



ACEC TECHNOLOGY BENCHMARKING STUDY

2025 SEPTEMBER

RESEARCH CONDUCTED BY



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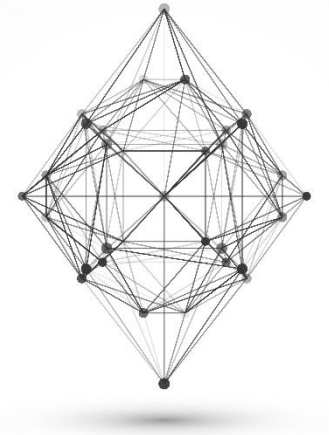


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INTRODUCTION

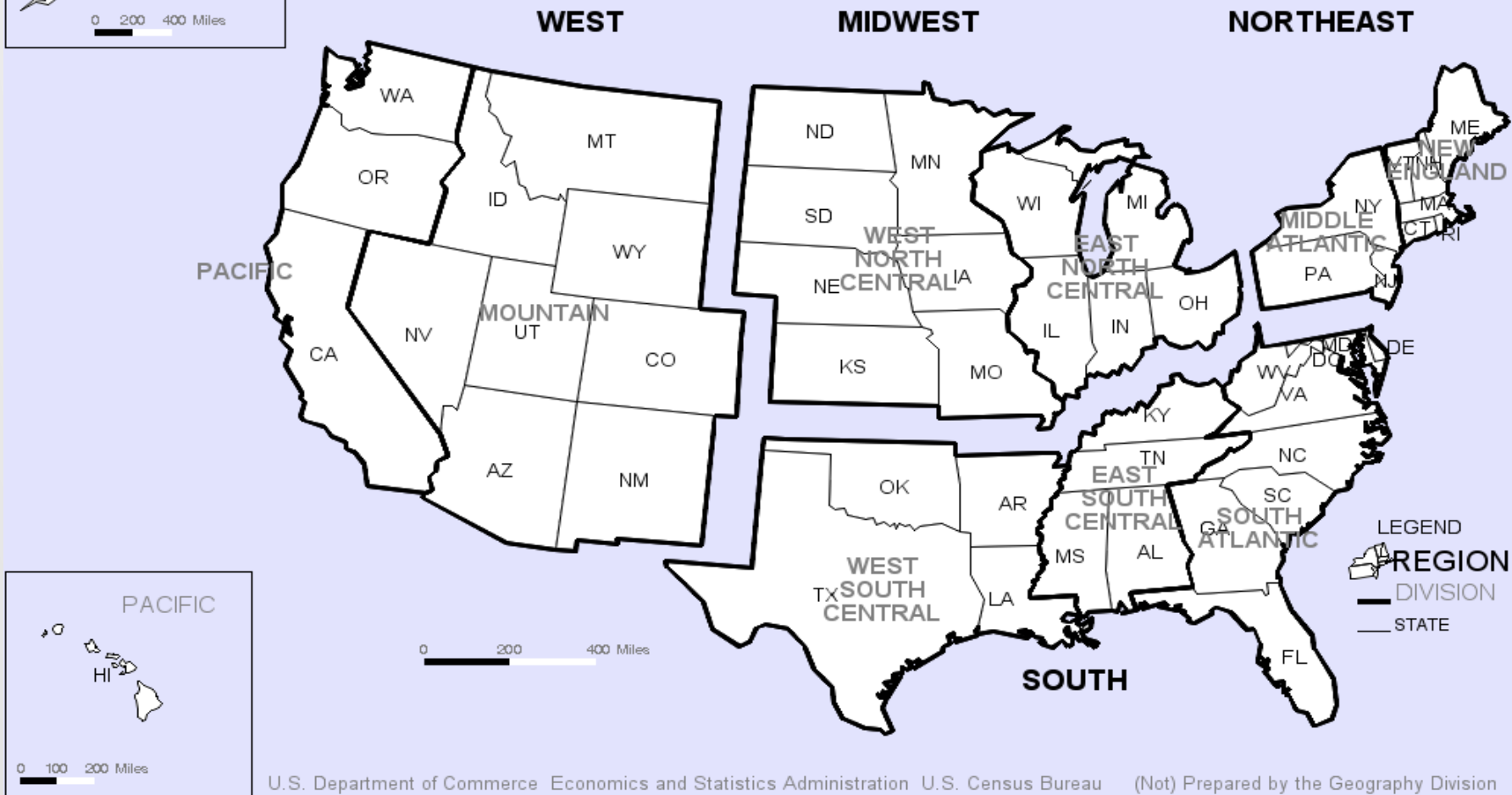
EXECUTIVE SUMMARY

- **Overall Technology Readiness is low.** The median score across all firms is just 26 out of 100, signaling significant room for growth. Firm size is the strongest determinant of readiness, with larger firms consistently outperforming smaller firms.
- **Technology Infrastructure shows the most progress.** Firms report a median score of 34 percent, reflecting investments in cybersecurity, IT staffing, and budget allocations. However, gaps remain—particularly in Zero Trust implementation, R&D funding, and technology revenue generation.
- **Culture and Innovation lag behind.** With a median score of 21 percent, most firms lack dedicated AI leads, data governance frameworks, or innovation programs. Larger firms are more likely to support generative AI, implement innovation initiatives, and provide training on emerging technologies, but adoption remains limited overall.
- **Technology Advancements in skills and client delivery are weakest.** Scoring a median of 16 percent, few firms report widespread adoption of advanced tools such as digital twins, AI-driven design, or machine learning. Core technologies like high-bandwidth wireless and digital field data collection are more commonly used, but advanced applications remain nascent.

DEMOGRAPHICS

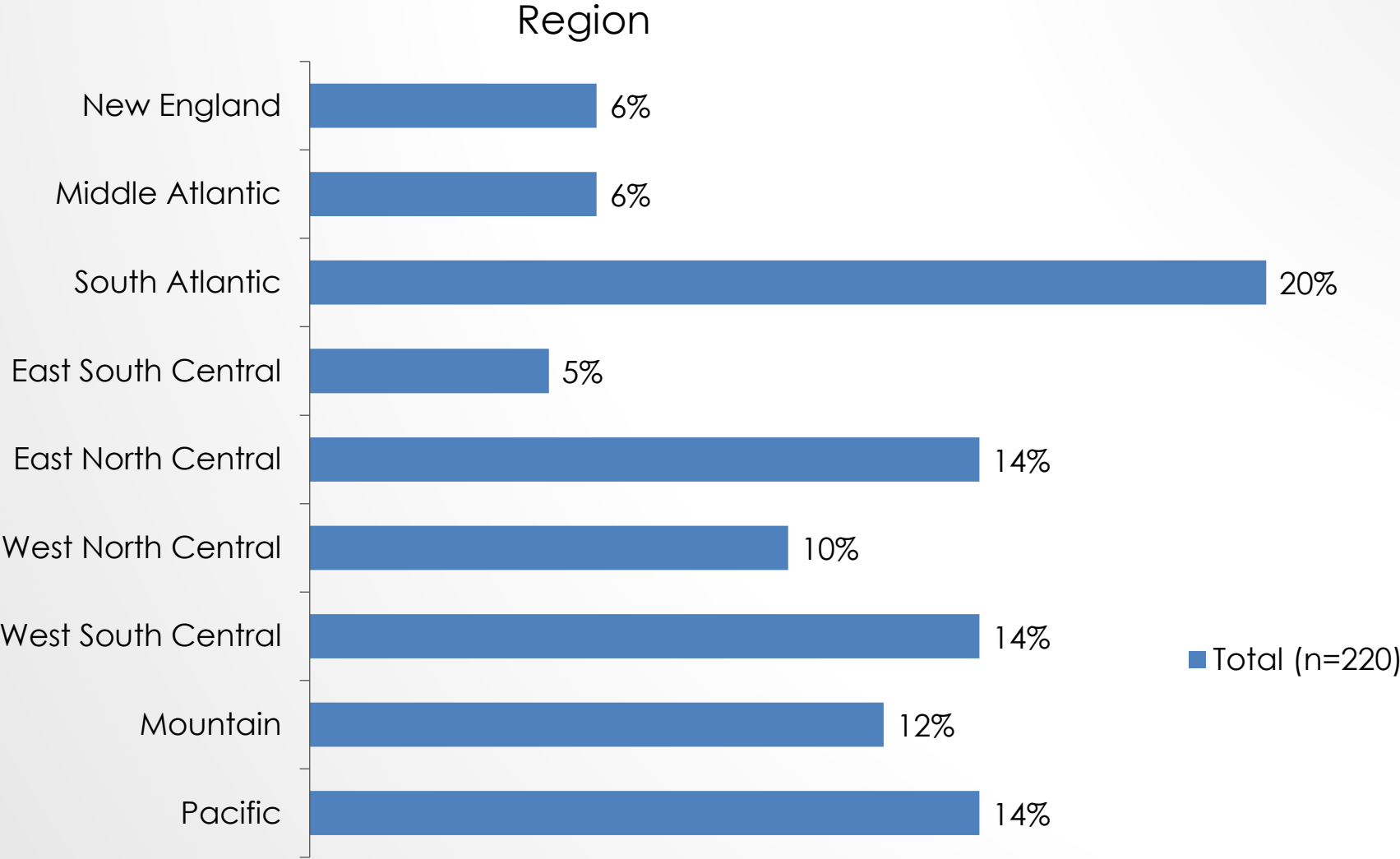


Census Regions and Divisions of the United States



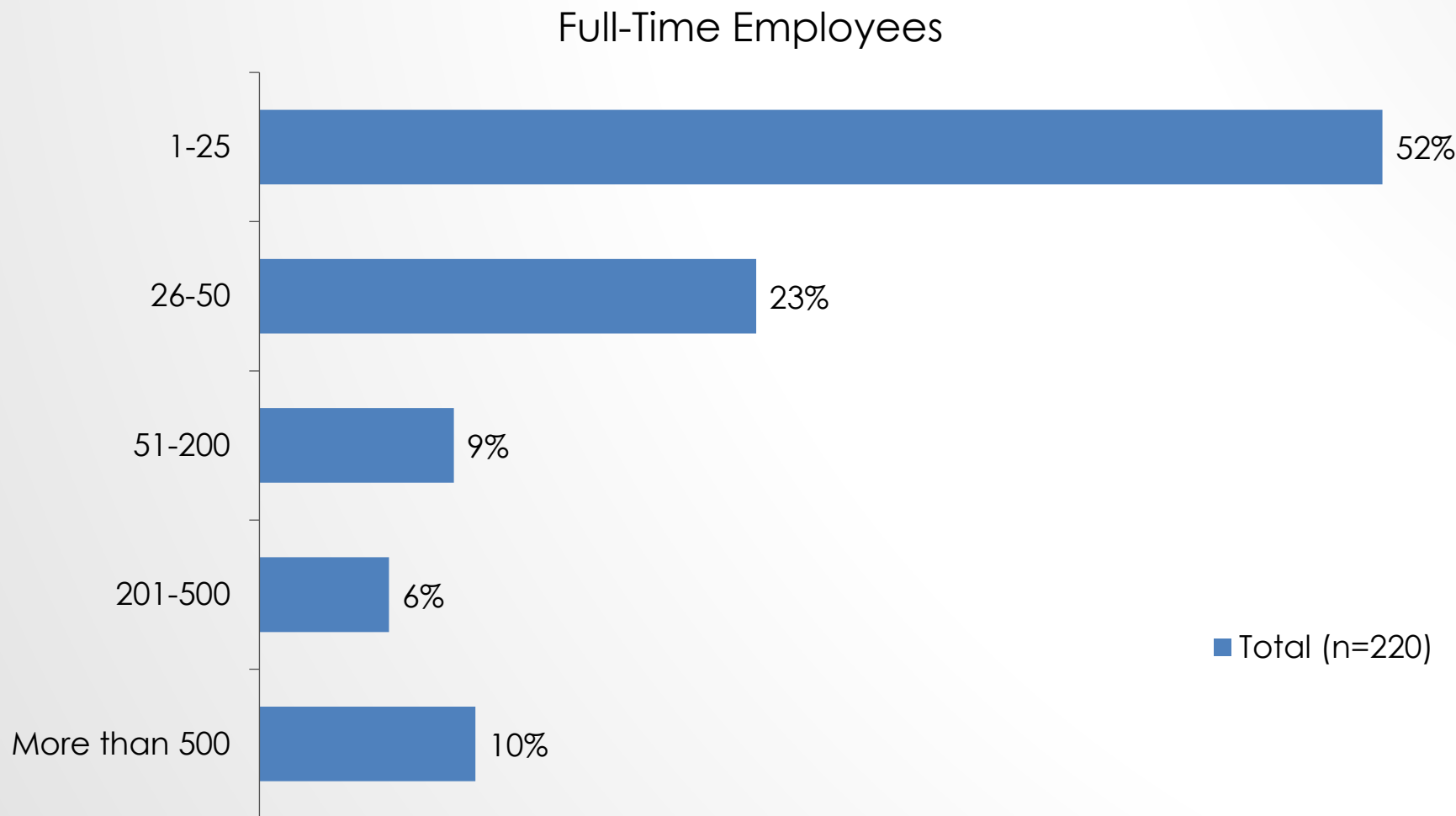
Imitation of http://www.census.gov/geo/www/us_regdiv.pdf

Respondents' firms are widely dispersed across the United States indicating a good cross-section of ACEC member firms participated in this study.



Q2. In which state is your organization headquartered?

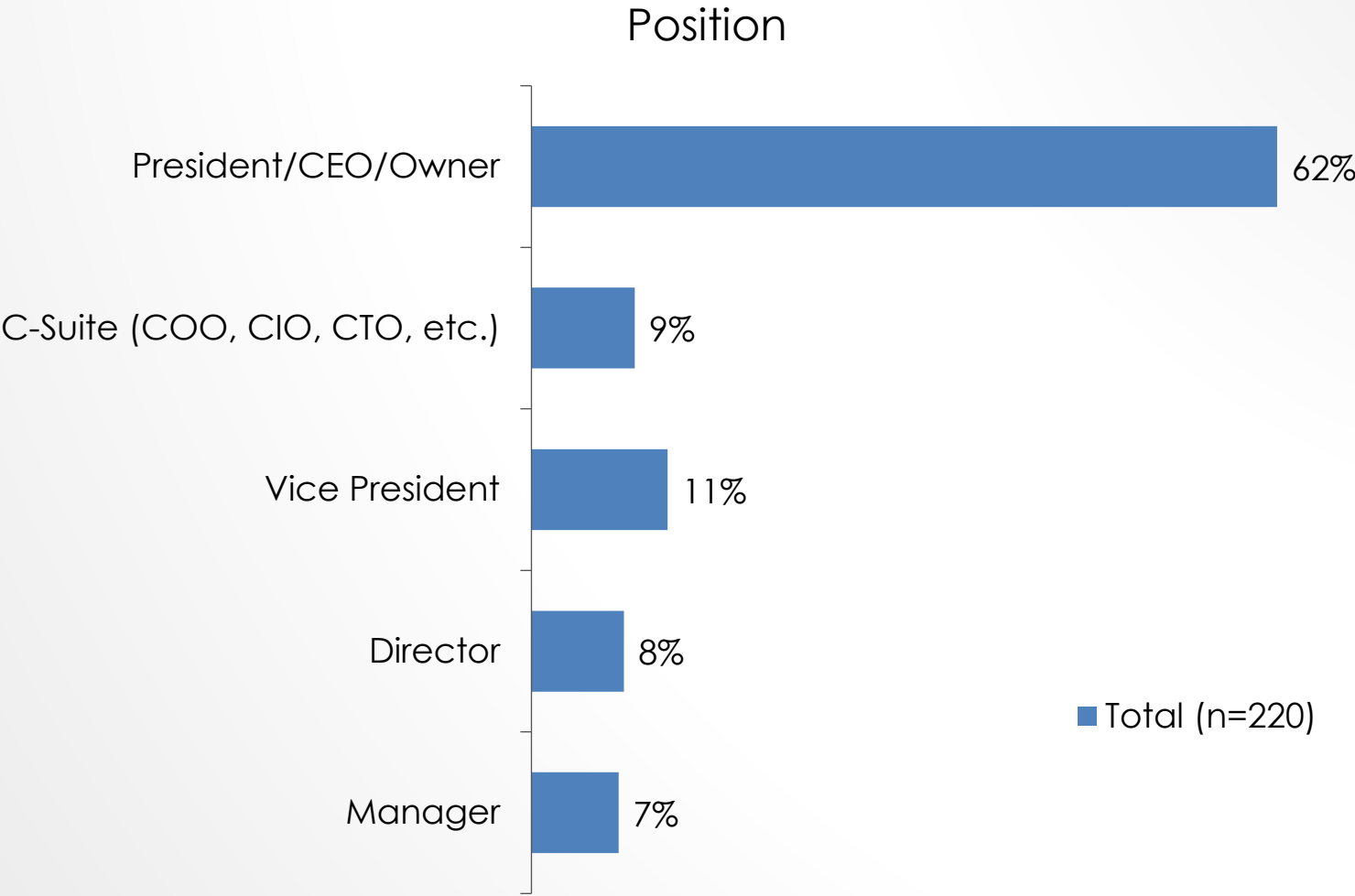
The median number of full-time employees at respondents' firms is 24 and three-fourths of firms have fewer than 50 FTE, which is consistent with ACEC membership overall.



Q3. Including yourself, how many full-time equivalent employees (FTEs) does your organization currently have? If you are not sure, please provide your best estimate.

More than six out of 10 respondents (62%) are the top leader at their firm, while about one in 10 occupy each of various other positions in their firm.

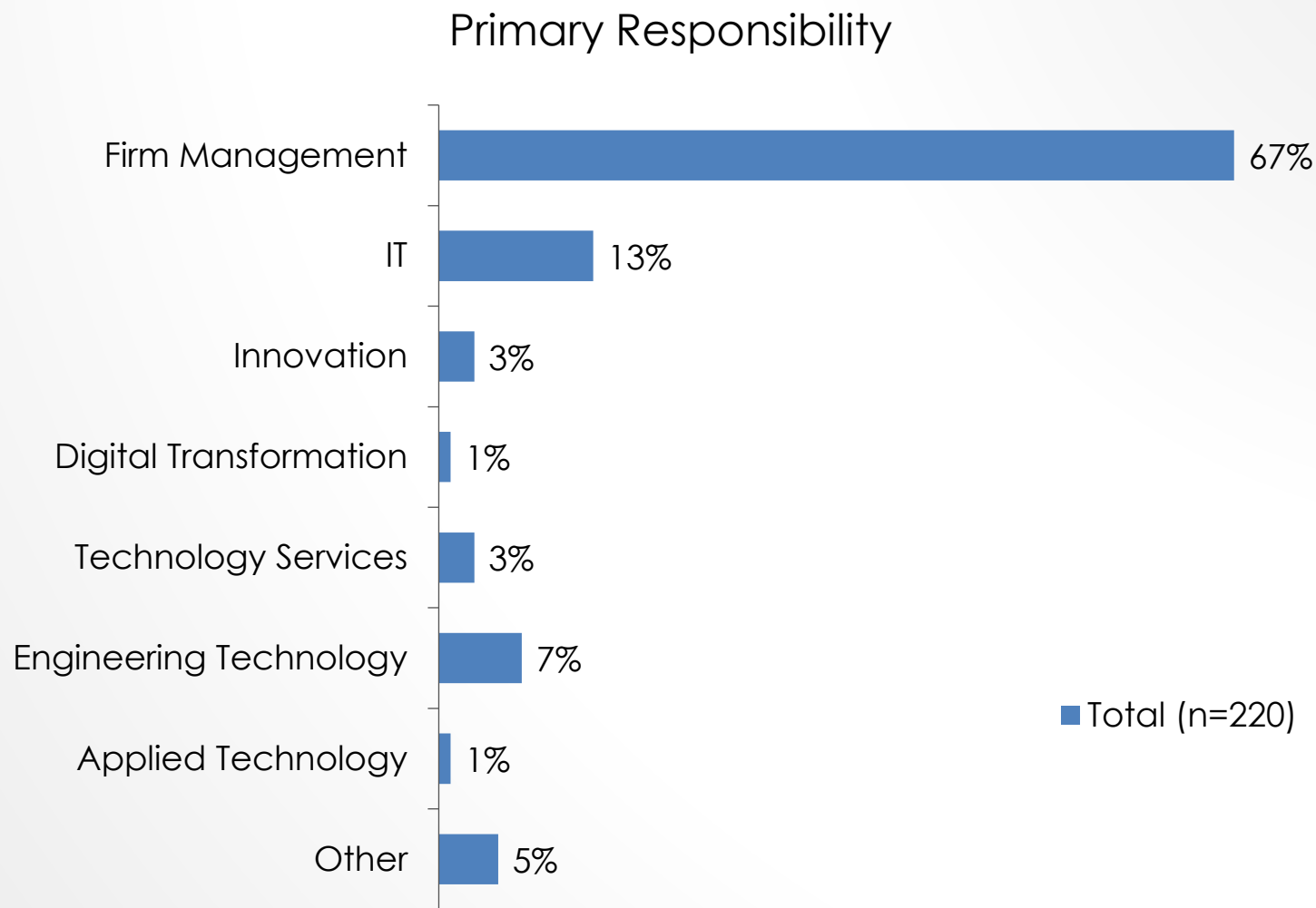
- Respondents from small firms (50 or fewer FTEs) are much more likely to be the leader at their firm (79%), compared to only 3 percent of those at firms with more than 200 FTEs.
- Respondents at firms with more than 200 FTEs are more likely to be in the C-Suite (36%), Vice Presidents (28%) or Directors (28%).



Q4: Which one of the following best describes your position with the firm?

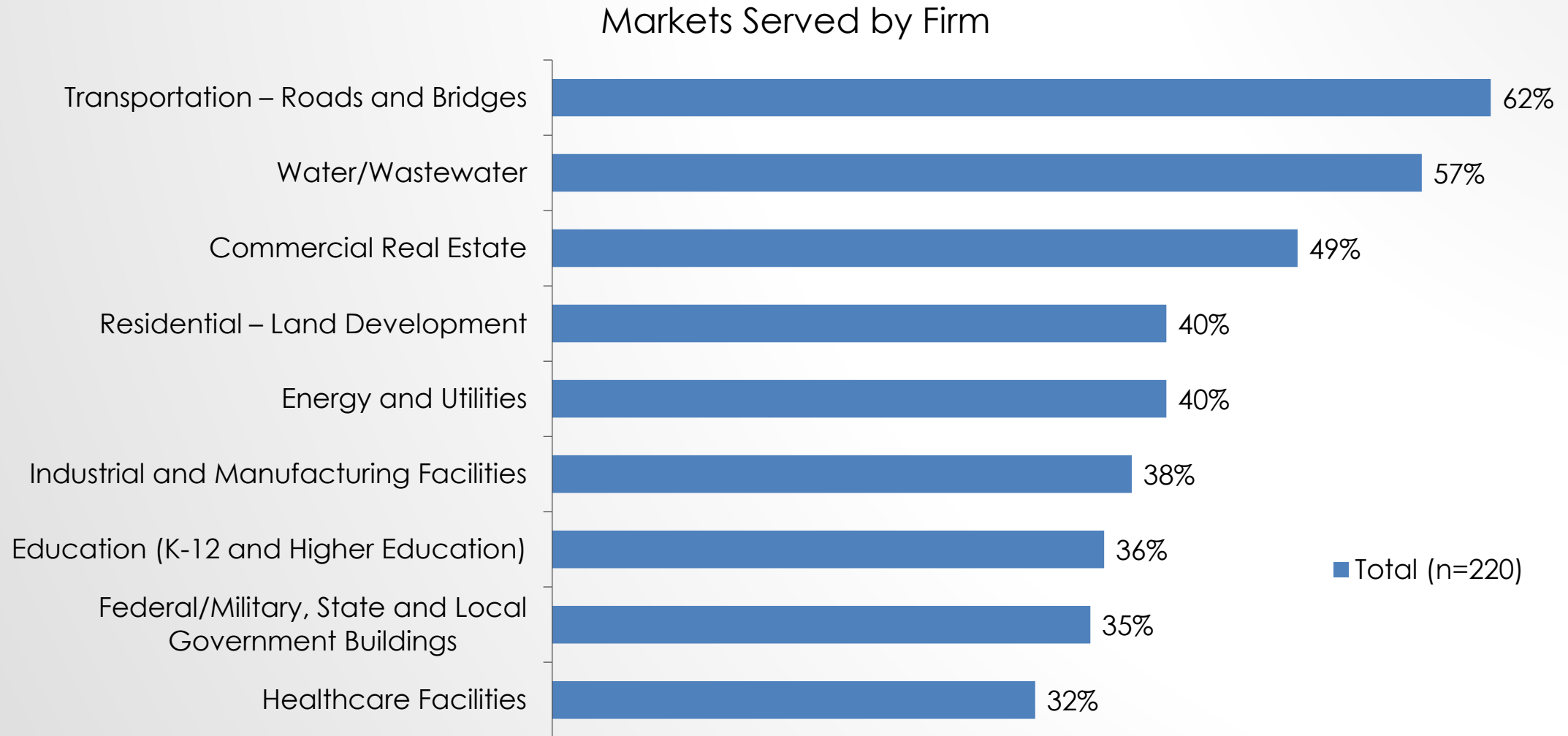
More than two-thirds of respondents (67%) are responsible for firm management.

- Respondents from small firms (50 or fewer FTEs) are much more likely to be responsible for firm management (67%), compared to only six percent of those at firms with more than 200 FTEs.
- On the other hand, 53 percent of respondents at firms with more than 200 FTEs are responsible for IT.



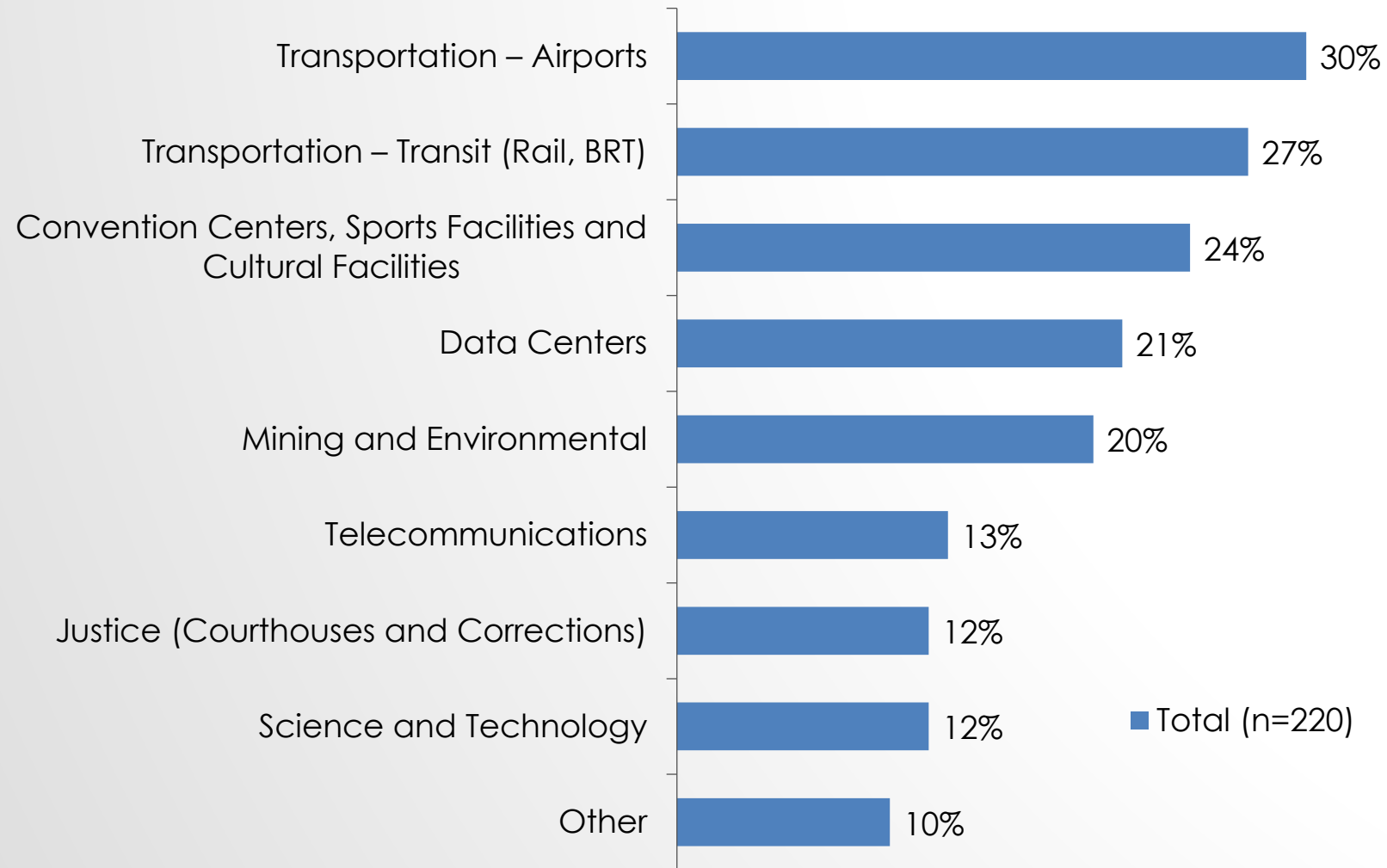
Q5: What is your area of primary responsibility?

Firms serve a wide range of markets, again indicating a diverse set of respondents. Small firms typically serve four to five markets each, while large firms serve eight to nine markets.



Q6. Which of the following markets does your firm serve? Select All That Apply

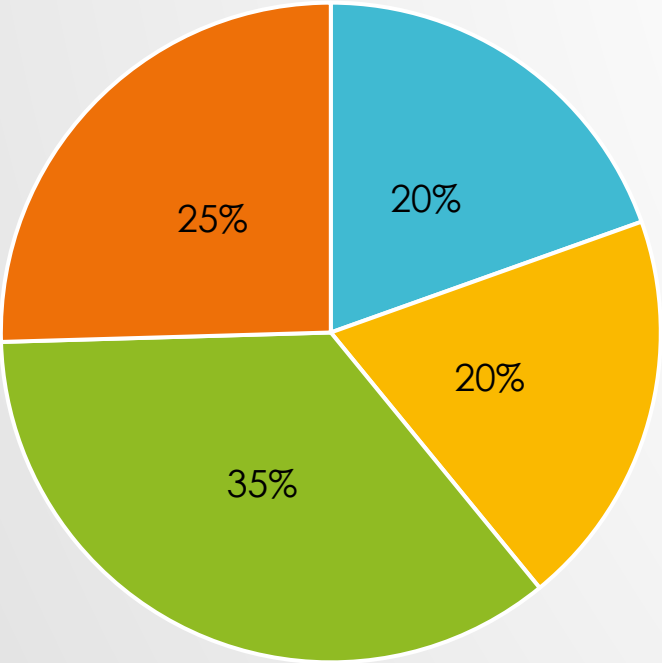
Markets Served by Firm (cont'd)



Q6. Which of the following markets does your firm serve? Select All That Apply

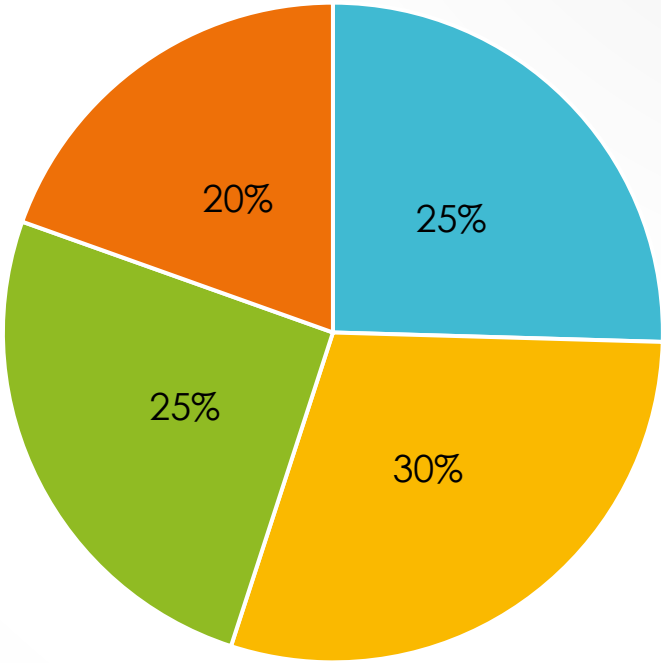
Firms are well diversified when it comes to their sources of revenue. On average, 56 percent of firm revenue comes from public clients versus 44 percent from private clients.

Percentage of Revenue from Public Clients



■ 0% to 10% ■ 11% to 49% ■ 50% to 89% ■ 90% to 100%

Percentage of Revenue from Private Clients



■ 0% to 10% ■ 11% to 49% ■ 50% to 89% ■ 90% to 100%

Q7. Approximately what percentage of firm revenue is attributed to public versus private clients?

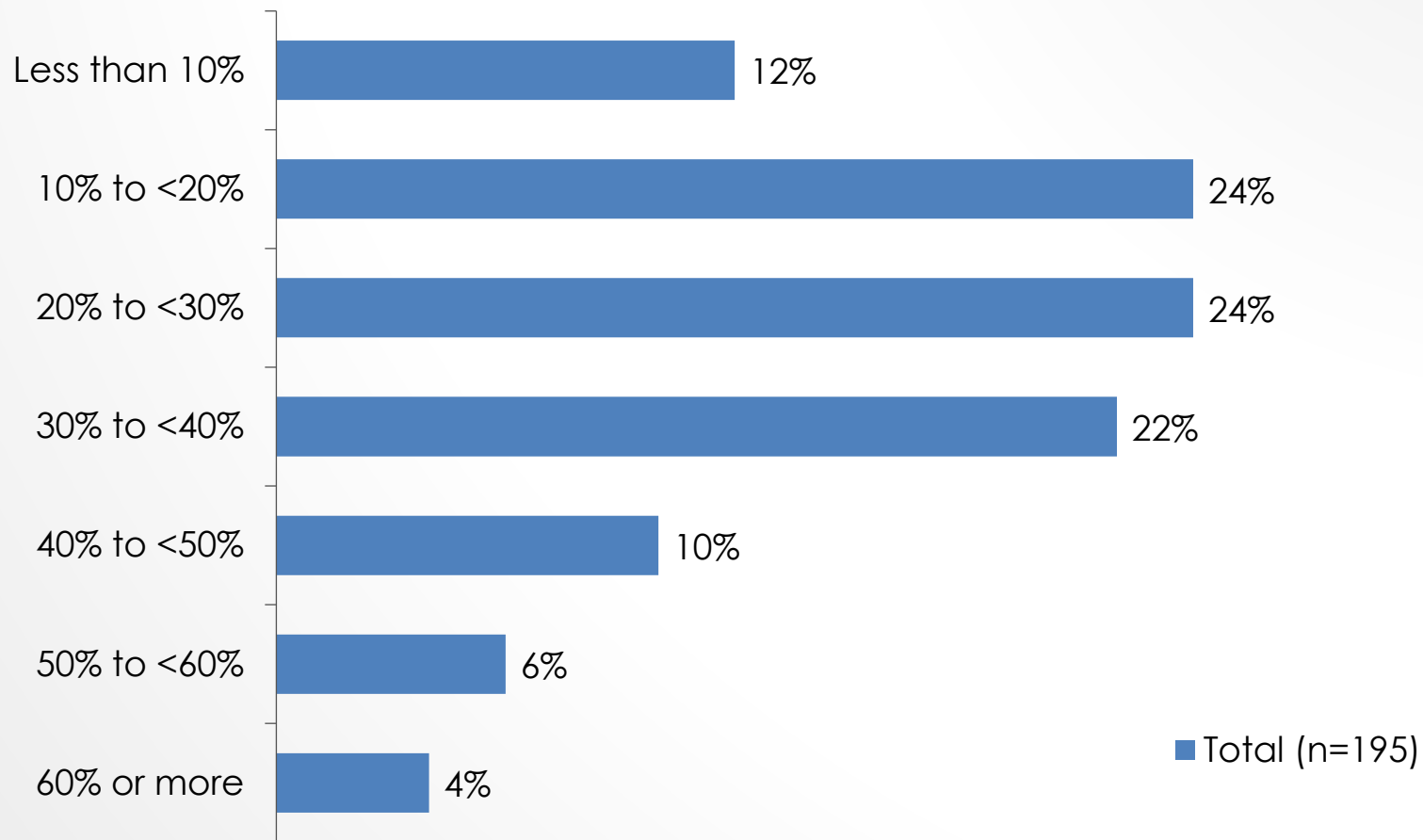
OVERALL TECHNOLOGY READINESS

Overall Technology Readiness (the average of the scores in each of the three areas evaluated in this study) is low. The median Technology Readiness score is 26 percent out of a possible 100.

Overall Technology Readiness

Median = 26%

- Firm size is the greatest determinant of Technology Readiness. As firm size increases, so too does the median score.
- The median score for firms with 50 or fewer FTEs is 21 percent compared to 27 percent for firms with 51 to 200 FTEs and 43 percent for firms with more than 200 FTEs.



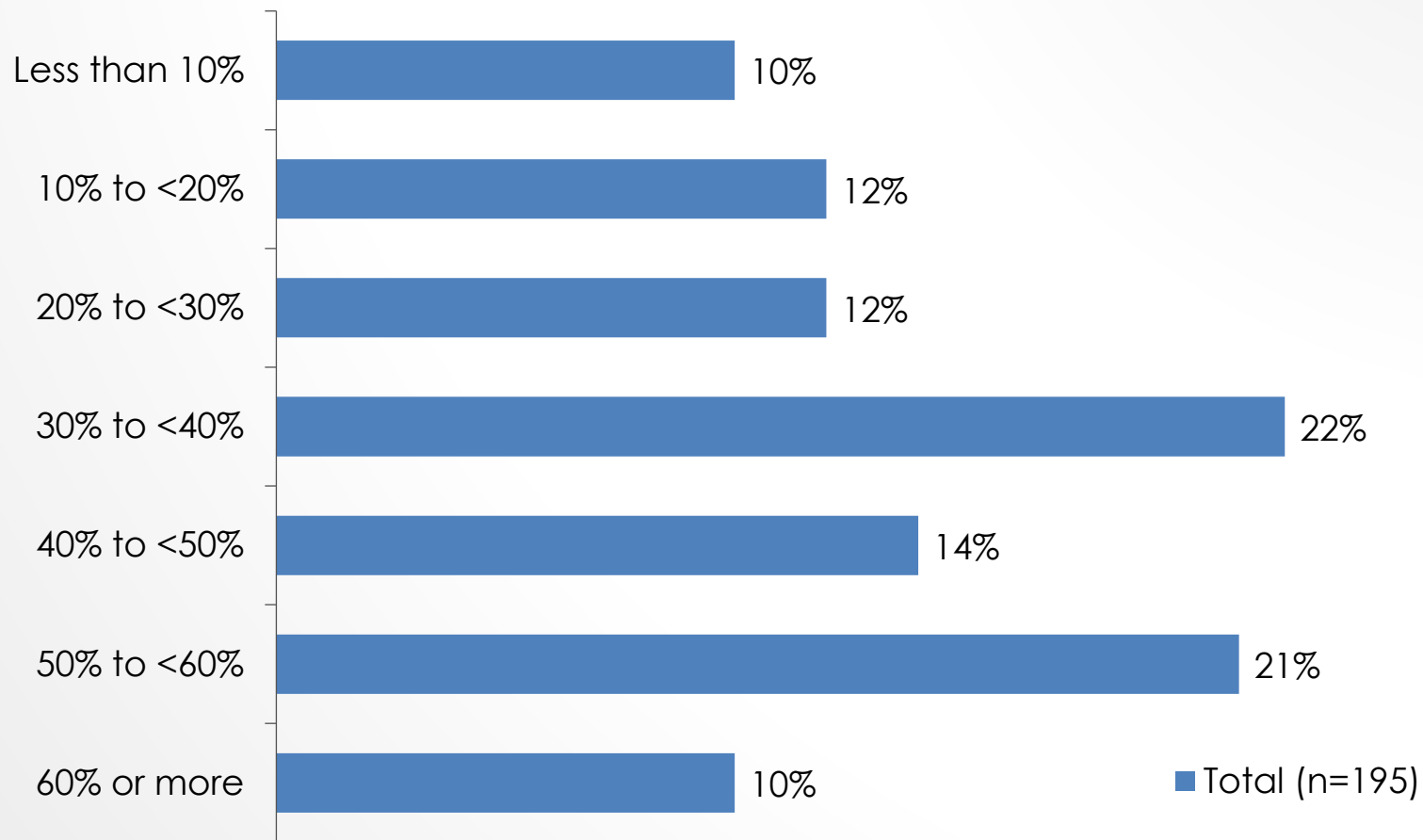
TECHNOLOGY INFRASTRUCTURE READINESS

While still low, the typical firm scores higher on **Technology Infrastructure Readiness** than in any other area. The median Technology Infrastructure Readiness score is 34 percent out of a possible 100.

Technology Infrastructure Readiness

Median = 34%

- As with all areas of this study, firm size is the greatest determinant of Technology Infrastructure Readiness. As firm size increases, so too does the median score.
- The median score for firms with 50 or fewer FTEs is 31 percent compared to 44 percent for firms with 51 to 200 FTEs and 53 percent for firms with more than 200 FTEs.

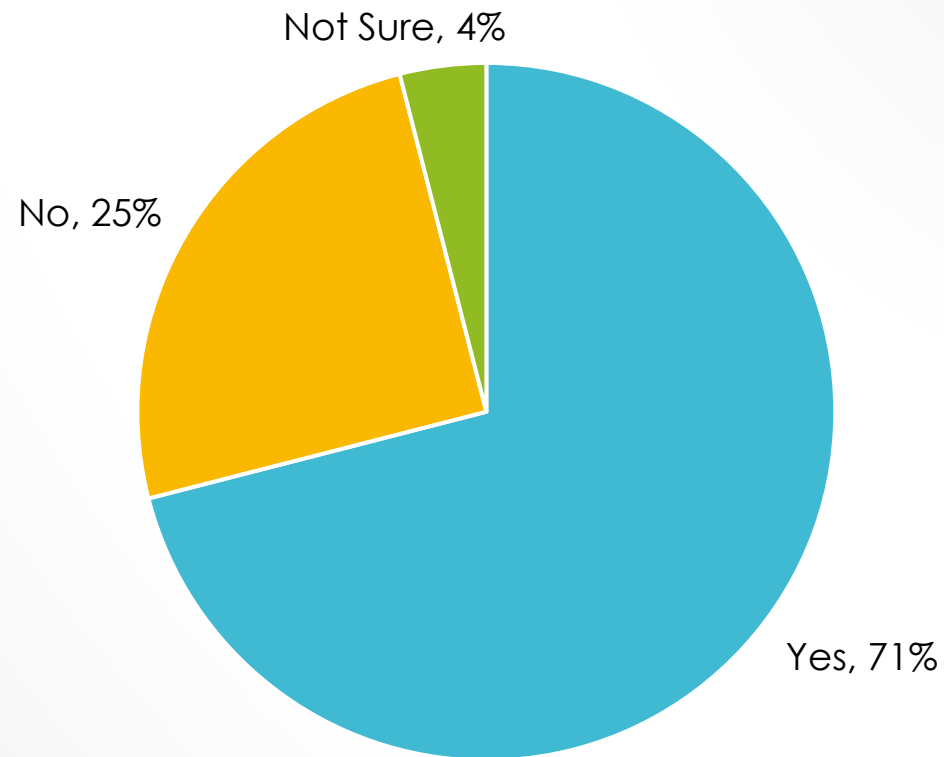


The following slides detail the questions that contribute to the score in this section.

Most firms have a dedicated cybersecurity strategy, although it does depend on firm size.

Dedicated Cybersecurity Strategy
(n=217)

- The prevalence of having a dedicated cybersecurity strategy by firm size is:
 - 65% - 50 or fewer FTEs
 - 71% - 51 to 200 FTEs
 - 97% - More than 200 FTEs

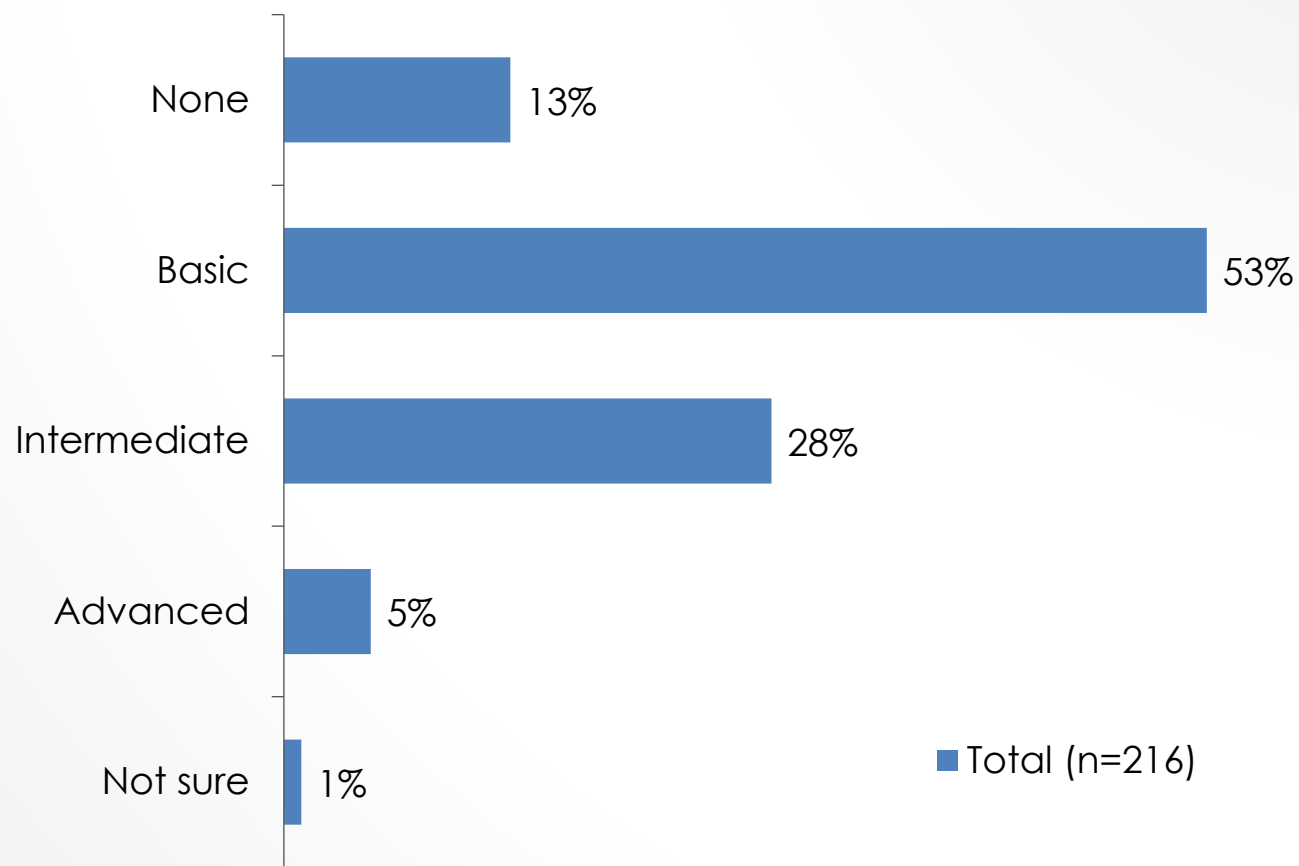


Q20: Does your firm have a dedicated cybersecurity strategy?

Most firms (53%) provide basic cybersecurity training for employees, however, 13 percent provide none.

- The prevalence of providing **basic** training by firm size:
 - 61% - 50 or fewer FTEs
 - 47% - 51 to 200 FTEs
 - 20% - More than 200 FTEs
- The prevalence of providing **intermediate or advanced** training by firm size:
 - 21% - 50 or fewer FTEs
 - 53% - 51 to 200 FTEs
 - 77% - More than 200 FTEs

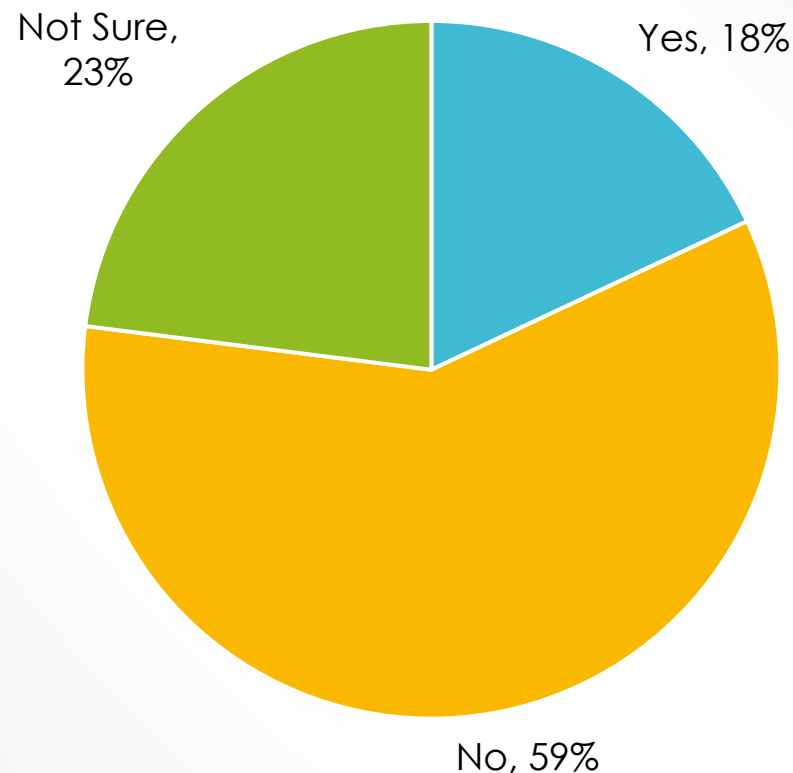
Level of Cybersecurity Training for Employees



Q22. What level of cybersecurity training is provided for employees?

Fewer than one in five firms (18%) have implemented Zero Trust Architecture, while nearly half of mid-size and large firms have.

Implemented Zero Trust Architecture
(n=217)

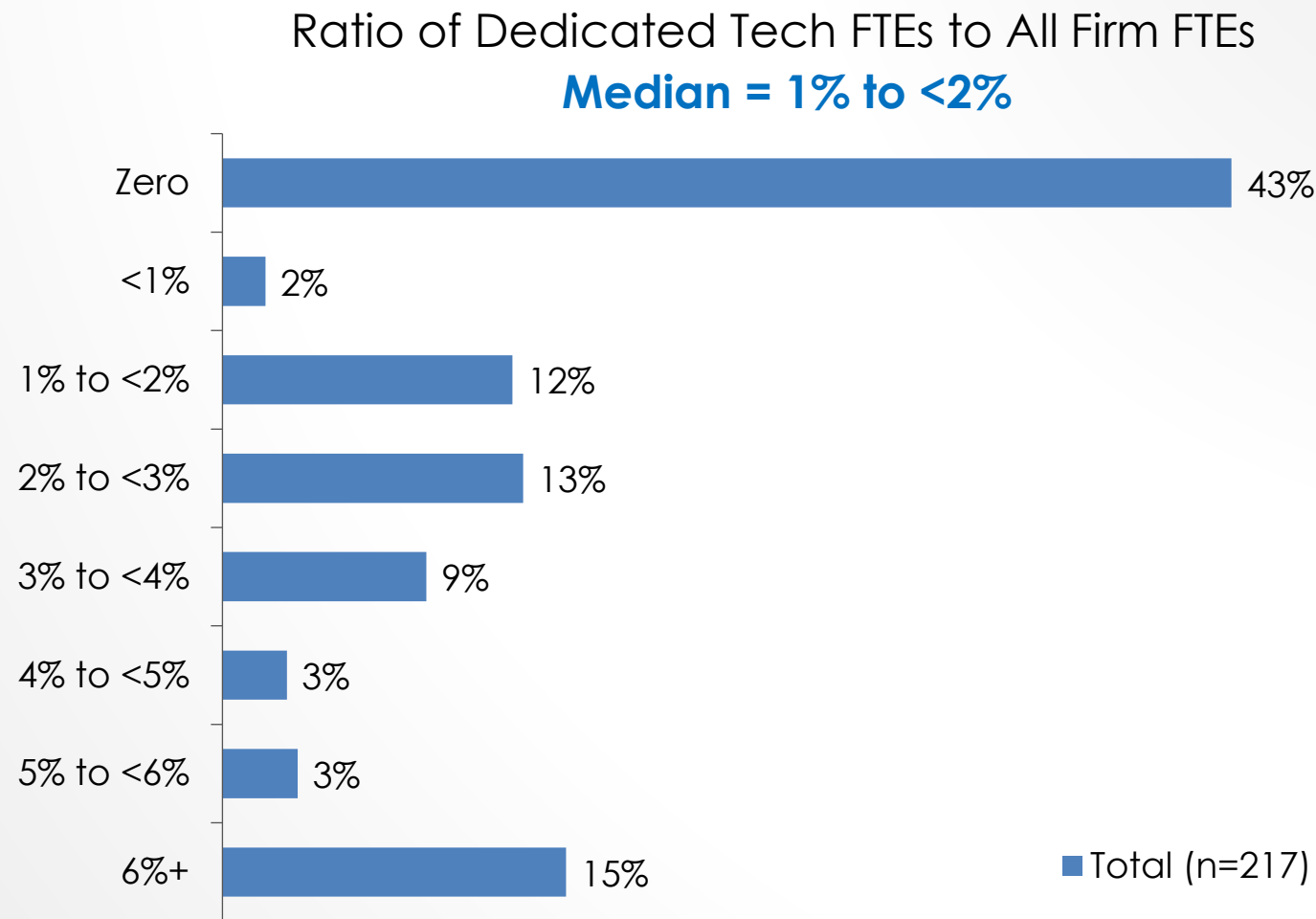


Q21: Has your firm implemented Zero Trust Architecture?

- The prevalence of having a dedicated cybersecurity strategy by firm size is:
 - 9% - 50 or fewer FTEs
 - 47% - 51 to 200 FTEs
 - 43% - More than 200 FTEs

The median ratio of dedicated tech FTEs to all firm FTEs falls in the one percent to less than two percent range. Smaller firms are much less likely to have any dedicated tech FTEs.

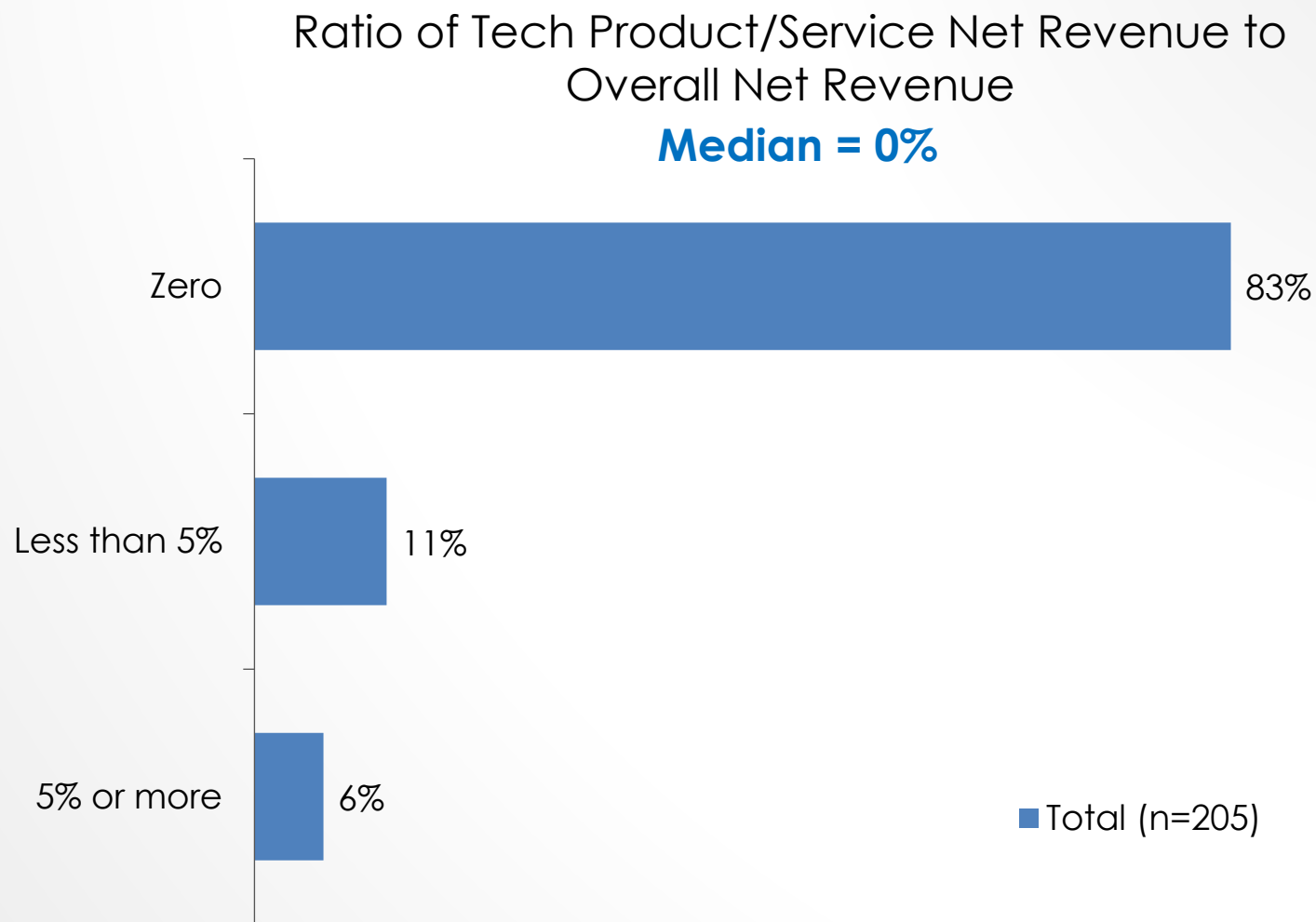
- The prevalence of having any dedicated tech FTEs by firm size is:
 - 44% - 50 or fewer FTEs
 - 84% - 51 to 200 FTEs
 - 100% - More than 200 FTEs



Q10. Approximately how many dedicated IT, technology and or innovation FTEs are in your firm?
Q3. Including yourself, how many full-time equivalent employees (FTEs) does your organization currently have?

Most firms participating in this study do not generate any Net Revenue from Technology Products/Services. However, larger firms are much more likely to generate revenue.

- The prevalence of having any tech product/service Net Revenue by firm size is:
 - 11% - 50 or fewer FTEs
 - 0% - 51 to 200 FTEs
 - 57% - More than 200 FTEs

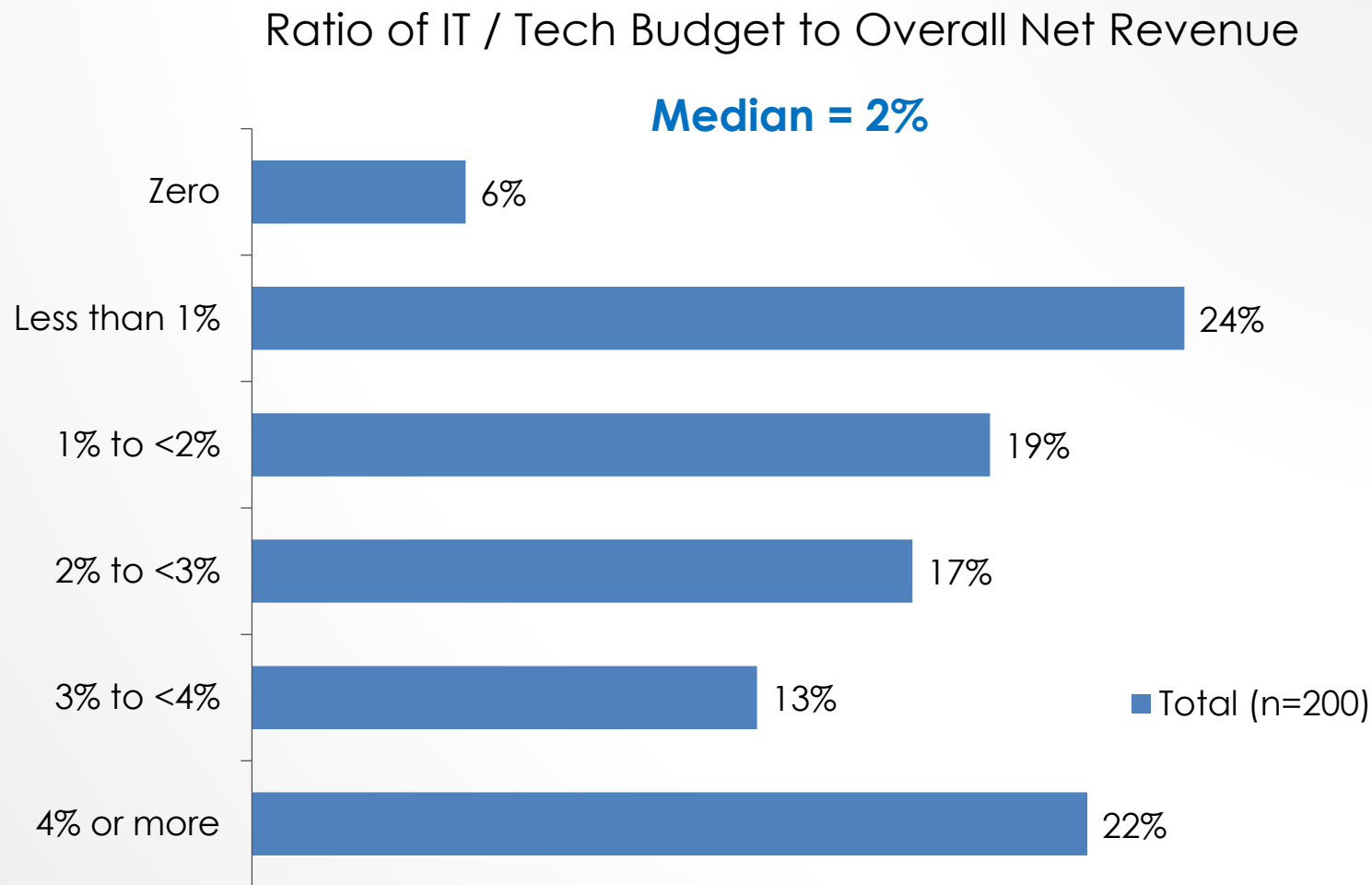


Q12. What was your firm's Net Revenue from Technology Products or Productized Services for its most recently complete fiscal year?

Q11. What was your firm's total Net Revenue for its most recently complete fiscal year?

The median ratio of IT/Tech budget to Overall Net Revenue is two percent. Larger firms are much more likely to have a higher ratio.

- The percentage of firms who have a ratio of 3 percent or more by firm size is:
 - 27% - 50 or fewer FTEs
 - 50% - 51 to 200 FTEs
 - 69% - More than 200 FTEs

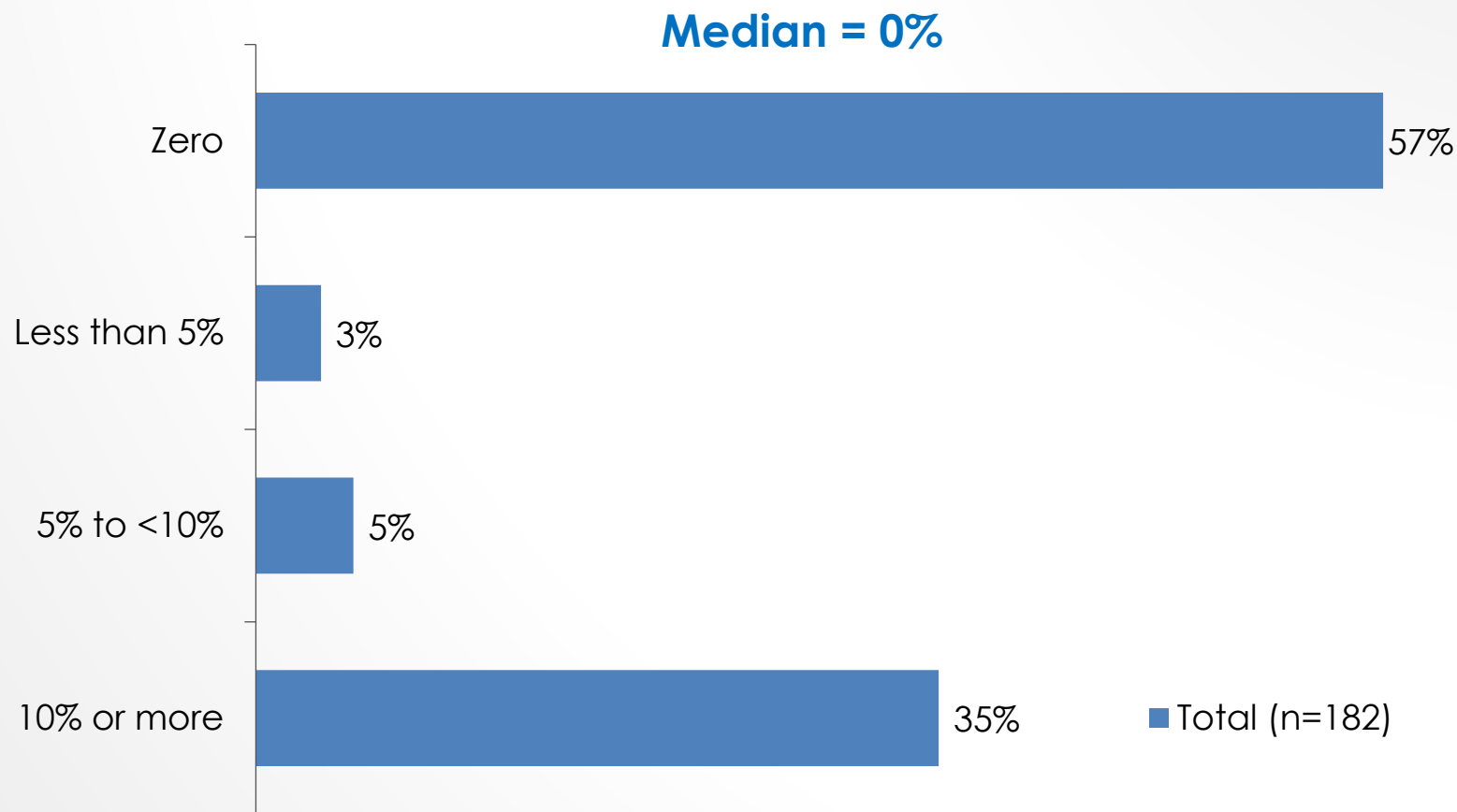


Q13. What was your firm's IT / Technology budget for its most recently complete fiscal year?
Q11. What was your firm's total Net Revenue for its most recently complete fiscal year?

While most respondents (57%) reported no increase in their IT/Tech budget, more than one-third reported an increase of 10 percent or more. As firm size increases so does the increase in IT/Tech budget.

IT/Tech Budget Increase Year-Over-Year

- The median IT/Tech budget increase by firm size is:
 - 0% - 50 or fewer FTEs
 - 5% - 51 to 200 FTEs
 - 10% - More than 200 FTEs

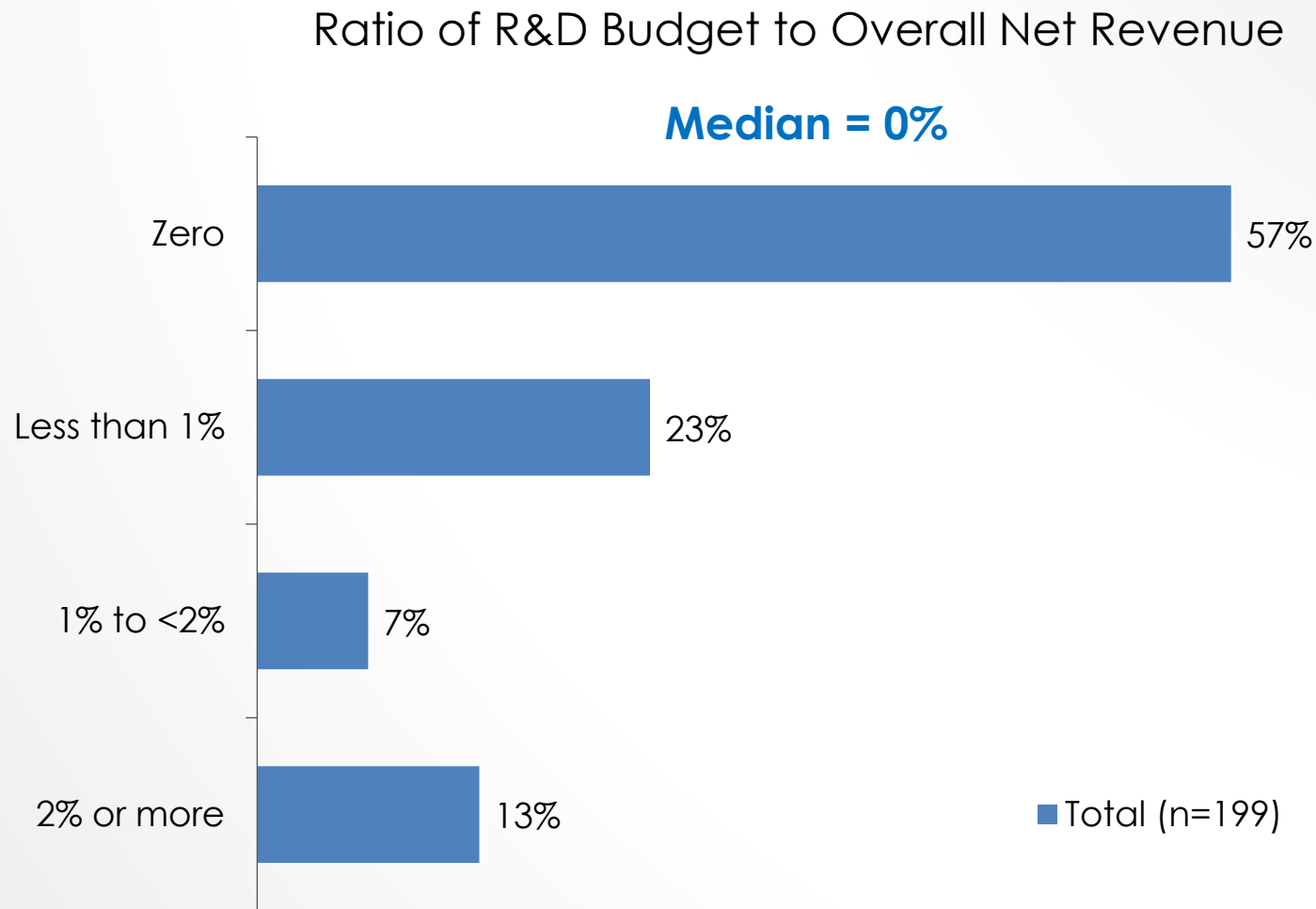


Q13. What was your firm's IT / Technology budget for its most recently complete fiscal year?

Q14. What is your firm's IT / Technology budget for the current fiscal year?

Most respondents (57%) reported no R&D budget. As firm size increases so does the amount of R&D budget.

- The prevalence of having any R&D budget is largest for the larger firms:
 - 39% - 50 or fewer FTEs
 - 29% - 51 to 200 FTEs
 - 70% - More than 200 FTEs
- Among firms with more than 200 FTEs, most (59%) have a R&D Budget to Net Revenue ratio of less than one percent.



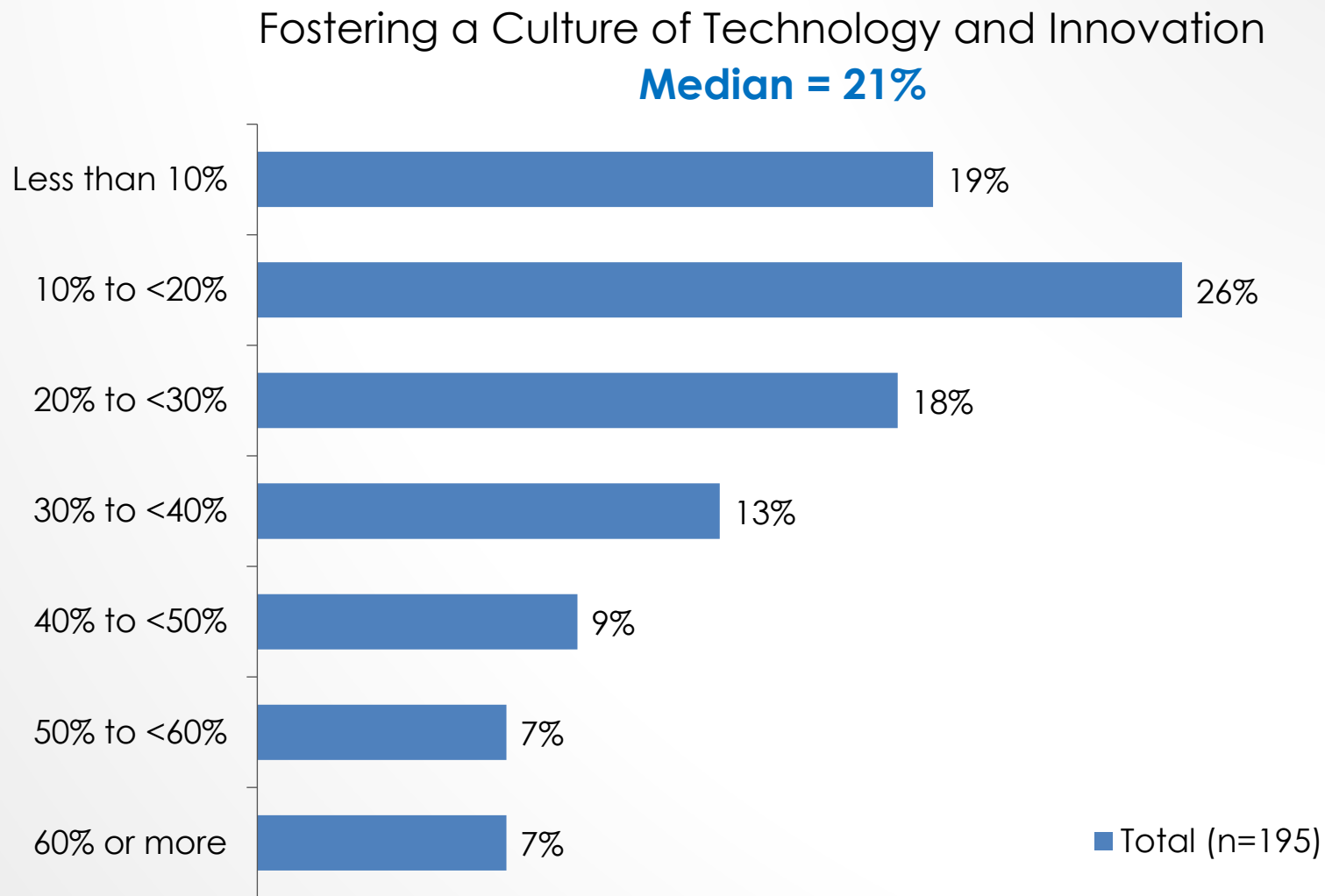
Q15. What was your firm's R&D budget for its most recently complete fiscal year?
Q11. What was your firm's total Net Revenue for its most recently complete fiscal year?

FOSTERING A CULTURE OF TECHNOLOGY AND INNOVATION

Fostering a Culture of Technology and Innovation ranks second out of the three areas in this study. The median score is 21 percent out of a possible 100.

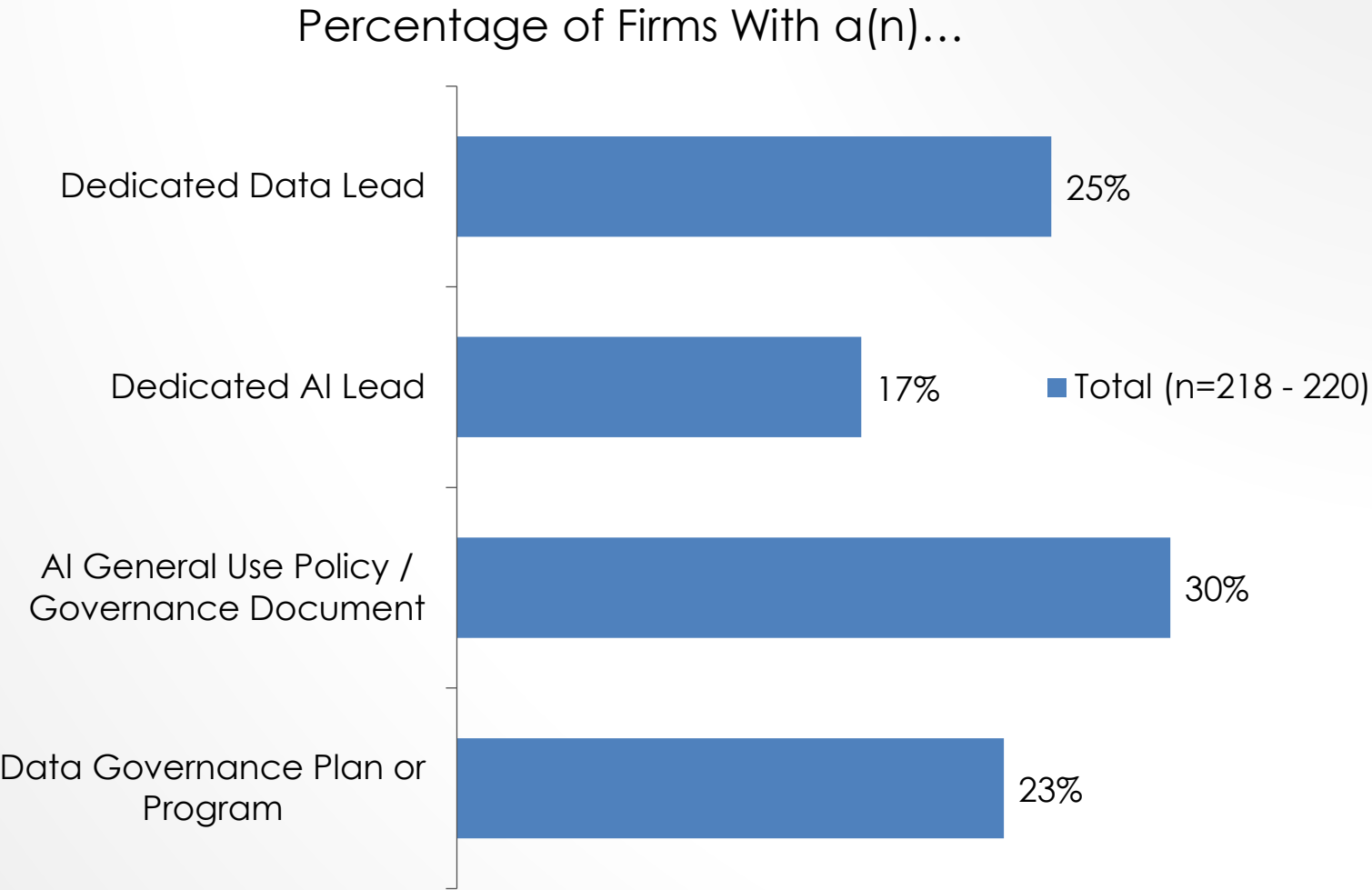
- As firm size increases, so too does the median score.
- The median score for firms with 50 or fewer FTEs is 17 percent compared to 23 percent for firms with 51 to 200 FTEs and 48 percent for firms with more than 200 FTEs.

The following slides detail the questions that contribute to the score in this section.



A minority of firms have a dedicated Data Lead (25%) or AI Lead (17%). In addition, most do not have an AI Use Policy or Data Governance Plan.

- Firms with more than 200 FTEs are much more likely to have all the areas listed:
 - 42% - Data Lead
 - 39% - AI Lead
 - 89% - AI Policy
 - 53% - Data Governance
- Other firm sizes do not differ significantly from the overall numbers on the graph, except for AI Policy:
 - 14% - 50 or fewer FTEs
 - 59% - 51 to 200 FTEs

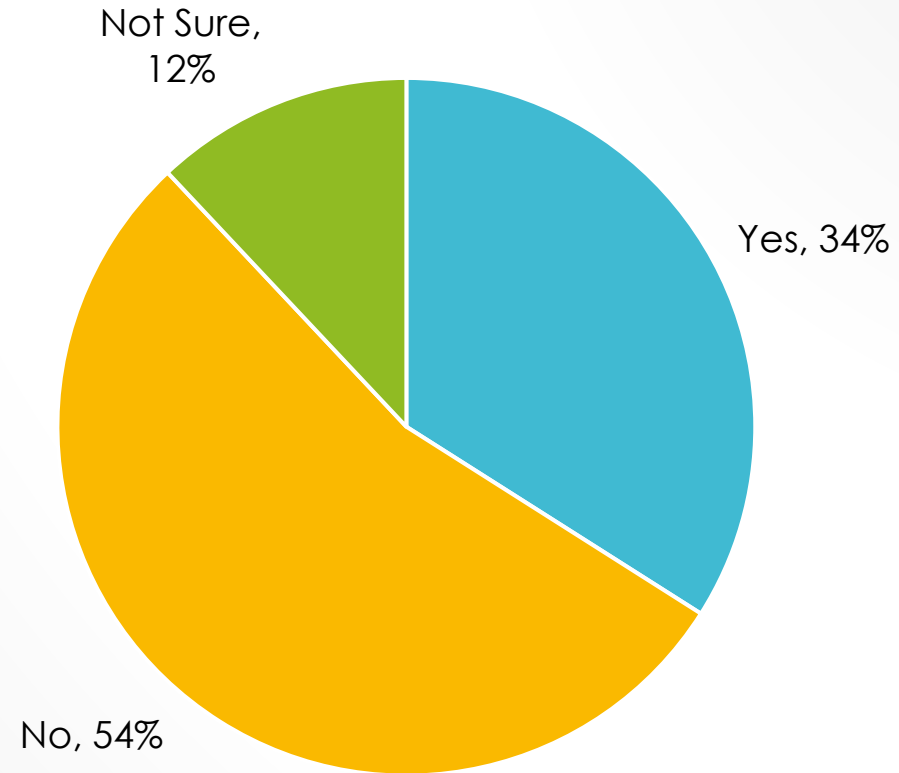


Q8/Q9/Q16/Q19: Does your firm have a(n) [INSERT ITEM]...?

More than one-third of firms (34%) support the use of AI Large Language Models (LLMs).

- The prevalence of using LLMs by firm size is:
 - 23% - 50 or fewer FTEs
 - 53% - 51 to 200 FTEs
 - 78% - More than 200 FTEs

Firm Supports AI Large Language Models
(n = 216)



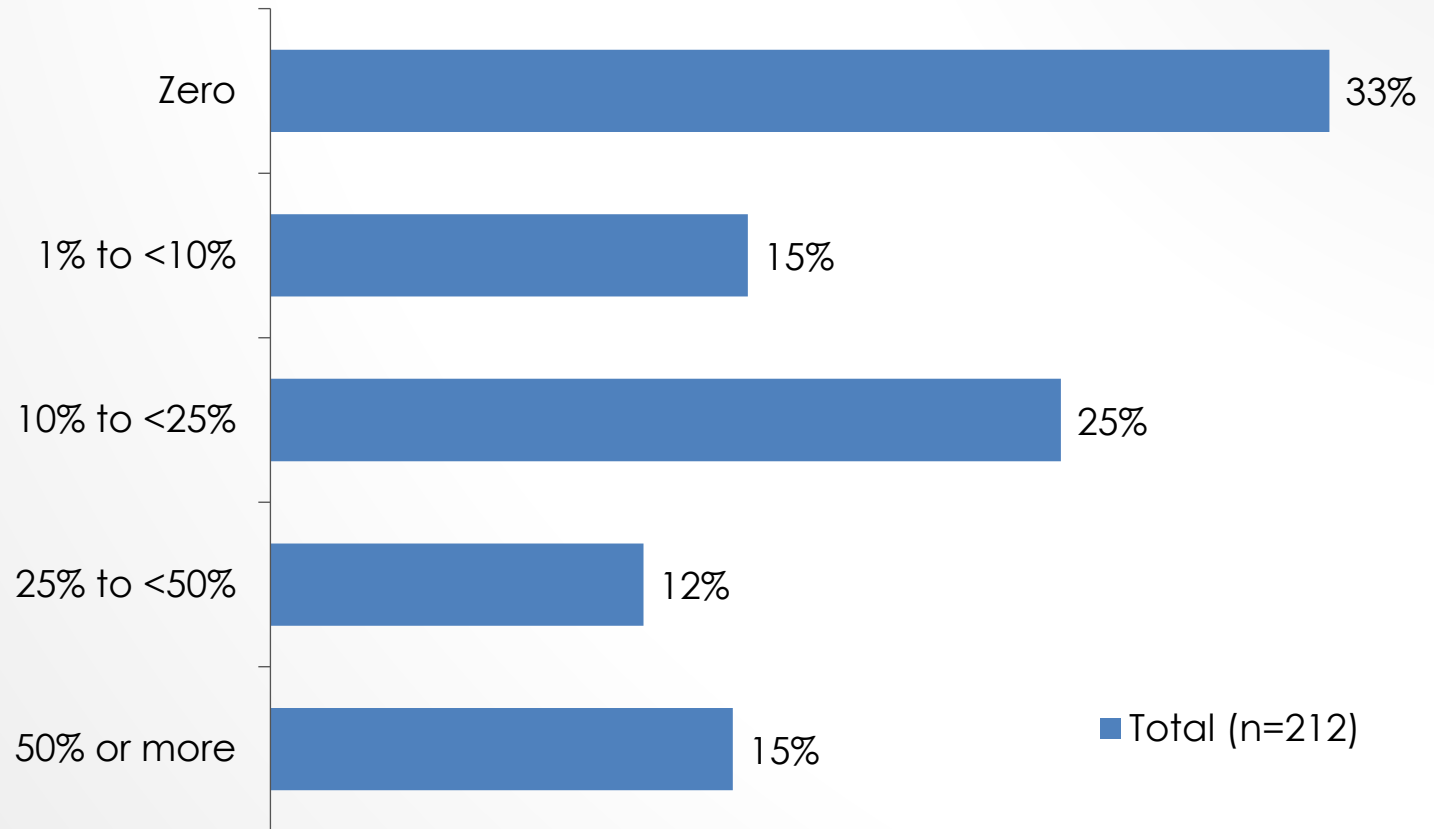
Q17: Is your firm supporting the use of AI Large Language Models (LLMs)?

Although the typical firm has about 10 percent of its employees using generative AI on a daily or near daily basis, one-third of firms' employees are not using it at all.

Percentage of Firm Employees Using Generative AI Regularly

Median = 10%

- The median percentage of firm employees using generative AI on a regular basis by firm size is:
 - 5% - 50 or fewer FTEs
 - 10% - 51 to 200 FTEs
 - 20% - More than 200 FTEs
- Among firms with 50 or fewer FTEs, 43 percent are not using generative AI on a regular basis.

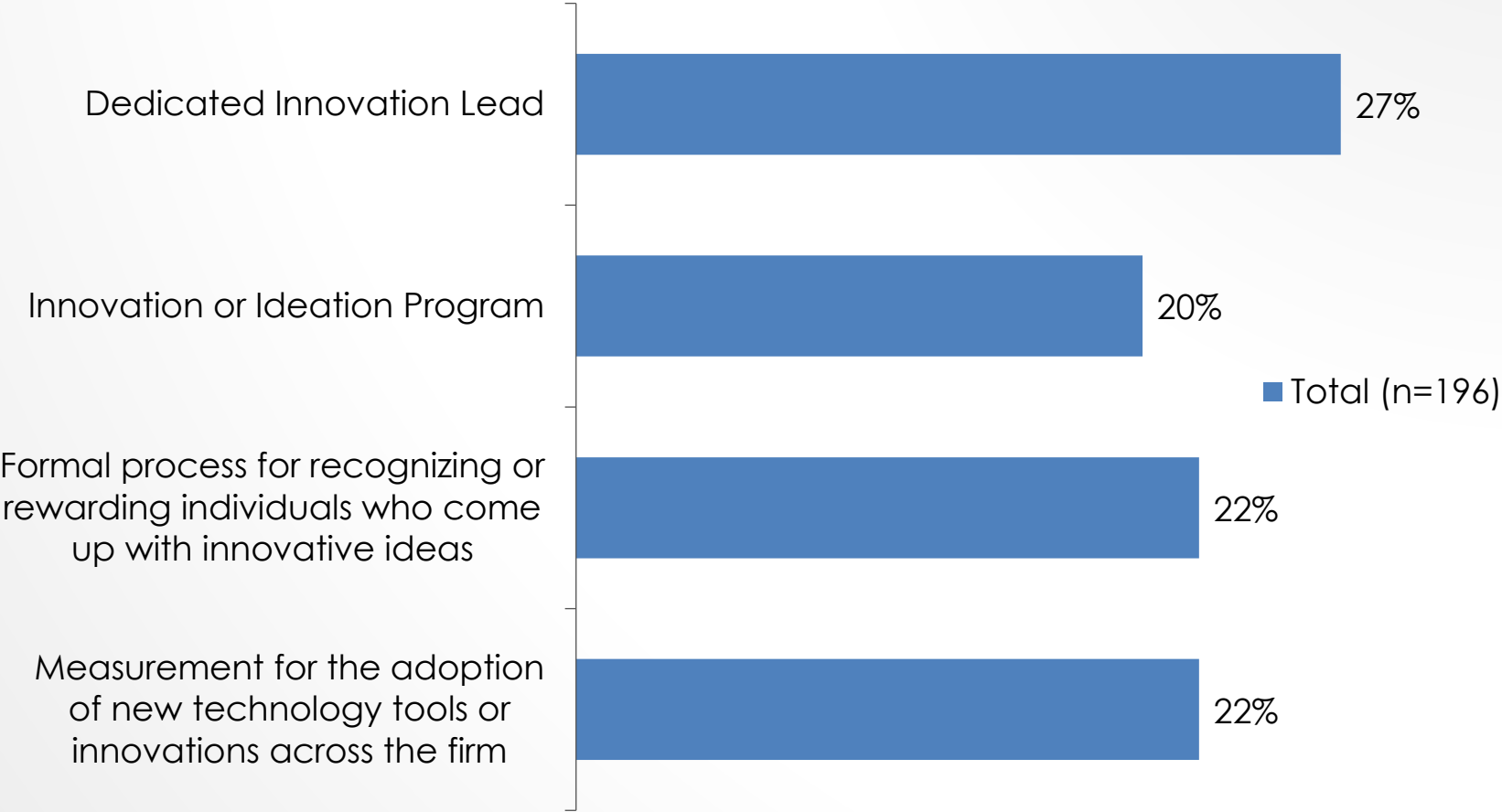


Q18. What percentage of your firm's employees are using Generative AI on a daily or near daily basis?

When it comes to various indicators of innovation at firms, between 20 percent and 27 percent indicate they have any.

Percentage of Firms With a(n)...

- Firms with more than 200 FTEs are much more likely to have all the areas listed:
 - 63% - Innovation Lead
 - 69% - Innovation Program
 - 47% - Formal Recognition
 - 44% - Measure adoption of new tech or innovation
- Firms with 51 to 200 FTEs are about 10 percentage points more likely to have each indicator, except measurement, compared to firms with 50 or fewer FTEs.

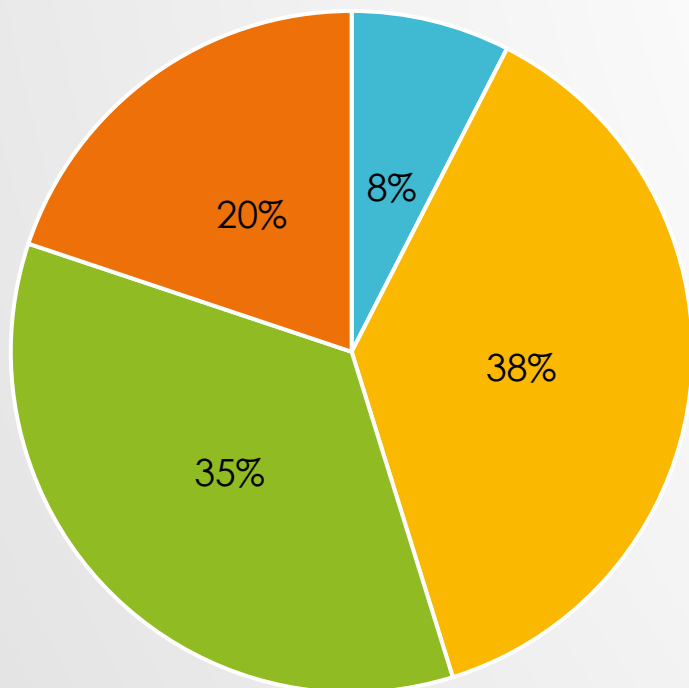


Q25/Q27/Q28/Q30: Does your firm have a(n)...

Firms are more likely to focus on core innovation efforts (median = 70%) than adjacent or transformational innovation (median = 30%). Results do not differ by firm size.

Percentage Dedicated to Core Innovation

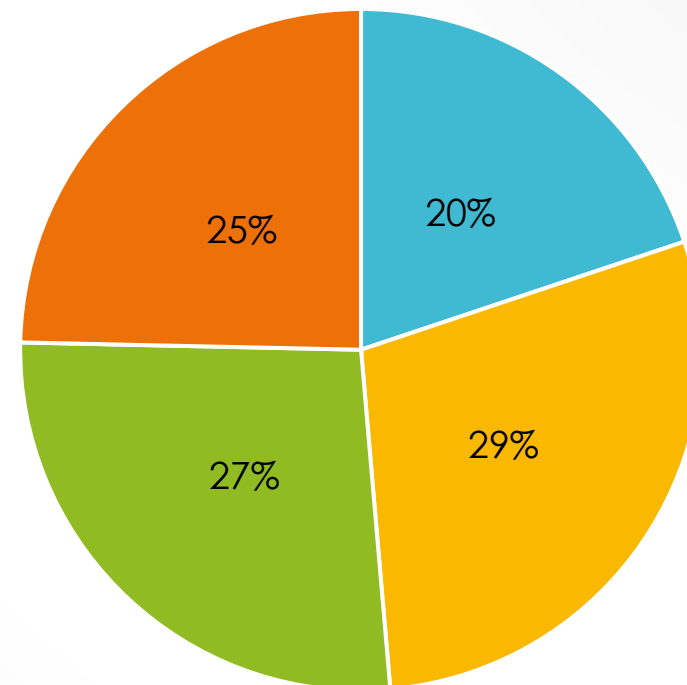
Median = 70%



■ Zero ■ 1% to 50% ■ 51% to 99% ■ 100% or more

Percentage Dedicated to Adjacent Innovation

Median = 30%



■ Zero ■ 1% to 25% ■ 26% to 50% ■ 51% or more

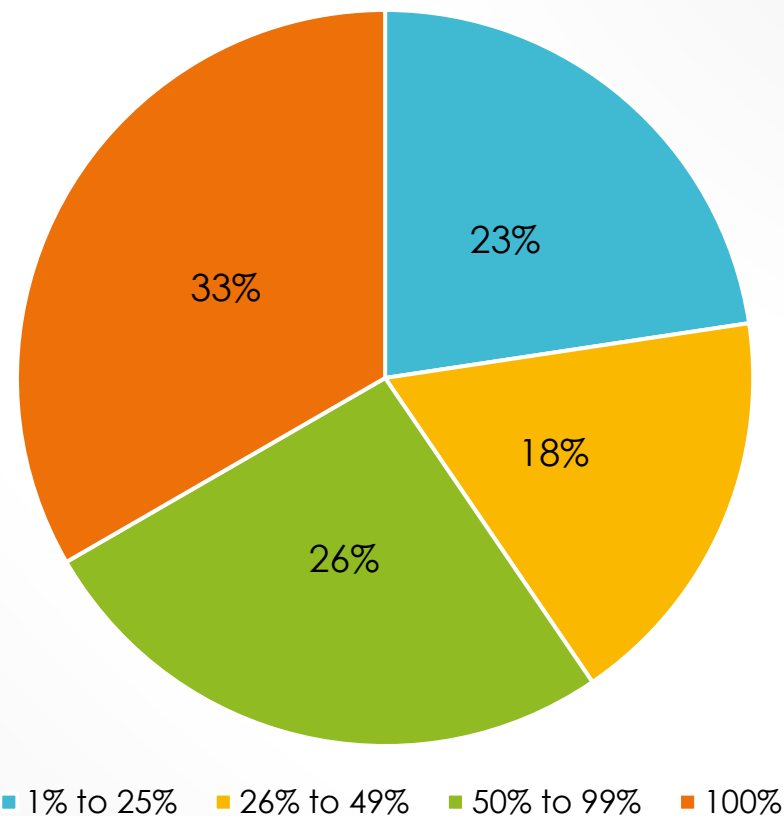
Q29. Approximately what percentage of your firm's innovation efforts are dedicated to "core" innovation versus "adjacent or transformational" innovation?

Among firms that identified and implemented innovation ideas, the median percentage of ideas that were implemented is 60 percent. This does not differ by firm size.

- More than half of firms identified no innovation ideas in 2024. However, 43 percent of firms identified and implemented innovation ideas. (Not shown in graph)
- Identification of innovation ideas increases with firm size:
 - 39% - 50 or fewer FTEs
 - 53% - 51 to 200 FTEs
 - 78% - More than 200 FTEs
- While larger firms are more likely to generate more ideas, the percentage of innovation ideas implemented does not differ across firm size.

Percentage of Innovation Ideas Implemented

Median = 60%



Q31.1 How many innovation ideas were identified for the program in 2024?

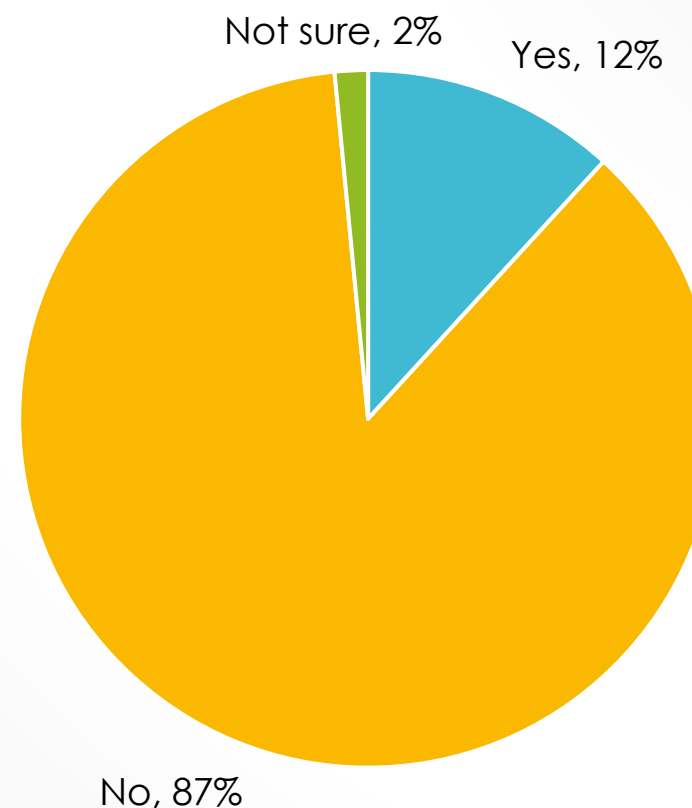
Q31.2 How many innovation ideas were successfully implemented for the program in 2024?

Only 12 percent of firms regularly conduct a technology or innovation employee engagement survey.

- Incidence of conducting survey by firm size:
 - 7% - 50 or fewer FTEs
 - 12% - 51 to 200 FTEs
 - 34% - More than 200 FTEs

Regularly Conducts Technology or Innovation Employee Engagement Survey

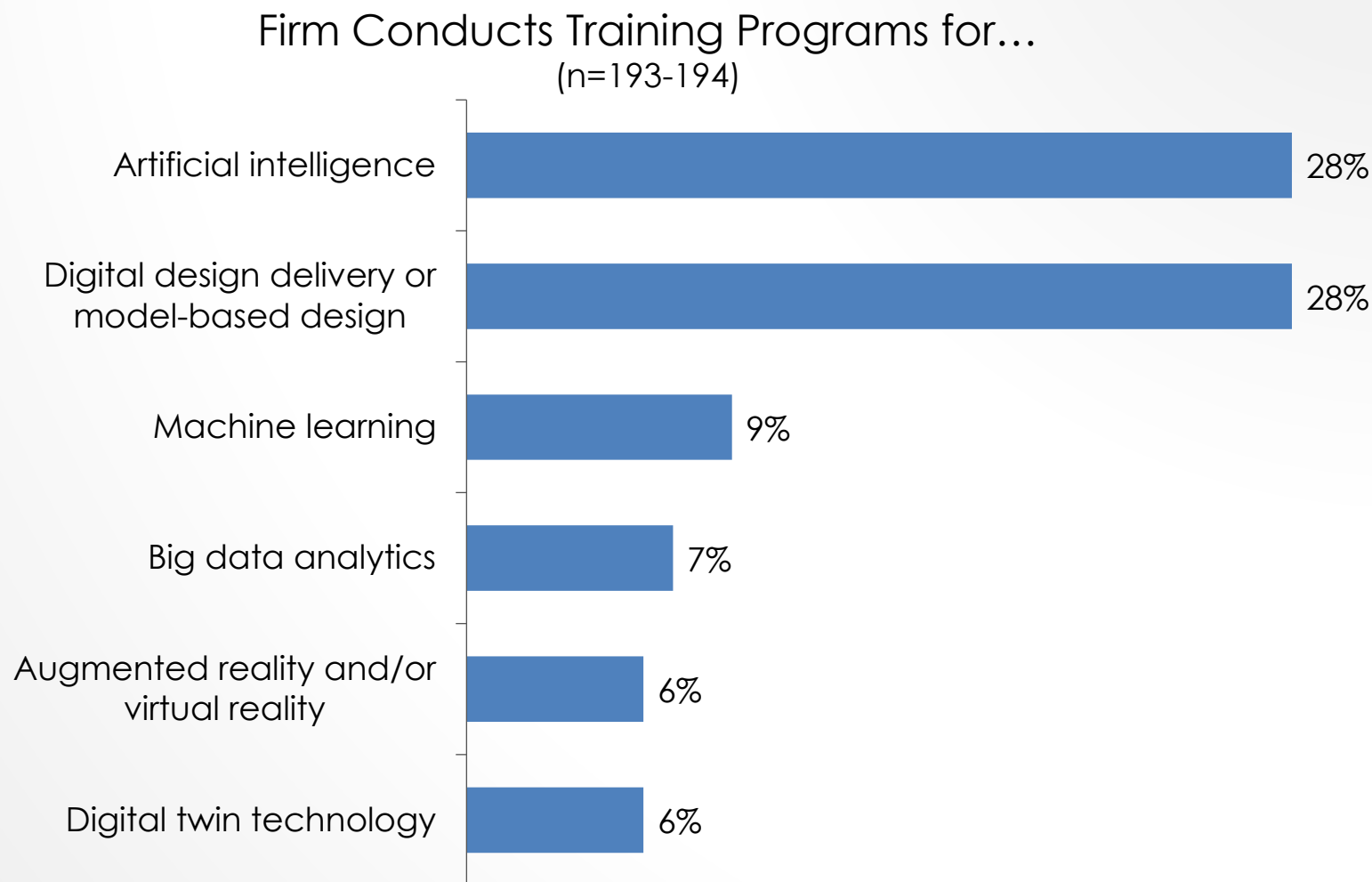
(n=195)



Q32. Does your firm regularly conduct a technology or innovation employee engagement survey (full or part of a larger survey)?

More than one-fourth of firms (28%) conduct training programs on Artificial Intelligence and Digital Design Delivery/Model-Based Design. Few provide training in other areas.

- Firms with more than 200 FTEs are more likely to conduct training in the following areas:
 - 66% - Artificial Intelligence
 - 44% - Digital Design Delivery
 - 22% - Digital Twin Technology
 - 19% - Machine Learning
- Firms with 51 to 200 FTEs are more likely to conduct AI training compared to firms with 50 or fewer FTEs (29% vs. 19%).

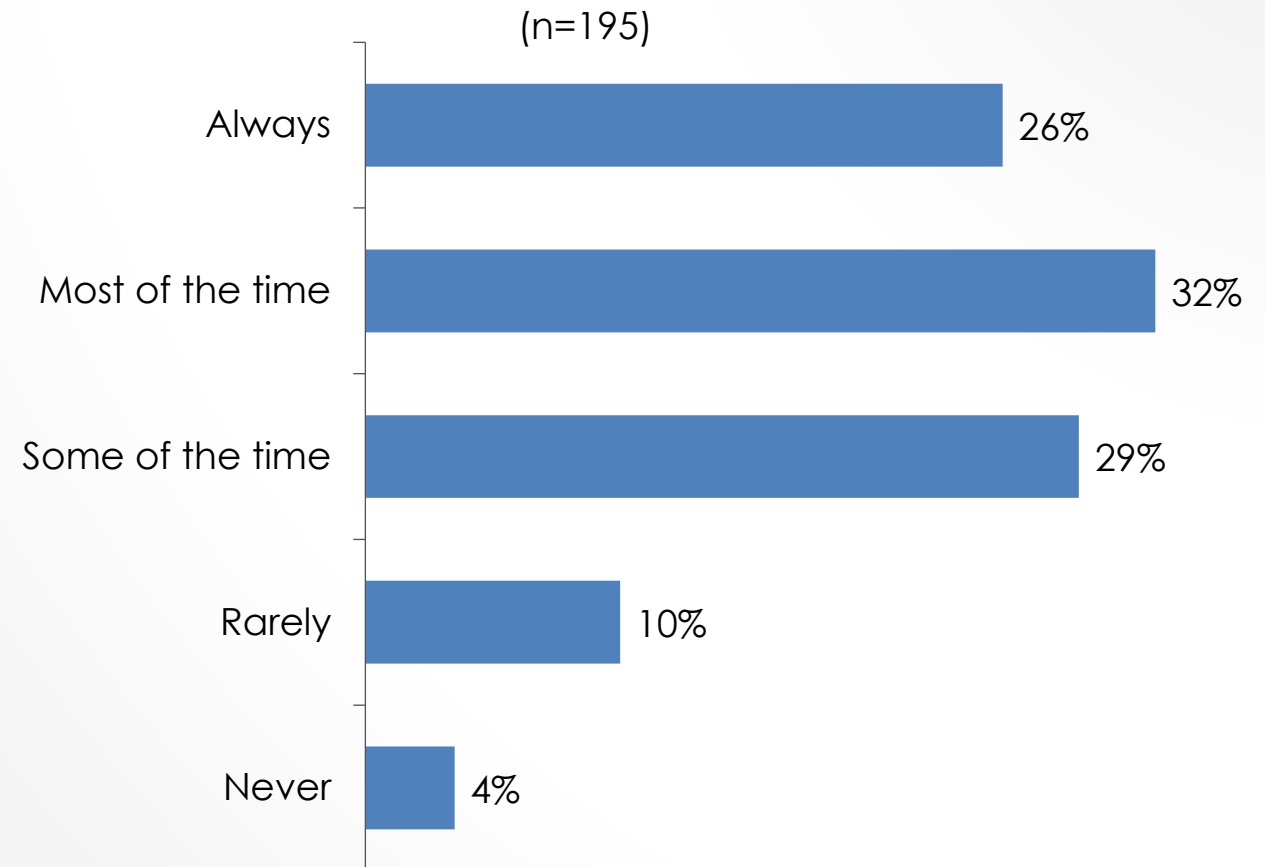


Q33: Did your firm conduct training programs in 2024 for the following emerging technologies?

More than half of firms (58%) support or encourage staff to attend technical trade shows, seminars or courses “always” or “most of the time.”

- Percent of firms that support/encourage “always” or “most of the time” by firm size:
 - 53% - 50 or fewer FTEs
 - 76% - 51 to 200 FTEs
 - 69% - More than 200 FTEs

Frequency of Supporting/Encouraging Staff to Attend Technical Trade Shows, Seminars or Courses

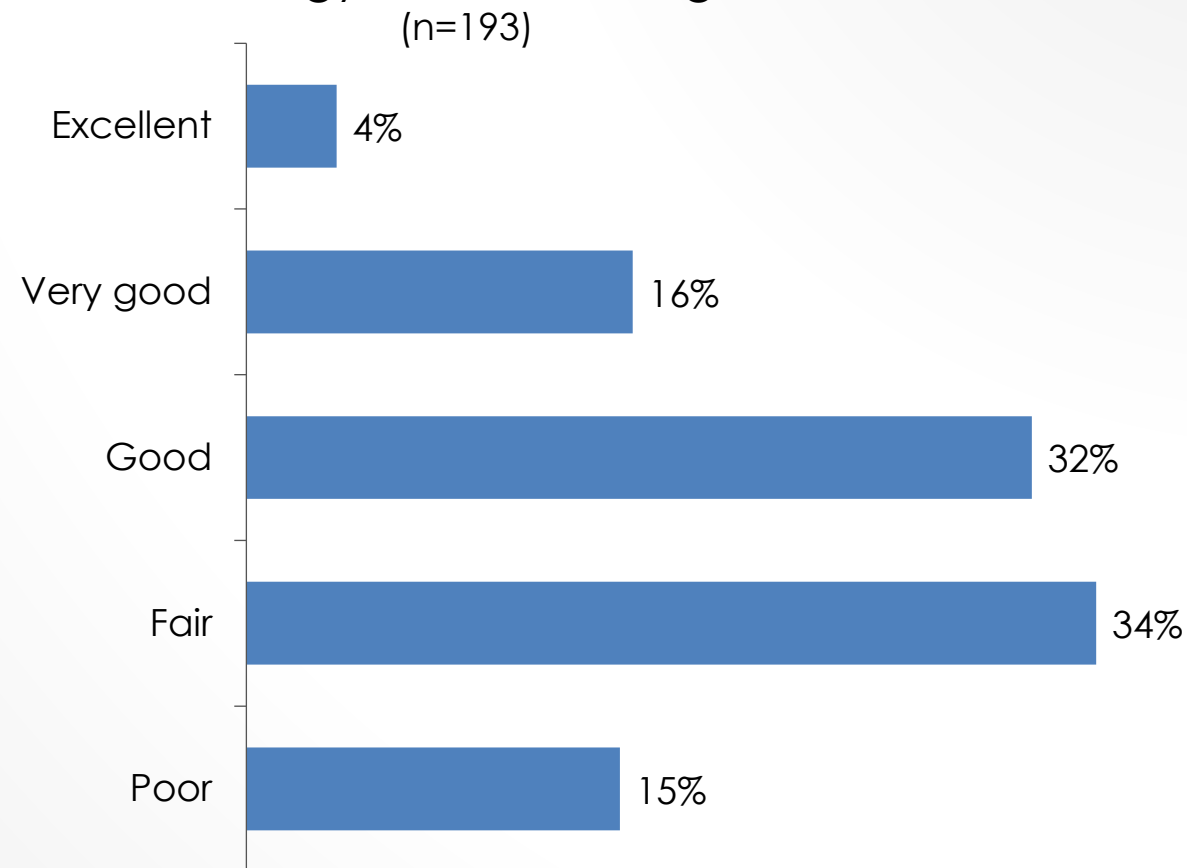


Q34. How often does your firm support / encourage staff to attend technical trade shows, seminars or courses?

Only one-fifth of firms (20%) rate their marketing efforts as “excellent” or “very good” when it comes to highlighting their level and use of technology when pursuing work.

- Percent of firms rating themselves as “Excellent” or “Very Good” by firm size:
 - 15% - 50 or fewer FTEs
 - 24% - 51 to 200 FTEs
 - 34% - More than 200 FTEs

Rating Firm on Marketing Its Level and Use of Technology When Pursuing Work



Q35. How would you rate your firm when it comes to marketing its level and use of technology when pursuing work?

TECHNOLOGY ADVANCEMENTS (SKILLS/CLIENT DELIVERY)

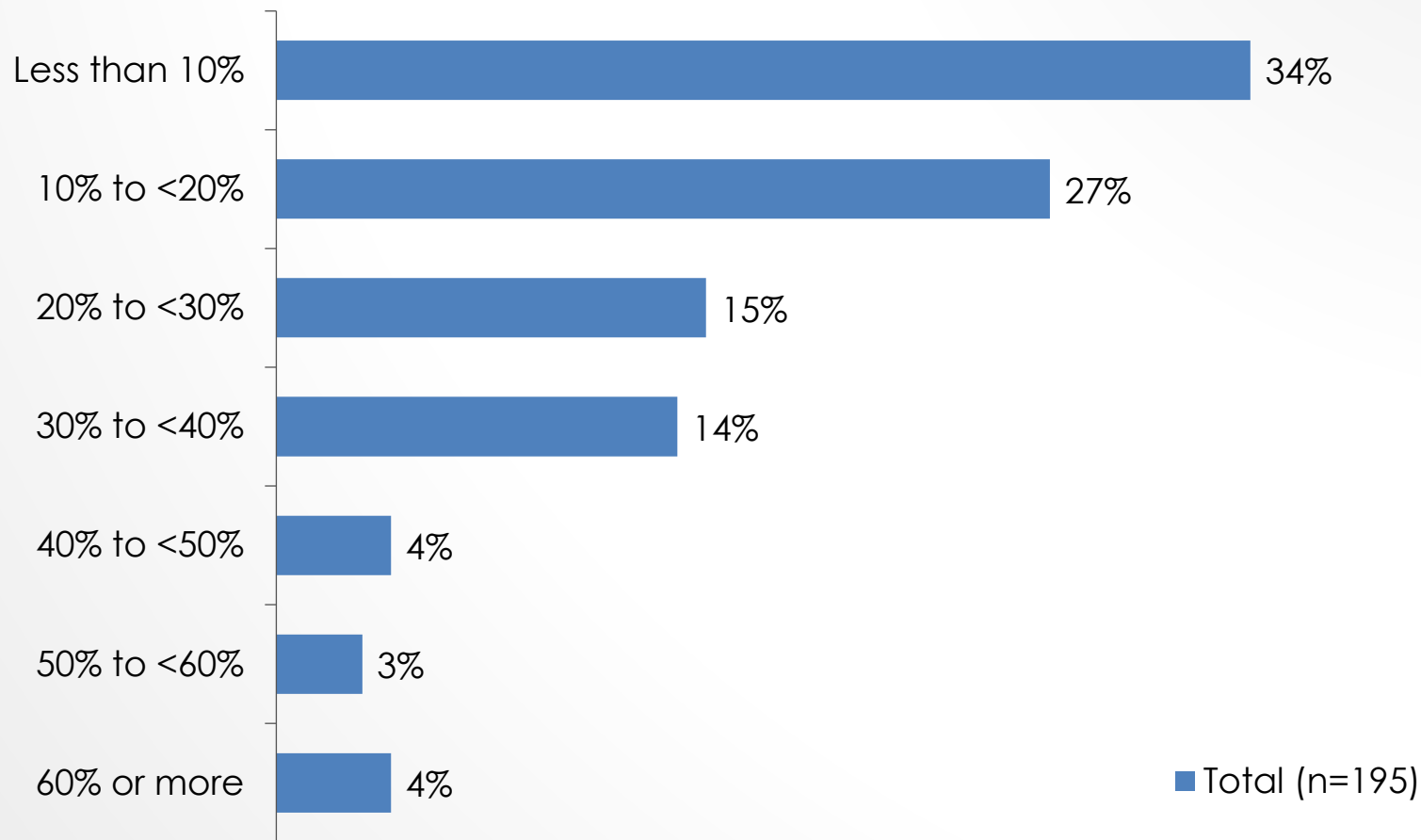
Technology Advancements (Skills/Client Delivery) ranks last out of the three areas in this study. The median score is 16 percent out of a possible 100.

- As firm size increases, so too does the median score.
- The median score for firms with 50 or fewer FTEs is 12 percent compared to 20 percent for firms with 51 to 200 FTEs and 32 percent for firms with more than 200 FTEs.

The following slides detail the questions that contribute to the score in this section.

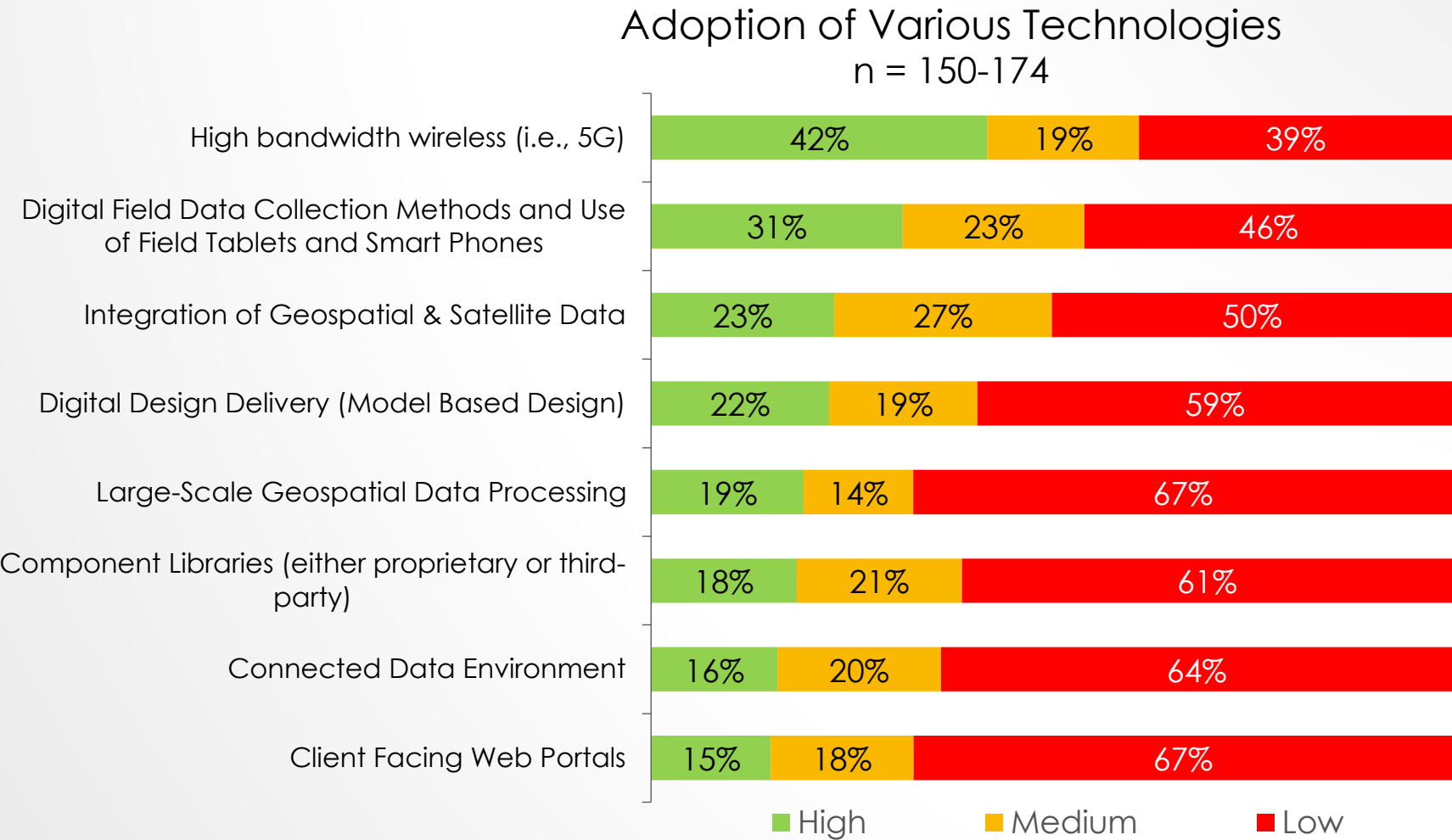
Technology Advancements (Skills/Client Delivery)

Median = 16%



Firms' self assessment of their adoption levels of various technologies reveal that more than half of firms have high or medium adoption levels for only three technologies tested.

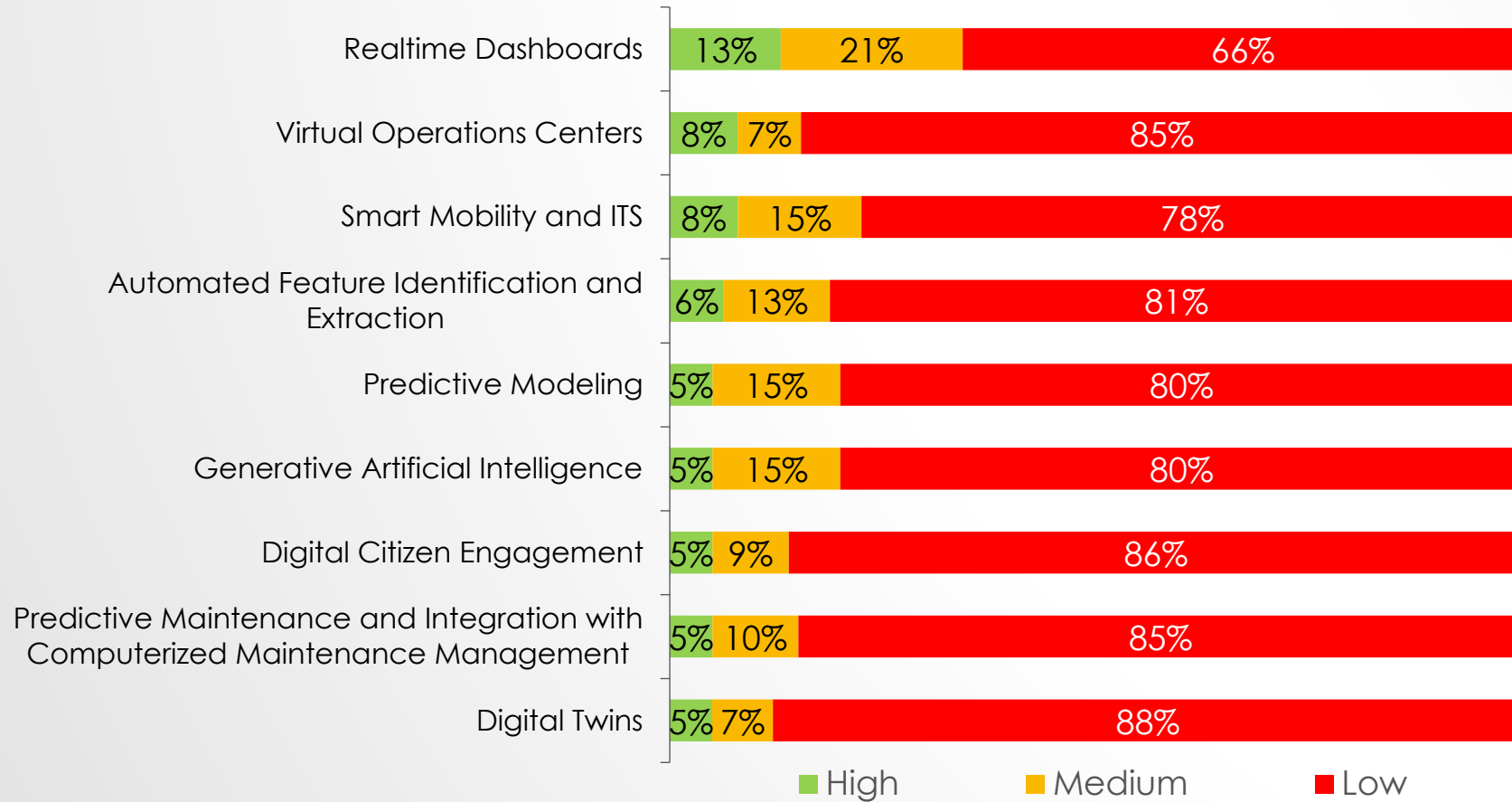
- The highest adoption levels are for High bandwidth wireless (42%), Digital field data collection methods (31%), and Integration of geospatial and satellite data (23%).
- “High” adoption levels do not differ significantly by firm size.



Q24: How would you rate your firm's adoption level on each of the following? "Not sure" omitted from calculations.

Adoption of Various Technologies (cont'd)

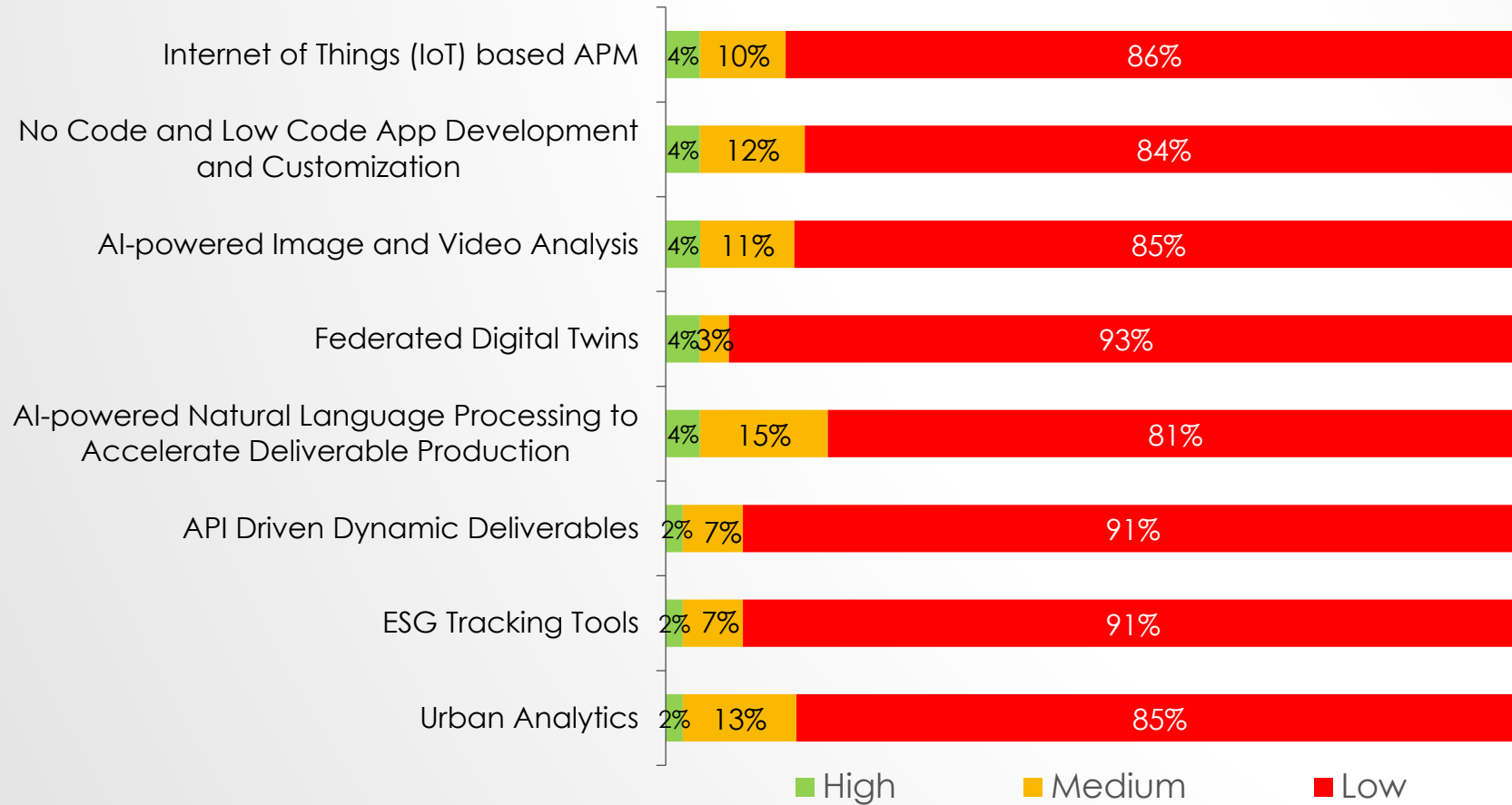
n = 150-174



Q24: How would you rate your firm's adoption level on each of the following? "Not sure" omitted from calculations.

Adoption of Various Technologies (cont'd)

n = 150-174



Q24: How would you rate your firm's adoption level on each of the following? "Not sure" omitted from calculations.

APPENDIX

METHODOLOGY

- The Institute for Association and Nonprofit Research (IFANR) surveyed ACEC member firms to assess their levels of technology readiness.
- One contact at each member firms was invited to participate in the survey. The email invitation instructed the primary contact to forward the email to the appropriate individual at their firm if they were not the best person to complete the survey.
- The survey was conducted between July 15 and July 29, 2025.

	July 2025
Total Emails*	2,888
Bounced Back	463
Opted Out	18
Potential Respondents	2,407
Completed Surveys	220
Response Rate	9%

** One initial invite, followed by three reminders to non-respondents.*

STATISTICAL NOTES

- Due to rounding, not all graphs total 100%.
- Statistically significant differences are evaluated at a 95% confidence interval (for a description of tests used, please see the Appendix).
- There is no margin of sampling error as this was a census of all primary contacts at ACEC member firms.
- Although every effort was taken to minimize survey bias, there is no way to eliminate all sources of potential bias. Sources of potential bias include, but are not limited to, the following:
 - Non-response bias
 - Confounding bias
 - Question wording bias
 - Question order bias
 - Habituation
 - Sponsor bias
 - Confirmation bias

HOW RESULTS WERE SCORED

- Demographic data were not scored. These questions were used in the analysis as well as to allow participating firms to compare their results, in aggregate, to firms similar to themselves, such as small (1 to 50 FTEs), medium (51 to 200 FTEs) and large firms (More than 200 FTEs).
- There are three components of the overall score, each weighted equally:
 - Technology Infrastructure Readiness
 - Fostering a Culture of Technology
 - Innovation and Technology Advancements (Skills/Client Delivery)
- Within each component section, each question is worth a total of one point. However, depending upon the answer of a respondent, the respondent may receive no points or a portion of a point. For example, a “Yes/No” question is scored as one point for a “Yes” and zero points for a “No.” Questions on an 11-point rating scale are scored as 0.1 points for each place on the scale. For instance, a rating of “6” is worth 0.6 points.
- Every firm that participated in this study will receive personalized results comparing their answers to the aggregate of all respondents as well as respondents in their firm size category.

TESTS OF SIGNIFICANCE FOR MEANS

F-test

When the mean is displayed for a row variable, MarketSight first runs an Analysis of Variance (ANOVA) using an F-test. Doing so tests the hypothesis that the means of multiple normally distributed populations, all having the same variance, are equal.

MarketSight tests whether or not the row variable's means are equal to one another for all columns in the crosstab. Rejecting the test hypothesis implies that at least one of the column means is significantly different from the others.

Fisher's Least Significant Difference (LSD) test

If the statistics option to "Correct for Type I errors in all comparisons" is disabled, MarketSight will run Fisher's LSD test for both Pairwise tests and Contrast tests of means. MarketSight only runs Fisher's LSD test if the ANOVA F-test first rejects the null hypothesis that all column means are equal to one another.

Fisher's LSD test is a relatively powerful test because it uses the pooled variance estimate from the F-test, thus taking advantage of the increased sample size of all columns in the crosstab. Pooling the variance is valid because MarketSight explicitly tests for equality of variance among all columns prior to running the associated F-test.

Although the test is more powerful than either the Tukey HSD or Scheffé tests, it is more susceptible to Type I error when running multiple simultaneous tests.

TESTS OF SIGNIFICANCE FOR MEANS (CONT)

Scheffé test

If the statistics option to "Correct for Type I errors in all comparisons" is enabled, MarketSight will run the Scheffé test for Contrast tests of means. MarketSight only runs the Scheffé test if the ANOVA F-test first rejects the null hypothesis that all column means are equal to one another.

The Scheffé test is a conservative test for running multiple Contrast tests of Means which controls the overall Type I error rate for all possible contrasts based on the selected Confidence Level.

Tukey-Kramer tests

MarketSight will run Tukey-Kramer test for Pairwise tests of means. MarketSight only runs Tukey-Kramer test if the ANOVA F-test first rejects the null hypothesis that all column means are equal to one another.

Tukey-Kramer test is a conservative test for running multiple Pairwise comparisons of Means. It controls the overall Type I error rate across a number of related Pairwise tests based on the selected Confidence Level.

TESTS OF SIGNIFICANCE FOR PROPORTIONS

Chi-squared

When a Row Variable displays the Column % or Count option for individual Values, MarketSight runs a Chi-squared test. This test examines whether there is a relationship between the Column Variable(s) and the Row Variable.

Chi-squared tests involve a comparison of "actual" cell counts to "expected" cell counts in a crosstab.

The expected count for each cell is derived from a Row Variable's actual counts as follows: multiply the cell's row total by its column total, then divide by the sum total of all observations.

If the actual cell counts for one or more cells differ materially from their expected counts, the Chi-squared test may produce a statistically significant result which implies there is a relationship between the Column Variable(s) and the Row Variable.

A modified version of a Chi-Squared test is run for Multiple Response Variables.

TESTS OF SIGNIFICANCE FOR PROPORTIONS (CONT)

Fisher's Exact

For 2x2 crosstabs with small sample sizes, the Chi-squared test may be unreliable. Therefore, MarketSight runs an alternate test, Fisher's Exact Test, if more than 20% of the cells in a 2x2 crosstab have an expected cell count less than 5, or if any cells in a 2x2 cross-tab have an expected cell count less than 1.

Fisher's Exact Test calculates the true probability of observing a particular set of actual cell counts in a 2 x 2 crosstab, assuming that row and column totals are held constant.

Fisher's Exact Test is not run for Multiple Response Variables.

z-test

MarketSight runs Z-tests for both Contrast and Pairwise tests of Column Proportions. A Z-test is used to test for a difference between two column proportions. The column proportions involved in the test are the cell counts divided by their respective column totals.

A Z-test is only run when the cells being compared have actual counts greater or equal to 5 and the column sample size minus the actual cell counts is greater than or equal to 5. If these data sufficiency conditions are not met, MarketSight runs Fisher's Exact Test instead.

A modified version of a Z-test is run for Multiple Response Variables.

THANK YOU!



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