Power of the Cloud

Driving disruption, delivering new opportunities
and managing risks in Media & Entertainment

Today's discussion …
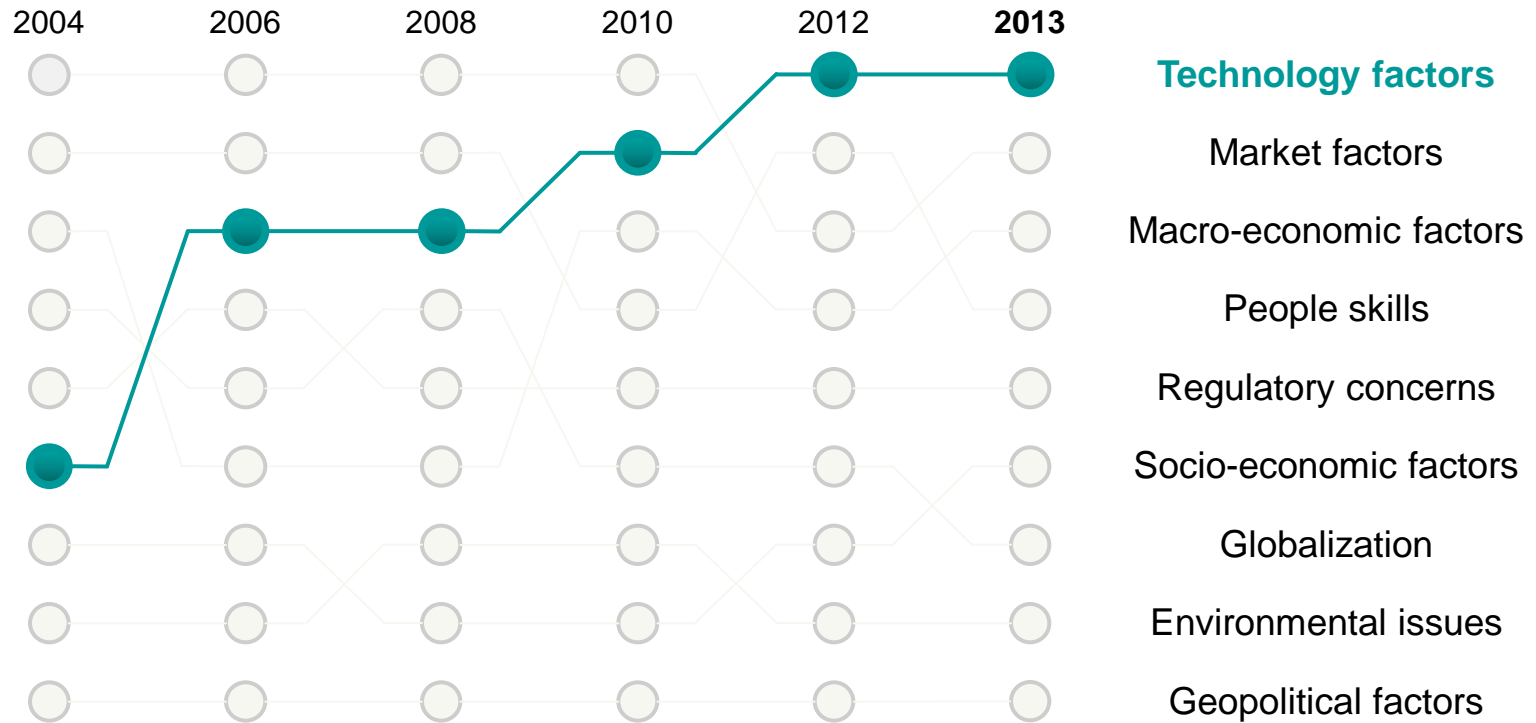
1. **Executives are increasingly seeing technology as a true disruptor, and cloud is a powerful contributor**

2. In Media & Entertainment successful firms balance the opportunity of cloud with investments in risk mitigation

3. Successful cloud adoption requires collaboration and investment that aligns with strategic business needs

The Power of Cloud

CEOs consider technology the single most important external force

CEO Studies 2004–2013

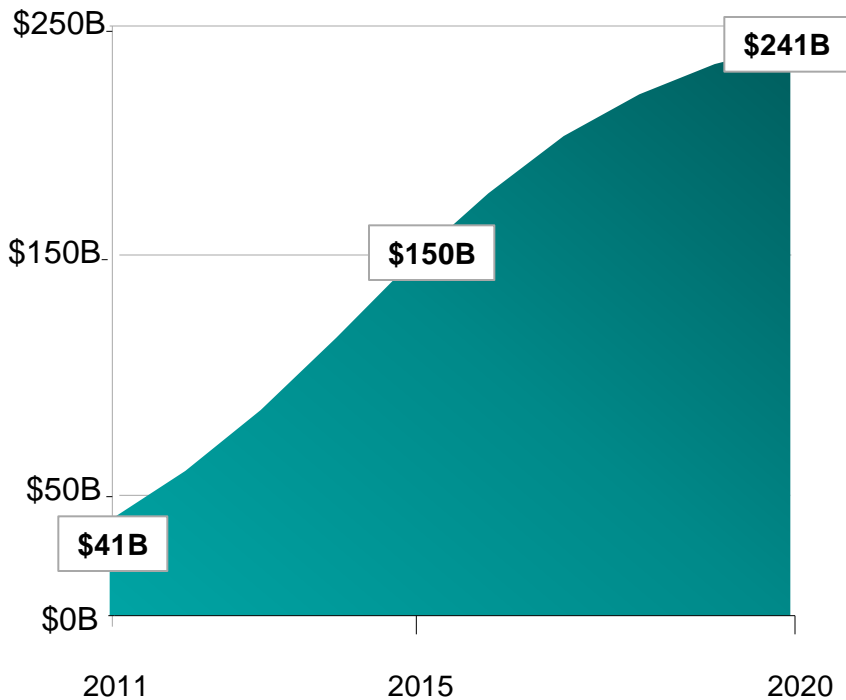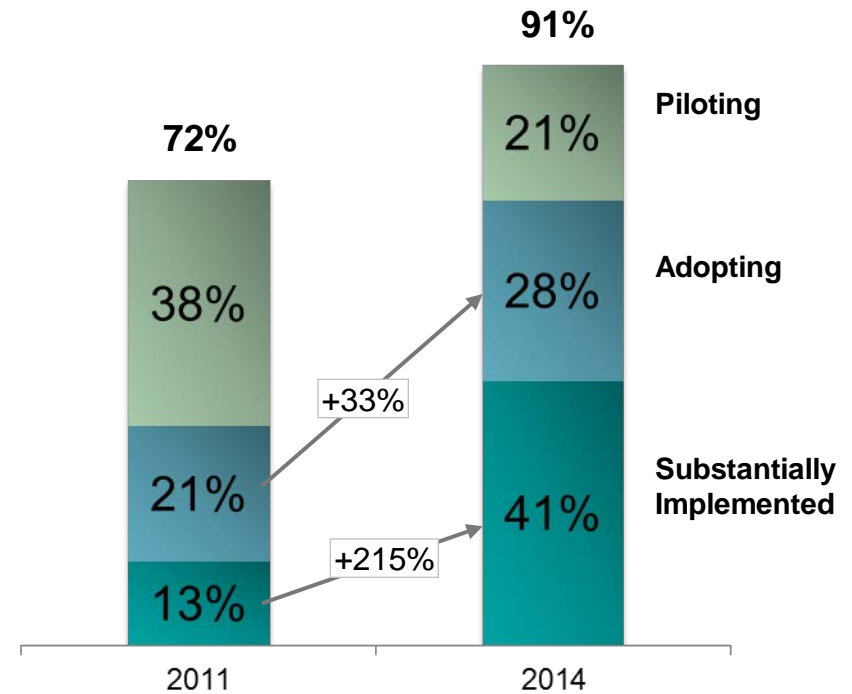| 2004	2006	2008	2010	2012	**2013**	
				●	●	**Technology factors**
			●			Market factors
	●	●				Macro-economic factors
						People skills
						Regulatory concerns
●						Socio-economic factors
						Globalization
						Environmental issues
						Geopolitical factors

Source: IBM Institute for Business Value Analysis, Question E8–What are the most important external forces that will impact the enterprise over the next 3 to 5 years?

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IBM

Cloud is widely recognized as an increasingly important technology; adoption is expected to accelerate rapidly in the coming years

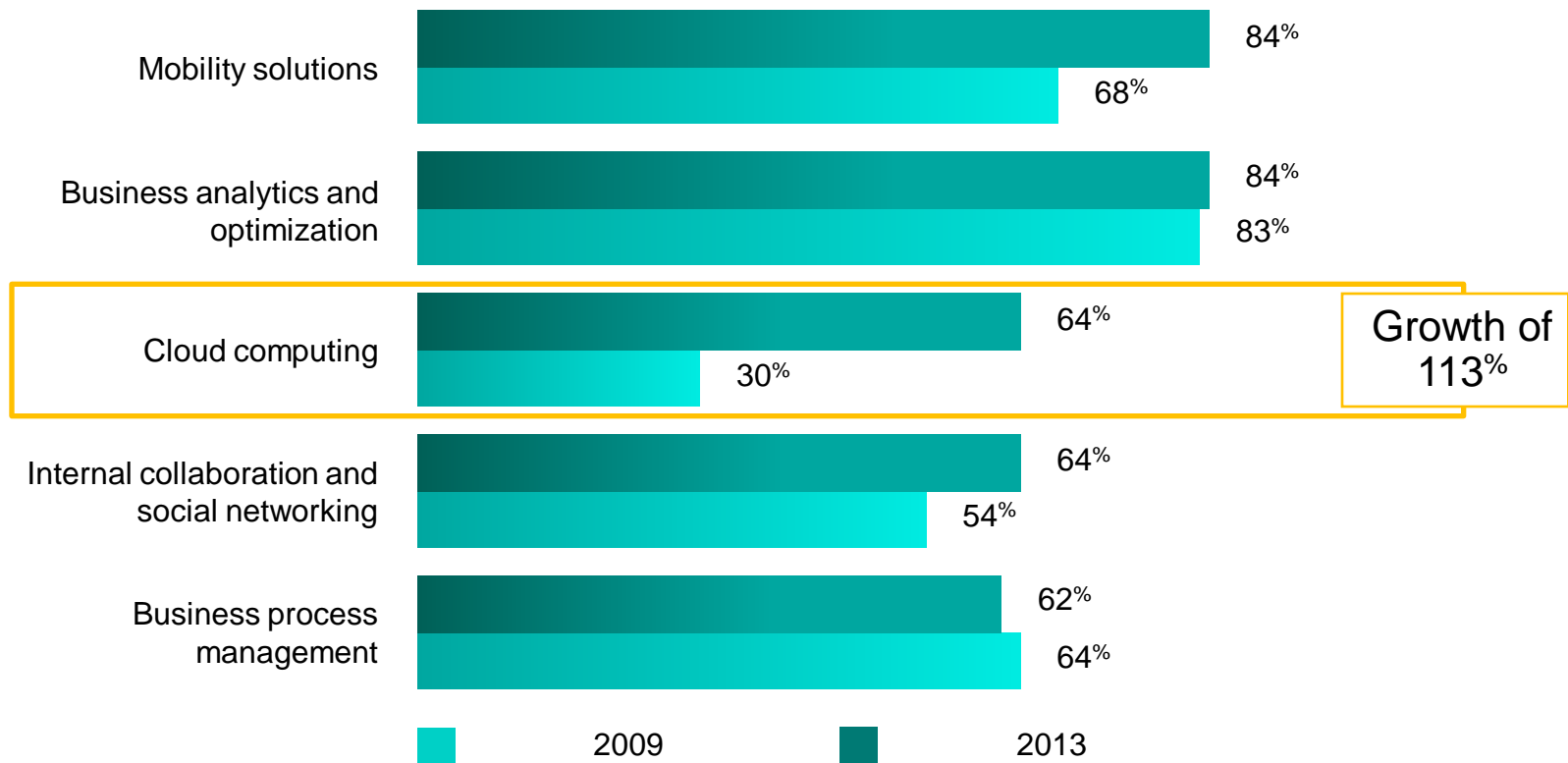**The Global Cloud Computing Market is Forecast to Grow 22% per year through 2020**

$250B

$150B

$50B

$0B

$241B

$150B

$41B

2011   2015   2020

What is Your Organization's Level of Cloud Adoption?
% of Respondents

91%

72%

Piloting
21%

38%

Adopting
28%

+33%

21%

Substantially Implemented
41%

+215%

13%

2011   2014

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Mobility, analytics, social and cloud top the list of CIOs' visionary plans, and cloud is the fastest growing in importance

Mobility solutions
- 84%
- 68%

Business analytics and optimization
- 84%
- 83%

Cloud computing
- 64%
- 30%

Growth of 113%

Internal collaboration and social networking
- 64%
- 54%

Business process management
- 62%
- 64%

2009　2013

Source: Question CIO3–Which visionary plans do you have to increase competitiveness over the next 3–5 years?

Cloud empowers six potentially "game changing" business enablers
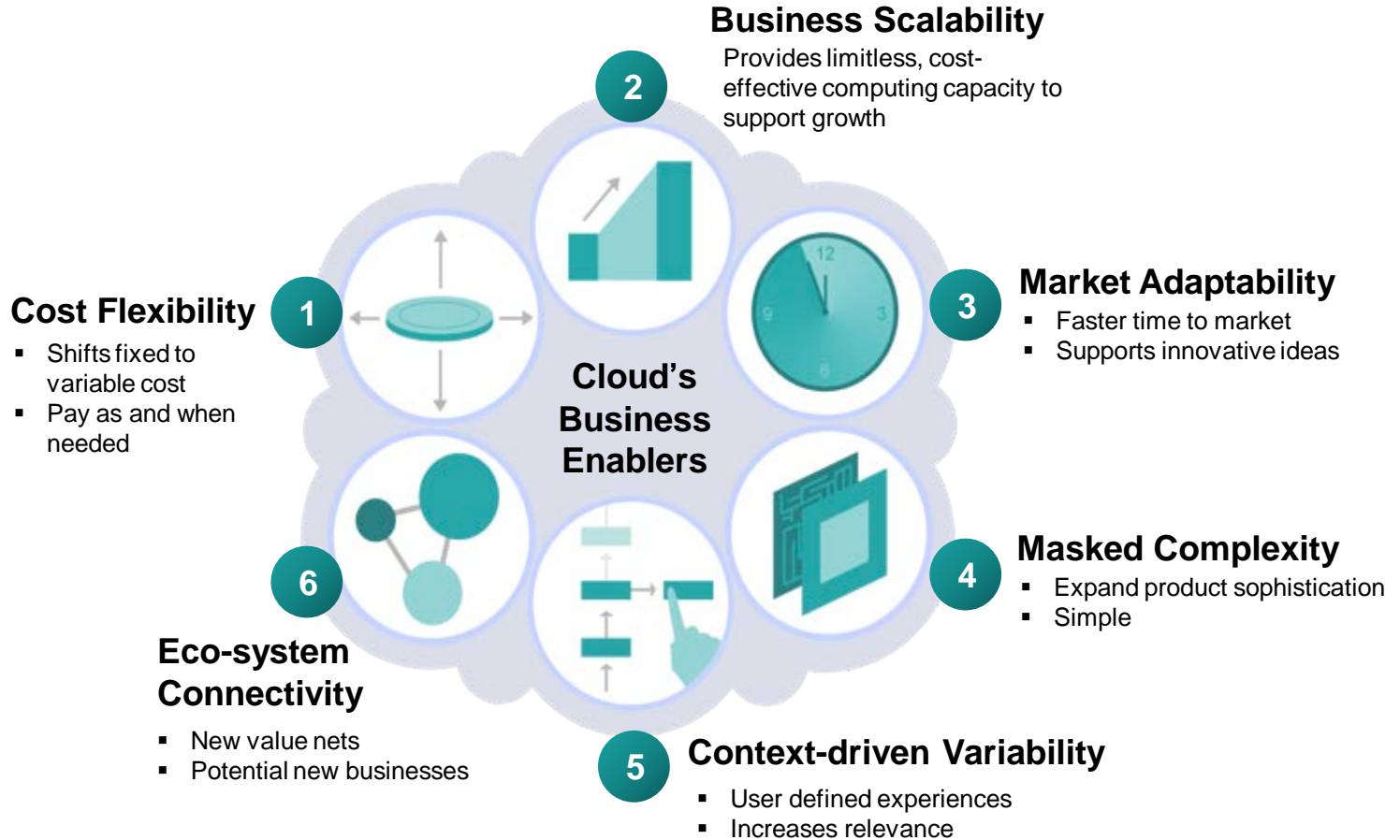
Business Scalability
Provides limitless, cost-effective computing capacity to support growth

2

Cost Flexibility

1

- Shifts fixed to variable cost
- Pay as and when needed

Market Adaptability

3

- Faster time to market
- Supports innovative ideas

Cloud's Business Enablers

Masked Complexity

4

- Expand product sophistication
- Simple

6

Eco-system Connectivity

- New value nets
- Potential new businesses

5

Context-driven Variability

- User defined experiences
- Increases relevance

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The Power of Cloud

For Media & Entertainment – cloud enablers translate to significant business value

Masked Complexity

Cost Flexibility

Deliver on digital

- Increased complexity from a proliferation of device and access types
- Ability to test new content and access models with limited cost impacts.

Eco-system Connectivity

Context-driven Variability

Creative Collaboration

- Ad-hoc and remote workforces require access to work-in-progress content for the creative process.
- 2-way interactions allow for customer input in content creation.

Business Scalability

Market Adaptability

Powerful post production

- Technology and quality advances with content and access are enabled by unlimited capacity and cost effectiveness.
- Increased responsiveness to changing consumer demands

Source: IBM Institute for Business Value Analysis

Cloud enables NetFlix to grow efficiently, expanding the range of business options

Cloud Enabled Business Benefits
- Rapid / elastic provisioning of resources
- No scale limitations
- Benefit from scale economics without achieving large volumes on your own

- Netflix streams movies on-demand with surges of capacity required at peak times.

- Use of cloud allows rapid scale up without having to buy, support and operate infrastructure and resources to meet growth

32%
of executives see business scalability as a top cloud benefit[1]

Netflix's move to the cloud "was largely about paying down our technical debt and building a scalable web-based product using current best practices."

– Adrian Cockcroft , Cloud Architect at Netflix[2]

Source: (1) 2011 joint IBV/EIU Cloud-enabled Business Model Survey of 572 business & IT leaders,\; Q6a2-Q6b2[(1)]: Expected benefits of cloud – More scalable and flexible services (today and next three years), N=572; Source: (2) http://radar.oreilly.com/2011/05/netflix-cloud.html

The Power of Cloud

Despite its benefits, cloud still presents significant challenges in reliability

Hours of downtime per year
average across providers

7.74

0.25

Electricity | Cloud
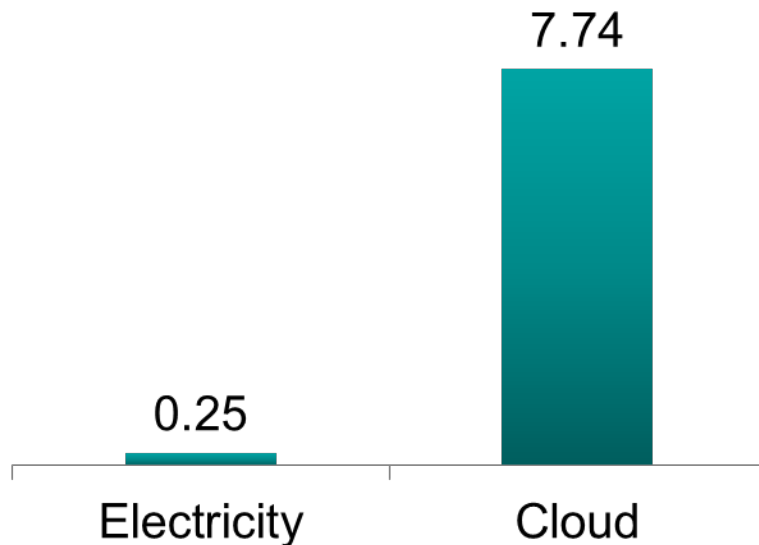
The cost of reliability failures each year amounts to almost

$285 million.

$285 Million figure based on hourly costs accepted in industry
Source: http://iwgcr.org/availability-ranking-of-world-cloud-computing-2012-update/

IBM

Security incidents and data breaches continue to grow; the number of incidents in the first half of 2013 nearly matched the total for 2012

In the first half of 2013, U.S. Dept. of Homeland Security investigated **200+ serious cyber-attacks** against critical infrastructure.

Size of circle estimates relative impact of incident in terms of cost to business

January

June
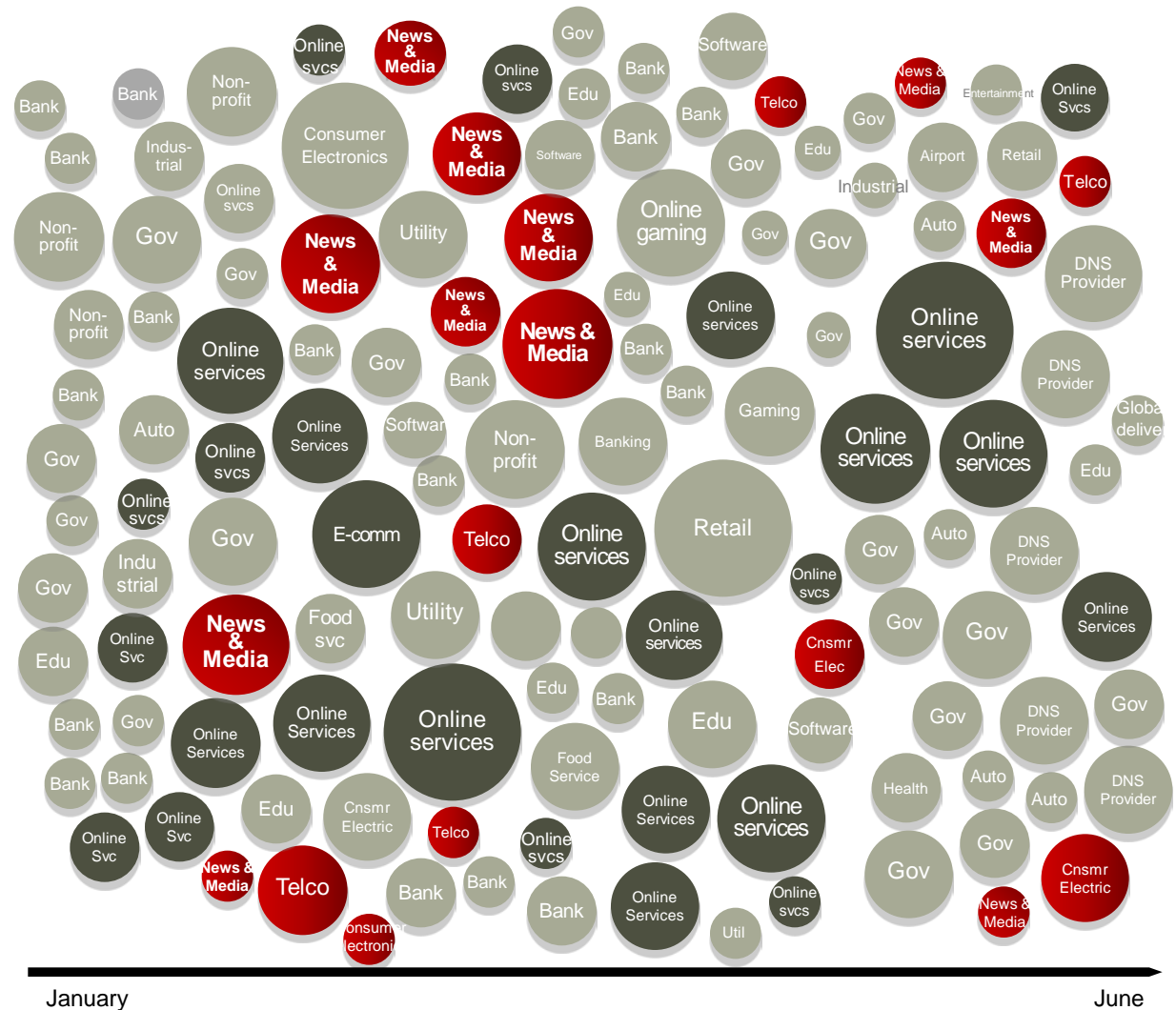
On Christmas Eve, 2012, NetFlix experienced a nearly 24 hour outage that outraged customers

NETFLIX

30M

People subscribe to Netflix streaming worldwide, of which more than

27M

are in the Americas region that was exposed to the outage and could have been affected.

"I terminated my Netflix contract the next day. It's not the only time Netlix went down....

Netflix explanation was engineering mumbo-jumbo that did not address the aggravation of customers who have alternatives…

I have alternatives which I'll exercise. Is that grumpy? Maybe. Is it a loss of revenue for Netflix and a gain for another company? Yes."

- Andrew Fallat
customer on NetFlix techblog

Source: http://techblog.netflix.com/2012/12/a-closer-look-at-christmas-eve-outage.html
http://www.nydailynews.com/news/national/netflix-blames-amazon-christmas-eve-outage-article-1.1227384#ixzz2mhspaq22

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On January 31, Amazon.com crashes and misses out on $5M in revenue in 1 hour

amazon.com

$5M

Was the estimated revenue lost due to the event.

Amazon never officially commented on the cause. Reports circulated that indicated it could have been an internal issue, or a denial-of-service attack.

"Amazon is still down. Never seen an indie bookstore shut down mid-day. Everyone: meet you at @strandbookstore!"
- @jasonpinter

"Amazon site crashes same day we write the headline, "Are Small Publishers the Future?" Coincidence?"
- @GalleyCat

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What will you do with cloud?
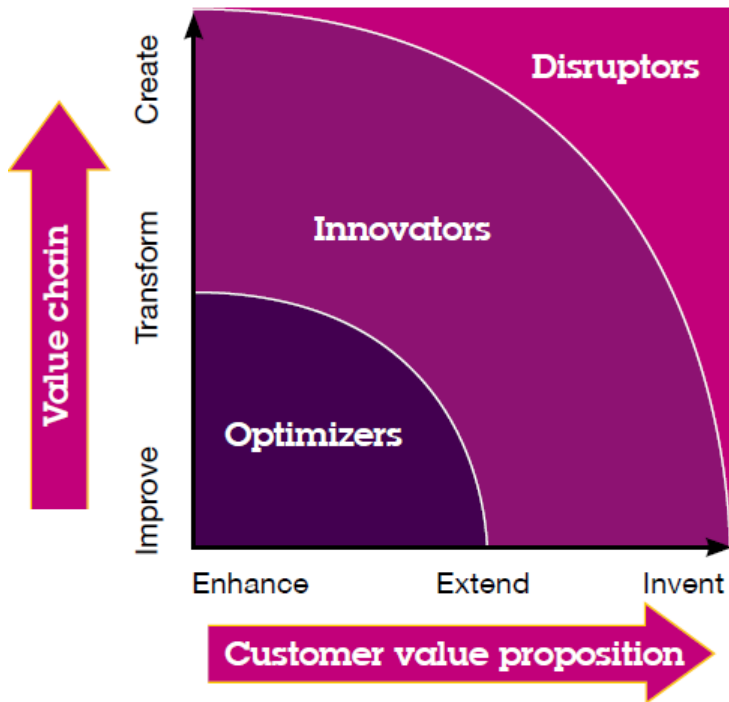
Be a disruptor

▪Create radically different value propositions, as well as generate new customer needs and segments – and even new industry value chains.

Be an innovator

▪Significantly improve customer value, resulting in new revenue streams or even changing roles within an existing industry ecosystem.

Be an optimizer

▪Incrementally enhance customer value propositions while improving organization efficiency.

Disruptor case study: Comcast Xcalibur

Comcast

Challenge
In 2011, Comcast piloted Xcalibur, a next generation cloud based TV platform to deliver live, personalized TV service to any Internet-connected device.

Cloud-enabled business model
Cloud controlled content model enables live video feeds that allow customers cross-device access to tailored content

Business results
- Customer demands for easier access to TV and other Internet-enabled content can be met
- Content can be delivered to more devices
- New apps can be developed faster and more cheaply
- UI changes can occur quickly and easily

Comcast Corporation is a leading media, entertainment and communications company

It is one of the nation's largest video, high-speed Internet and voice providers to residential and business customers

Innovator case study: 3M Visual Attention Service

3M

Challenge
The design industry comprises numerous small design firms, so 3M needed to make its new VAS product broadly accessible and affordable

Cloud-enabled business model
▪Cloud enables 3M to offer VAS in an affordable, flexible, pay-as-you-go business model
▪VAS is designed to fit seamlessly into designers' existing design process

Business results
▪Scalable environment accommodates demand peaks
▪Low up-front investment and flexible pay-as-you-go pricing expands market coverage
▪Tight integration in the design ecosystem makes VAS an essential part of design processes

3M is as one of the most innovative companies globally, with a diverse range of products across industries including consumer and industrial products, electronics and healthcare

The 3M Visual Attention Service (VAS) is an online scanning tool that scientifically analyzes design effectiveness based on how the average human eye responds.

Optimizer case study: North Carolina State University

Challenge
Facing growing demand for academic computing resources, NCSU was struggling to deliver the service level demanded by key user populations

Cloud-enabled business model
Flexible and intelligent resource provisioning has improved access, efficiency and convenience, allowing NC State to optimize operational efficiencies and enhance user experience

Business results
- Computing capacity shifts seamlessly between instructional, research and administrative needs
- Cloud environment can scale to match future changes in enrollments
- Resources can be shared remotely improving education and enabling new business models
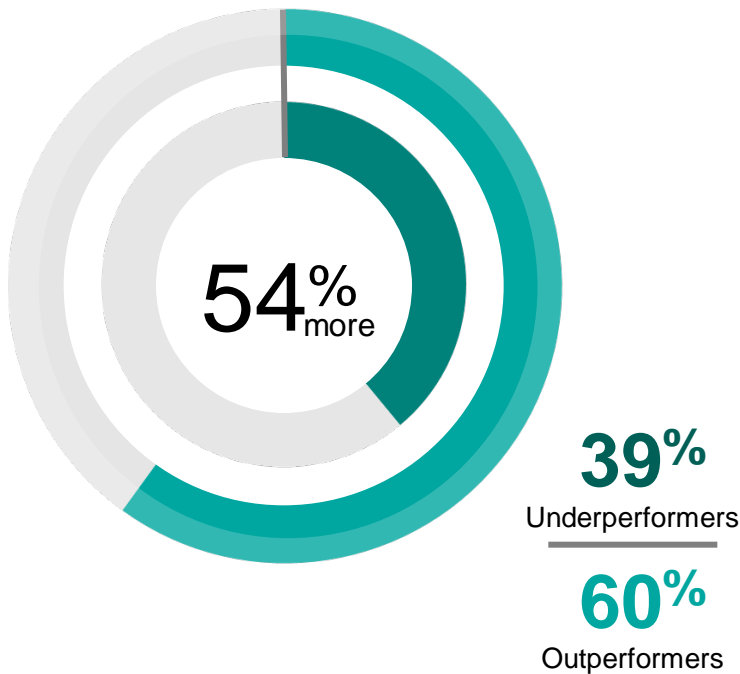
Based in Raleigh, North Carolina State University is a comprehensive university known for its leadership in education and research

Virtual Computing Lab (VCL), is a cloud-based technology providing students, faculty and researchers access to advanced educational materials, select software, computing capability and storage

CIOs in outperforming organizations are generally more ready and committed to confront the risk and security challenge

Significant investment in risk management systems

Developing the capabilities and processes to better manage risk

54%more

35%more

39%
Underperformers

60%
Outperformers

51%
Underperformers

69%
Outperformers
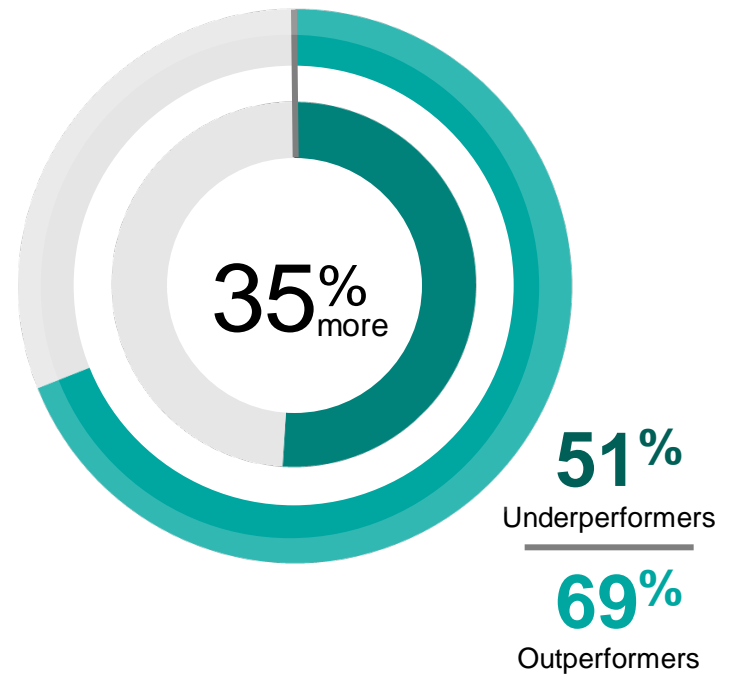
Source: IBM CIO Study, 2013, Question CIO2–Where will you focus IT to help the enterprise's strategy over the next 3 to 5 years?
And question CIO4f–In which areas do you plan to improve your ability to draw meaningful and executable insights from available information (risk management)?

Different cloud models enable Media & Entertainment firms to balance access and security

Private Cloud   **Public Cloud**

Enterprise Data Center	Enterprise Data Center	Enterprise	Enterprises	Multi-tenant
Enterprise Operated	Service Provider Operated	Service Provider Hosted & Operated	Service Provider Operated	Service Provider Operated

Intelligence   Banking   Retail

Closed   Open

What security approach best fits Media & Entertainment?

Consumer	Single enterprise		Multiple enterprises	Any enterprise/ user
Location	On premises	On or off premises	Off-premises	
Access	Intranet or internal network		Virtual Private Network (VPN) or public internet	Public Internet
Workload	All types including sensitive data and core business processes		Less sensitive data and core business processes	Non-sensitive enterprise apps, data, analytics, collaboration, storage, rapid prototyping

Summary

1. Embrace the power of cloud

Cloud opens up significant business opportunities for new business models in media and entertainment – missing out has huge costs

2. Ensure that IT & Business stakeholders work together

Engaging in digital disruption is best accomplished when IT experts and business leads work together to meet the needs of customers and innovate

3. Invest time & energy to mitigate risk

Cloud is still developing, and firms must ensure that they are prepared for unintended consequences, including security and reliability impacts

Thank you …

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