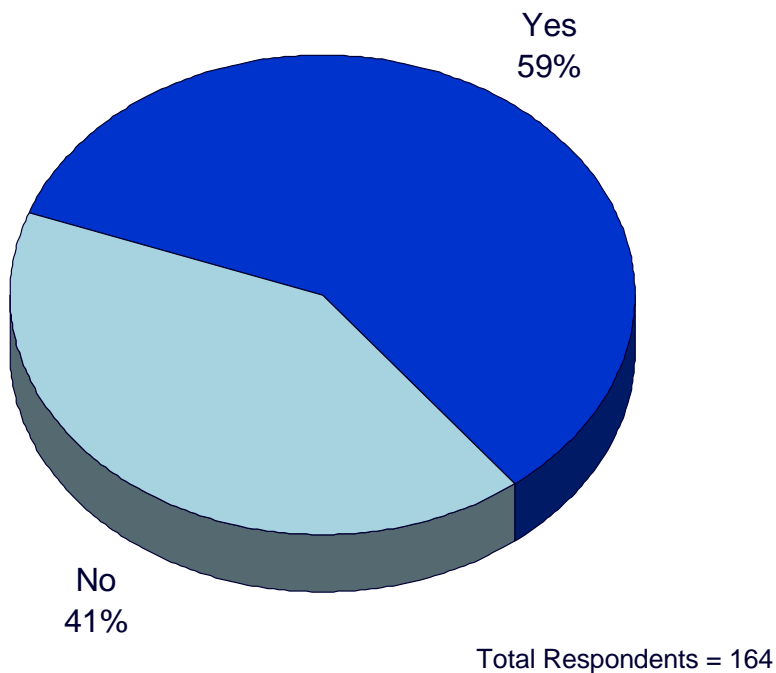
# Study Results

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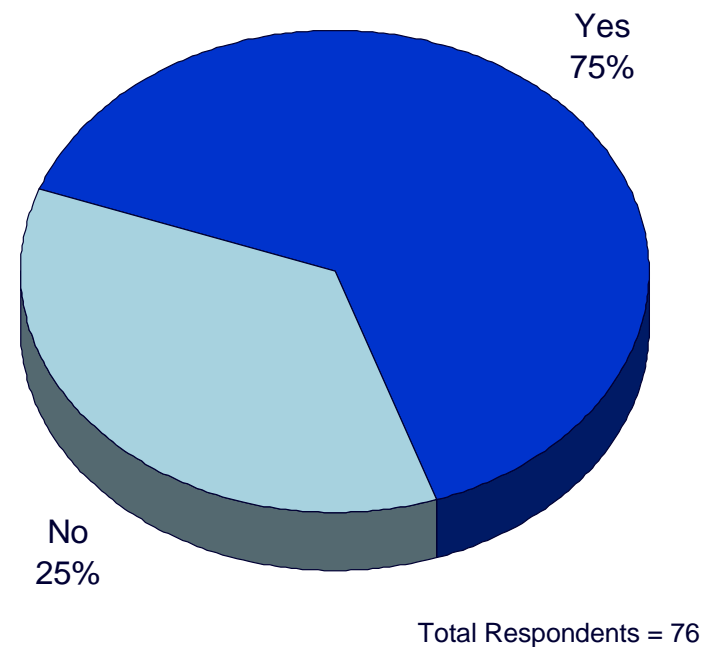
# Advertising Recall

1a. Do you recall seeing and/or recall reading the TABB (Testing, Adjusting and Balancing Bureau) advertisement in *Engineered Systems* magazine?

Recall Seeing Advertisement  
in *Engineering Systems*

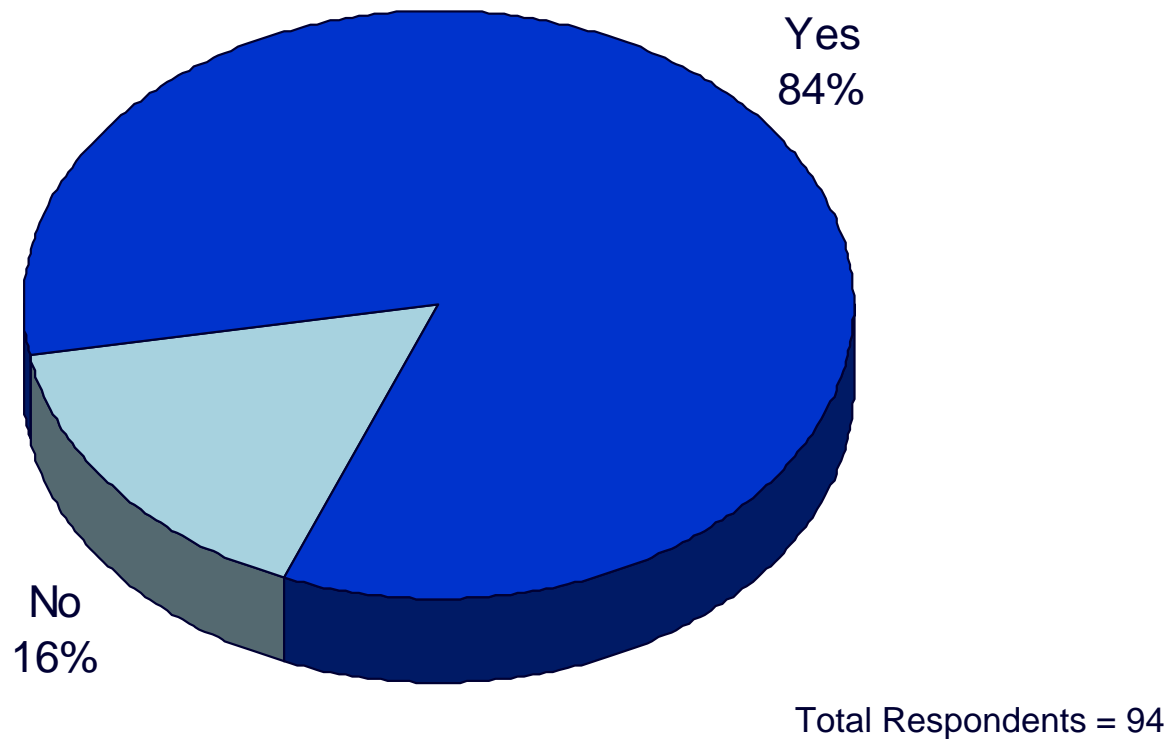


Recall Reading Advertisement  
in *Engineering Systems*



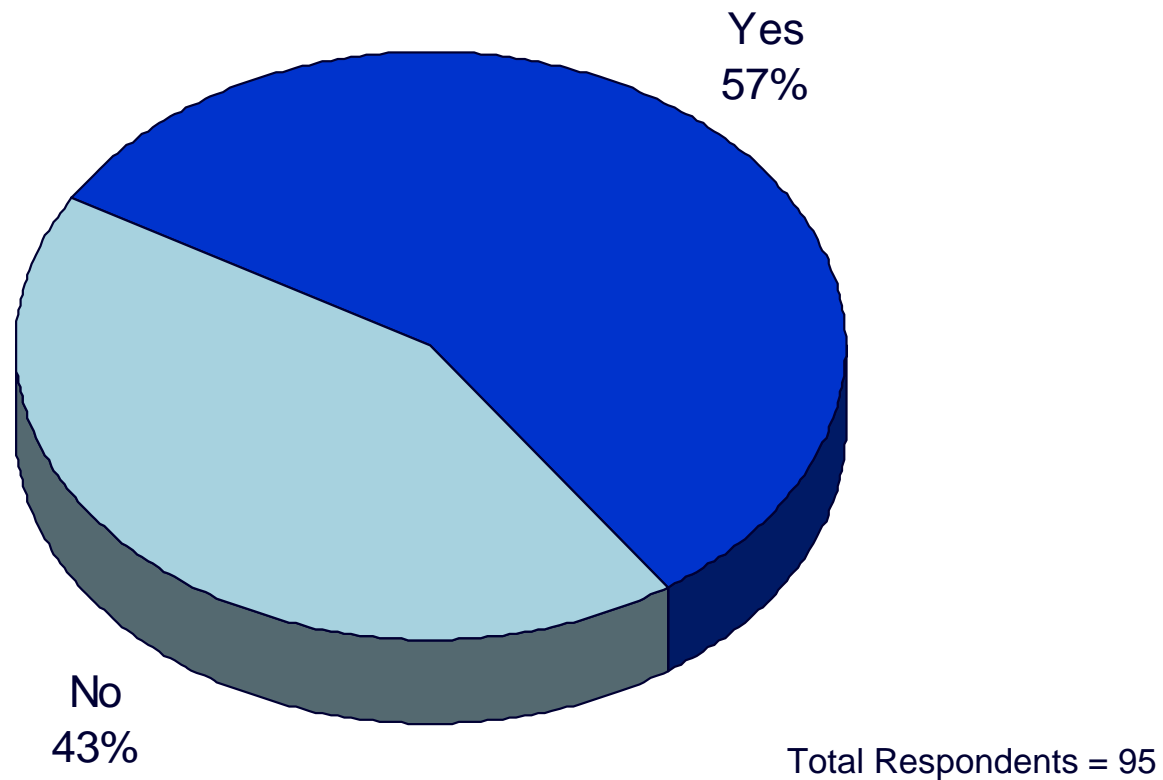
# Found Ad to be of Interest

*1b. Did you find the ad to be of interest?*



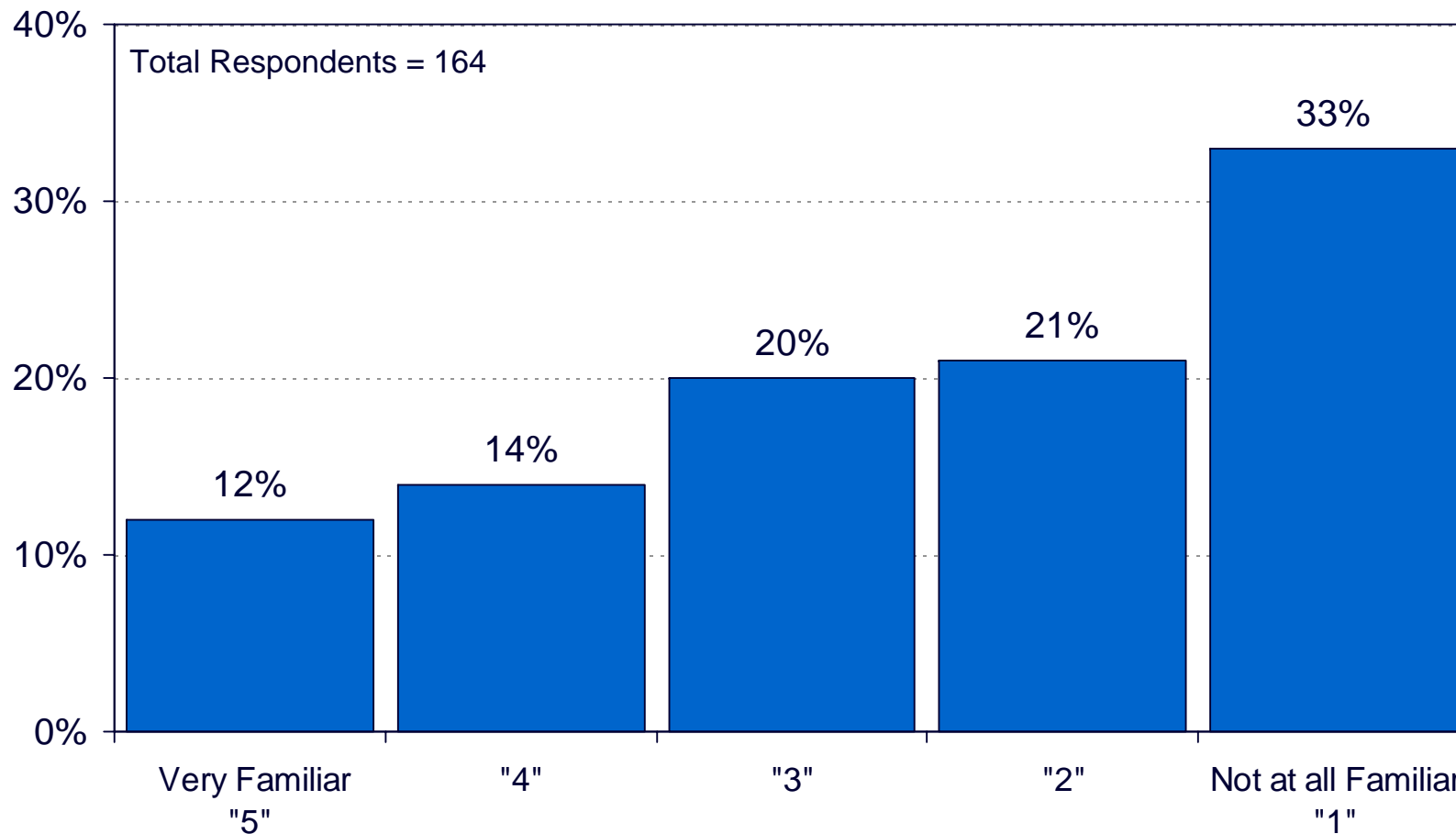
# Awareness of TABB Prior to Seeing Ad in Engineered Systems

2. Were you aware of TABB (Testing, Adjusting and Balancing Bureau) prior to seeing the advertisement in ES?



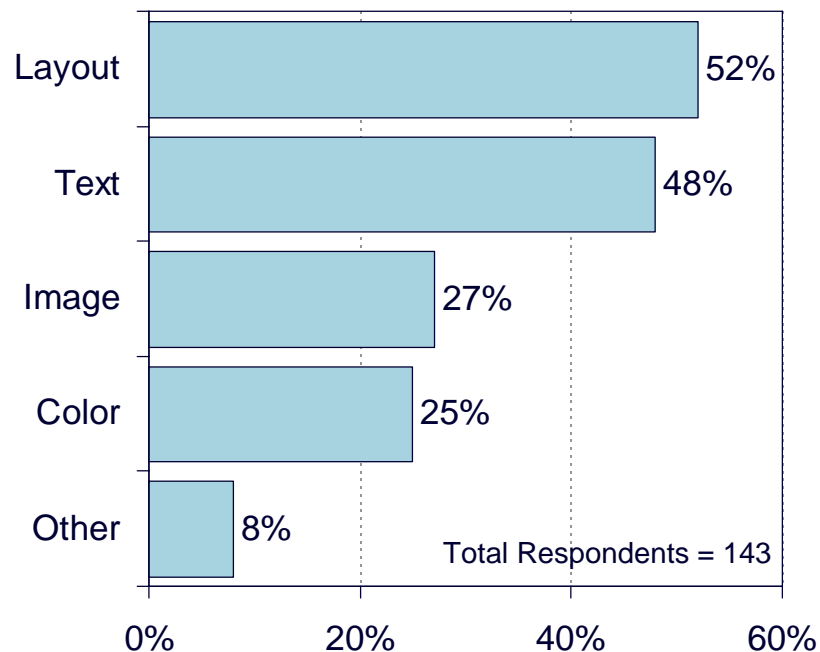
# General Familiarity With TABB

3. In general, how familiar are you with TABB (Testing, Adjusting and Balancing Bureau)?



# Most Appealing Aspects of Ad

4a. Which aspect(s) of TABB's ad do you find most appealing? (Multiple response allowed)



4b. Do you think that the ad has...?

The right amount of information.....	84%
Too much information.....	11%
Too little information.....	5%
<b>Total Respondents.....</b>	<b>153</b>

**Other Mentions:**

- Content (4)
- Diagrams to explain text
- Formulation
- Good information/topics
- Graphs
- Information
- Magazine format with articles
- Technical information

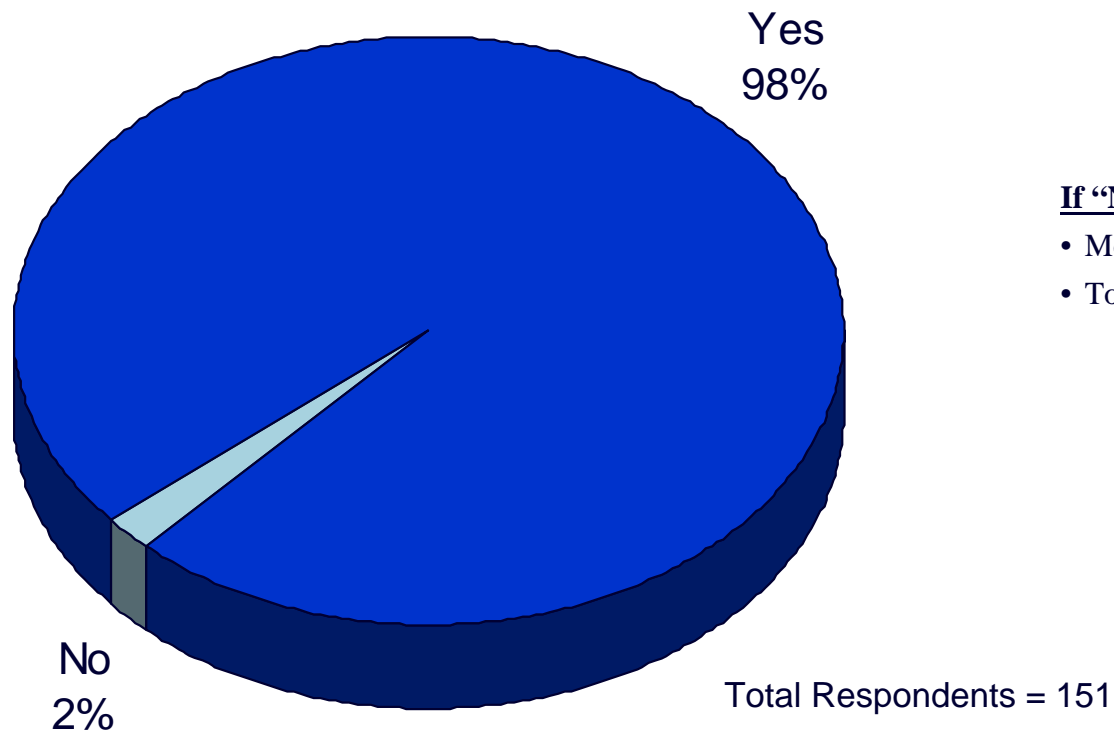
# Evaluation of Advertisement

5. Please rate the advertisement on the factors listed below.

	Excellent (5)	(4)	(3)	(1)	Poor (1)	Total Respondents
Informative	24%	48%	23%	4%	1%	149
Easy to read and/or understand	19%	47%	30%	4%	--	148
Eye Appeal	15%	44%	35%	5%	1%	149
Length of ad	9%	29%	46%	13%	3%	148

# Ad Reflects Positively on TABB

6. Do you feel that this ad reflects positively on TABB (Testing, Adjusting and Balancing Bureau)?

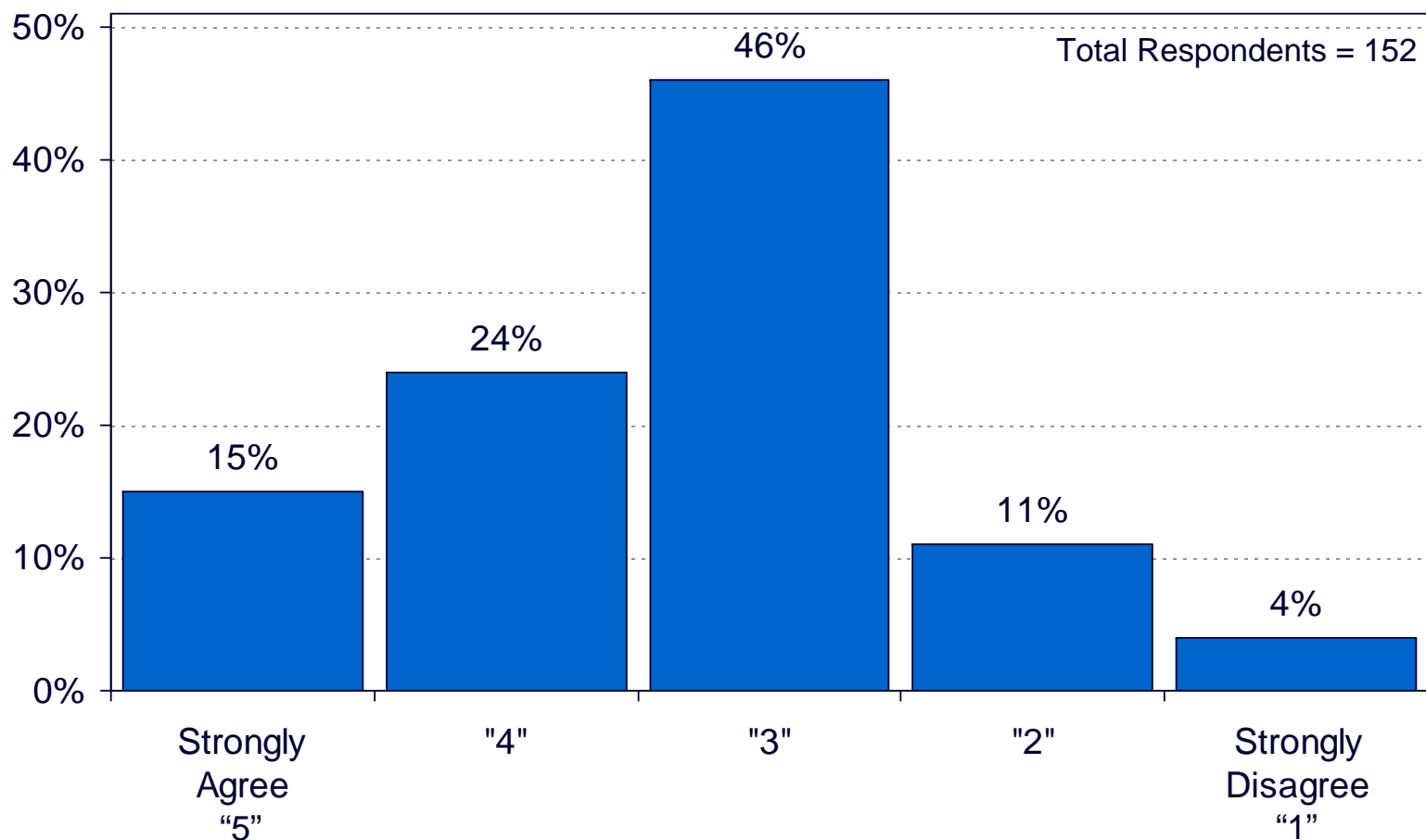


**If "No," please explain why not:**

- More information
- Too confusing

# Persuasiveness of Ad

7. To what degree do you agree/disagree with the following statement: *This ad influences me to use a TABB certified professional for future jobs.*



# Ease of Understanding Ad- Verbatim Comments

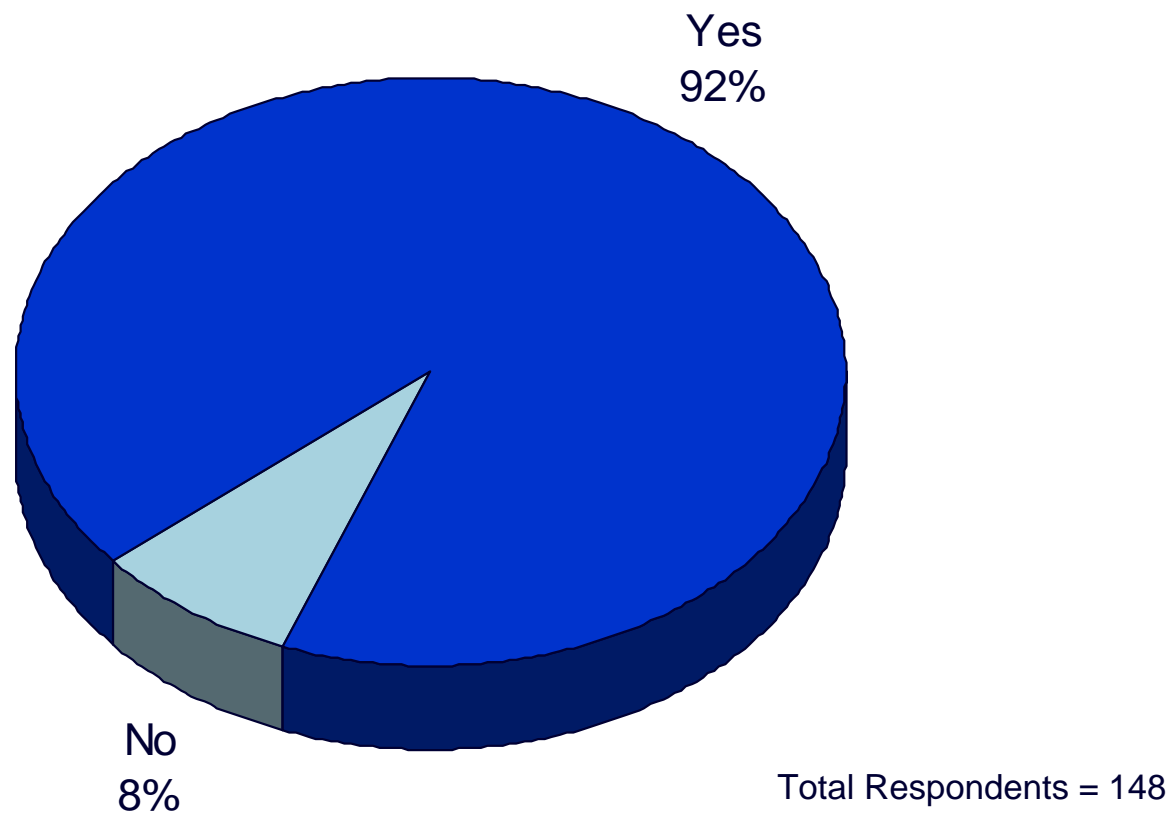
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## 8. *Do you find anything confusing or difficult to understand about this ad?*

- Abbreviations - only individuals involved in industry would know
- Ad is so long, you really have to want to read it
- Definition to be simpler
- Fan and duct pressure article was good, but why do I care - give me a real world example
- Front cover is weak, not strong enough to sell
- Information should be step-by-step
- It was not clear if TABB is a competitor to the other air balance/test certification agencies or has a relationship with them
- Should add what TABB stands for in opening paragraph
- The “bureau” with generic TABB work
- Too much information, too many images

# Interest in Ad Topics

9a. Do you find the topics covered in this ad to be of interest?



# Potential Topics for Future TABB Talk Issues – Verbatim Comments

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## *9b. Are there any other topics that you would like to see covered in future TABB Talk issues?*

- Balancing AHU dampers
- Case studies of TABB Technicians correcting non-performing systems
- Chilled water TABB
- Commissioning chilled water and hot water systems
- Controls
- Does TABB cover commissioning of systems
- Duct designs alternative materials
- Duct testing
- Exactly what are their deliverables in a basic TABB contract
- Filtration - effects on air flow/balance overtime
- Future topics should follow some guidelines - design basics, case studies
- Gains in efficiencies utilizing qualified balancers
- General TABB
- History of the organization
- How consulting engineers and TABB benefit from each other
- Hydronics
- Increasing energy costs
- Industrial ventilation
- Information related to clean room testing
- More energy efficiency articles
- Primary/secondary pumping

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# Potential Topics for Future TABB Talk Issues – Verbatim Comments

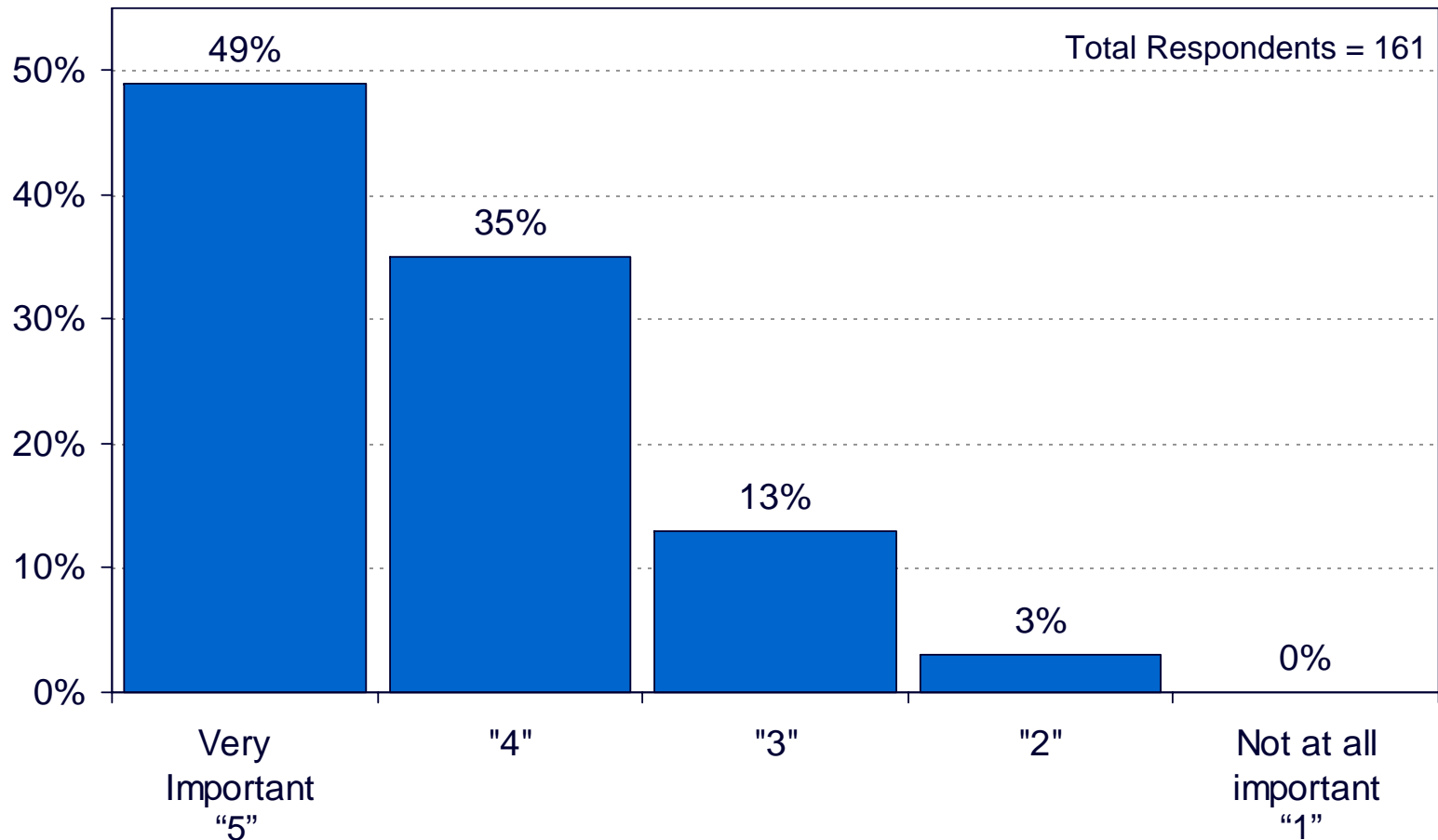
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- Problem solving
- Relationship between TABB, NEBB, and AABC also a list of TABB agencies would be nice
- Restaurants and tenant build-out
- System commissioning
- Technical information on how to interpret test results/readings
- Traverse balancing
- Variable water system balancing
- VAV systems
- Water system balancing techniques and calculations
- Water system TABB
- What is “code of conduct”

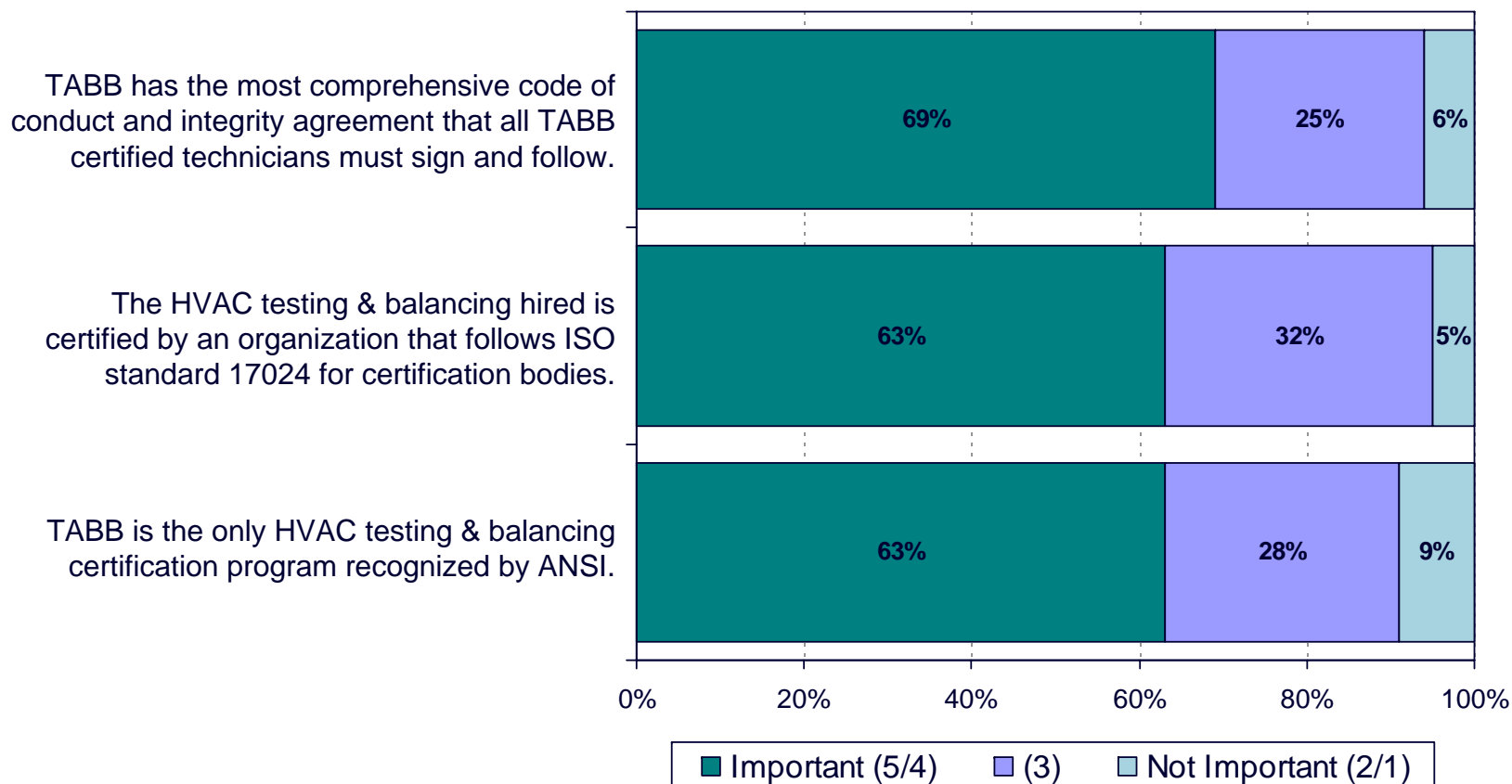
# Certification Importance When Selecting Someone to do Testing and Balancing Work

10a. Overall, how important is HVAC testing & balancing certification in selecting someone to do testing & balancing work?



# TABB Program Importance Ratings

10b. How important are each of the following statements regarding the TABB program when selecting someone to do testing & balancing work.



Continued on next page...

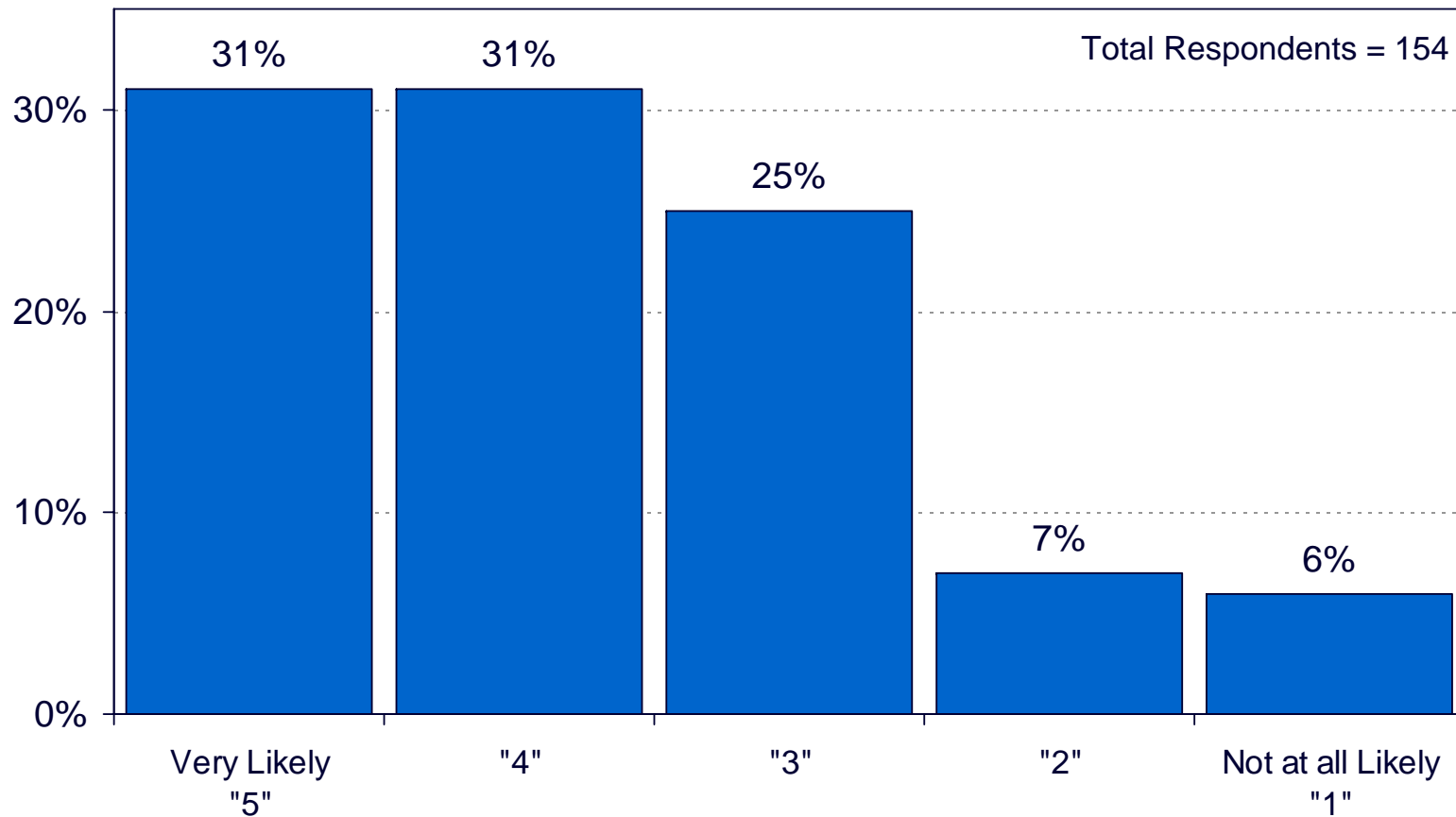
# TABB Program Importance Ratings

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	Very Important (5)	(4)	(3)	(2)	Not at all Important (1)	Mean	Total Respondents
TABB has the most comprehensive code of conduct and integrity agreement that all TABB certified technicians must sign and follow.	31%	38%	25%	6%	--	<b>3.93</b>	<b>153</b>
The HVAC testing & balancing hired is certified by an organization that follows ISO standard 17024 for certification bodies.	26%	37%	32%	4%	1%	<b>3.81</b>	<b>150</b>
TABB is the only HVAC testing & balancing certification program recognized by ANSI.	24%	39%	28%	6%	3%	<b>3.75</b>	<b>153</b>

# Likelihood to Call TABB Certified Professional for Testing and Balancing Work

11. How likely are you to call a TABB certified professional the next time you need testing & balancing work done, and why?



Continued on next page...

# Likelihood to Call TABB Certified Professional

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*...continued from previous page.*

## Why?

### **Very Likely “5”**

- Required in our specifications (2)
- A mechanical contractor cannot always be expected to do the job properly
- Air balance results are largely invisible, but have great impact - need confidence in practioners
- Always have
- Code of conduct
- Customer preference
- Ensures professionalism
- Guarantees proper performance of system installed
- It is written into most of my specifications
- It's asked for and we know the benefits
- Liability, independent 3rd party
- Proven methods
- Reputation and background
- That's all we use
- They can back the numbers/readings
- To achieve design performance
- To ensure accurate balancing and proper air/water flow
- To make sure it is operating correctly
- Trust
- Well-trained, independent reviewer is most important
- We've had some non-certified losers
- Without TABB done properly, the system will not work properly

*Continued on next page...*

# Likelihood to Call TABB Certified Professional

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*...continued from previous page.*

"4"

- They are certified (2)
- Call a specialist to perform specialty work
- Do it right the first time
- Efficiency and comfort
- Guarantees quality work
- Improper design and/or installation reflects the quality and recognition of the product produced by our company
- Integrity, professionalism, accountability
- Looks professional
- Might inquire if company belongs
- Need qualified TABB subcontractors
- Professional
- Reliable quality
- This work is specific and precise, therefore you need qualified technicians
- Tired of balance reports done from trucks
- Want this job done correctly

"3"

- Already have air-balancing contacts
- Depends on contract manager
- Don't need much of this type of service
- Hopefully would be most informed and do the best job
- I don't know whether the technicians I know are TABB certified
- I pick people based on previous work with them
- Sometimes for the local, we don't have a choice

*Continued on next page...*

# Likelihood to Call TABB Certified Professional

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*...continued from previous page.*

"2"

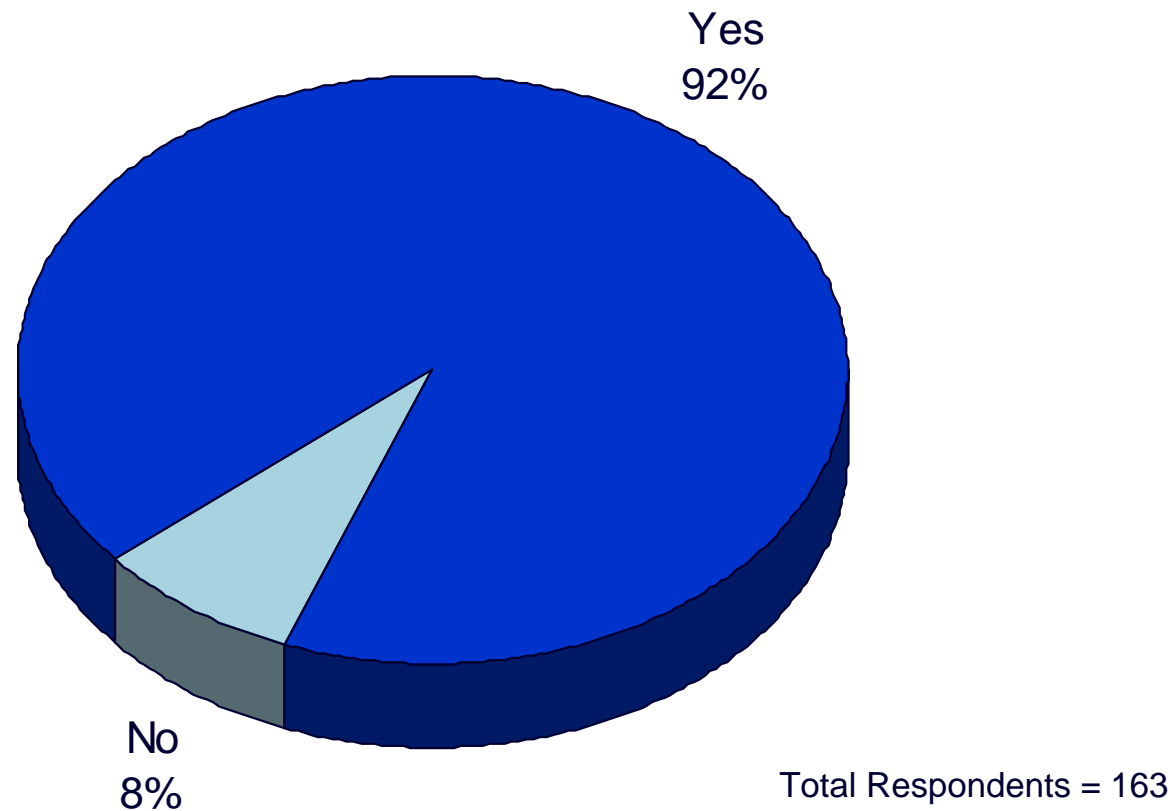
- I don't know who they are
- Not always necessary for my applications
- Not needed
- Use current contractors that have done well for us, expense

**Not at all Likely "1"**

- I do it myself
- Not included in our scope - contractor's responsibility
- Not my responsibility
- We only have one local air balance technician
- Work on very small projects

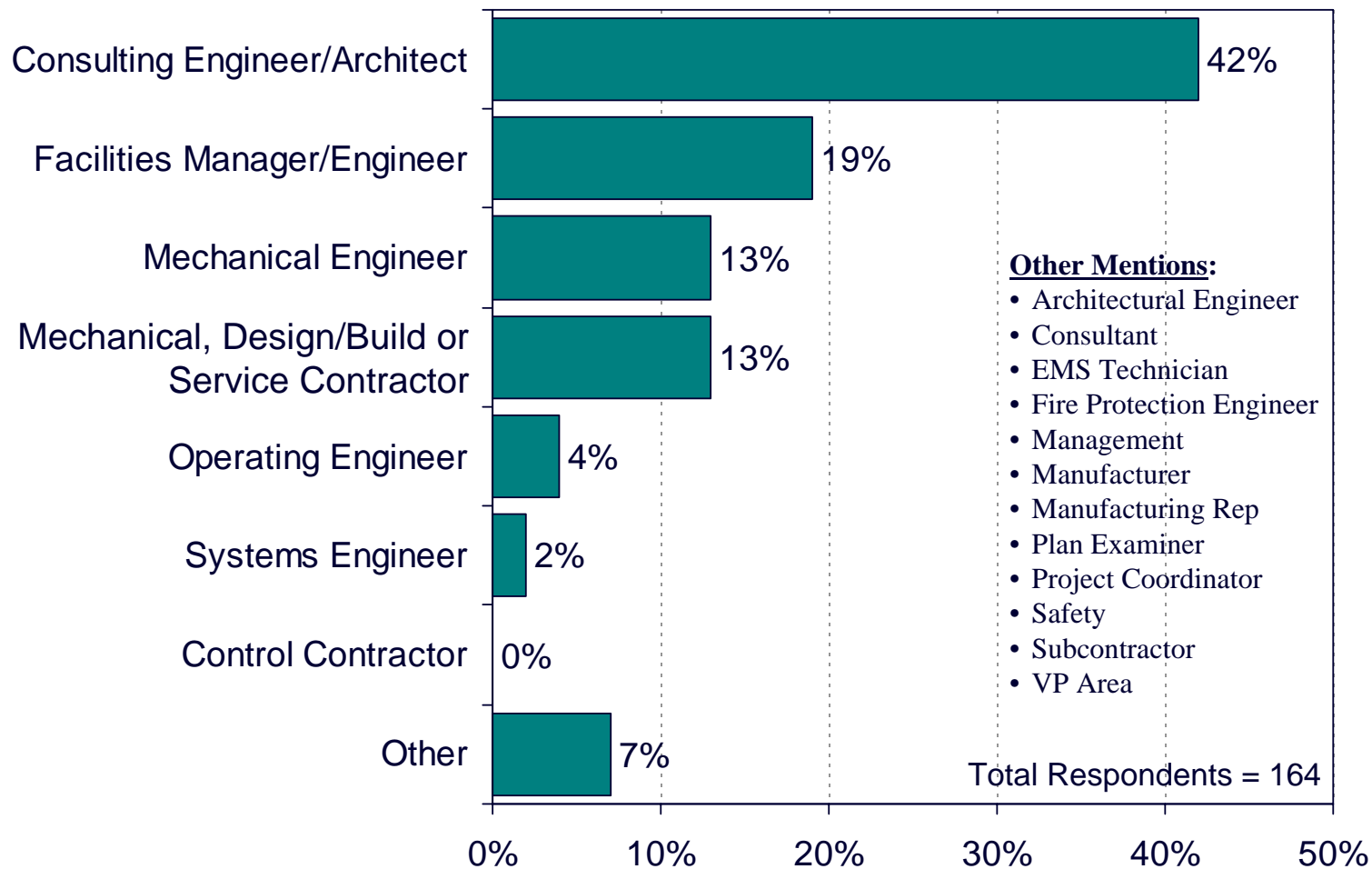
# Purchase Influence for Mechanical Systems, Equipment, Components and/or Services

12a. Are you responsible for, or do you have influence in the design, specification or purchase of mechanical systems, equipment, components and/or services?



# Occupation

12b. Which of the following best describes your occupation?



# Company Location

12c. In what state is your company located?

<b>Northeast</b> (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont) .....	25%
<b>Midwest</b> (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, North Dakota, South Dakota, Wisconsin) .....	36%
<b>South</b> (Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia) .....	24%
<b>West</b> (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming) .....	15%
<b>Total Respondents</b> .....	<b>146</b>

*\*States have been grouped into the regions listed above.*

# Appendix A

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Questionnaire



Dear *ES* reader:

One of our advertisers would like to measure how well they communicate with you through their trade advertising. By providing accurate awareness and preference data, we can help them to be more responsive to your needs in terms of both products and services.

Included with this questionnaire is a copy of TABB's (Testing, Adjusting and Balancing Bureau) advertisement, which appeared in the October issue of *Engineered Systems* magazine. Please review the enclosed ad and then take a few minutes to answer the questions that follow. Since this survey is being sent to only a selected group of decision-makers, your reply is essential to the accuracy of the study. Keep in mind that all information you give will remain **CONFIDENTIAL** – and will only be reported in aggregate form.

After completing the questionnaire, please return it in the enclosed postage-paid envelope by **November 17, 2006**. Your help with this project is greatly appreciated!

Sincerely,

Vincent Schneider  
Market Research Manager

*PS - Please accept the enclosed \$1 bill as a small token of our appreciation. This, of course, is not meant to compensate you for your time, but is a way we can say thank you in advance for your help.*

**QUESTIONNAIRE**

**1a. Do you recall seeing and/or recall reading the TABB (Testing, Adjusting and Balancing Bureau) advertisement in *Engineered Systems* magazine?** *(Please review enclosed copy of ad)*

	<u>Yes</u>	<u>No</u>
Recall Seeing	<input type="checkbox"/>	<input type="checkbox"/> *If you do not recall seeing the ad, please skip to question # 3.
Recall Reading	<input type="checkbox"/>	<input type="checkbox"/>

**1b. Did you find the ad to be of interest?**

Yes                       No

**2. Were you aware of TABB (Testing, Adjusting and Balancing Bureau) prior to seeing the advertisement in *ES*?**

Yes                       No

**3. In general, how familiar are you with TABB (Testing, Adjusting and Balancing Bureau), where “5”=very familiar and “1”=not at all familiar?** *(Please circle one number only.)*

<i>Very Familiar</i>	5	4	3	2	1	<i>Not at all Familiar</i>
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**4a. Which aspect(s) of TABB's ad do you find most appealing?** *(Please check all that apply.)*

<input type="checkbox"/> Color	<input type="checkbox"/> Layout	<input type="checkbox"/> Other, <i>(please specify)</i> _____
<input type="checkbox"/> Image	<input type="checkbox"/> Text	

**4b. Do you think that the ad has...?** *(Please check one only.)*

Too much information                       The right amount of information                       Too little information

*Over, please . . .*

5. Please rate the advertisement on the factors listed below, where 5 = "excellent" and 1 = "poor".  
 (Please circle one number for each factor.)

Eye Appeal	Informative	Length of ad	Easy to read and/or understand
5 4 3 2 1	5 4 3 2 1	5 4 3 2 1	5 4 3 2 1

6. Do you feel that this ad reflects positively on TABB (*Testing, Adjusting and Balancing Bureau*)?

- Yes  
 No – If "No," please explain why not: \_\_\_\_\_

7. To what degree do you agree/disagree with the following statement:

(Please circle <u>one</u> number only.)	Strongly Agree				Strongly Disagree
<b>This ad influences me to use a TABB certified professional for future jobs.</b>	5	4	3	2	1

8. Do you find anything confusing or difficult to understand about this ad? (Please explain.)

\_\_\_\_\_

9a. Do you find the topics covered in this ad to be of interest?  Yes  No

9b. Are there any other topics that you would like to see covered in future TABB Talk issues? (Please explain.)

\_\_\_\_\_

10a. Overall, how important is HVAC testing & balancing certification in selecting someone to do testing & balancing work? (Please circle one number only.)

Very Important      5                  4                  3                  2                  1                  Not at all Important

10b. How important are each of the following statements regarding the TABB program when selecting someone to do testing & balancing work. (Please circle one number for each statement.)

	Very Important				Not at all Important
TABB has the most comprehensive code of conduct and integrity agreement that all TABB certified technicians must sign and follow.	5	4	3	2	1
TABB is the only HVAC testing & balancing certification program recognized by ANSI.	5	4	3	2	1
The HVAC testing & balancing hired is certified by an organization that follows ISO standard 17024 for certification bodies.	5	4	3	2	1

11. How likely are you to call a TABB certified professional the next time you need testing & balancing work done, and why? (Please circle one number only.)

Very Likely      5                  4                  3                  2                  1                  Not at all Likely

Why? \_\_\_\_\_

12a. Are you responsible for, or do you have influence in the design, specification or purchase of mechanical systems, equipment, components and/or services?

- Yes       No

12b. Which of the following best describes your occupation? (Please check one only.)

- Consulting Engineer/Architect       Systems Engineer  
 Mechanical Engineer       Mechanical, Design/Build or Service Contractor  
 Operating Engineer       Control Contractor  
 Facilities Manager/Engineer       Other, (please specify) \_\_\_\_\_

12c. In what state is your company located? \_\_\_\_\_

*Thank you for your help! Please return survey in the enclosed postage-paid envelope.*

# Appendix B

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Glossary of Statistical Terms

# Glossary of Statistical Terms

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## Descriptive/Summary Statistics

**Mean** - The arithmetic average; the sum divided by the number of cases.

**Median** - The middle value in an ordered list of responses, with 50% of the values above it and 50% of the values below it.

**Mode** - The most frequently occurring value. If several values share the greatest frequency of occurrence, each of them is a mode.

**Linear Regression** is a statistical technique used to explain or predict the variation of one variable (an outcome) by the variation of one or more other variables (or predictors) by fitting a straight line to the data. For example, regression can be used to predict or explain an outcome we want to influence such as sales, by the variation in product ratings, satisfaction, demographics, or other variables which may be associated with sales. The results are often referred to as a “model.” The variables associated with the outcome are typically referred to as “key drivers.” If the objective of the regression analysis is to predict an outcome, a formula is shown with the regression results.

Commonly used terms with regression analysis:

**Correlation Coefficient (r)** – A measure of association between two variables. Values of the correlation coefficient range from -1 to +1. The sign of the coefficient indicates the direction of the relationship, and its absolute value indicates the strength, with larger absolute values indicating stronger relationships.

**Dependent, or Outcome variable** – The variable of interest being predicted or explained by one or more independent variables.

**Independent, or Predictor variable** – One or more variables selected as predictors and potential explanatory variables of the dependent or outcome variable.

**Linear** – Refers to a relationship, that when graphed, is a straight line.

**R Squared (R<sup>2</sup>)** - Goodness-of-fit measure of a linear model, sometimes called the coefficient of determination. It is the proportion of variation in the dependent, or outcome variable explained by the regression model. It ranges in value from 0 to 1. Small values indicate that the model does not fit the data well.

**Standard Error of the Estimate** - A measure in the variation of the predicted value derived from a regression model.

**Significance** – The probability that the relationship or result is true and representative of the population. In a regression model, significance measures the likelihood that the observed relationship among two or more variables in the model is not due to chance. Typically a value of at least 95% is considered significant.

**Unstandardized Coefficients (B)** - Coefficients of the predictor variables used to create the regression equation. The values are stated in the original data scale and indicate the amount of change in the outcome variable, given a one-unit change in the predictor variable.

**Standardized Coefficients, or Beta** - Beta coefficients, sometimes called standardized regression coefficients, are the regression coefficients when all variables are expressed in standardized form and show the relative importance of the predictor variables. Transforming the predictor variables to standardized form makes the coefficients more comparable when they have different units of measure.

**Factor Analysis** is a statistical technique used to analyze interrelationships among a large number of variables and to explain these variables in terms of their “common” underlying dimensions (factors). Ultimately it allows a large number of original variables in a data set to be “condensed” into a smaller set of variates (factors) – for ease of interpretation.