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Singapore Campos Survey Results

March 2012

Methodology

- From January 4 to 17, 2012, we conducted a Web-based survey using a panel of IT decision-makers from Singapore.
- 100 panel participants were selected from large companies with at least US$500M annual revenues or 2,000+ employees.
- Participants must be IT/MIS/IS, Finance, or Real Estate Executives or Management.
  - Participants must be responsible for managing a data centre, contract execution for or implementing a new data centre or expanding existing data centres. Internal data centre customers are also eligible.
- All reported differences are significant at the .10 level or better. Confidence intervals are shown in the Appendix.

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Overall Summary

Awareness

- Two in nine (22%) participants are aware of Digital Realty Trust (DLR) as a company that can design and build and/or provide wholesale or leased data centre facilities.
  - Awareness of DLR is higher than in 2010 (22% vs. 12%).
- The providers of data centres with the highest levels of awareness are SingTel/Optus (69%) and IBM (65%).

Data Centre Profile

- Nearly three in four (70%) companies have 3 or fewer data centres, but one in seven (15%) has 6 or more.
- Nearly three in four (72%) companies have built a new data centre in the past 24 months.

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Overall Summary

Data Centre Profile (cont'd)

- The average raised floor space is 14,400 square feet.
  - Nearly three in four (70%) participants report average raised floor space of more than 10,000 sf.
- The average power capacity is 5.1 kW per rack.
  - Two thirds (65%) use 6kW or less per rack.
- Three in four (73%) meter power use, usually at the server or the utility.
- The average reported PUE is 2.63.
  - Few (6%) do not know their PUE.
  - One in six (17%) is unfamiliar with PUE.
- Over two thirds are extremely or very confident that they can comply with future energy (76%) or carbon regulations (67%).

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Overall Summary

Expansion Plans

- Three fourths (77%) say they plan to expand their data centres in 2012.
  - One in five (20%) say they definitely plan to expand in 2012 and another 57% say they will probably expand.
  - One in five (19%) say they will definitely expand in 2013.
  - One in seven (15%) are unlikely to expand in either 2012 or 2013.
- Among those with any plans to expand (definitely or probably in 2012 or 2013):
  - Half (50%) say they plan to expand in more than one location.
  - Security is the most important reason for expansion.
- On average, participants want 15,400 square feet for their expanded data centres.
- Participants want 5.0 kW per rack on average in their expanded data centres.

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Overall Summary

Implementing Expansion

- Participants with plans to expand their data centres were asked how they plan to implement the expansion. They could select multiple responses and 45% plan to use two or more methods.
  - Five in six (84%) will use a partner, either for design and build (58%) or to lease wholesale space (51%) or both (25%).
  - One in four (24%) plans to use a retail colocation solution.
  - One in five (20%) plans to build the expansion themselves.
  - Nearly one in five (18%) plans to use a shipping container solution.

Selecting a Partner

- The list of potential partners is usually developed by high or mid-level executives, as well as C-levels.
- The most important factors in choosing a partner are server management, followed by operational reliability and data centre design.

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Overall Summary

Selecting a Partner (cont'd)

- Several factors are considered important in choosing a partner, lead by technical superiority and educating the staff on critical issues.
- The most useful source of information about potential partners is consultants, followed by internet search, trade shows and research firms.
- Gartner is consulted most often, followed by KPMG, IDC and Horizon.
- The most useful sources of information from providers are case studies, followed by educational seminars and the provider's Website.

Data Centre Locations

- Respondents who plan to expand in 2012 or 2013 are more likely to locate a new data centre in Singapore.
- The most mentioned cities for a new data centre are Singapore and Tokyo.
- The most important factors in choosing a location are power availability/cost and security.

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DATA CENTRE PROFILE

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Data Centre Summary

- Nearly three in four (70%) companies have 3 or fewer data centres, but one in seven (15%) has 6 or more.
- Nearly three in four (72%) companies have built a new data centre in the past 24 months.
- The average raised floor space is 14,400 square feet.
  - Nearly three in four (70%) participants report average raised floor space of more than 10,000 square feet.
- The average power capacity is 5.1 kW per rack.
  - Two thirds (65%) use 6kW or less per rack.
- Three in four (73%) meter power use, usually at the server or utility.
- The average reported PUE is 2.63.
  - Few (6%) do not know their PUE.
  - One in six (17%) is unfamiliar with PUE.
- Over two thirds are extremely or very confident that they can comply with future energy (76%) or carbon regulations (67%).

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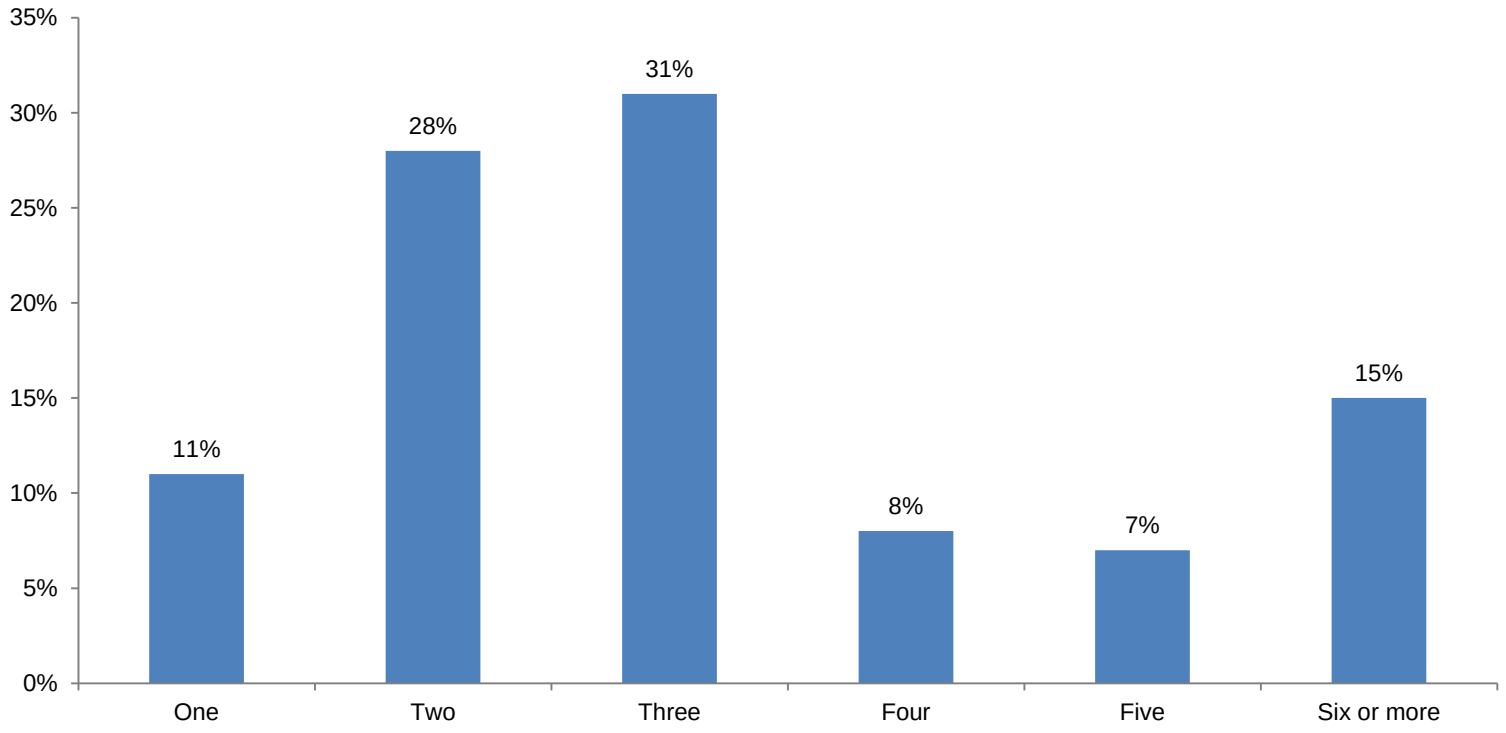
Number of Data Centres

- Participants were asked how many data centres their company operate now, excluding “IT closets” in branch offices.
- Most companies (70%) have 3 or fewer data centres, but one in seven companies has 6 or more data centres.



Base = Total (N=100)

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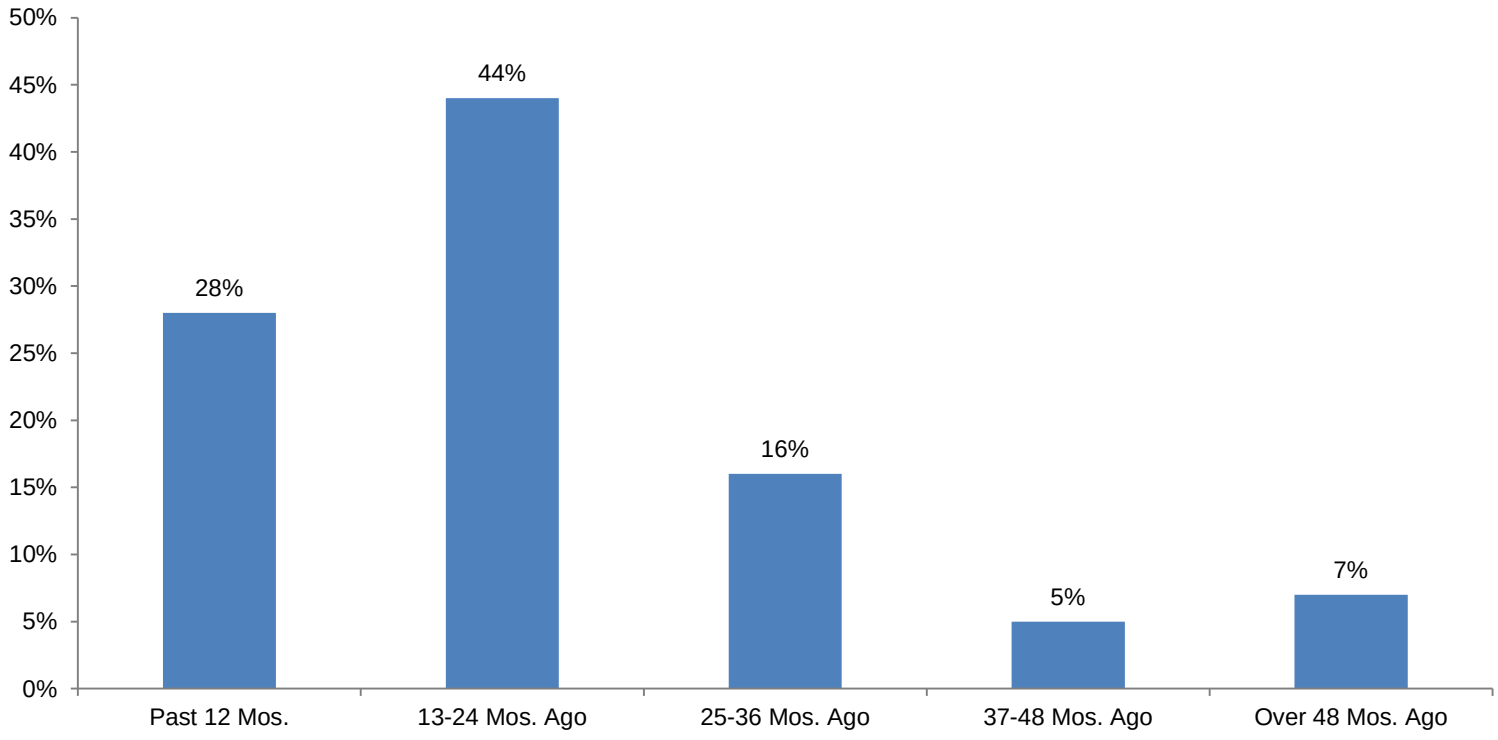
Most Recent Expansion

- Respondents were asked when their company last built or acquired a new data centre.
- Nearly three in four (72%) companies have built a new data centre in the past 24 months.



Base = Total (N=100)

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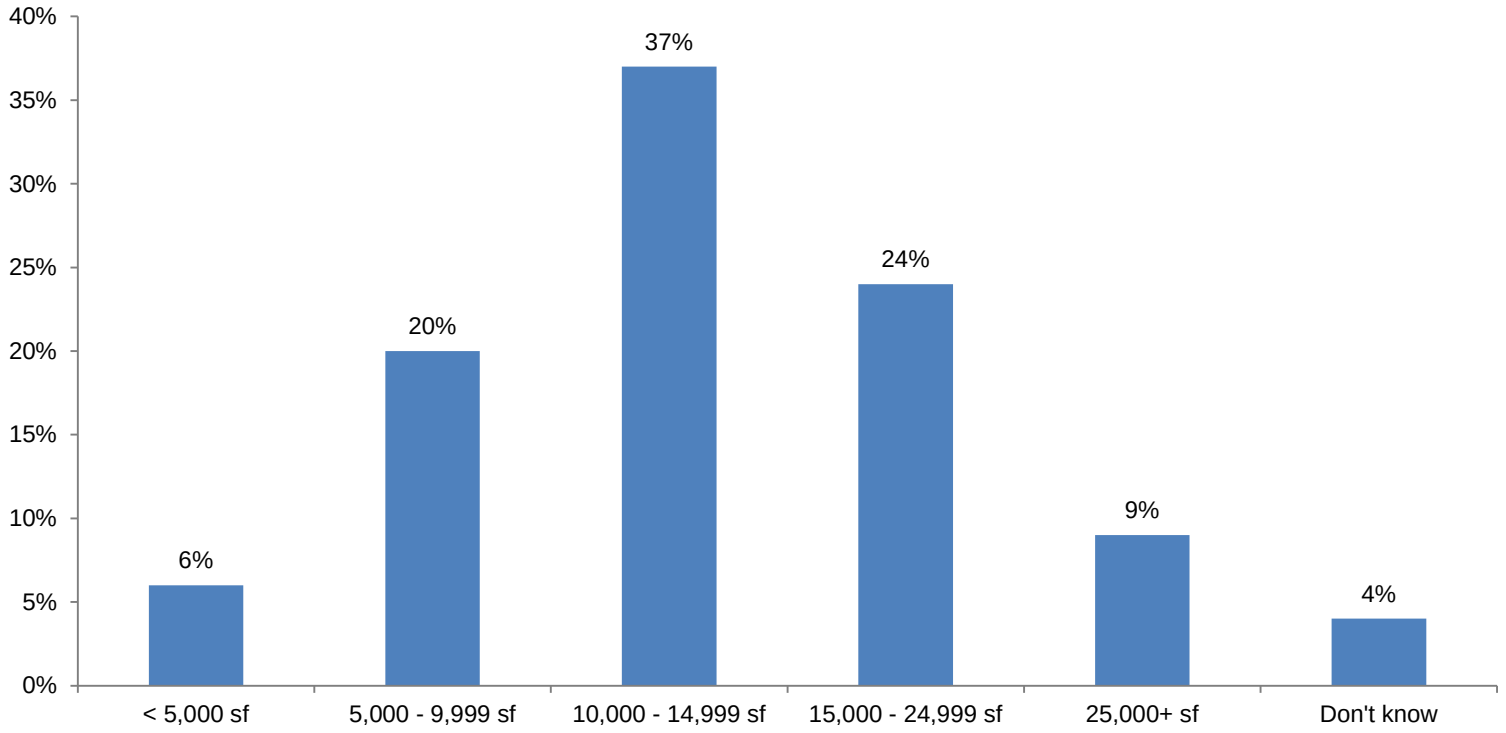
Current Space

- Participants were asked about the average area (both in square metres and square feet) of raised floors in their data centres.
- Seven in ten (70%) report averages of 10,000 square feet (100 square metres) or more. The overall average is 14,400 square feet.



Base = Total (N=100)

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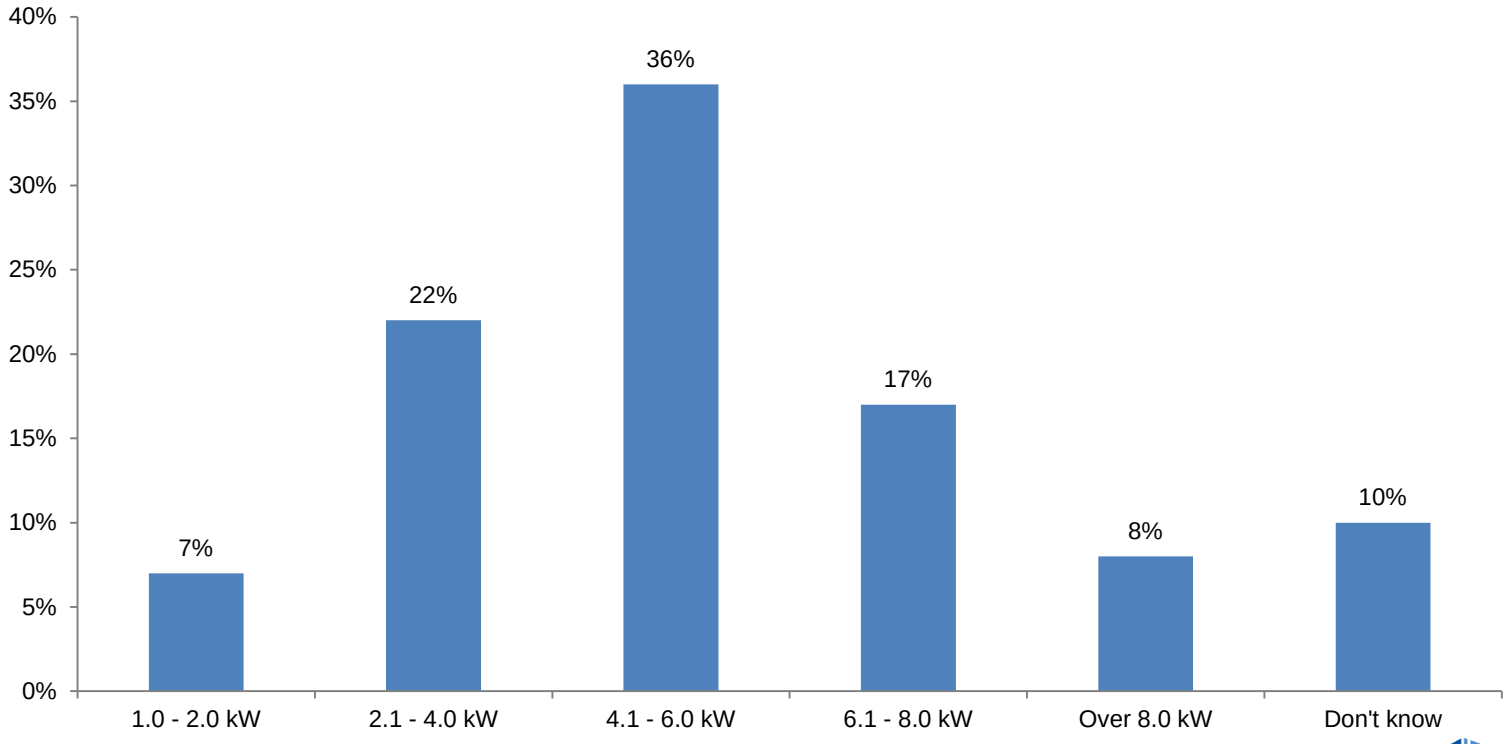
Current Power

- Participants were asked about the average kilowatts per rack across their data centres.
- The average power capacity is approximately 5.1 kW per rack.
- Two thirds (65%) use 6.0 kW or less per rack.



Base = Total (N=100)

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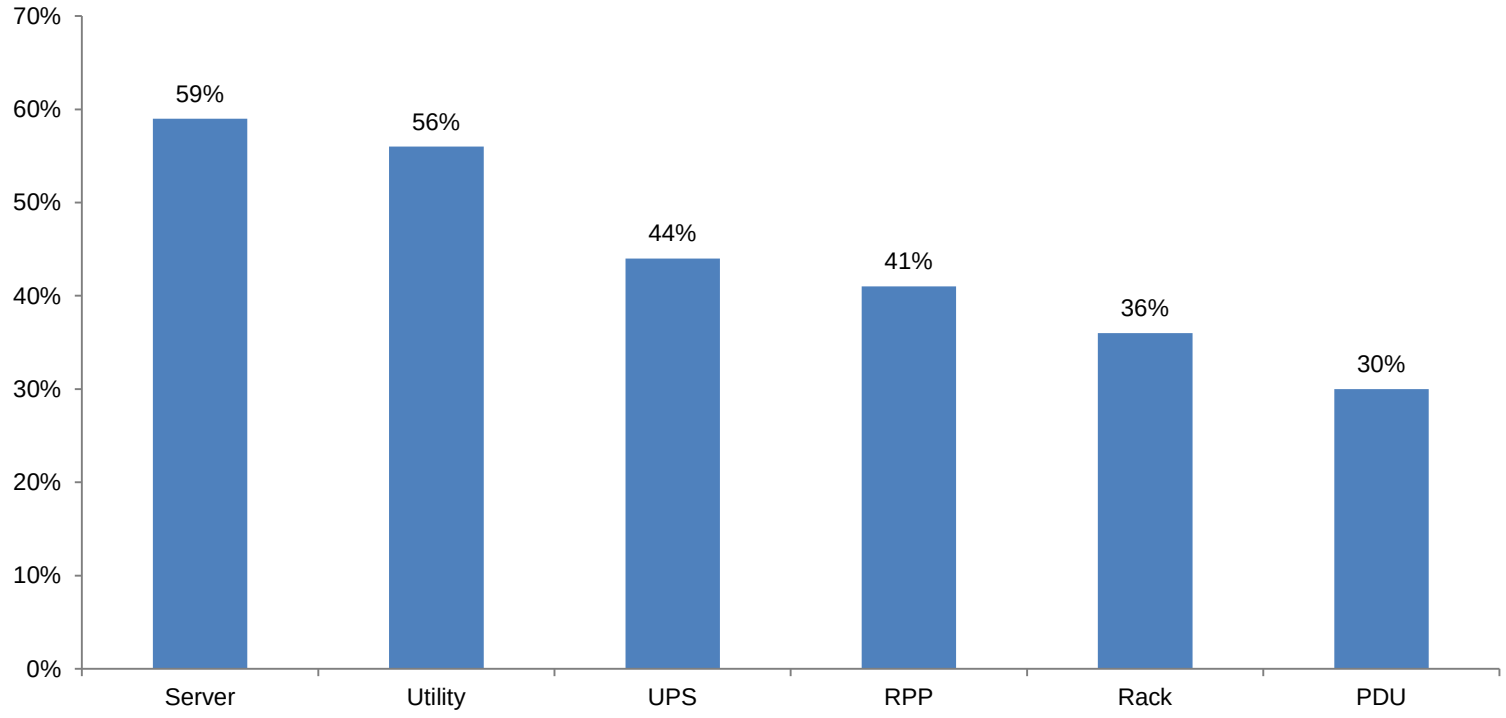
Power Metering

- Respondents were asked whether they measure power use and, if so, where they measure it.
- 73% say they measure power use.
- Of those who measure power use, over half measure at the server or the utility.



Base = Measure Power (N=73)

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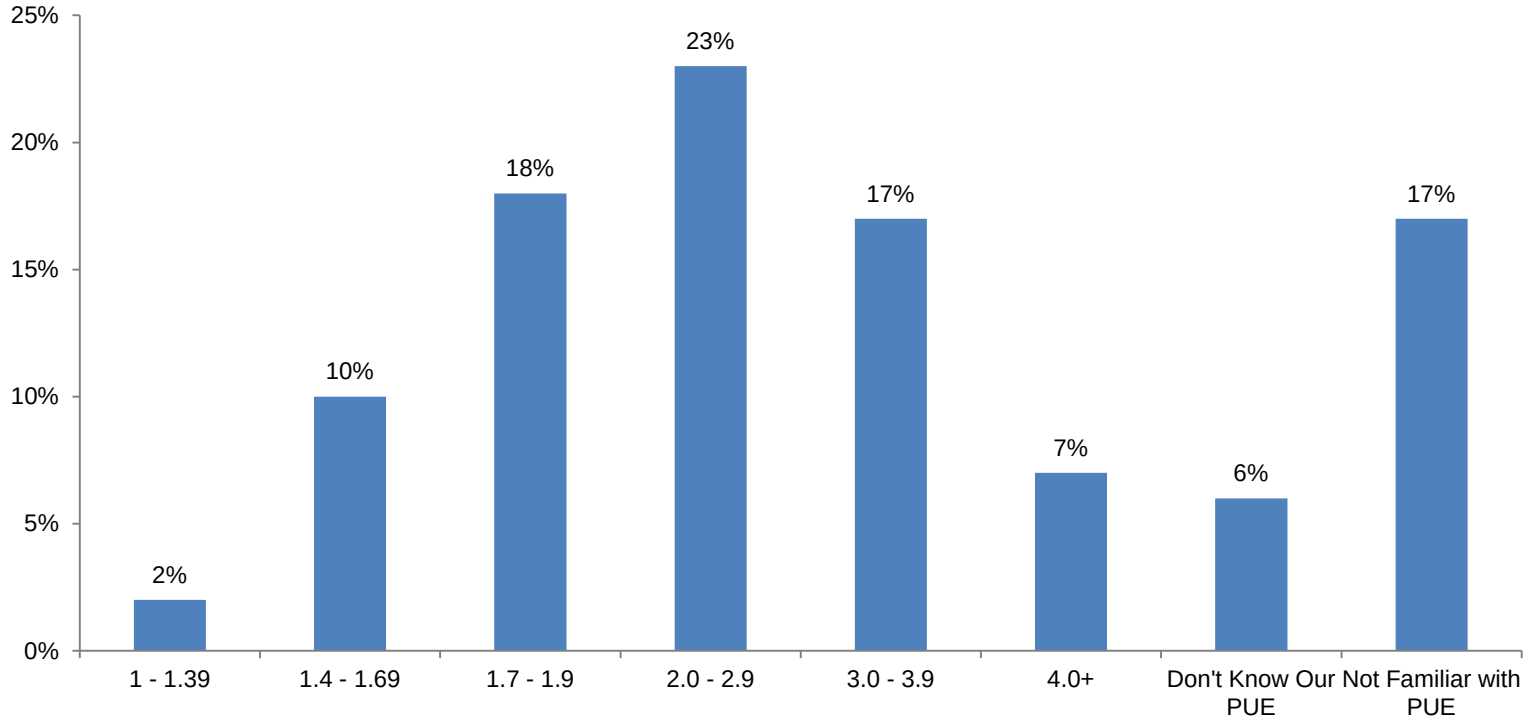
Power Usage Effectiveness

- Respondents were asked about the average power usage effectiveness (PUE) of their data centres.
- One in six is unfamiliar with PUE and one in twenty doesn't know their PUE.
- The average reported PUE is 2.63. One in four (24%) reports a PUE of 3 or more. Three in ten (30%) report a PUE below 2.0.



Base = Total (N=100)

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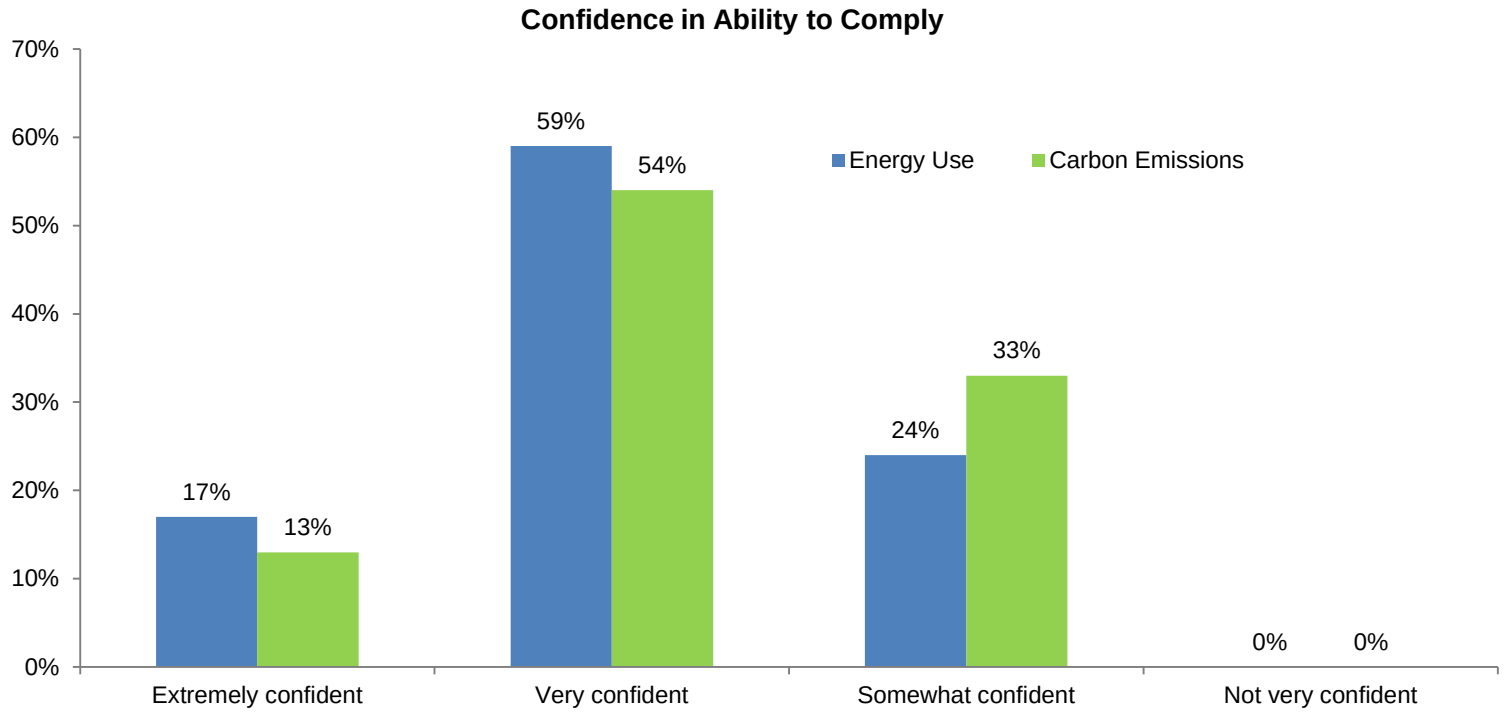
Regulatory Compliance

- Respondents were asked how confident they are that their data centres can comply with potential regulations regarding energy use and carbon emissions.
- Two thirds or more of respondents are very or somewhat confident that they can comply with future energy or carbon regulations.



Base = Total (N=100)

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EXPANSION PLANS

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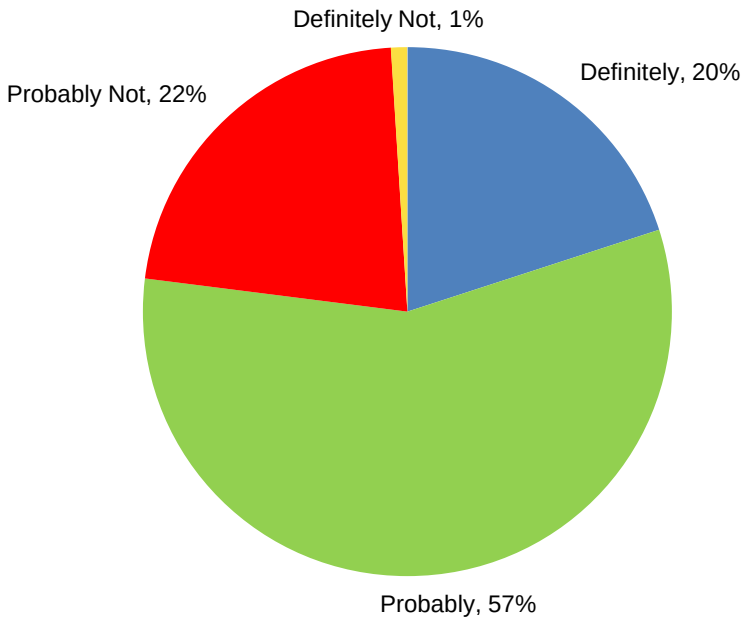
Expansion Plan Summary

- Three fourths (77%) say they plan to expand their data centres in 2012.
  - One in five (20%) say they definitely plan to expand in 2012 and another 57% say they will probably expand.
  - One in five (19%) say they will definitely expand in 2013.
  - One in seven (15%) are unlikely to expand in either 2012 or 2013.
- Among those with any plans to expand (definitely or probably in 2012 or 2013):
  - Half (50%) say they plan to expand in more than one location.
  - Security is the most important reason for expansion.
- On average, participants want 15,400 square feet for their expanded data centres.
- Participants want 5.0 kW per rack on average in their expanded data centres.

Expansion Plans in 2012

- Respondents were asked how likely they are to expand their data centres during 2012.
- Three fourths (77%) say they will definitely or probably expand in 2012.
  - One in five (20%) says they definitely have plans to expand in 2012.
  - Over half (57%) say they will probably expand in 2012.



Base = Total (N=100)

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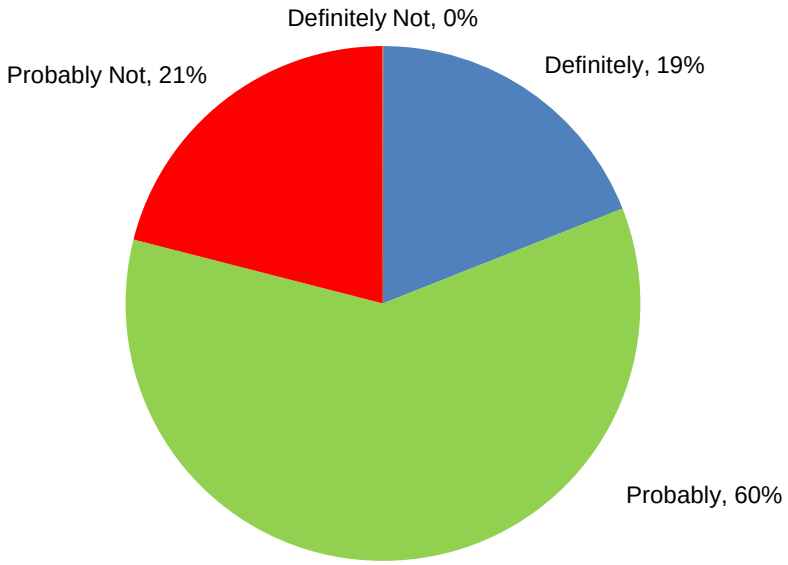
Expansion Plans in 2013

- Respondents were asked how likely they are to expand their data centres during 2013.
- One in five (19%) say they definitely have plans to expand in 2013, similar to the plans for 2012.
- One in four (26%) will definitely expand in either 2012 or 2013.
- One in seven (15%) are unlikely to expand in either 2012 or 2013.



Base = Total (N=100)

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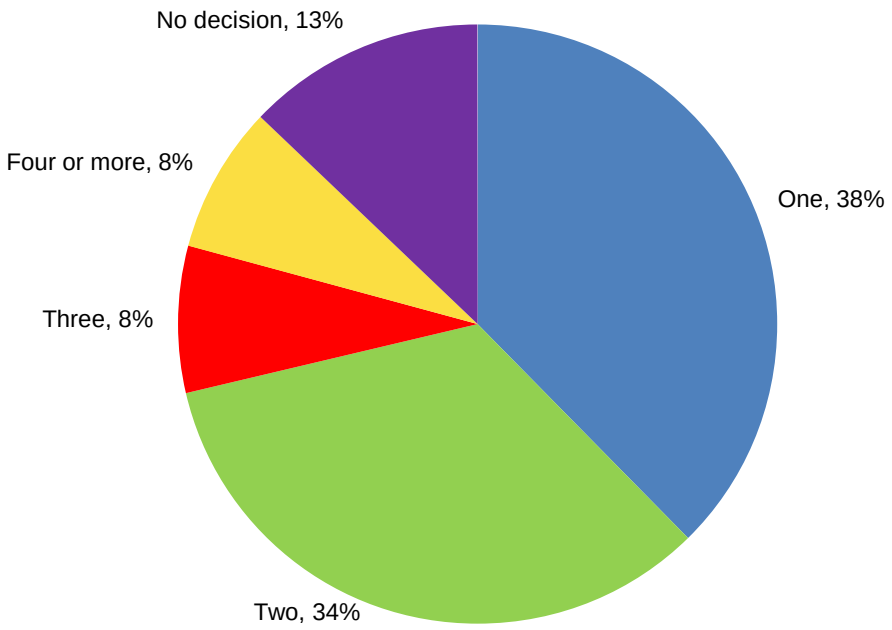
Number of Locations for Expansion

- Participants were asked in how many locations their company has plans to expand its data centres in 2012.
- Half (50%) say they have plans to expand in more than one location.



Base = Expansion Plans in 2012 (N=77)

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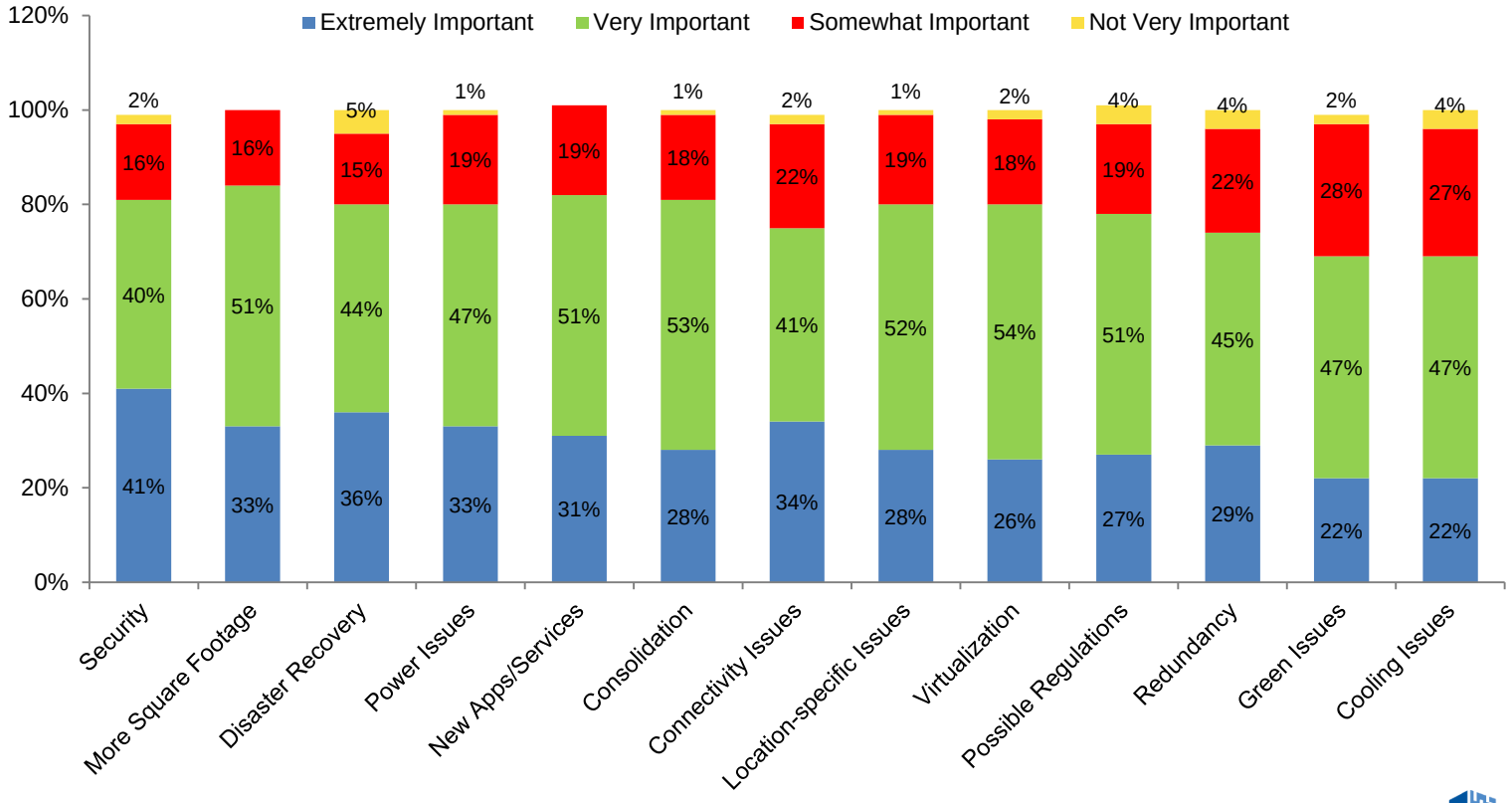
Reasons for Expansion

- Participants were asked to rate the importance of several reasons for expanding their data centres.
- Security, followed by the need for more space, are the most important reasons for expansion.



Base = Expansion Plans (N=85)

Note: Location specific refers to labour pool, property cost or flood risk. Connectivity refers specifically to synchronous communications.
Note: To produce a large enough sample for analysis, the discussion of expansion plans will use those companies (N=85) that will definitely or probably expand in 2012 or 2013.

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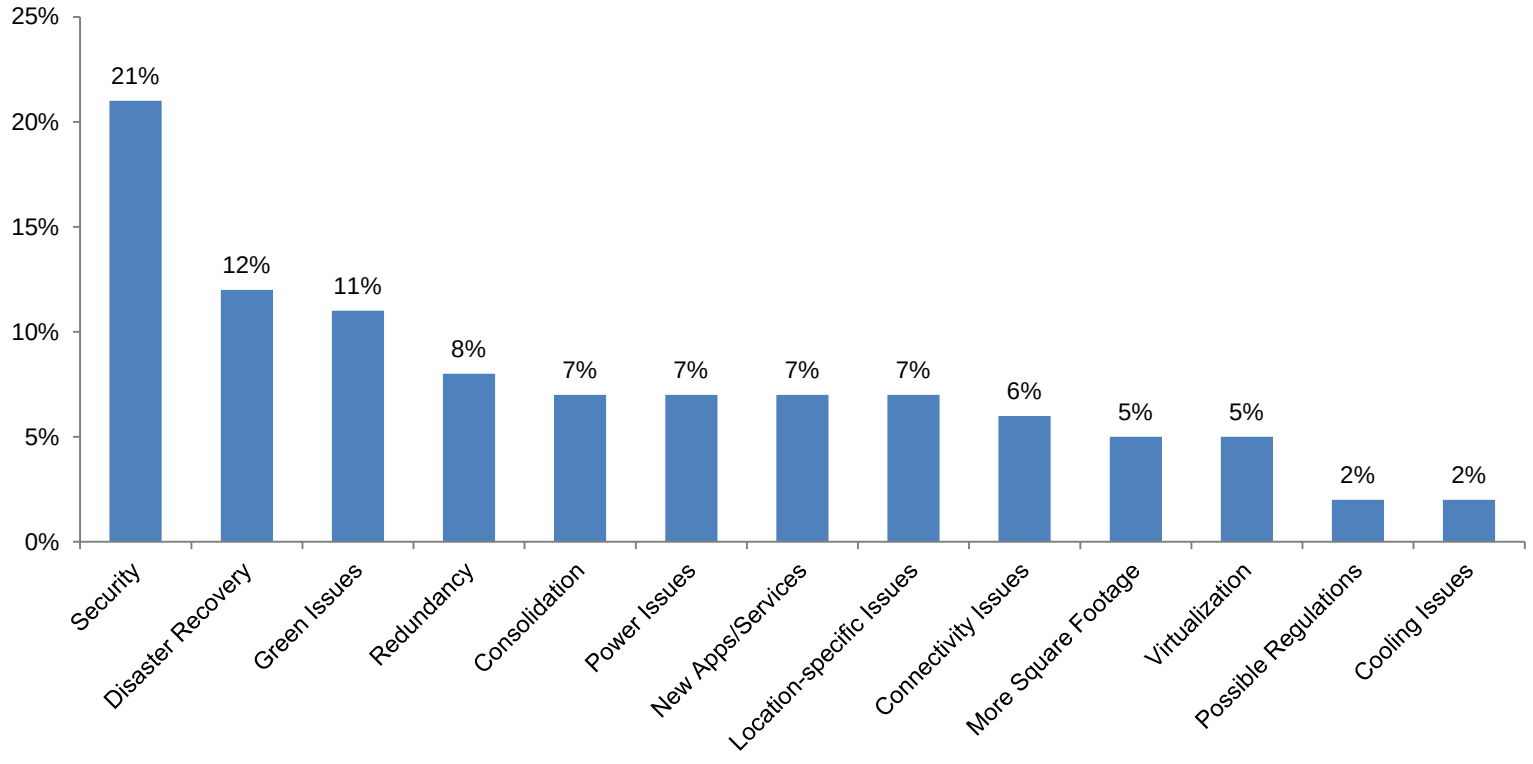
Reasons for Expansion: Most Important

- Participants were asked to choose the single most important of several reasons for expanding their data centres.
- Security is most often cited as the most important reason for expansion.



Base = Expansion Plans (N=85)

Notes: Location-specific refers to labour pool, property cost or flood risk. Connectivity refers specifically to synchronous communications.

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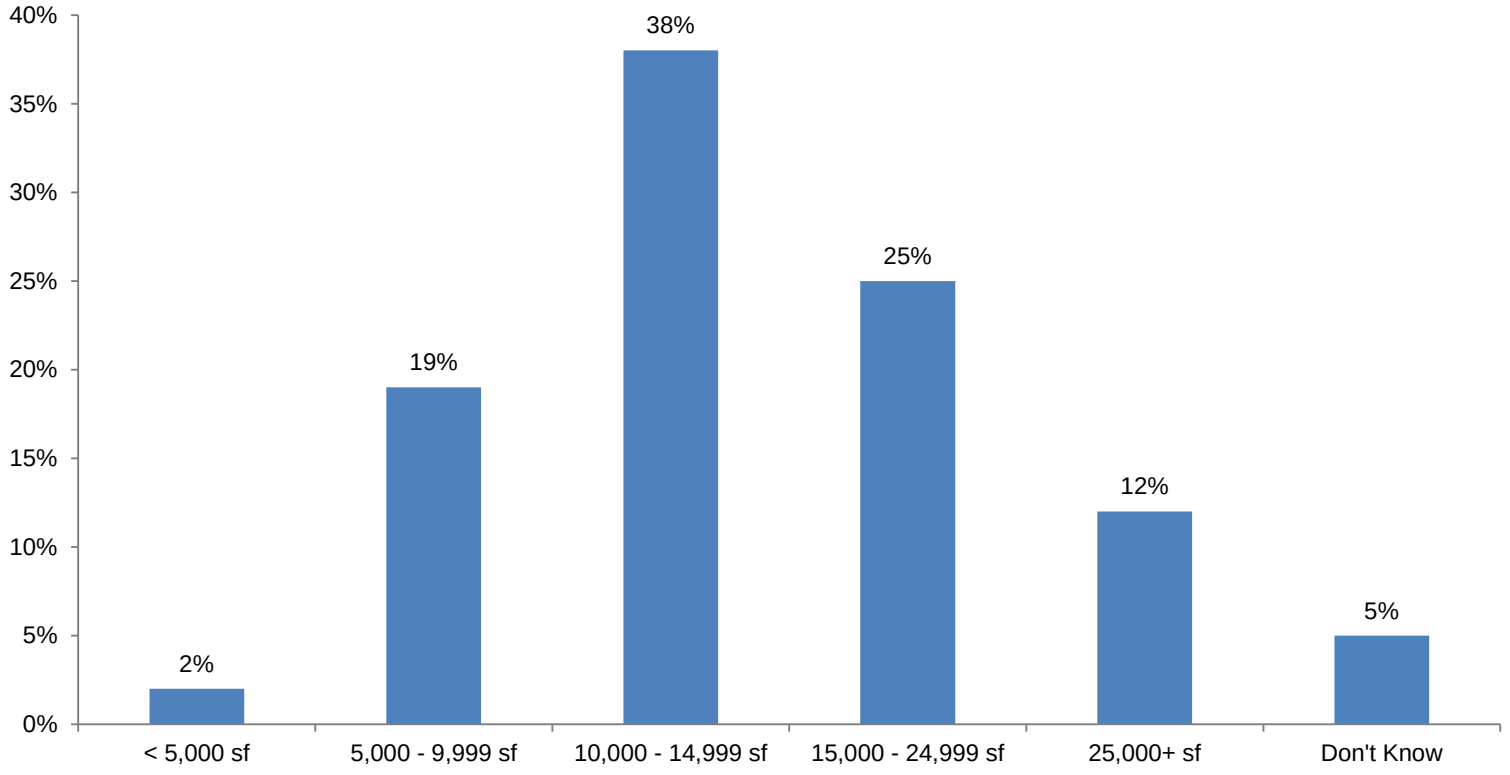
Expansion Space Requirements

- Participants were asked about the average area of raised floors for their expanded data centres (in both feet and metres).
- The average desired space is 15,400 square feet.
- Over half (59%) want space less than 15,000 square feet.



Base = Expansion Plans (N=85)

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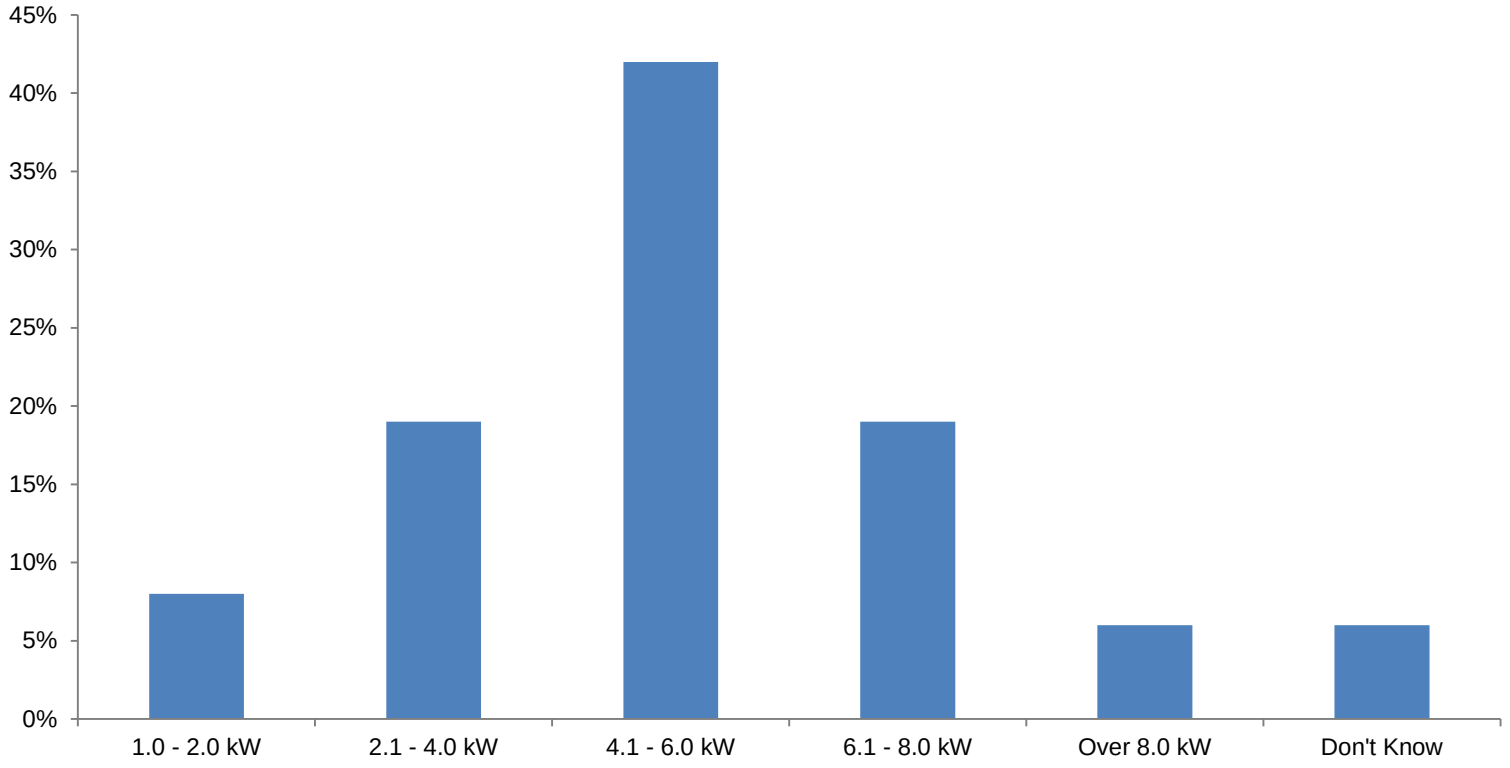
Expansion Power Requirements

- Participants were asked about the average kilowatts per rack for their expanded data centres.
- The average power requirement is 5.0 kW per rack.



Base = Expansion Plans (N=85)

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IMPLEMENTING EXPANSION

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Expansion Strategies

- Respondents who have plans to expand their data centres in 2012 or 2013 were asked to select among the alternatives below how they planned to implement the expansion:
  - Build with or use a data centre design and construction partner.
  - Lease space from a wholesale data centre provider.
  - Use a container solution.
  - Build themselves.
  - Use a retail colocation solution.
  - Have not decided yet.
- Respondents could choose one or more of these alternatives.

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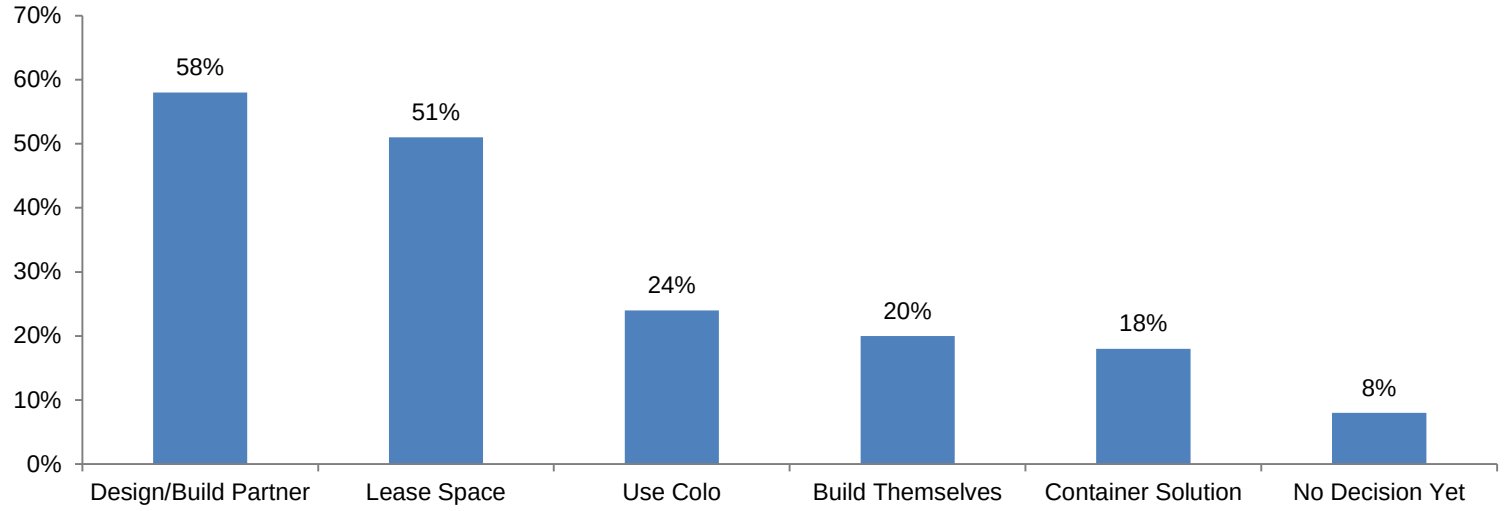
Use of a Partner

- Participants with plans to expand their data centres were asked how they plan to implement the expansion. They could select multiple responses and 45% plan to use two or more methods.
- Five in six (84%) will use a partner, either for design and build (58%) or to lease wholesale space (51%) or both (25%).
- One in four (24%) plans to use a retail colocation solution.
- One in five (20%) plans to build the expansion themselves.
- Nearly one in five (18%) plans to use a shipping container solution.



Base = Expansion Plans (N=85)

NOTE: Total responses exceed 100% because of multiple data centres and/or using multiple methods on a single data centre.

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SELECTING A PARTNER

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Partner Summary

- Of those who plan to expand in 2012 or 2013, five in six (84%) will use a partner, either for design and build (58%) or to lease wholesale space (51%) or both (25%).
- The list of potential partners is usually developed among high or mid-level executives, as well as C-levels.
- The most important factors in choosing a partner are server management, followed by operational reliability and data centre design.
- Several factors are considered important in choosing a partner, lead by technical superiority and educating the staff on critical issues.
- The most useful source of information about potential partners is consultants, followed by internet search, trade shows and research firms.
- Gartner is consulted most often, followed by KPMG, IDC and Horizon.

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Partner Summary (cont'd)

- The most useful sources of information from providers are case studies, followed by educational seminars and the provider's Website.
- The information sources that respondents most often used for the last data centre they built or leased are case studies, followed by the provider's Website and educational seminars.
- Participants prefer email from the provider as a notification about new white papers or seminars.
- C-level executives and IT have the highest level of participation in the selection of a data centre provider.
- C-level executives are more likely to have the most influence on this decision.

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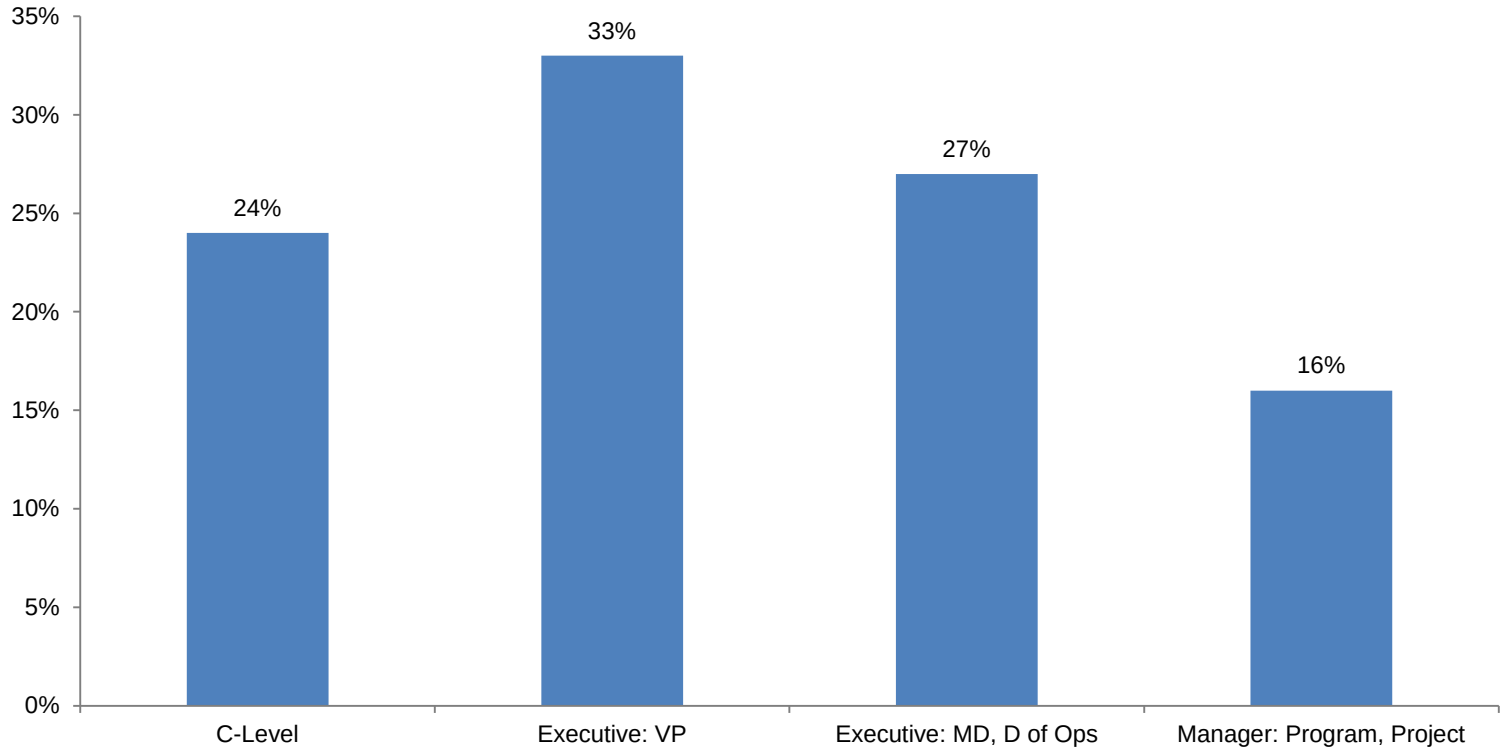
Developing a Consideration List

- This chart shows the titles of those who participants say are responsible for developing a comprehensive list of all potential partners.
- C-level executives, executives at the Vice President or upper Director levels are all likely to develop the list of potential partners for expansion.



Base = Expansion Plans (N=85)

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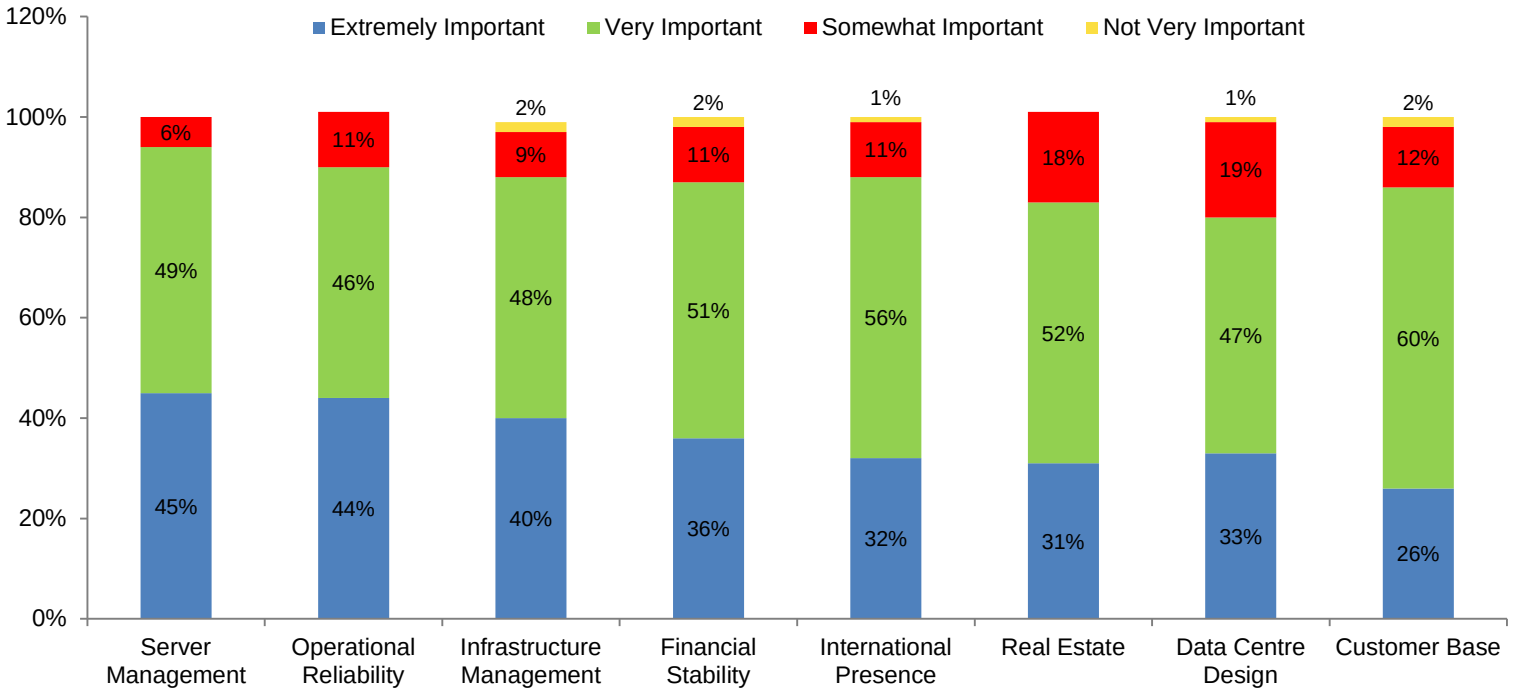
Evaluating Partners: Qualifications

- Participants were asked to rate the importance of several areas of experience in selecting a partner for expanding their data centres.
- The most important factors are server management and operational reliability. The customer base, an international presence and real estate experience are less important considerations in selecting a partner.



Base = Expansion Plans (N=85)

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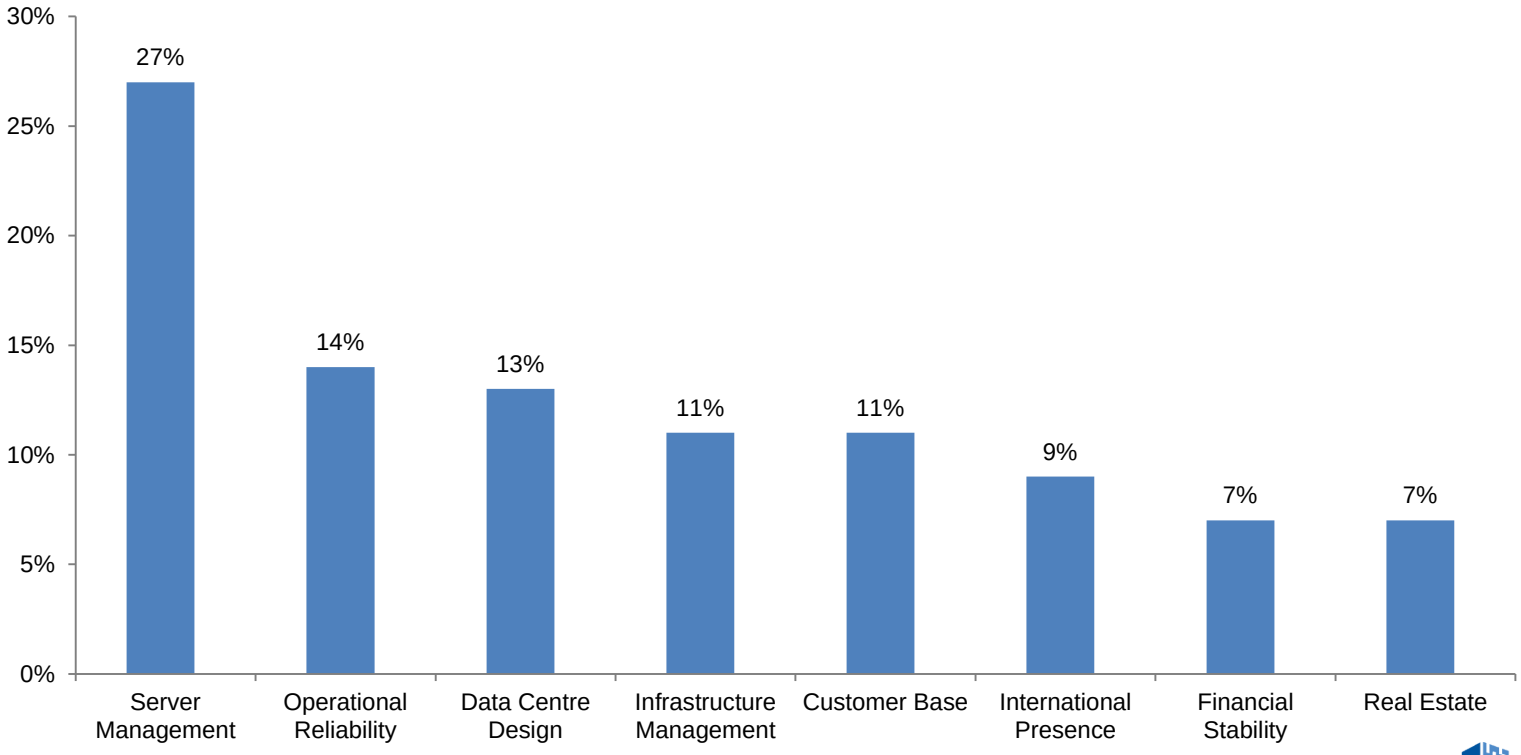
Evaluating Partners: Most Important Qualification

- Participants who are planning to expand were asked to specify the single most important area of experience in selecting a partner for expanding their data centres.
- The most important factor is server management, followed by operational reliability and data centre design.



Base = Expansion Plans (N=85)

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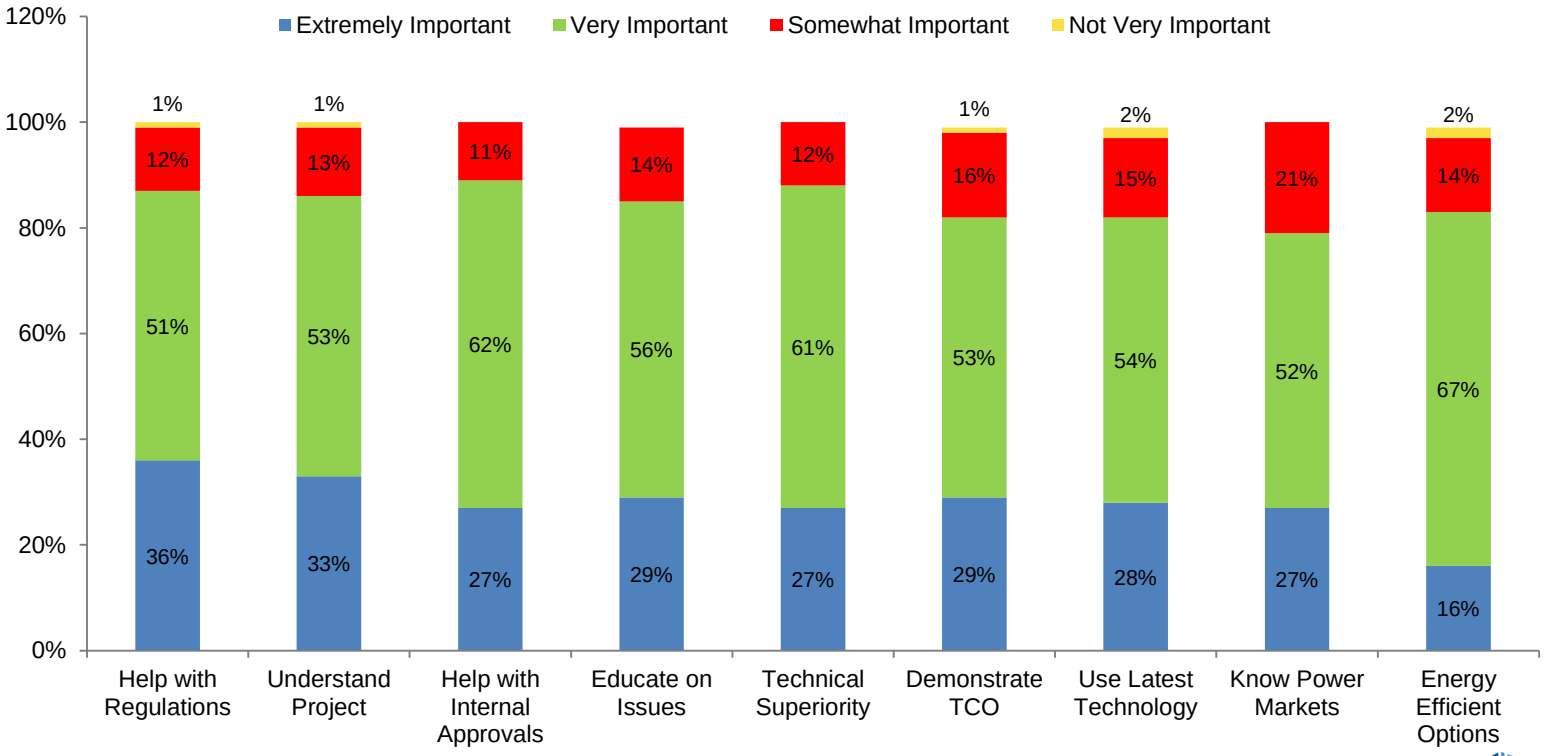
Evaluating Partners: Considerations

- Respondents who are planning to use a partner were asked to rate the importance of several other considerations in choosing a partner for expanding their data centres.
- Several factors are similar in their importance to choosing a partner.



Base = Expansion Plans (N=85)

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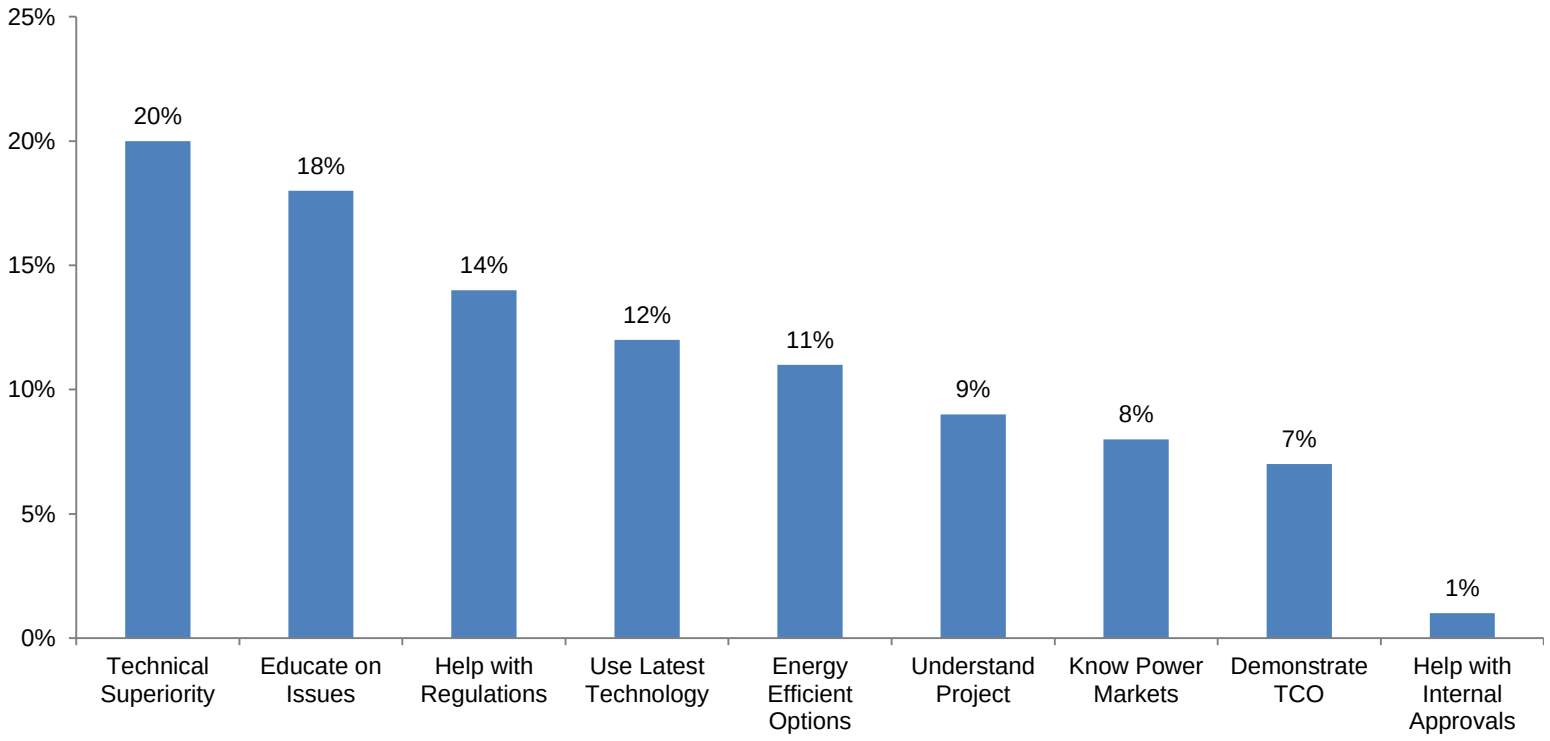
Evaluating Partners: Most Important Consideration

- Respondents were asked to specify the single most important consideration in choosing a partner for expanding their data centres.
- Several factors are considered most important in choosing a partner, lead by technical superiority and educating the staff on critical issues.



Base = Expansion Plans (N=85)

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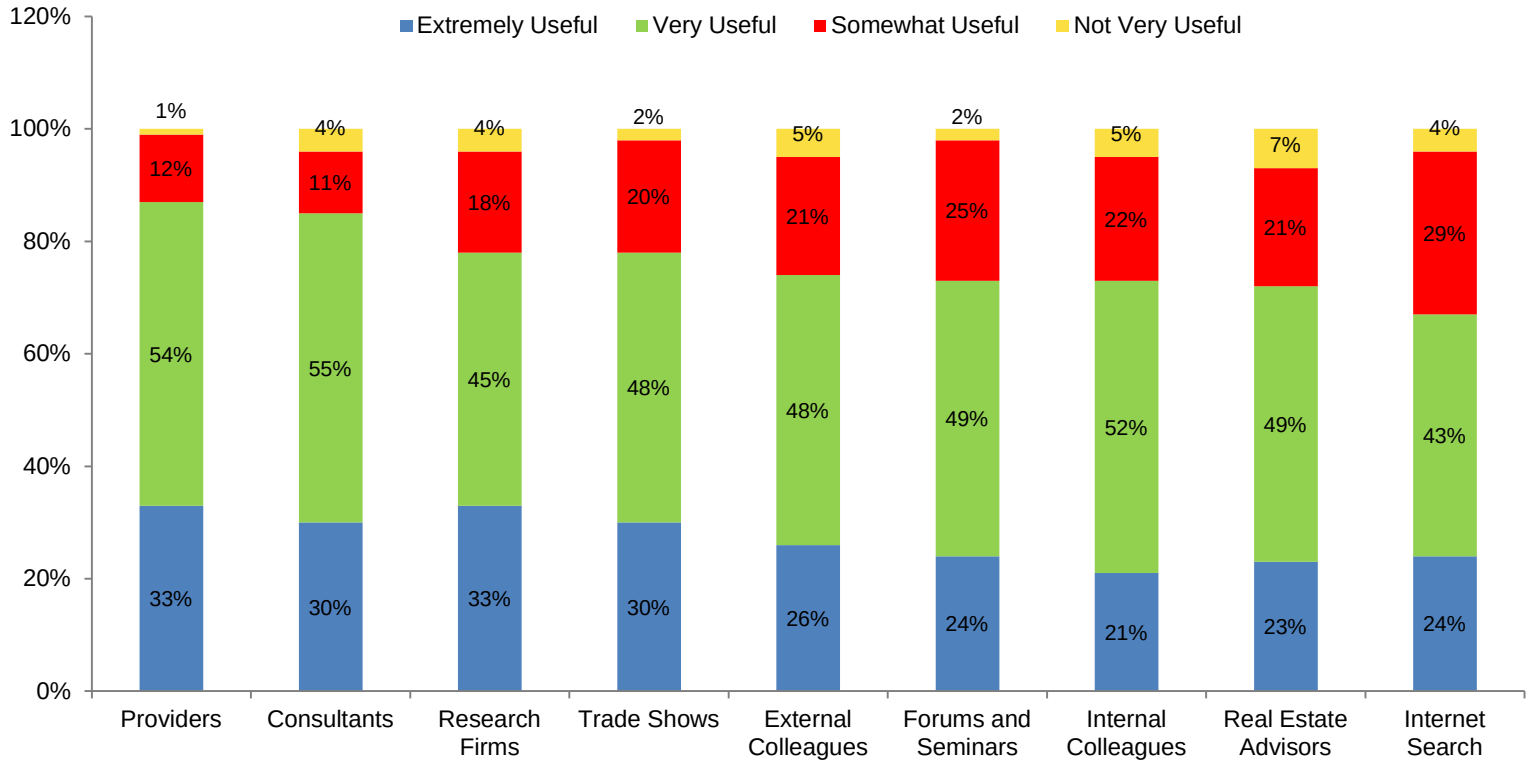
Value of Information Sources

- Participants were asked to rate the usefulness of several sources when looking for information about providers of data centre facilities.
- The most useful source is providers, followed by consultants.



Base = Total (N=100)

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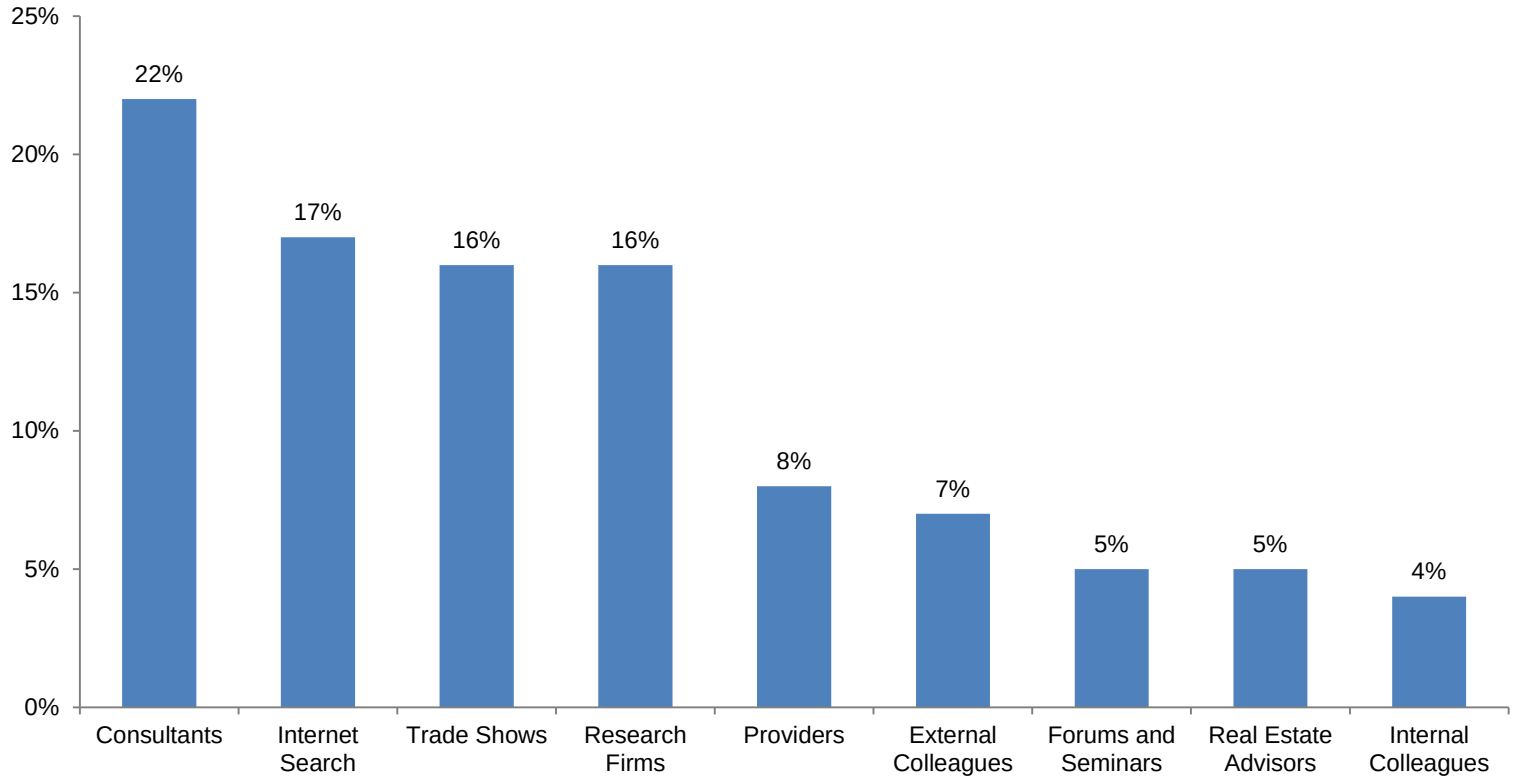
Most Useful Information Source

- Respondents were asked which one of these sources is the most valuable.
- Consultants, followed by internet search, trade shows and research firms are seen as most valuable.



Base = Total (N=100)

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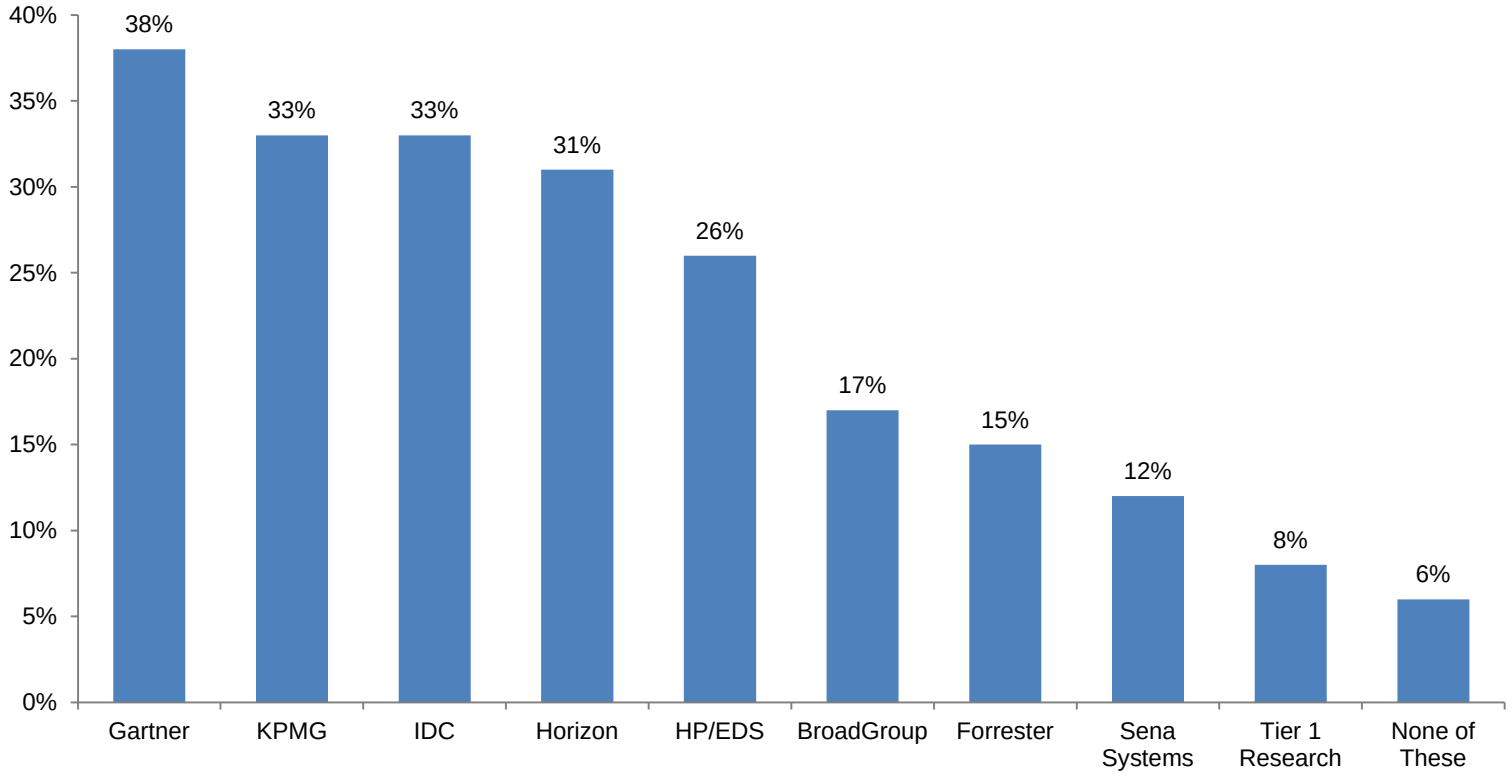
Analysts and Research Firms Consulted

- This chart shows the analysts and research firms that participants regularly consult for information on data centres.
- Gartner is consulted most often, followed by KPMG, IDC and Horizon.



Base = Total (N=100)

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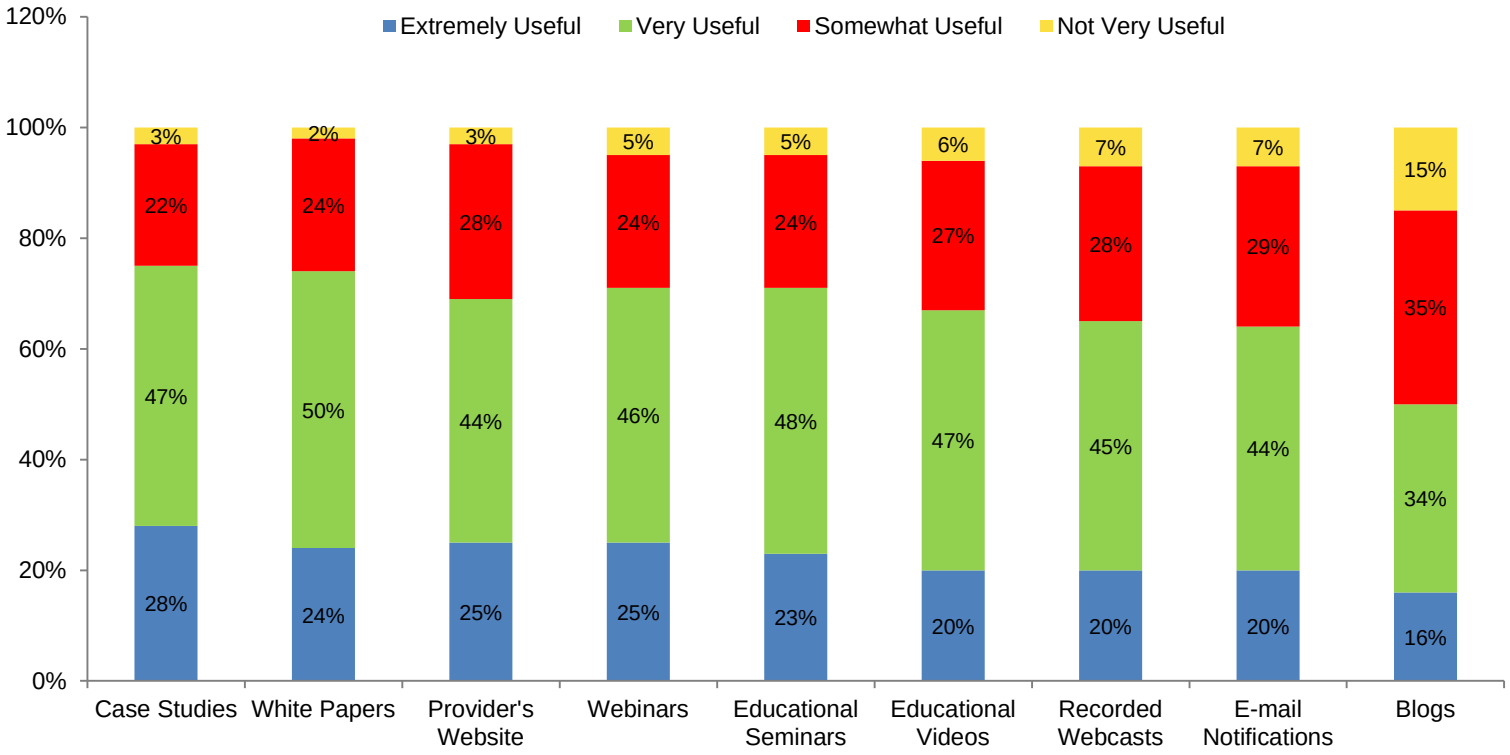
Information from Providers

- Participants were asked to rate the value of several sources of information from providers themselves in helping to choose a provider of data centre facilities.
- The most valuable source is case studies, followed by white papers.



Base = Total (N=100)

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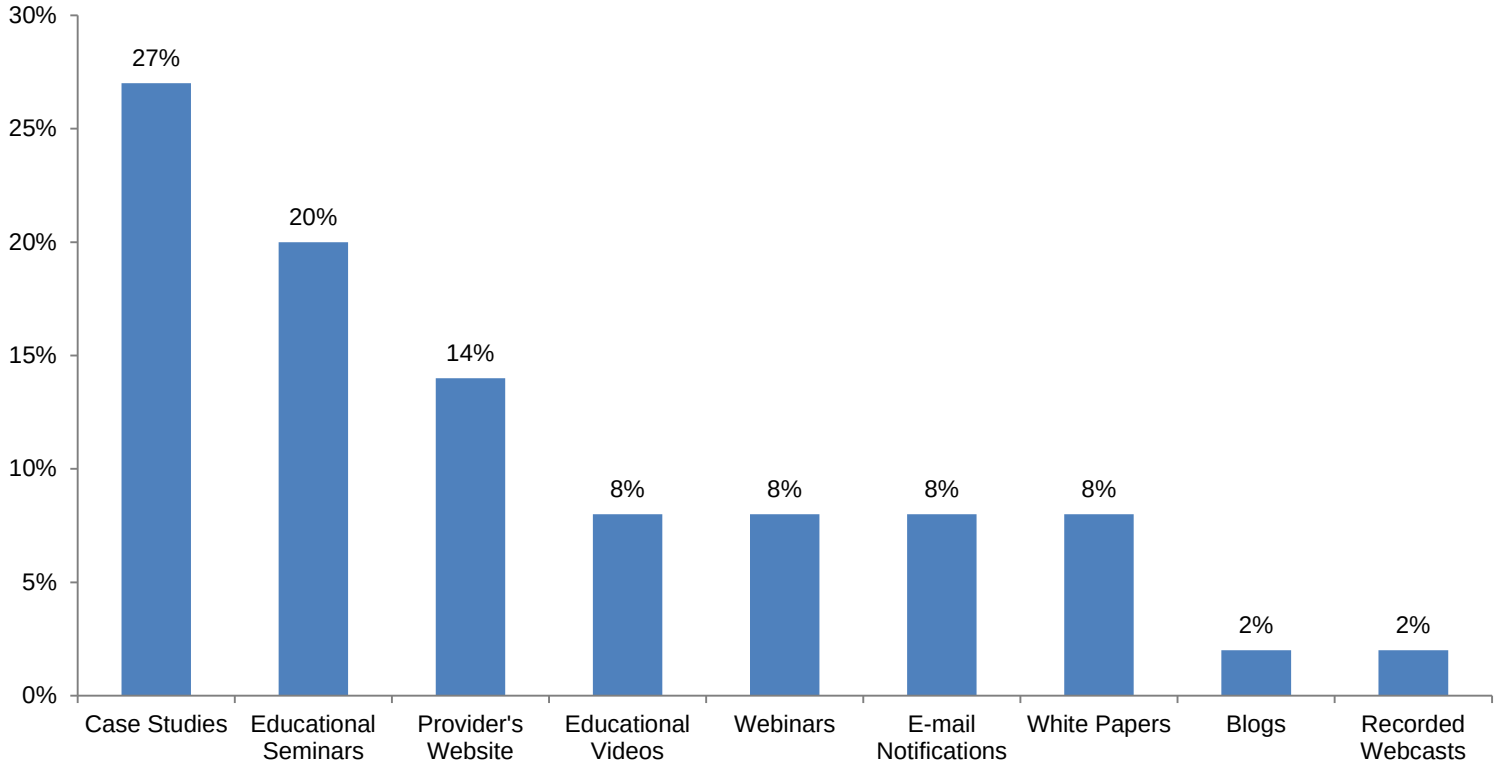
Information from Providers: Most Valuable

- Participants were asked to specify the single most valuable source from providers in helping to choose a provider of data centre facilities.
- The most useful sources are case studies, followed by educational seminars and the provider's Website.



Base = Total (N=100)

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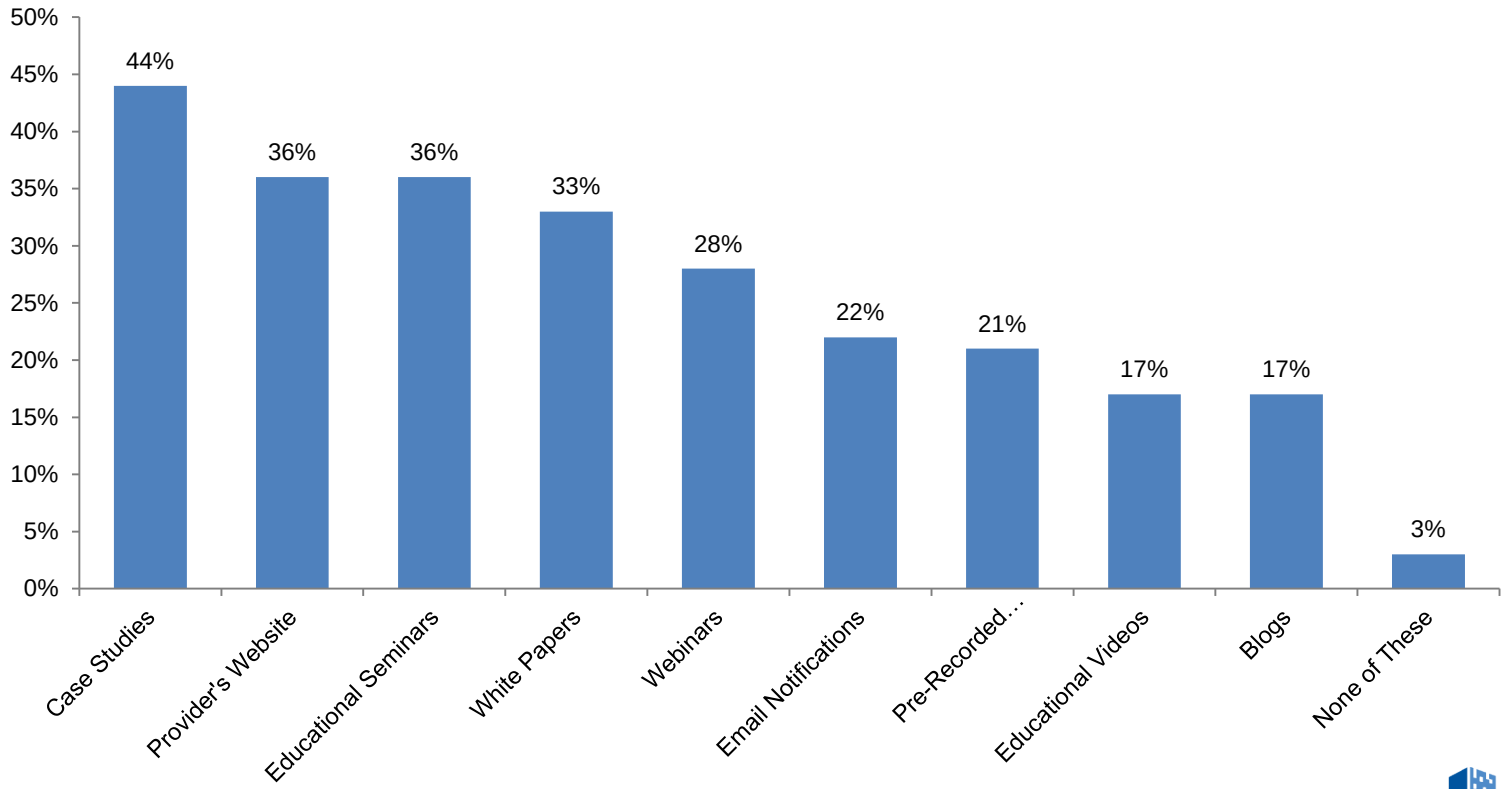
Use of Provider Information Sources

- Respondents were asked if they or anyone on their staff used any of these information sources for the last data centre they built or leased.
- Case studies, followed by the provider's Website and educational seminars were used most often.



Base = Total (N=100)

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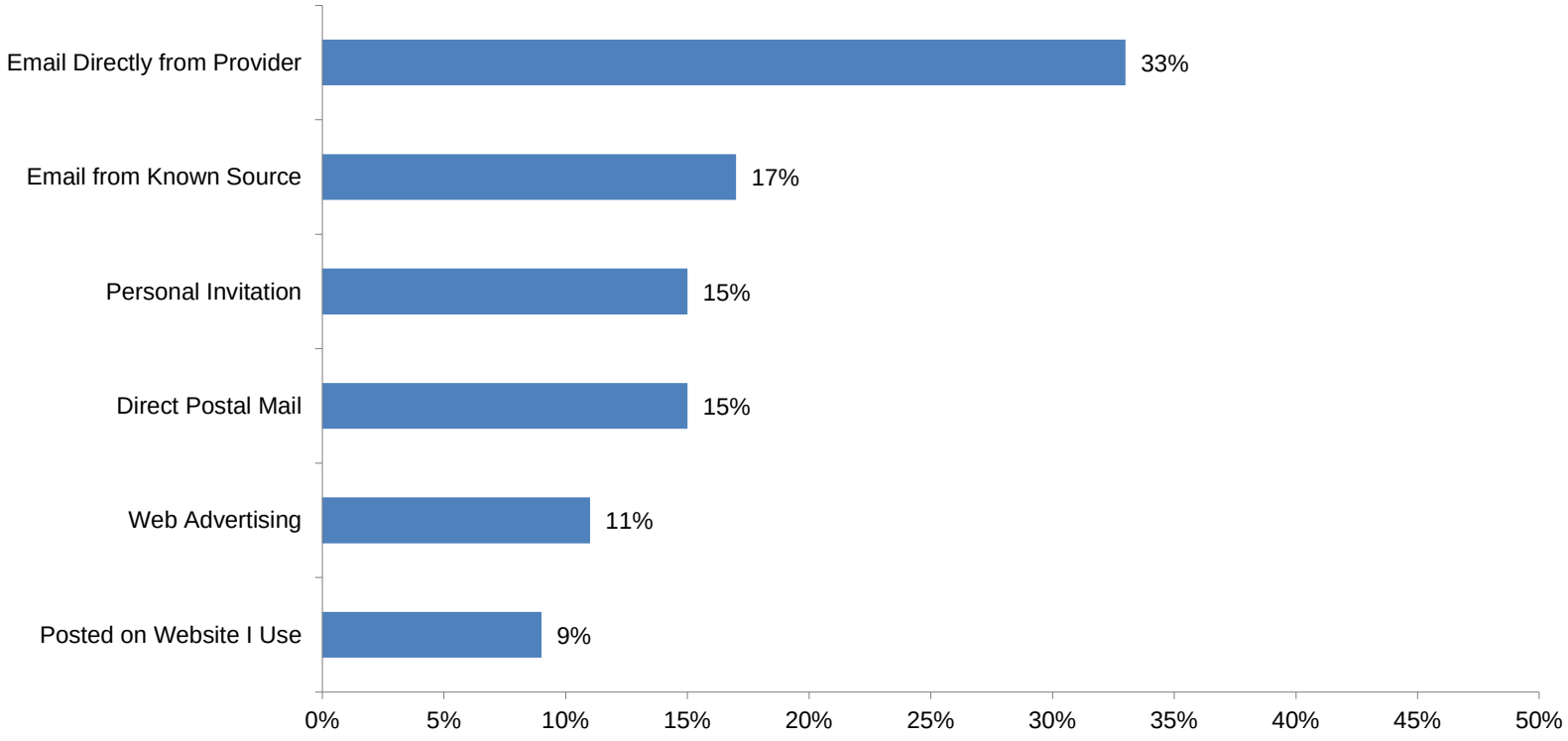
Best Way of Notification

- Participants were asked about the best way to notify them about the availability of items such as new white papers or seminars.
- This chart shows that email from the providers themselves is the preferred means of contact.



Base = Total (N=100)

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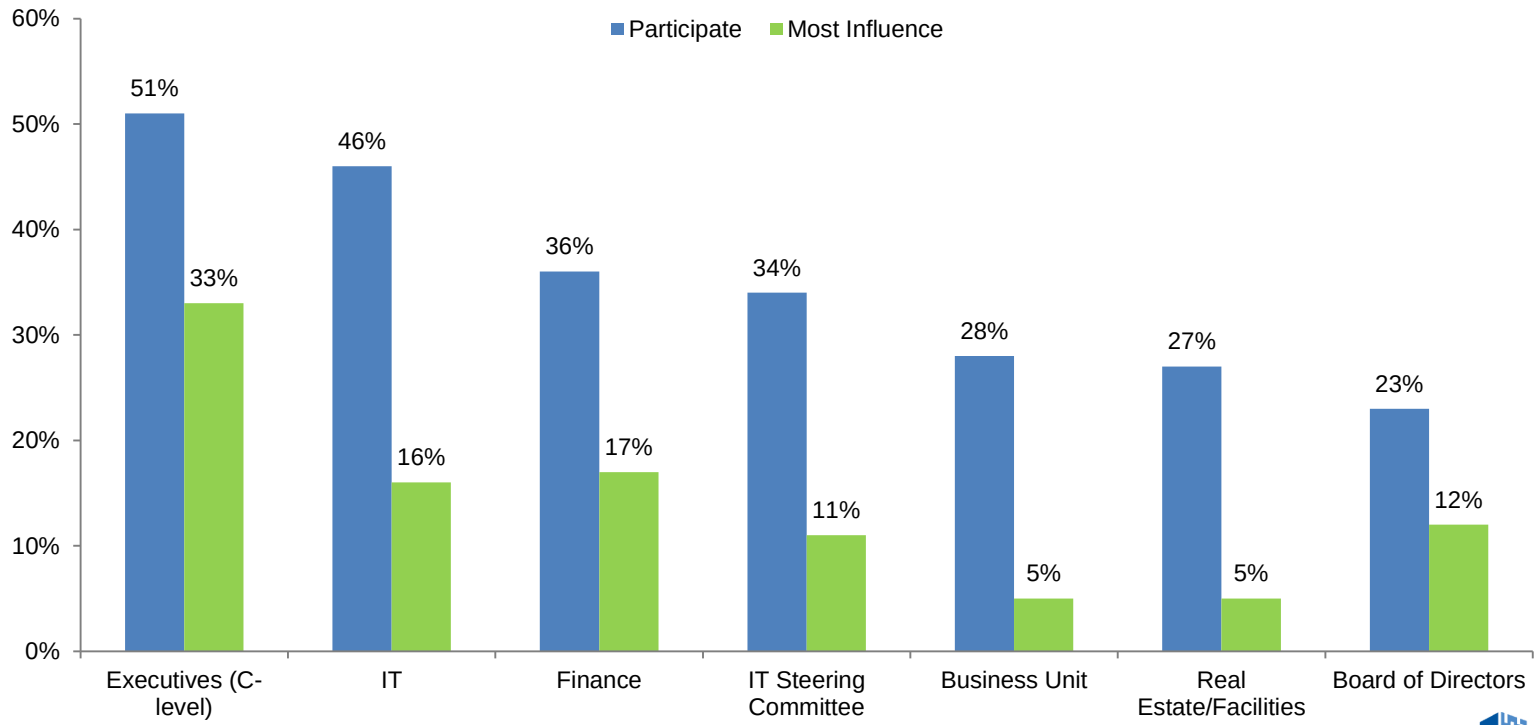
Decisions About Partners

- Participants with plans to expand were asked first, which departments participate in their data centre selection decision and second, which single department has the most influence.
- C-level executives and IT have the highest level of participation.
- C-level executives are more likely to have the most influence on a decision.



Base = Total (N=100)

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DATA CENTRE LOCATIONS

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Location Summary

- Respondents who plan to expand in 2012 or 2013 are more likely to locate a new data centre in Singapore.
- The most mentioned cities for a new data centre are Singapore and Tokyo.
- The most important factors in choosing a location are power availability/cost and security.

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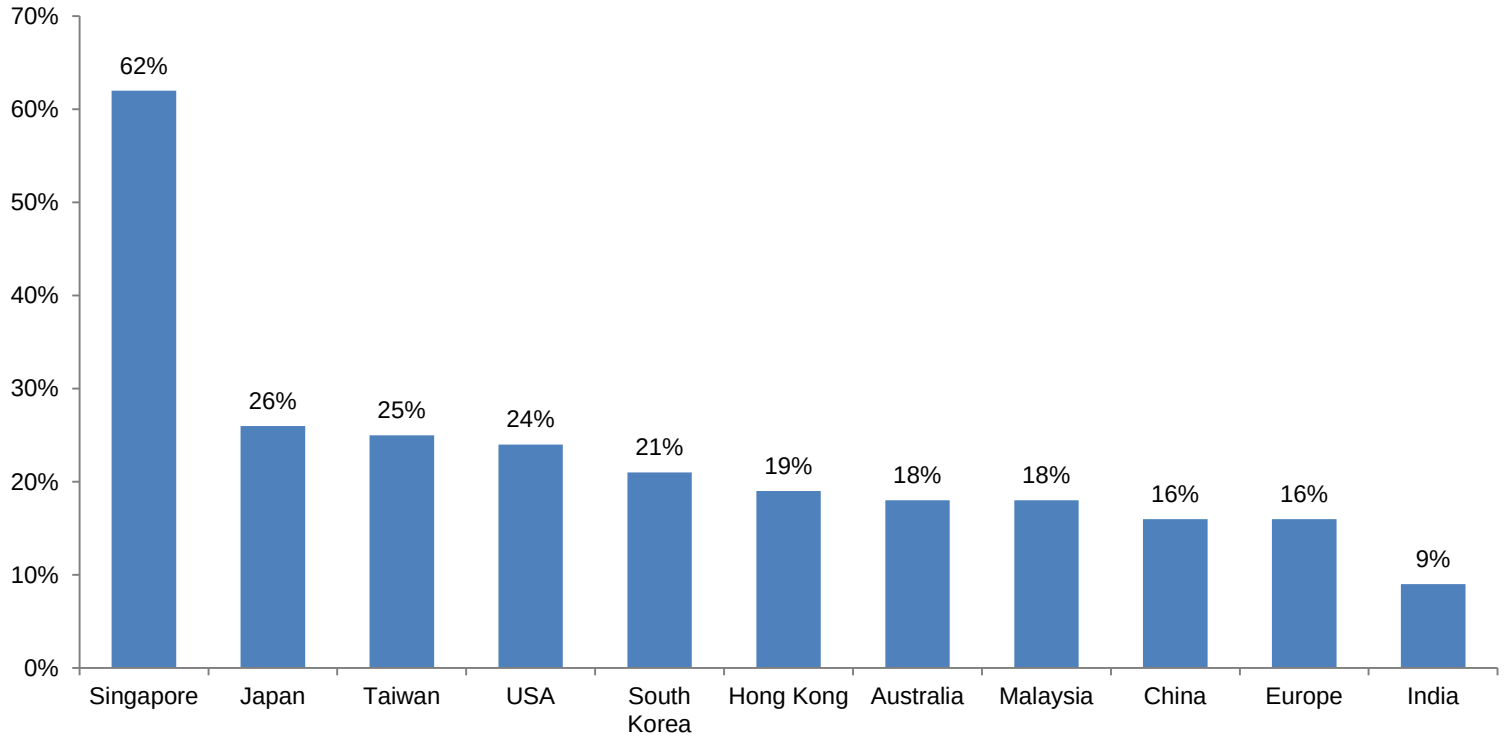
Countries to Locate a New Data Centre

- This chart shows countries where respondents would like to locate a new data centre. Multiple responses were allowed.
- Singapore was mentioned most often.
- Except for the United States, most of the other choices are in Asia.



Base = Expansion Plans (N=85)

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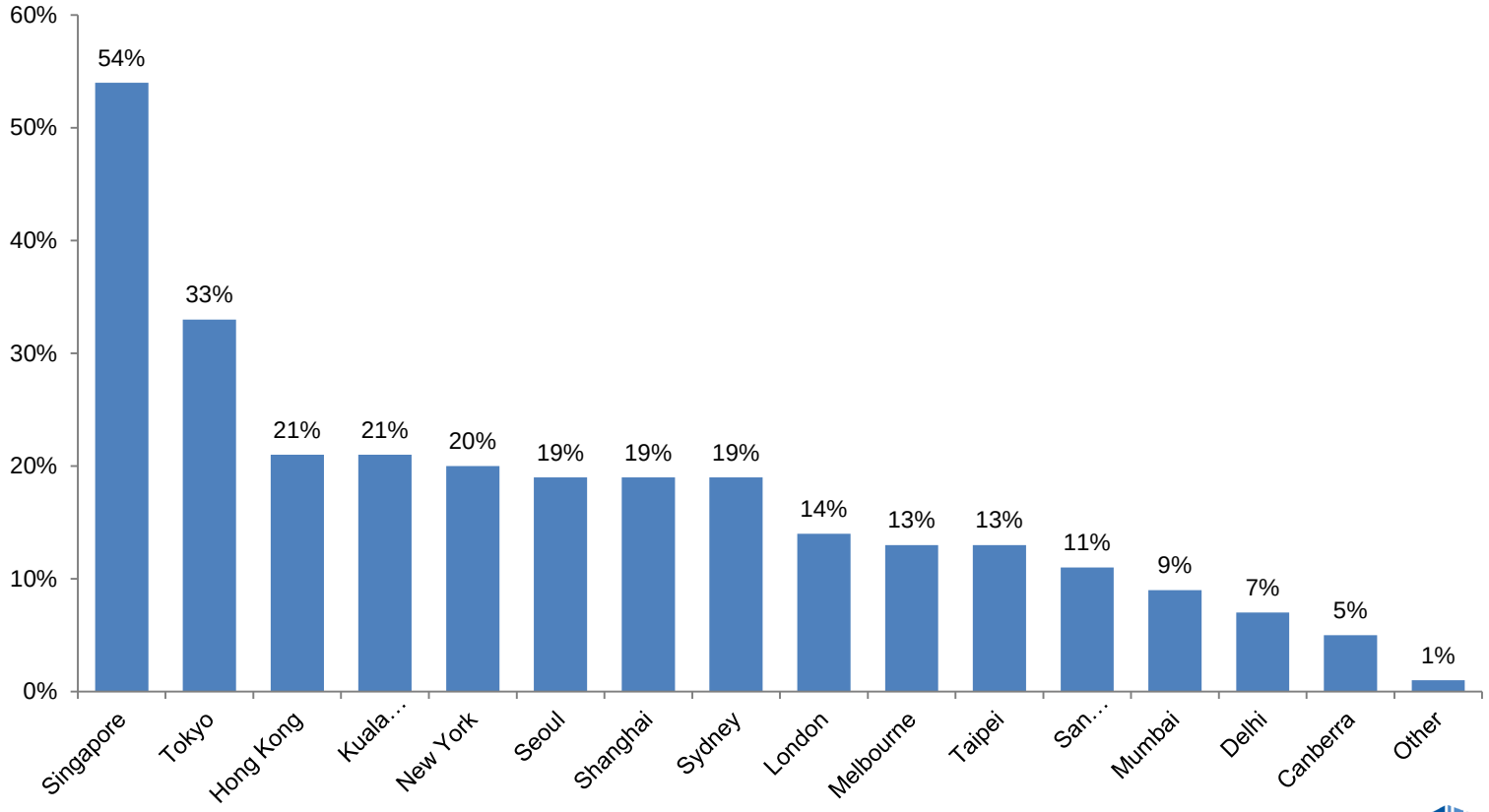
Cities to Locate a New Data Centre

- This chart shows cities where respondents would like to locate a new data centre. Multiple responses were allowed.
- Singapore leads the list, followed by Tokyo.



Base = Expansion Plans (N=85)

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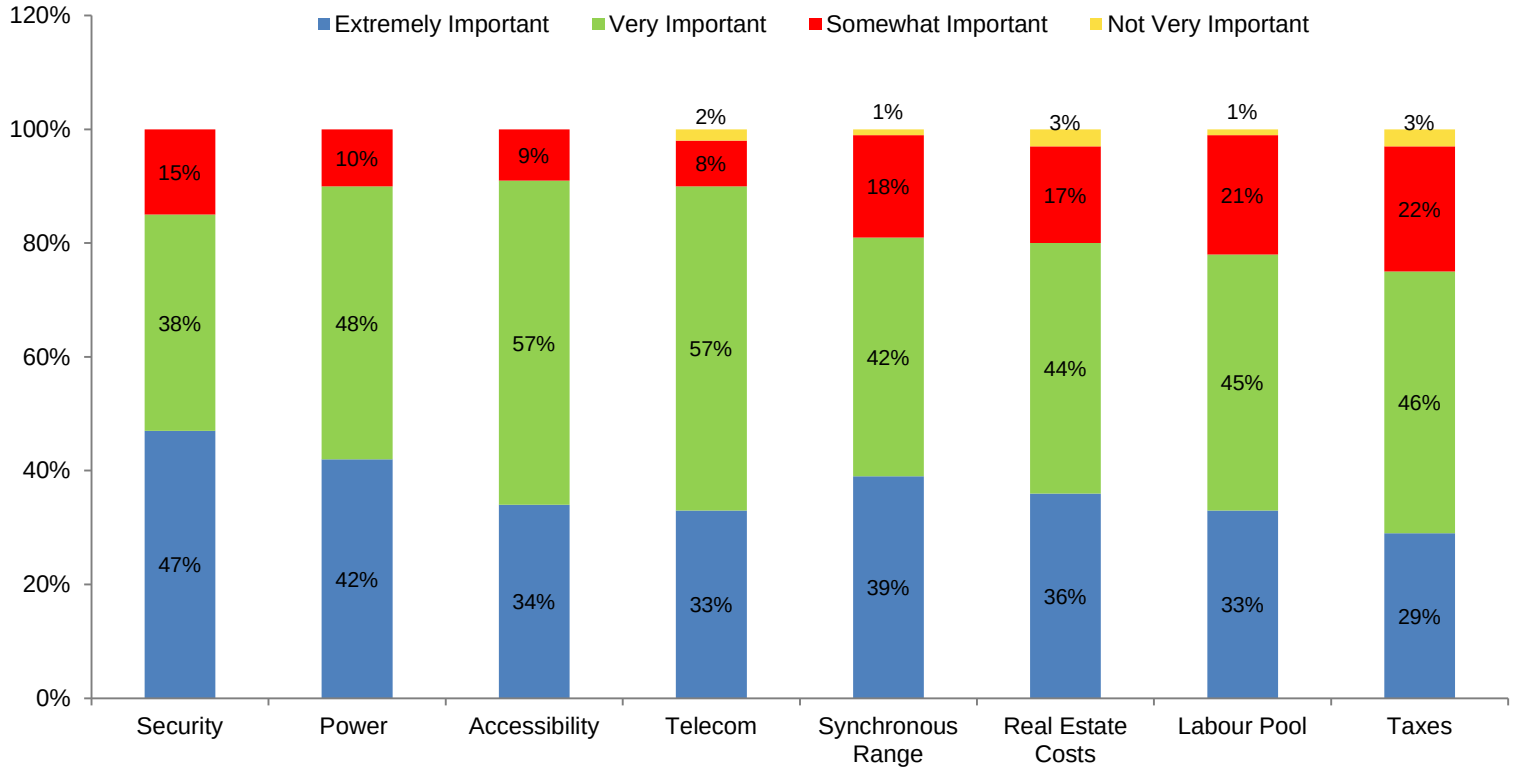
Factors in Choosing a Location

- Participants were asked to rate the importance of several factors in selecting a geographic location for their data centres.
- Security and power availability/cost are most important, followed by accessibility to personnel and telecom (access to fiber).



Base = Total (N=100)

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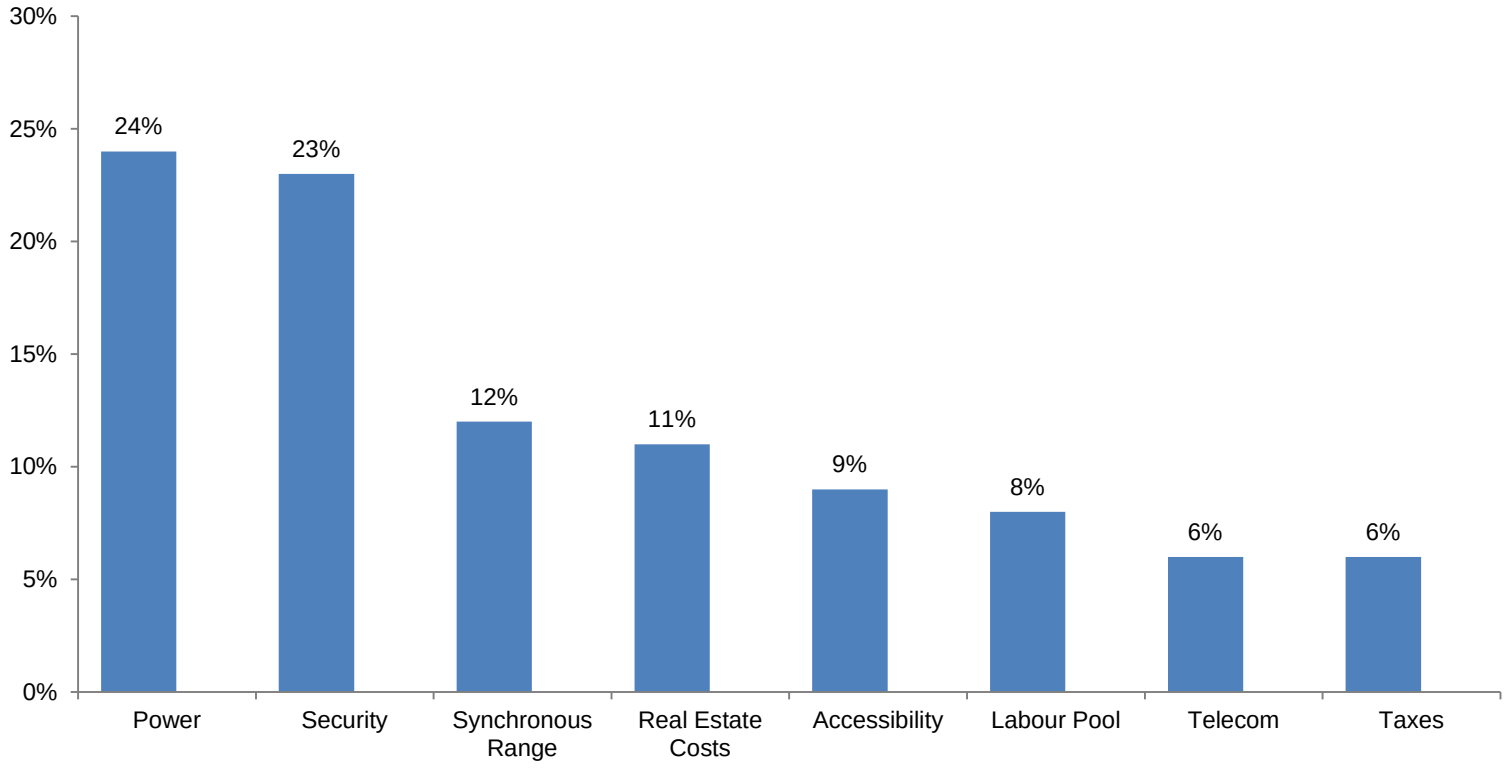
Most Important Factor in Choosing a Location

- Participants were asked to choose the single most important of several factors in selecting a geographic location for their data centres.
- Power availability/cost and security are the most important factors.



Base = Total (N=100)

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APPENDIX

Confidence Intervals

- At the 90% level of confidence for N=100:
  - The confidence interval around 50% is ± 8.2%
  - The confidence interval around 25% is ± 7.1%
- At the 95% level of confidence for N=100:
  - The confidence interval around 50% is ± 9.8%
  - The confidence interval around 25% is ± 8.5%
- At the 90% level of confidence for N=50:
  - The confidence interval around 50% is ± 11.6%
  - The confidence interval around 25% is ± 10.1%
- At the 95% level of confidence for N=50:
  - The confidence interval around 50% is ± 13.9%
  - The confidence interval around 25% is ± 12.0%

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