How to Make the Most of Cloud Services without Sacrificing Control

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Agenda

- What is (the responsible) Cloud?

- Patterns of Cloud Adoption: what types of Cloud Services are most pervasive and why?

- Cloud benefits and concerns

- Managing the challenges, optimizing the benefits:

  - Performance and change management

  - Governance solutions and disciplines

  - Security management

  - Automation

- Maturity and Cloud adoption: are you ready?

- Q/A

What is Cloud Computing?

> *"Cloud computing is a model for enabling <u>convenient, on-demand network access</u> to a <u>shared pool of configurable computing resources</u> (e.g., networks, servers, storage, applications, and services) that can be <u>rapidly provisioned and released</u> with <u>minimal management effort</u> or service provider interaction"*

On-Premise (Internal) or Off-Premise (External)

5 Essential Characteristics

- Self-service
- Network access
- Resource pools
- Rapid elasticity
- Measured Service

3 Deployment Models

- Private
- Community
- Public

- SaaS
- PaaS
- IaaS

Source: US National Institute of Standards and Technology

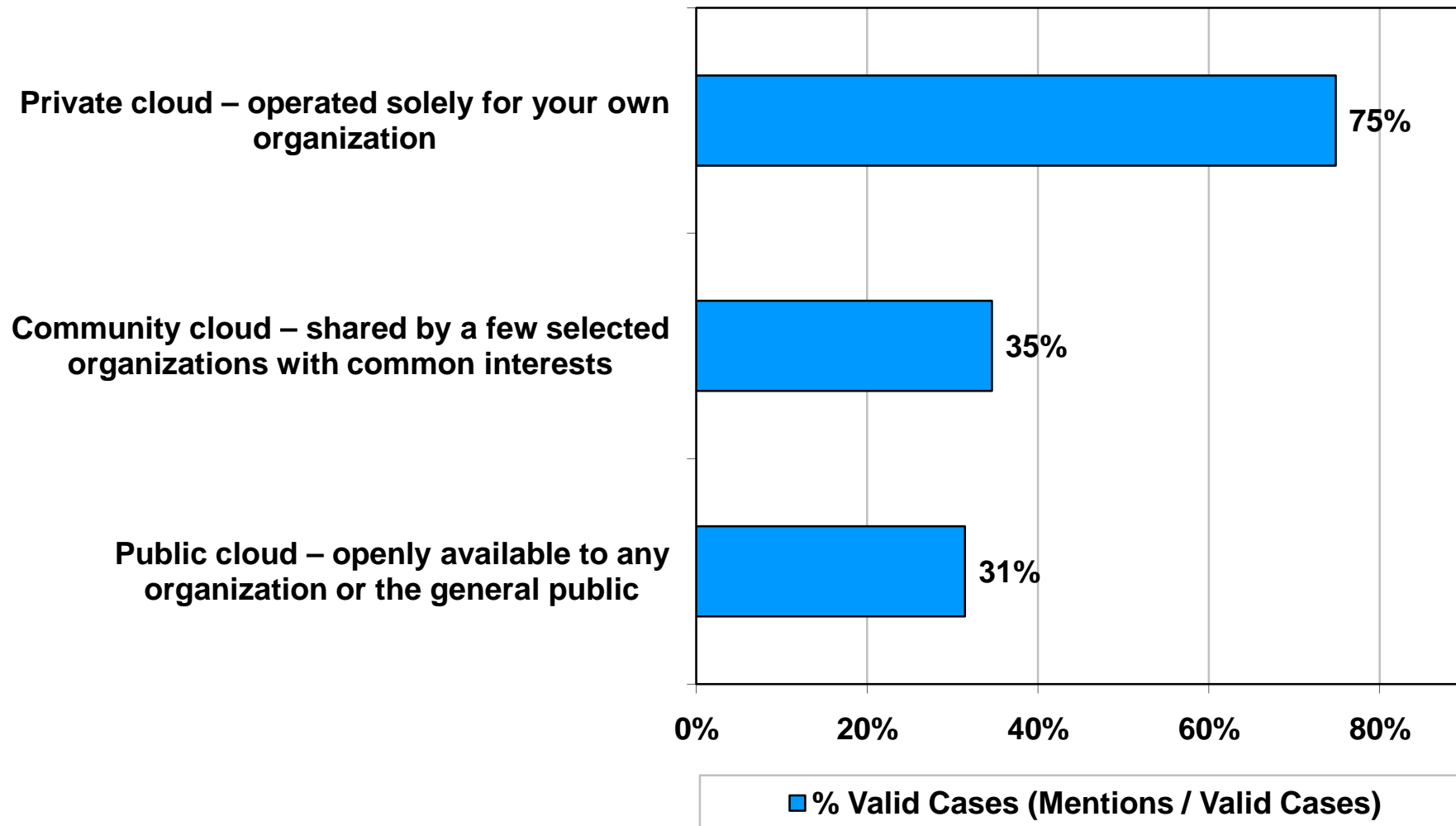# 'The Responsible Cloud' Research

- Primary Research
  - Over 30,000 qualified individuals invited to participate
  - Gathered qualifying responses from over 850 individuals
  - Over 150 qualified respondents with real cloud experience

- Respondents:
  - All have current or immediate cloud deployment or plans
  - All have working knowledge of current deployment or plans
  - All from companies larger than 500 employees
  - 65% have a current deployment, 35% planning within 12 months
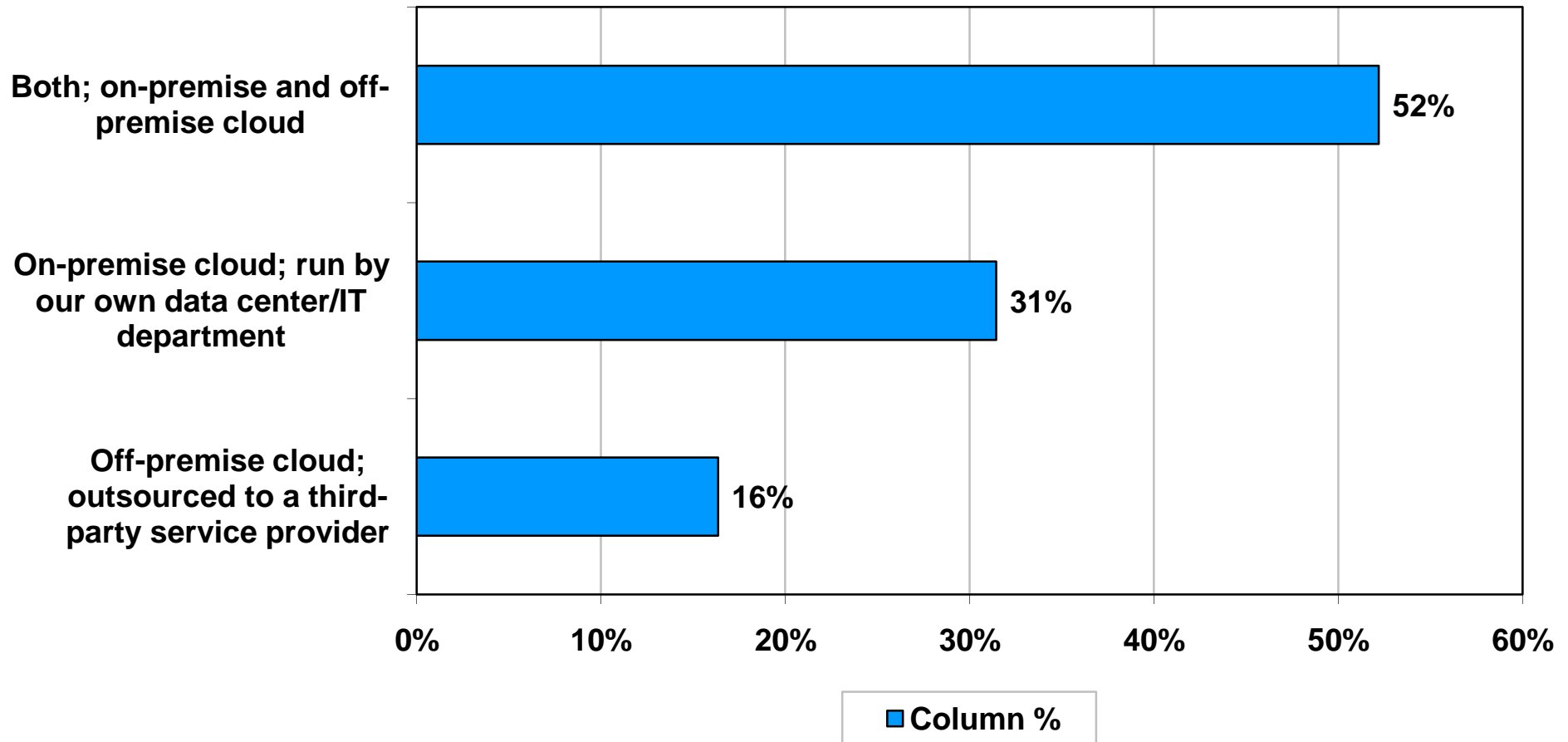
Cloud Adoption Patterns:
The Why and Wherefore

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Private Cloud leads in active deployments

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Private cloud – operated solely for your own organization — **75%**

Community cloud – shared by a few selected organizations with common interests — **35%**

Public cloud – openly available to any organization or the general public — **31%**

Chart axis: 0% 20% 40% 60% 80%

☐ **% Valid Cases (Mentions / Valid Cases)**

Sample Size = 159, Valid Cases = 159

SaaS leads over IaaS and PaaS

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Software as a Service (SaaS) – a fully-functional pre-built application environment is delivered by the cloud provider — 67%

Infrastructure as a Service (IaaS) – only basic system or machine-level resources are delivered by the cloud provider — 43%

Platform as a Service (PaaS) – an environment for application development and deployment is delivered by the cloud provider — 42%

X-axis: 0% 20% 40% 60% 80%

■ % Valid Cases (Mentions / Valid Cases)

Sample Size = 159, Valid Cases = 159

Priorities for Cloud services adoptions

1. Production storage /content management/ offsite backup
2. Test and development environments
3. Production Web hosting
4. Production database
5. Apps for payroll, HR, etc.
6. Messaging and collaboration
7. Desktop applications (virtual desktops, etc.)
8. Security services
9. Order entry/ sales, etc.
10. Packaged ERP

Workloads…

- Workloads are…
    - Not the same as applications
    - But can best be understood as components relevant to application services
    - May be bath in nature
    - Or highly interactive with users
    - And/Or highly dependent / interactive with other applications
    - And regular or irregular in demand/use
    - And/Or highly security intensive
    - And support niche populations or broader population groups
    - And could be business critical, or have narrower business impact
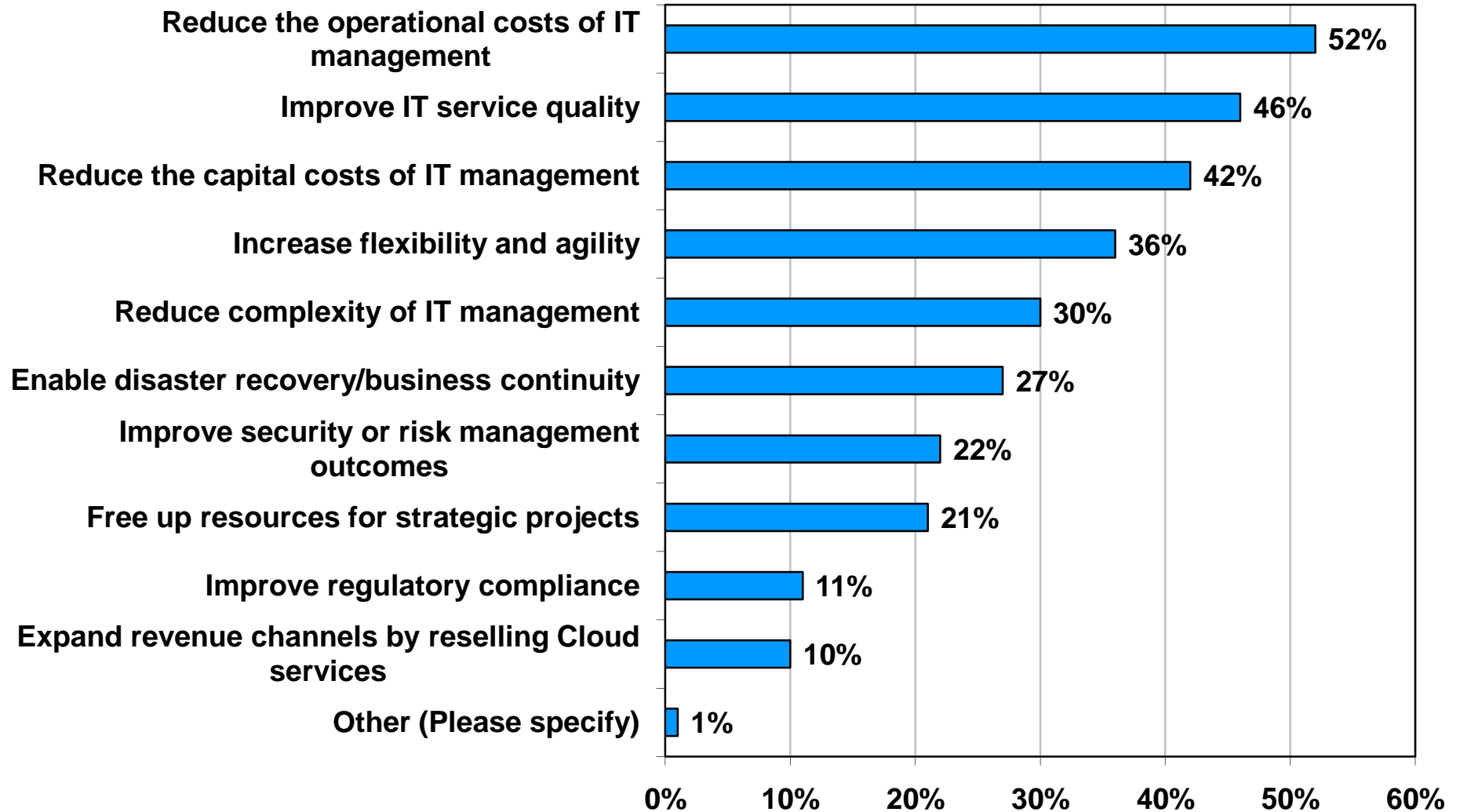   - Etc.
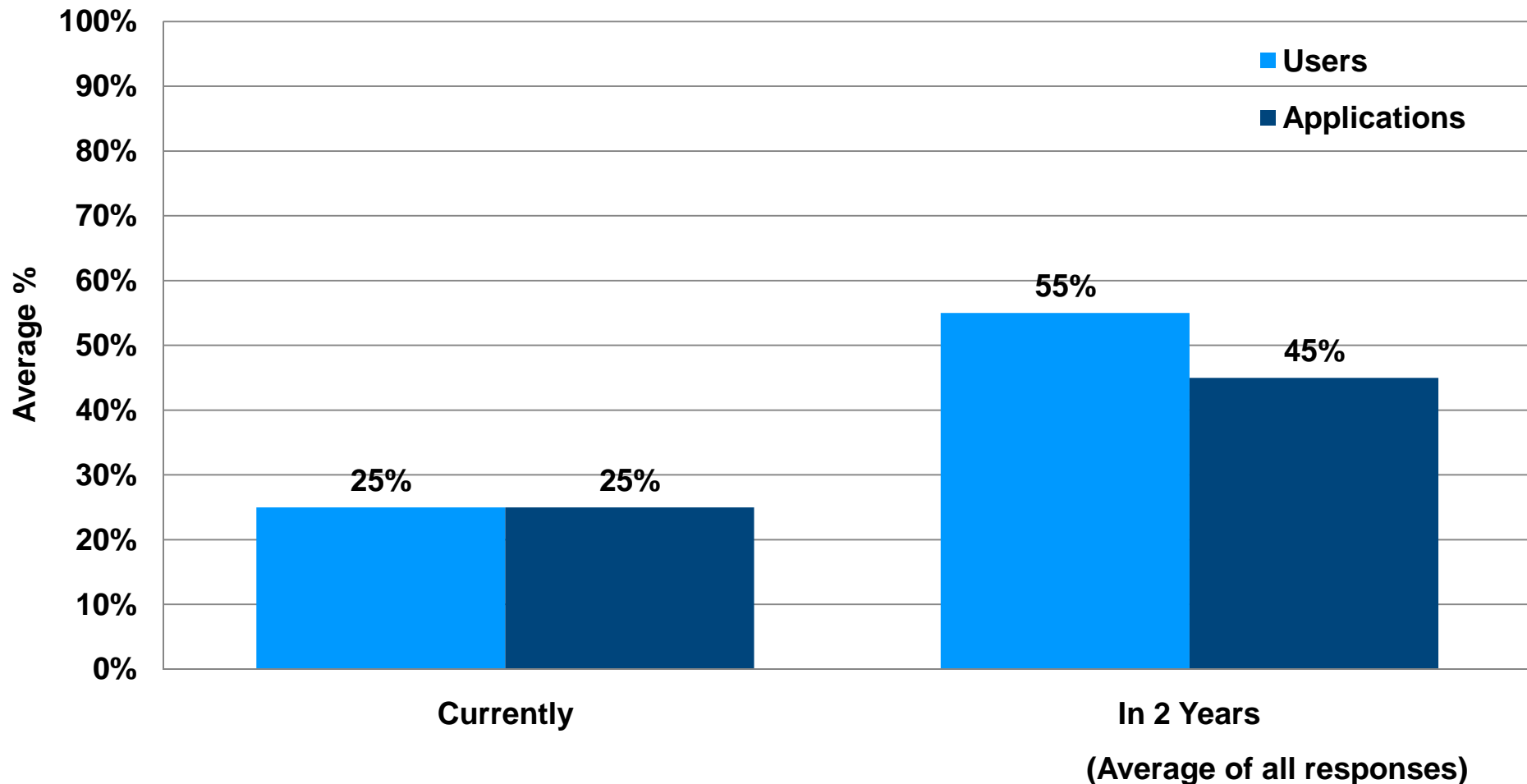
Key Drivers for Cloud Services Target Reduced Costs and Improved Services

Horizontal bar chart showing key drivers for cloud services:

Driver	Percentage
Reduce the operational costs of IT management	52%
Improve IT service quality	46%
Reduce the capital costs of IT management	42%
Increase flexibility and agility	36%
Reduce complexity of IT management	30%
Enable disaster recovery/business continuity	27%
Improve security or risk management outcomes	22%
Free up resources for strategic projects	21%
Improve regulatory compliance	11%
Expand revenue channels by reselling Cloud services	10%
Other (Please specify)	1%

Sample Size = 107, Valid Cases = 107
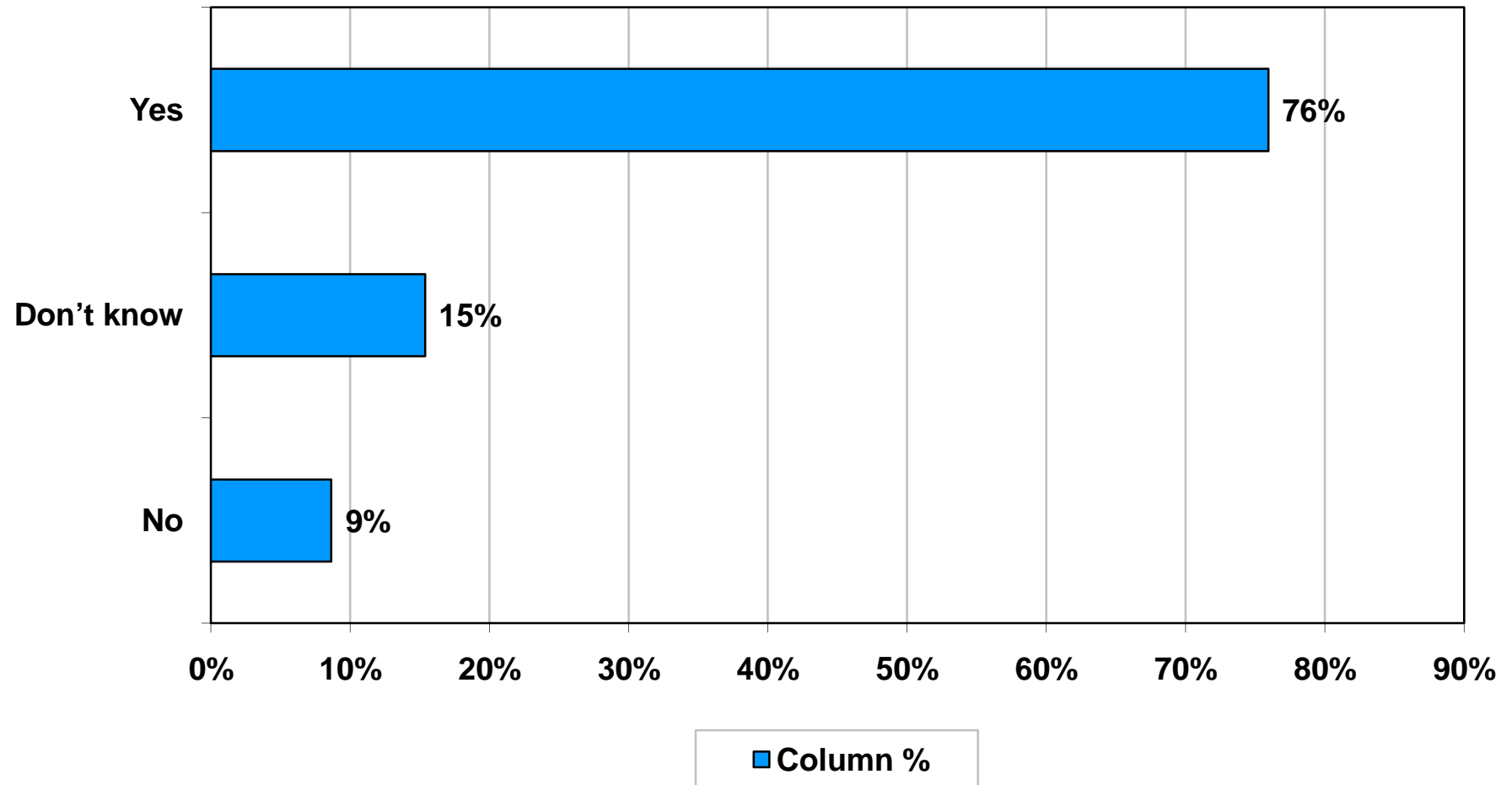
Organizational leadership for Cloud adoption varies widely

Data Center/Server Operations — 16%
Architecture/Infrastructure Services — 14%
Network Operations — 13%
Cloud or Virtualization Support — 10%
Cross-domain Service Management.. — 9%
Security — 8%
Storage or Data Management — 8%
Business Unit/Line of Business — 6%
Desktop Operations Support — 6%
Application Development — 5%
Service Desk — 4%
Other (Please specify) — 1%

Column %
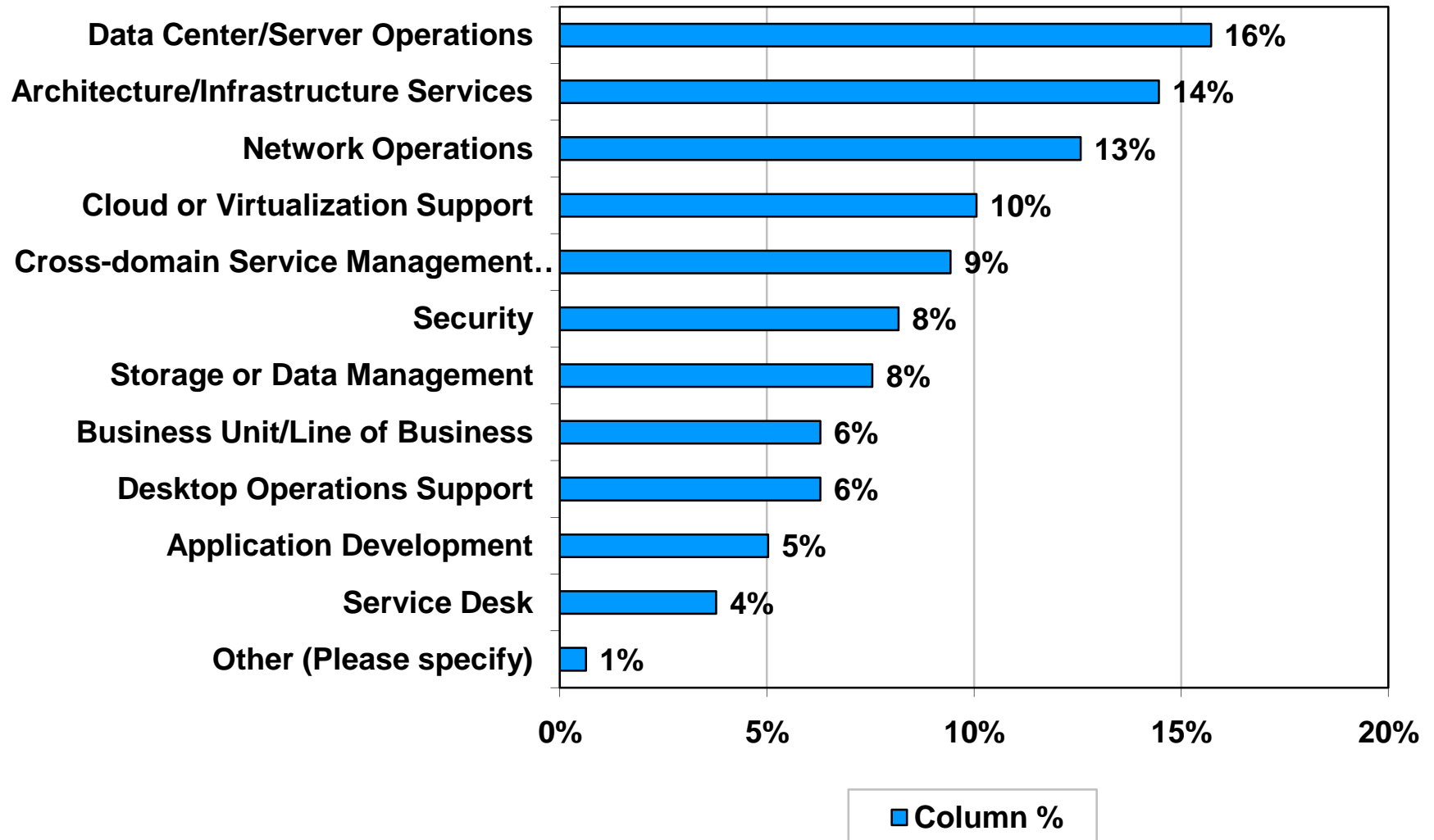
Sample Size = 159

Barriers for adopting Cloud services combine lead with process and business issues

1. Human/ political issues
2. Cost of migration/ implementation
3. Inadequate tools or processes for IT management
4. Increased operational costs
5. Degraded or uncertain regulatory compliance
6. Degraded security or risk outcomes
7. Increased capital costs
8. Poor service quality, more down time, slow response
9. Limited or non-existent backup and recovery, or business continuity

Managing the Challenges and Optimizing the Benefits

Required Discipline for the _Responsible_ Cloud

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Virtualization

- Essential foundation for cloud in almost all cases

- AUTOMATION
- Most disciplines rated important by 70-80% of organizations
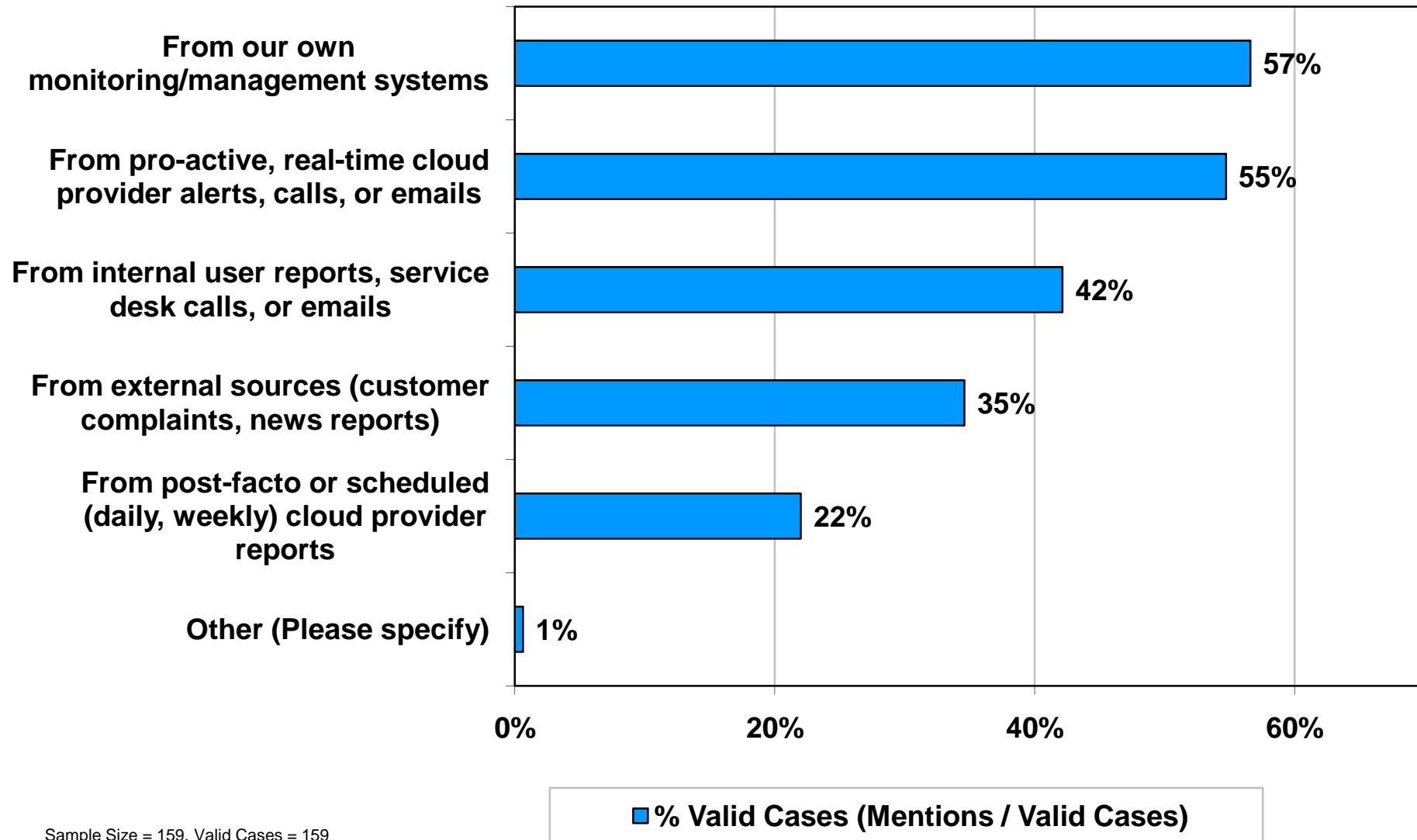
Security and Compliance

- Top decision/rejection factor for > 50% of all organizations

Service Management

- Highly rated in importance, correlated operational maturity

Monitoring tools and real-time alerts lead in problem detection for Cloud-based services
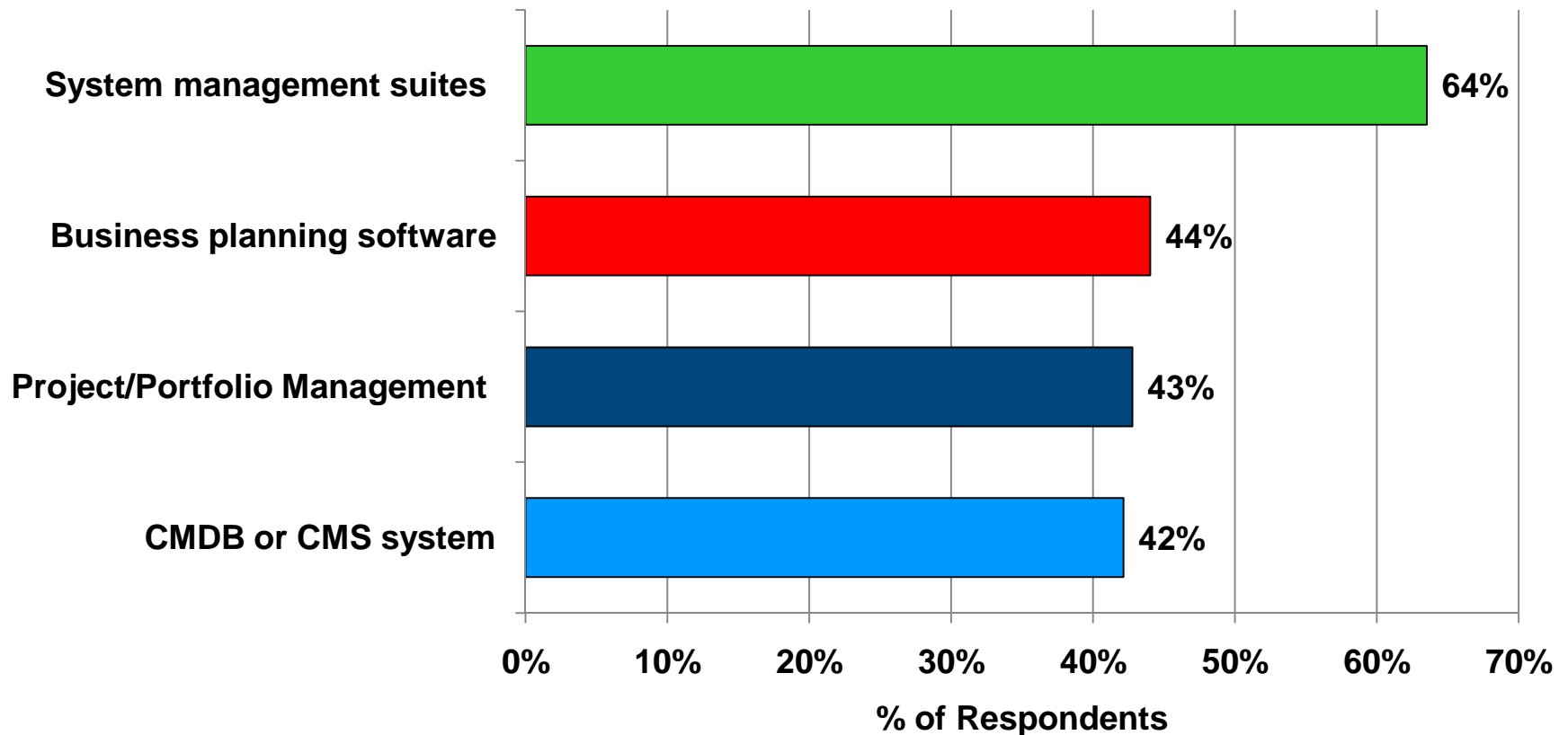
From our own monitoring/management systems — 57%

From pro-active, real-time cloud provider alerts, calls, or emails — 55%

From internal user reports, service desk calls, or emails — 42%

From external sources (customer complaints, news reports) — 35%

From post-facto or scheduled (daily, weekly) cloud provider reports — 22%

Other (Please specify) — 1%

0%   20%   40%   60%

■ % Valid Cases (Mentions / Valid Cases)

Sample Size = 159, Valid Cases = 159

Suites, business and project planning, and CMDB/CMS lead in tool choices

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Which internal management tools do you currently or plan to integrate with your cloud computing systems? (Select all)

Tool	% of Respondents
System management suites	64%
Business planning software	44%
Project/Portfolio Management	43%
CMDB or CMS system	42%

% of Respondents

(Top 4 of 7 responses only)

Cloud adopters rate the importance of critical management disciplines (important/very important)

- Performance and availability monitoring – 88%

- Incident and problem management – 84%

- Change and configuration, including CMDB – 83%

- Capacity planning/ optimization – 80%

- SLA reporting – 79%

- Application dependency mapping – 75%

Key metrics for measuring Cloud services

- Service or systems availability, uptime

- Overall application response time

- Network infrastructure performance

- Cloud service utilization

- Security, risk, compliance and integrity measurement

- Storage system I/0 response time

- Server-based transaction response time

- Service response time across multiple transactions

- Client- based transaction response time
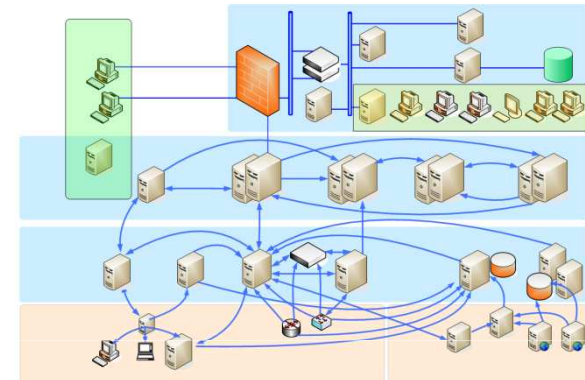
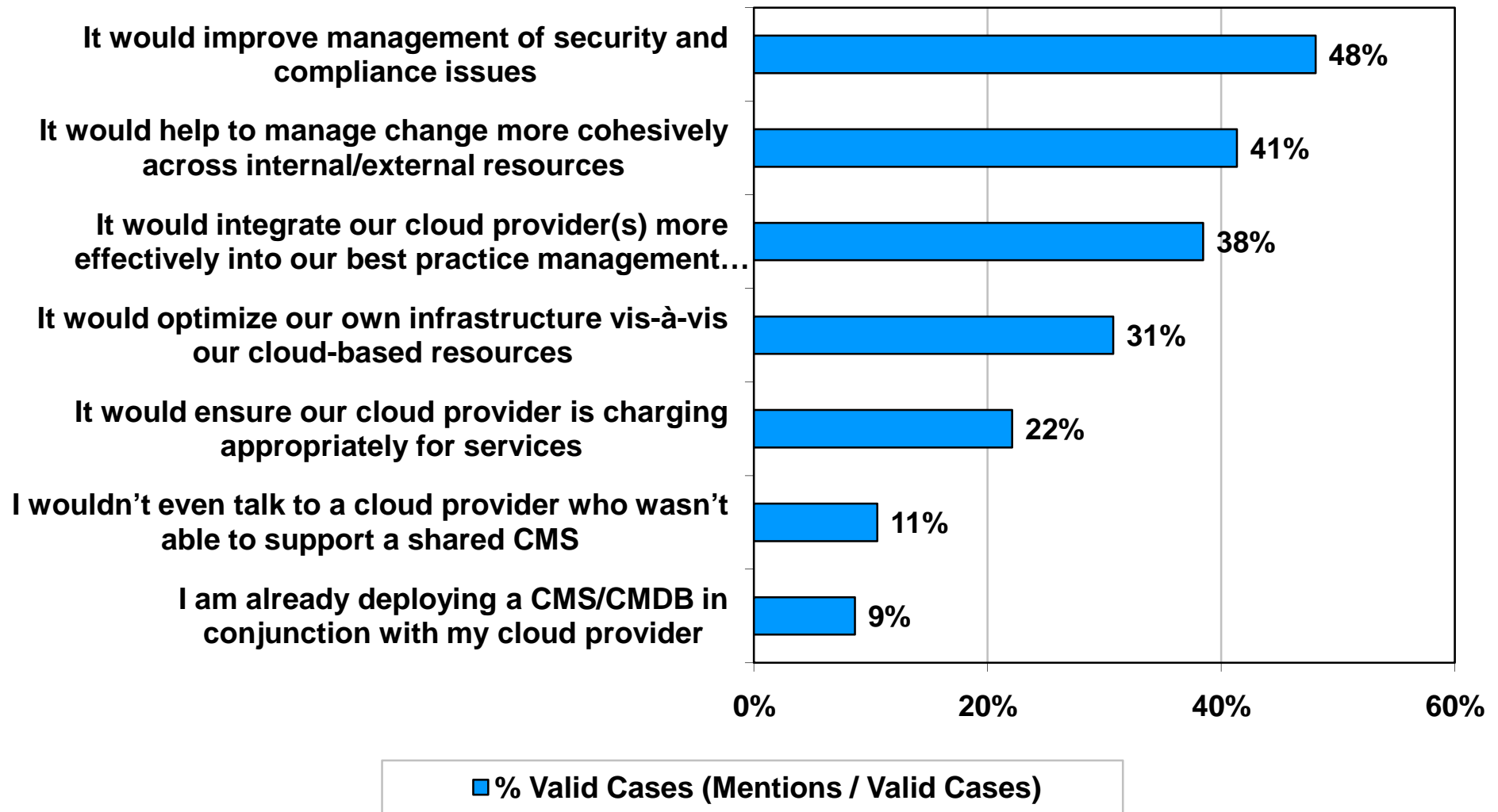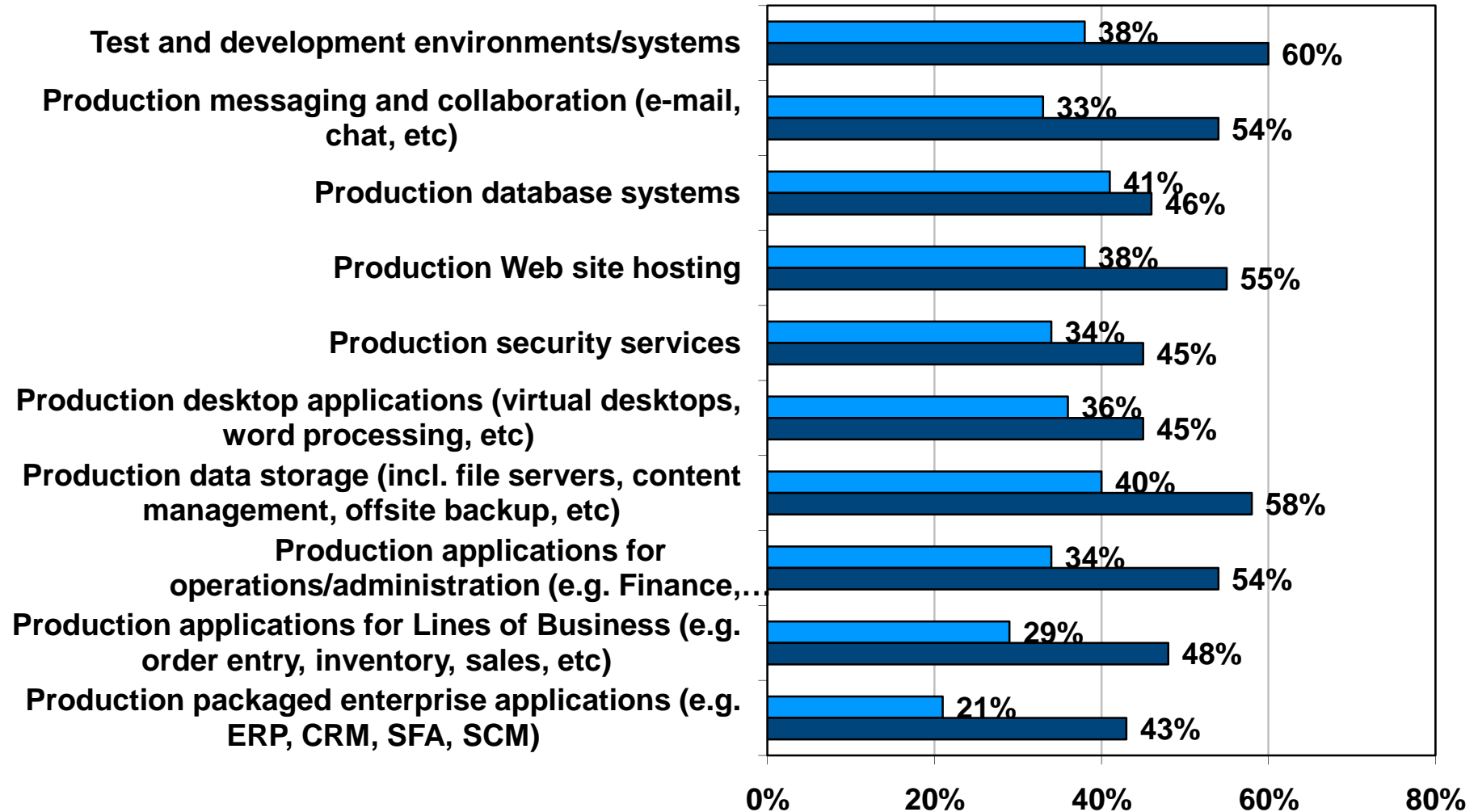# Two thirds see a shared CMDB or CMS as bringing greater confidence into investing in a Cloud provider
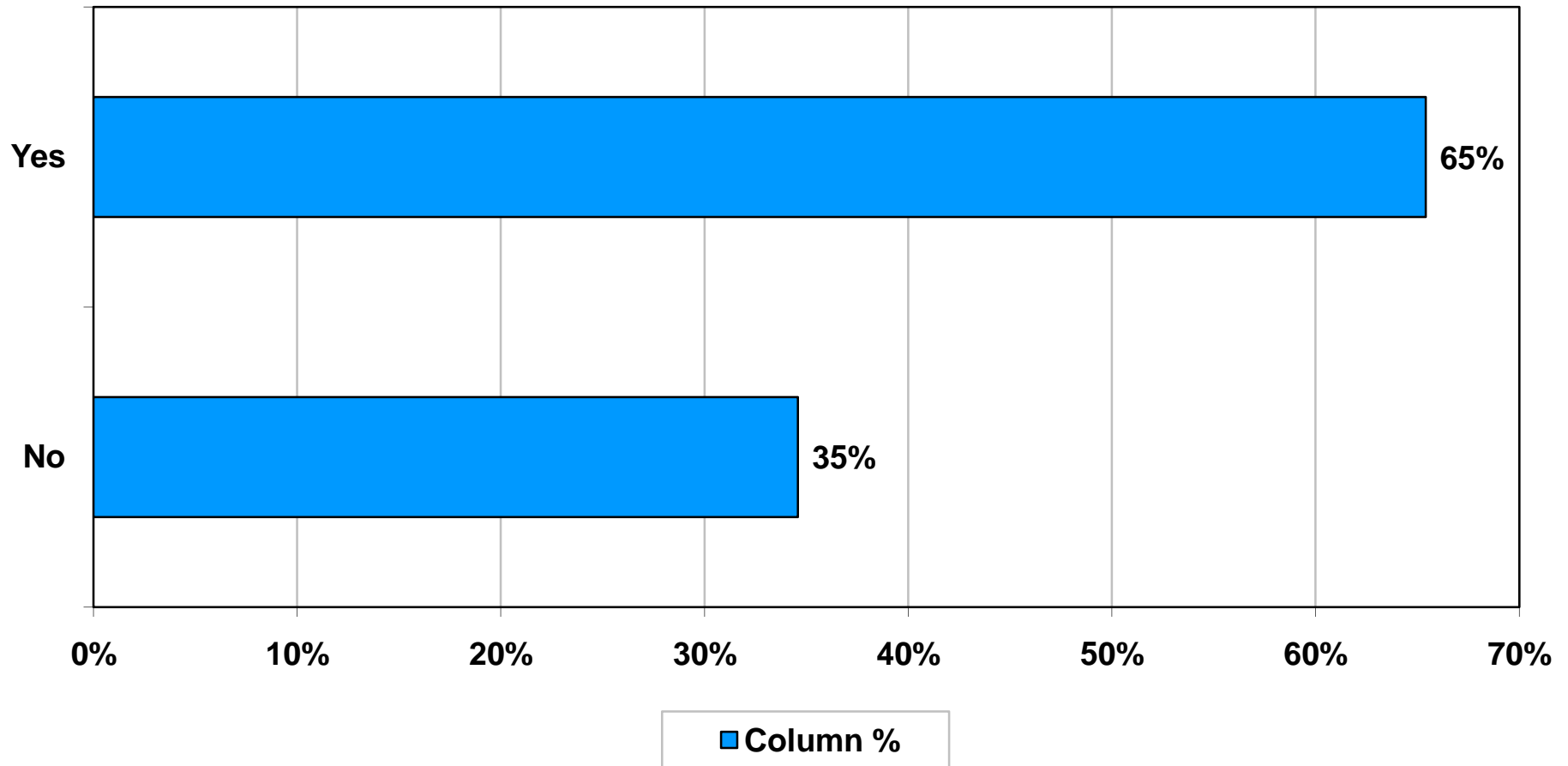
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Yes — 65%

No — 35%

0% 10% 20% 30% 40% 50% 60% 70%

■ **Column %**

Sample Size = 159

Committed CMDB integrations correlate with more advanced Cloud adoption plans, overall

Test and development environments/systems — No: 38%, Yes: 60%

Production messaging and collaboration (e-mail, chat, etc) — No: 33%, Yes: 54%

Production database systems — No: 41%, Yes: 46%

Production Web site hosting — No: 38%, Yes: 55%

Production security services — No: 34%, Yes: 45%

Production desktop applications (virtual desktops, word processing, etc) — No: 36%, Yes: 45%

Production data storage (incl. file servers, content management, offsite backup, etc) — No: 40%, Yes: 58%

Production applications for operations/administration (e.g. Finance,…) — No: 34%, Yes: 54%

Production applications for Lines of Business (e.g. order entry, inventory, sales, etc) — No: 29%, Yes: 48%

Production packaged enterprise applications (e.g. ERP, CRM, SFA, SCM) — No: 21%, Yes: 43%

Legend: ■ No ■ Yes

Sample Size = 159, Valid Cases = 159; Responses not shown received 1% or less

Governance solutions and disciplines are also key

- Compliance auditing and reporting – 74% (important or very important)
- Service Desk/ Help Desk – 74%
- Discovery, asset and inventory management – 69%
- Utilization and chargeback – 65%
- Service catalog – 61%

Most current Service Catalog integrations are used to publish information about available services
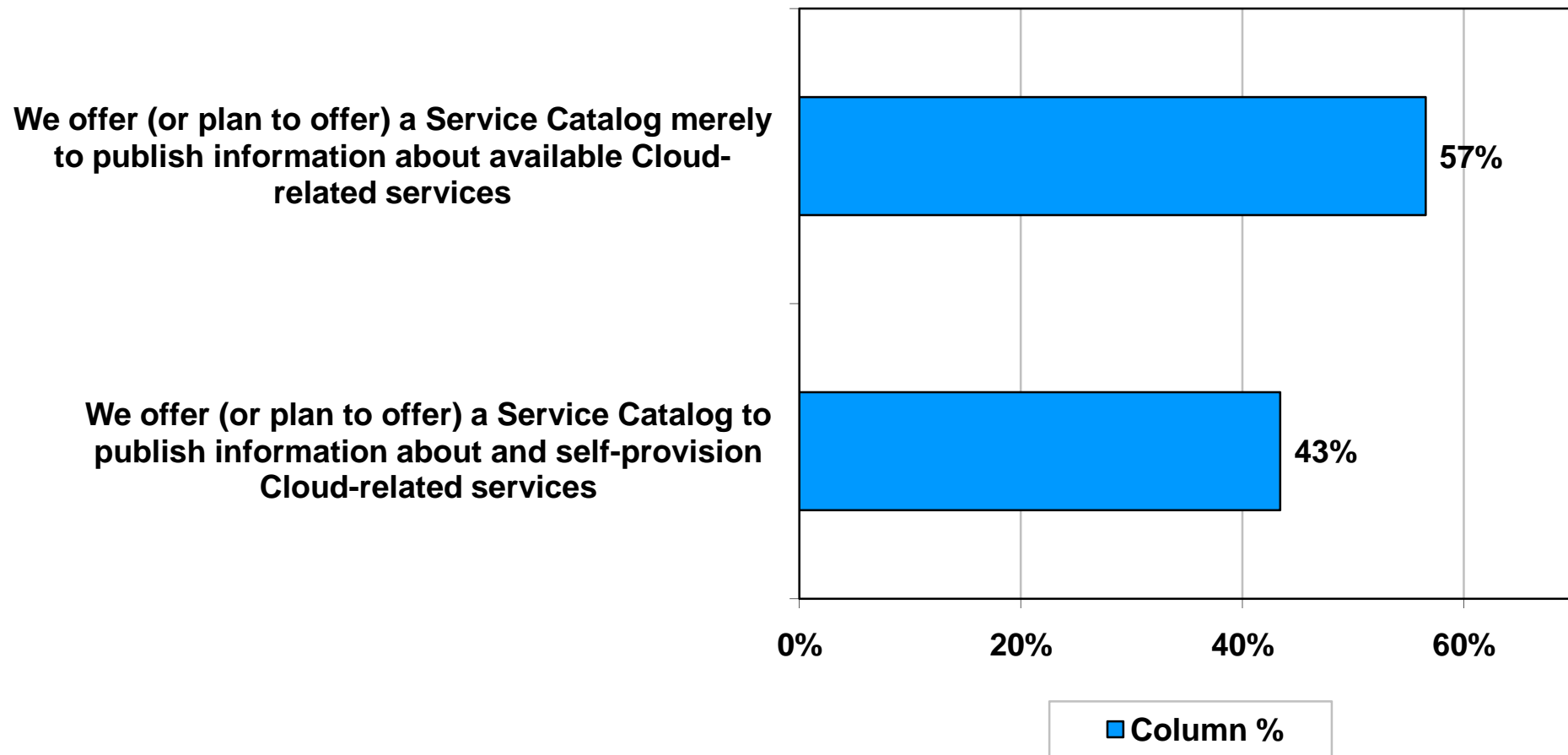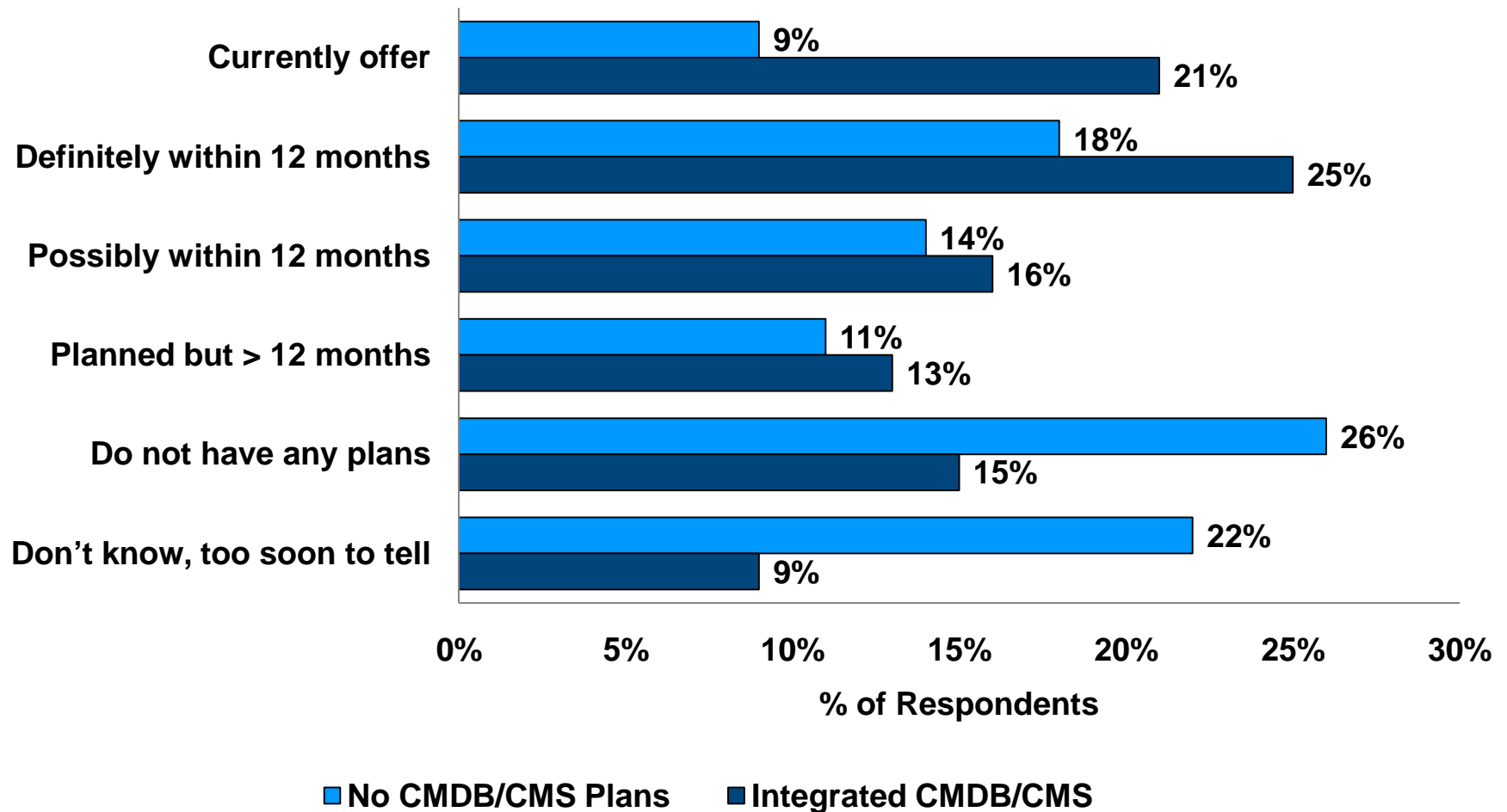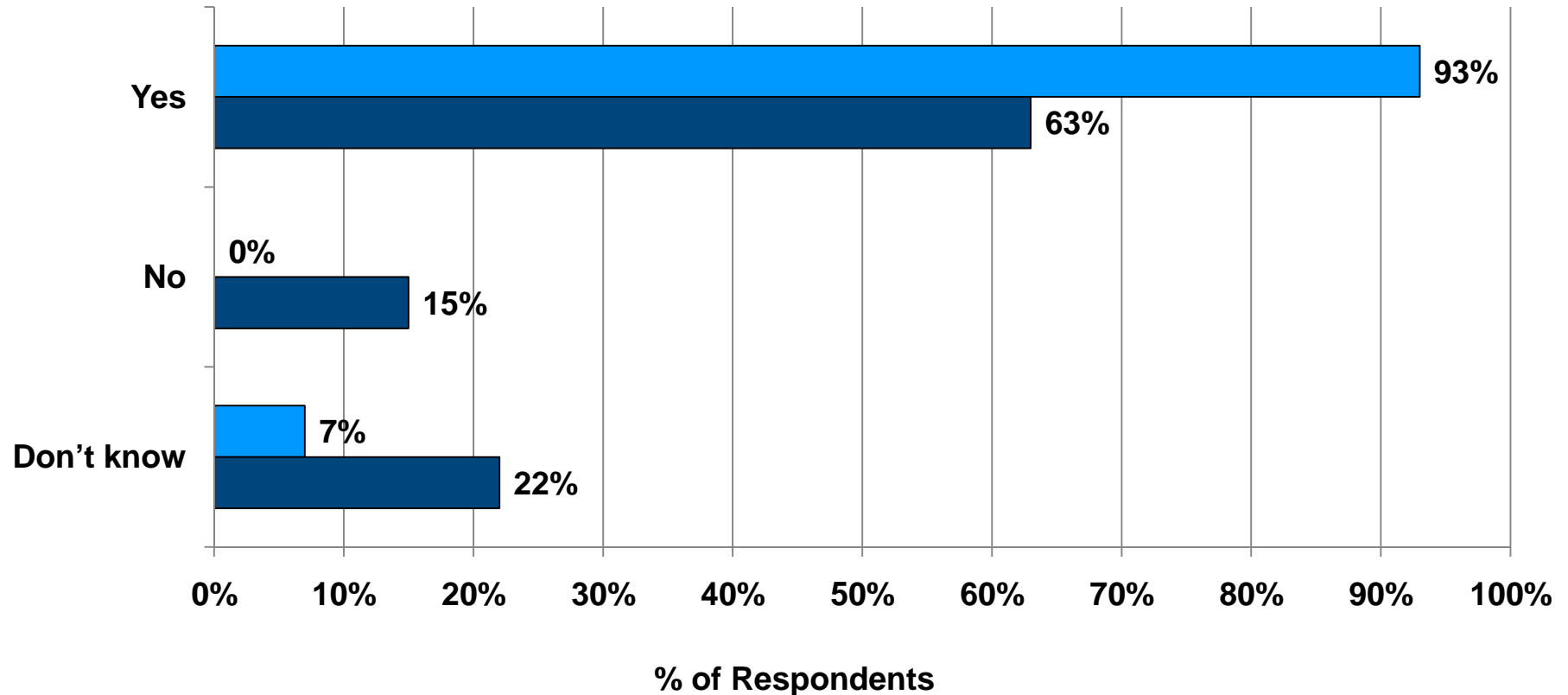

Sample Size = 99

Service Catalog Shows a Clear Edge in Delivering Measurable Cost Savings for Cloud Services

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Has cloud computing delivered real, measurable cost savings?

Legend:
- ☐ Currently or definitely will offer services via Service Catalog
- ☐ All other Service Catalog plans

Data:
- **Yes**: 93% (Currently or definitely will offer services via Service Catalog), 63% (All other Service Catalog plans)
- **No**: 0% (Currently or definitely will offer services via Service Catalog), 15% (All other Service Catalog plans)
- **Don't know**: 7% (Currently or definitely will offer services via Service Catalog), 22% (All other Service Catalog plans)

% of Respondents

Some Benefits: CMDB, Utilization and Chargeback

- **CMDB** integration accelerates Cloud Services adoption by an average of more than 30% and delivers 16% more cost advantages

- Those prioritizing **Utilization and Chargeback** show an 18% delivered cost benefit for Cloud Services adoption

- **Service Catalog** shows a **30%** edge in cost savings!!

Security-related priorities for Cloud

- Data security and privacy – 90%

- Anti-malware, intrusion detection – 89%

- Vulnerability management (including Web apps) – 87%

- Identity and access management – 86%

- Protection specific to virtualization and multi-tenancy- 81%

The following automation disciplines are seen as key (important/very important)

- Storage automation/back up and recovery – 81%

- Network configuration – 79%

- Event automation – 74%

- Workload automation/ job scheduling – 73%

- IT Process Automation (run book) – 71%

- Workflow – 70%
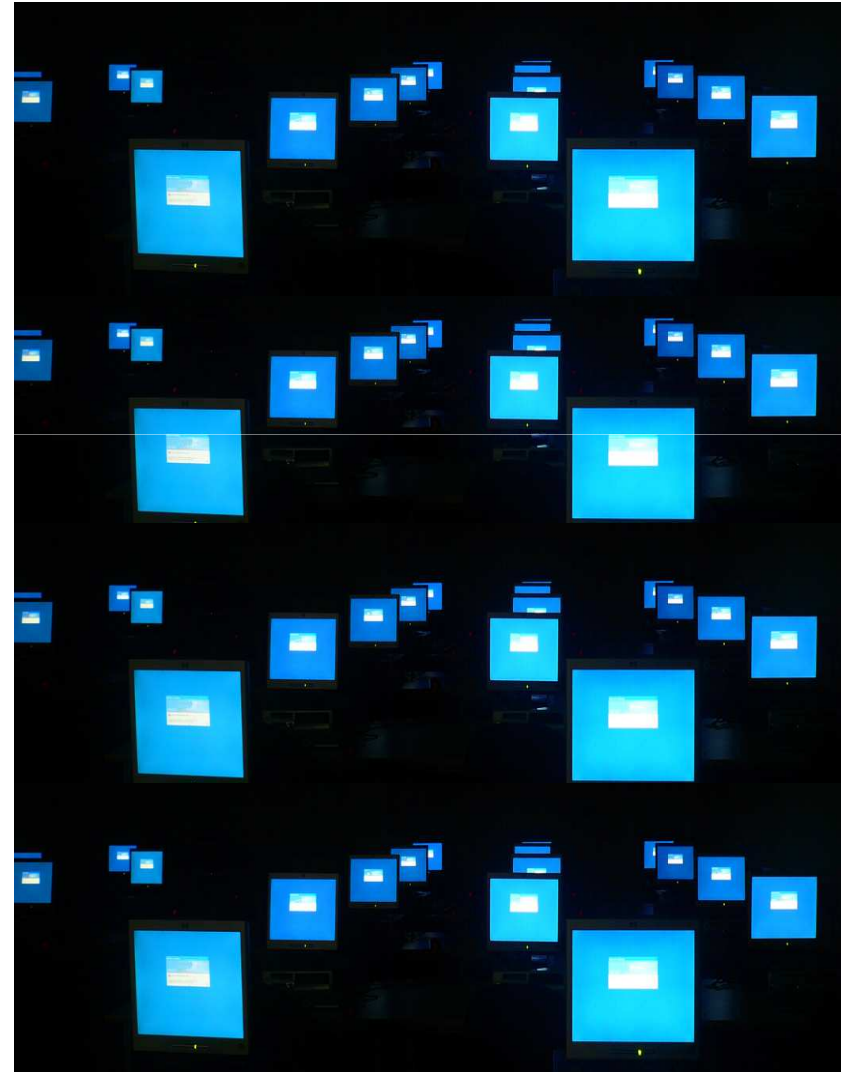
A Focus on Automation is also Closely Linked to Dollar Savings

- Priorities for Network Automation (configuration/change) Correlate most dramatically at 28% delivered cost advantage!

- Event management and consol automation follows at 20%

- IT Process Automation at 18%

- SW and patch updates at 9%

- Workload automation at 8%

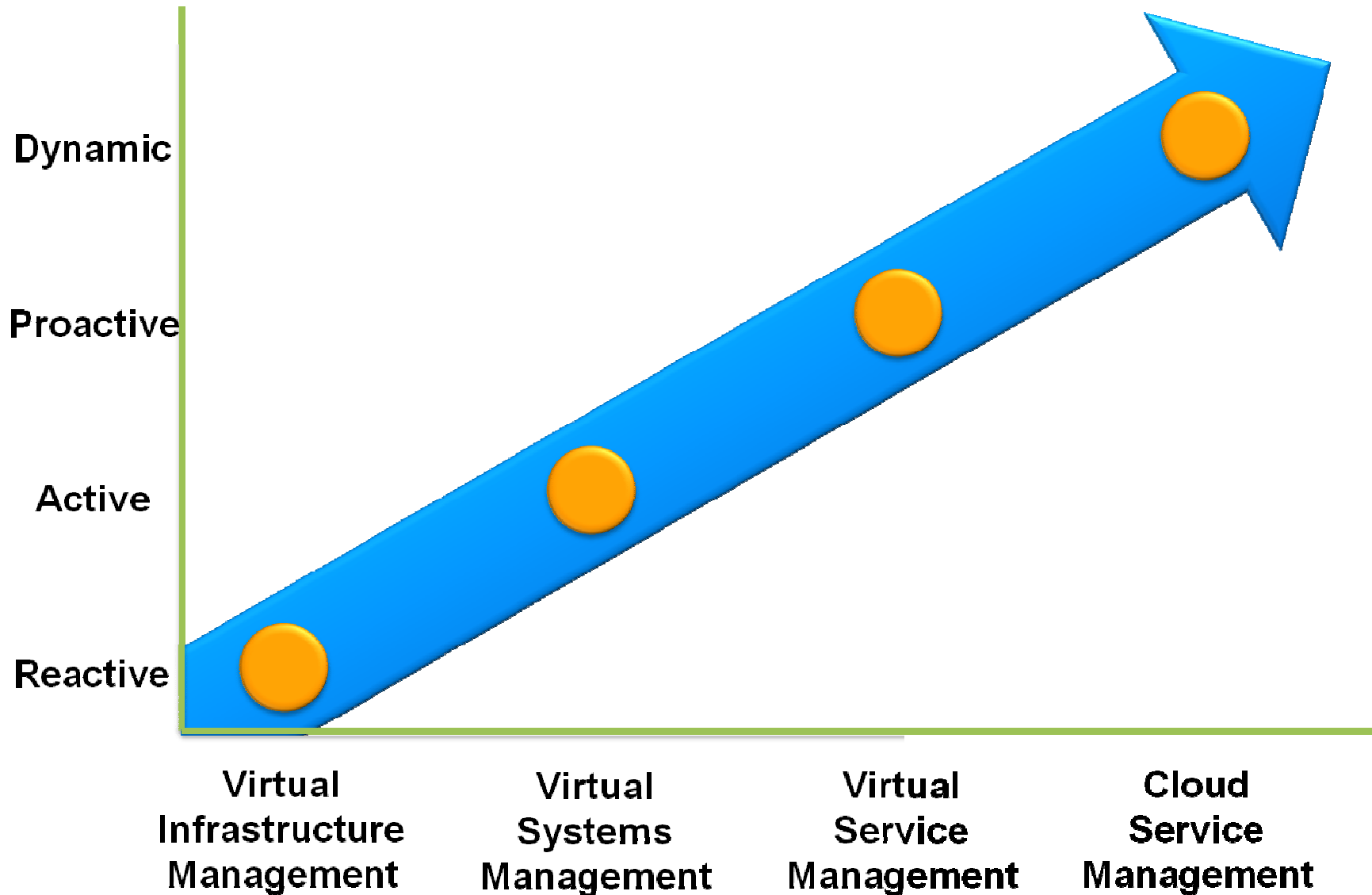# Service Management for Cloud Services

- Service Management for Cloud Services =
  - More advanced adoption levels
  - Higher IT maturity levels overall
  - Superior financial benefits
  - An opportunity for you?

Maturity and Cloud Adoption:
Are you Ready?

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Building the Responsible Cloud :
# Translating the EMA Maturity Model to the Cloud

Building the Responsible Cloud : Start with the EMA Maturity Model

	1. Reactive	2. Active	3. Proactive	4. Dynamic
Processes	Chaotic, ad hoc	Operational, repeatable	Planned, preventative	Automated, optimized
Tools	Mostly manual	Domain-driven	Integrated, cross-domain	Autonomic, policy-based
Automation	Little or none	Some silo-based	Broad, multi-discipline	Mostly automated
Business Focus	Limited contact	Post-reporting	Real-time impact	Automatic, 2-way

Process, Technology and Organization are Simultaneous Points of Optimization
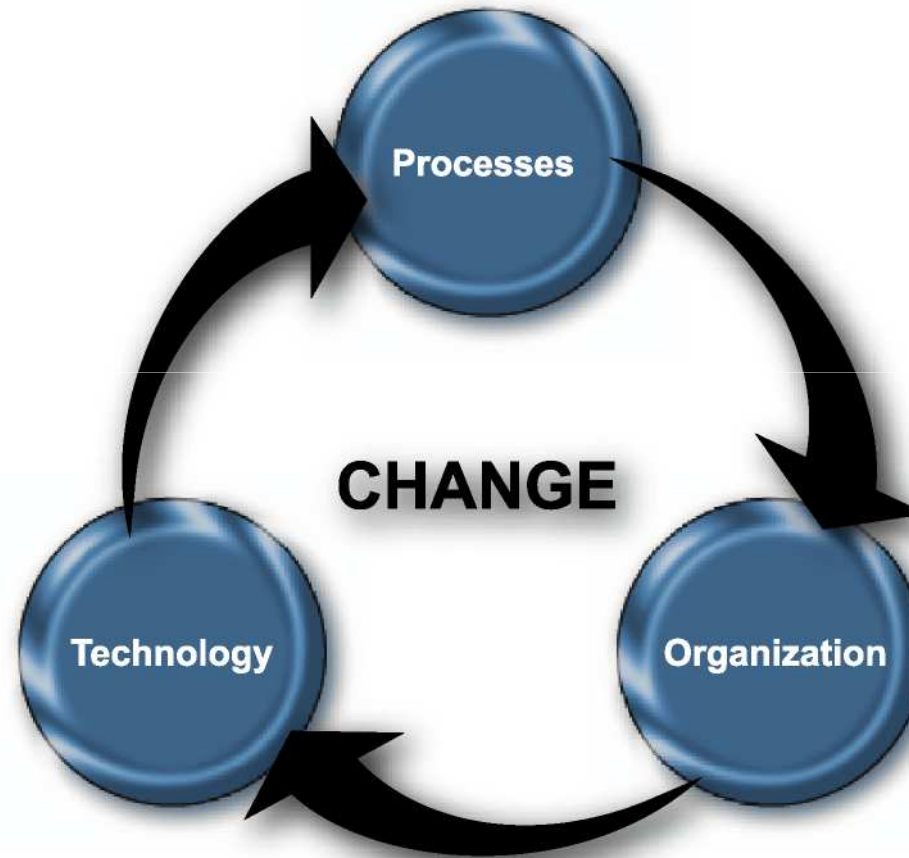
Q&A

Thanks for Attending Today's Presentation