

Implementing an Effective Cloud Cost-Saving Strategy

Microsoft
Partner

Microsoft

Gold Data Analytics

Gold Data Platform

Gold Cloud Platform

 databricks®
Partner



About Us

We deliver innovative data and AI solutions to help organisations build a data-driven culture and empower their business decisions with insights.



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The logo for 'data-driven' features a stylized blue and white infinity symbol to the left of the text 'data-driven' in a white, sans-serif font.

Driving business value with data



What We Do

End-to-end data and AI consulting services

Data Strategy

Assess your current data estate/analytical requirements and define a strategic roadmap to achieve your goals on time and on budget

Advanced Analytics

Our Modern Data Platform enables you to unlock additional insights and find the value in your data

Modern Business

Accelerate your business transformation with our proven methodologies, process automation and business applications



Contents

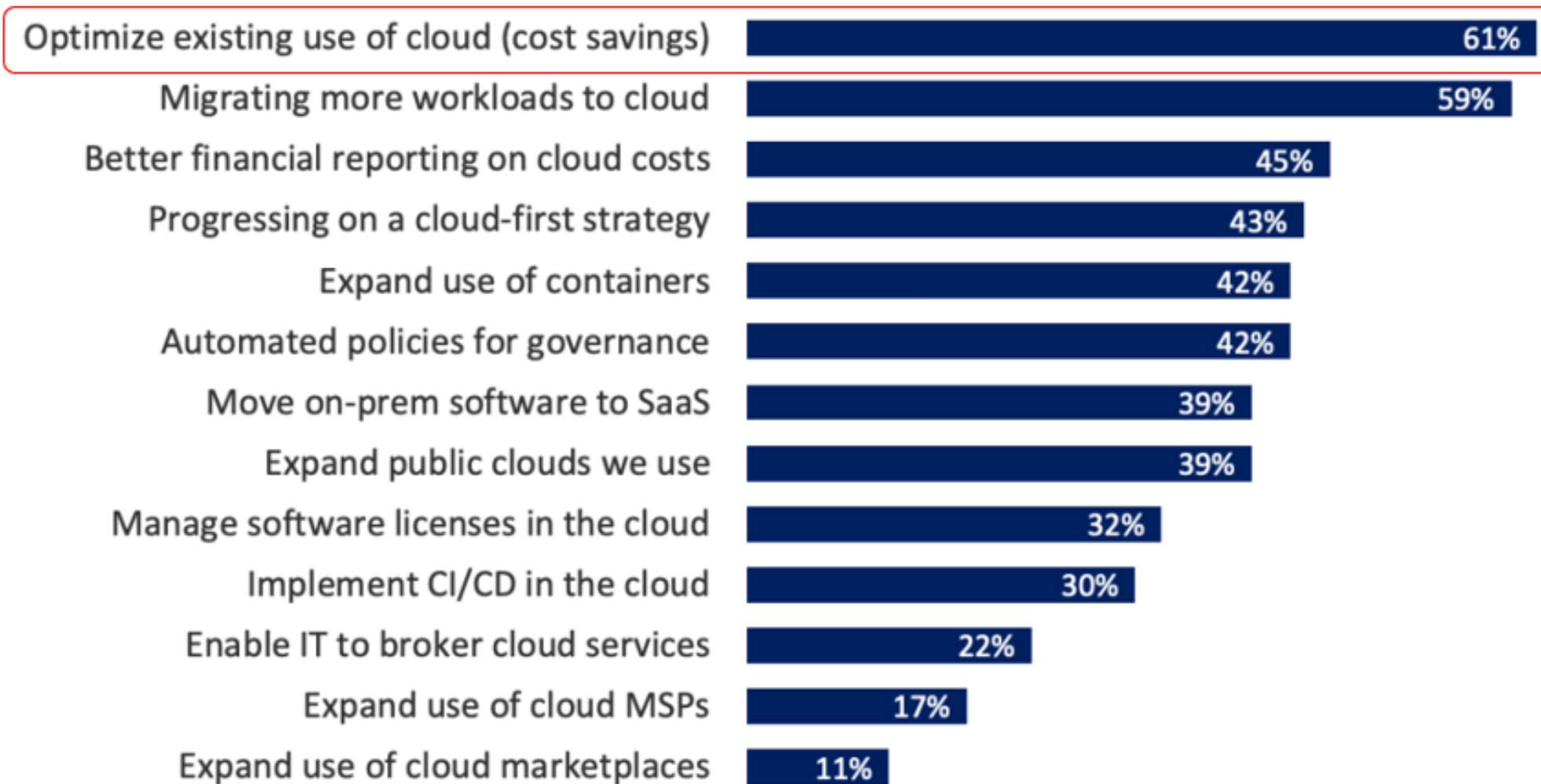
1. Why do we need a Cost Strategy?
2. What causes Costs to spiral out of control?
3. Common Misconceptions – Expectations Vs Reality
4. The 5 Steps of a *healthy* Cost Management Process
 1. Understand your Costs
 2. Assess for Improvements
 3. Optimize your Usage/Costs
 4. Set up good Governance
 5. Educate
5. Development Best Practices for Cost Savings
6. CloudMonitor – Automated Cost Management
7. Questions



Why do we need a Cost Strategy?

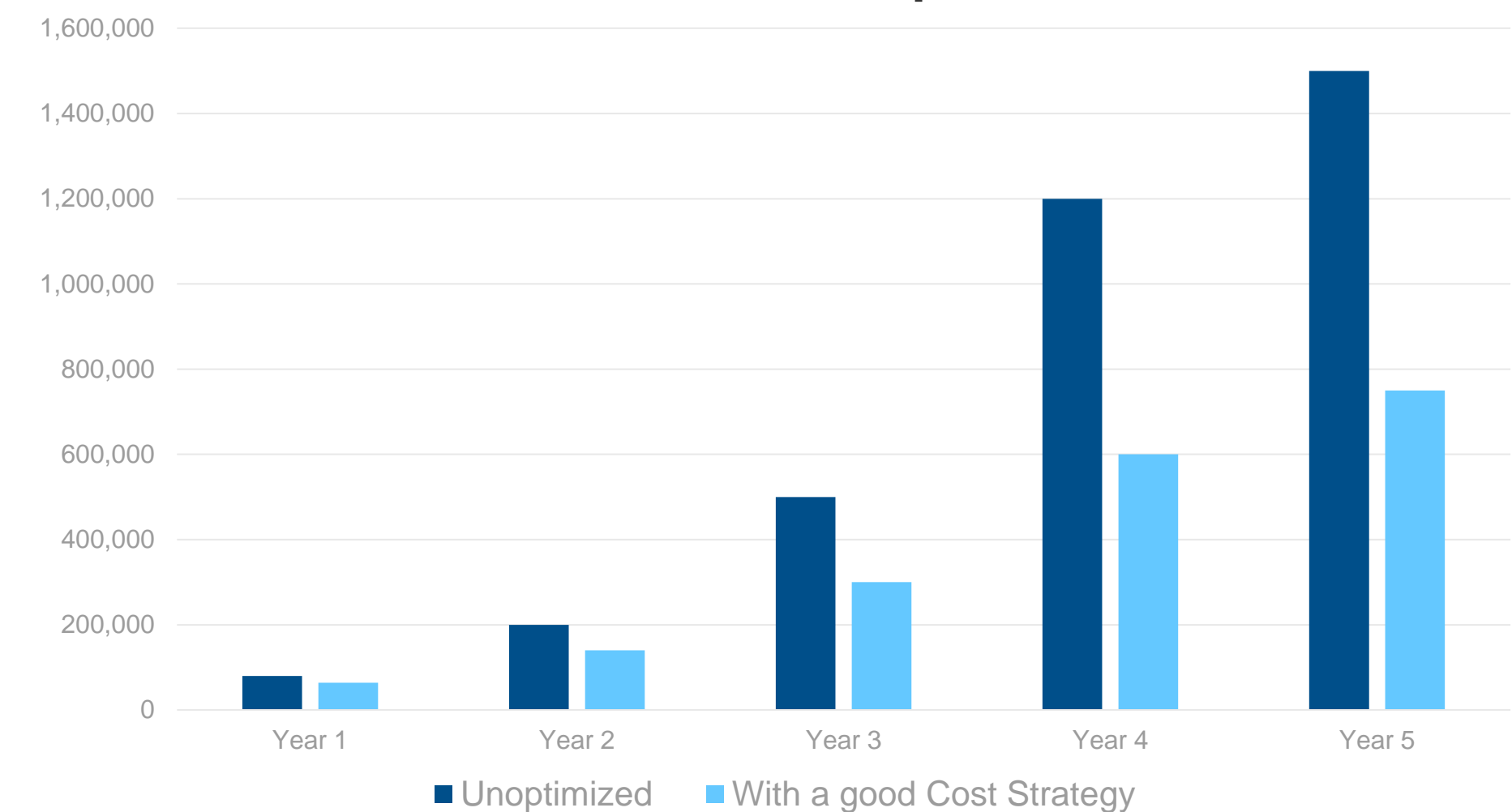
Cost saving is the top initiative for cloud users for the 5th year in a row, according to the Flexera [2021 State of the Cloud Report](#).

Top Cloud Initiatives for 2021
% of all respondents



Source: Flexera 2021 State of the Cloud Report

Annual Azure Spend

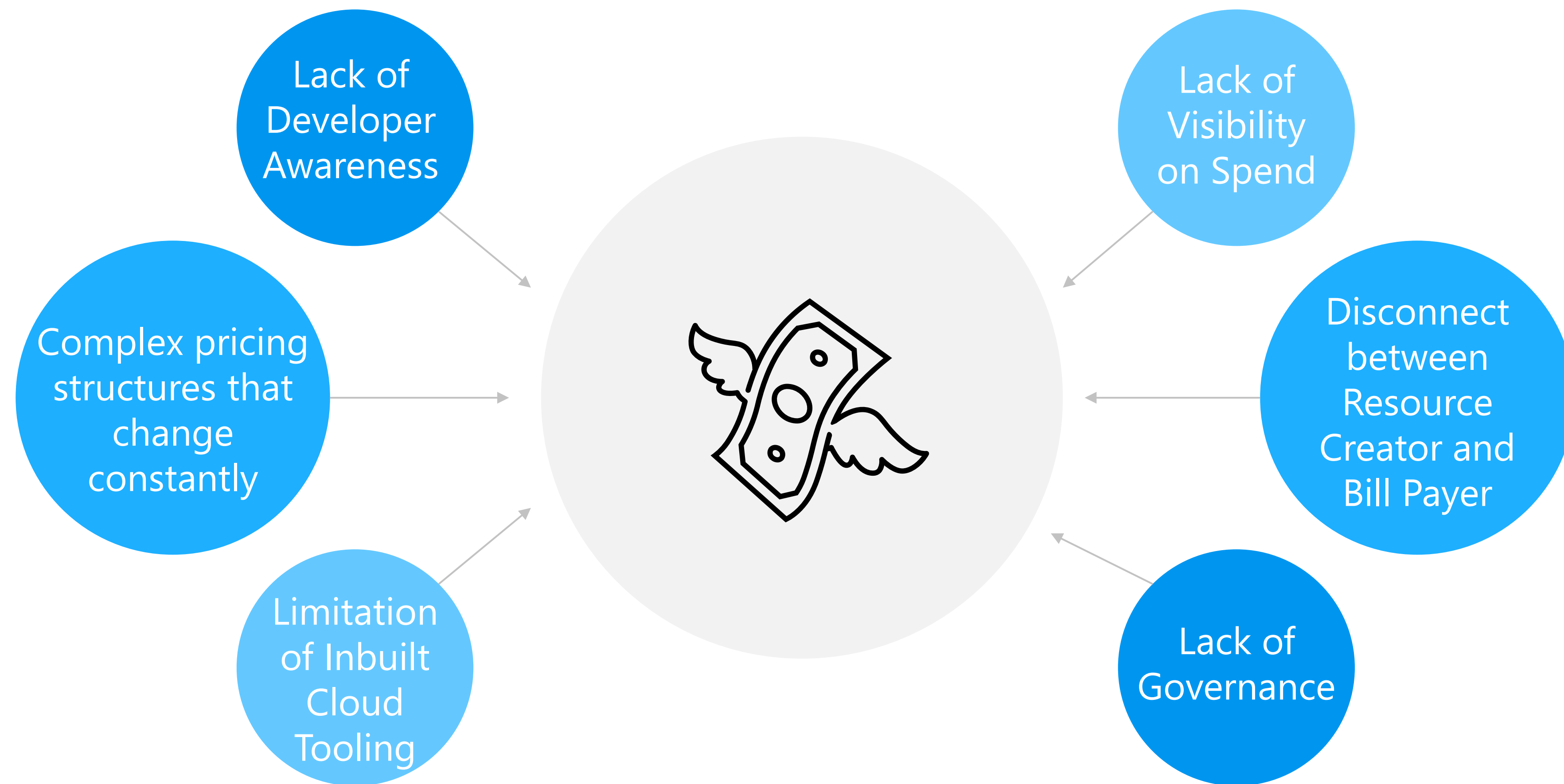


Savings of 30-50% are common with a good Cost Strategy



What causes Costs to Spiral?

The cloud, by nature, allows self-service and rapid scaling. Without management controls, these quickly contribute to large costs

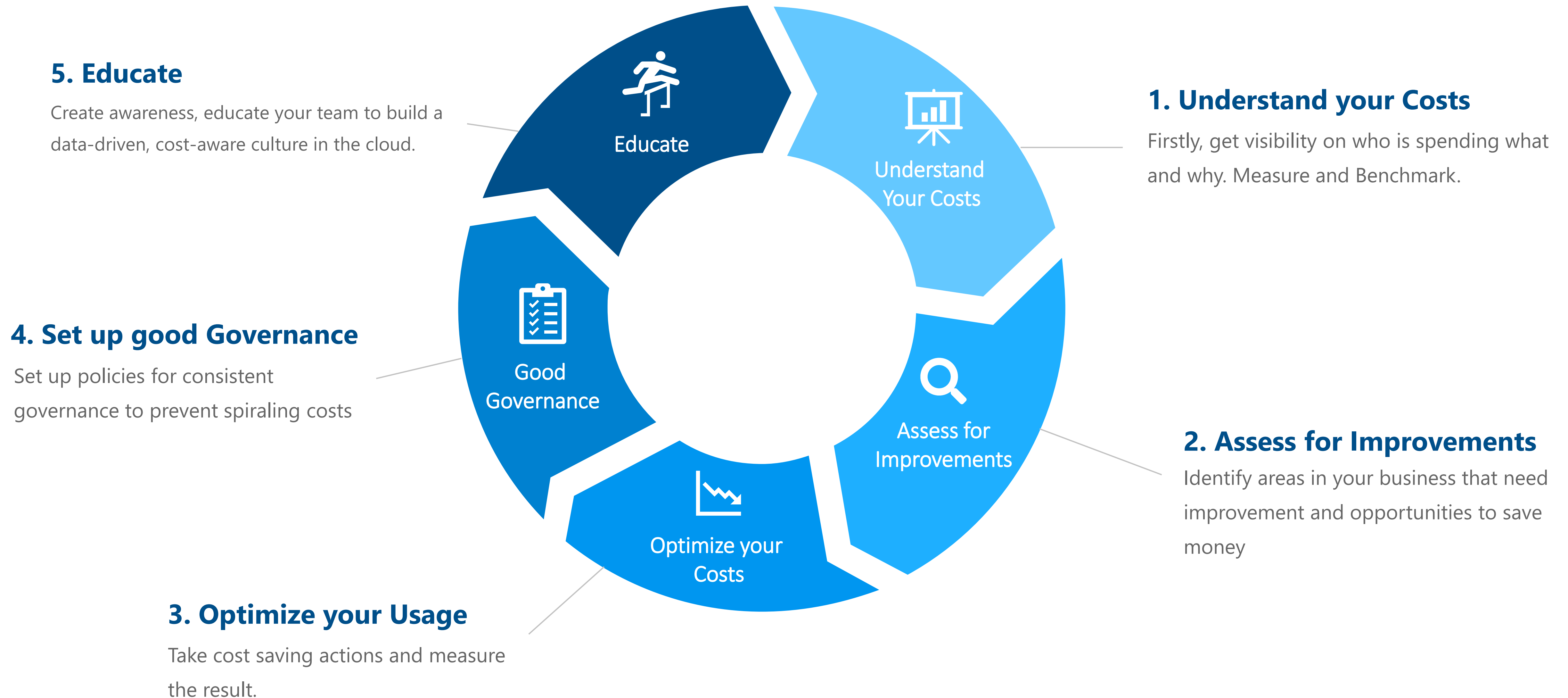


Cloud Misconceptions - Expectations Vs Reality

Expectations	Reality
Moving to cloud will save costs instantly and automatically.	As opposed to on-prem, cloud cost has variation of costs. Opex versus Capex
“Lift and Shift” to the Cloud is cheaper than OnPrem	IaaS can be much more expensive than PaaS
Cloud cost optimisation is built into the cloud Service	A cloud provider only offers you its cloud services and computing platform to develop, run, and scale your applications
Setup and forget / Run once	Pricing and resource structure is complex and needs constant a proactive approach with continual reviews
Cloud Providers have great tools for Cost Management	The tools are limited and not nearly as helpful as they could be



Solution – A healthy Cost Management Process





1. Understand your Costs

Improving the *visibility* of costs is the first step to understanding that you have a spiraling cost problem

1. Find a tool that lets you *analyse and report* on Cloud spend
2. It should have at *least* the following capabilities:
 1. Allow self-service reporting / analytical features
 2. Compare **Actual Costs** versus **Budget** versus **Forecasts**
 3. View by **Business Unit** as opposed to technical hierarchies
 4. Send monthly reports to Business Unit Owners (the **Payer**)
 5. Be *extensible* to match your business processes
3. The Cloud Provider tools have *some* of these features
4. Consider connecting to the granular data with a BI tool like Looker, Tableau or Power BI and reuse skills in your organisation



Example of an Azure Invoice versus Custom BI

The granular data gives you analytical ability to understand your costs

Azure Monthly Bill

Data-Driven AI
Invoice No. E05008OR45



Usage Charges

Name	Type	Resource	Region	Consumed	Included	Billable	Rate	Value
Bandwidth		Data Transfer Out	Zone 1	0.0012	0.0000	0.0012	0.1195	0.00
Bandwidth		Data Transfer Out	Zone 2	0.1409	0.0000	0.1409	0.1648	0.02
Storage	General Block Blob	LRS Data Stored		57.7161	0.0000	57.7161	0.0330	1.90
Storage	Files	LRS Data Stored		1.0491	0.0000	1.0491	0.0824	0.09
Virtual Network	IP Addresses	Dynamic Public IP		35.2094	0.0000	35.2094	0.0055	0.19
Storage	General Block Blob	LRS Data Stored	AU East	5.2750	0.0000	5.2750	0.0362	0.19
Storage	Files	LRS Data Stored	AU East	0.0439	0.0000	0.0439	0.0906	0.00

Custom BI Report

TOTAL PERIOD COST

\$10,447.1

▲ **43.4%** / previous

PROJECTED FY COST

\$23,870.7

0.0% / prev FY

AVERAGE COST PER DAY

\$95.8

▲ **43.4%** / previous



COST GROUPS

6



RESOURCE GROUPS

79



SUBSCRIPTIONS

14

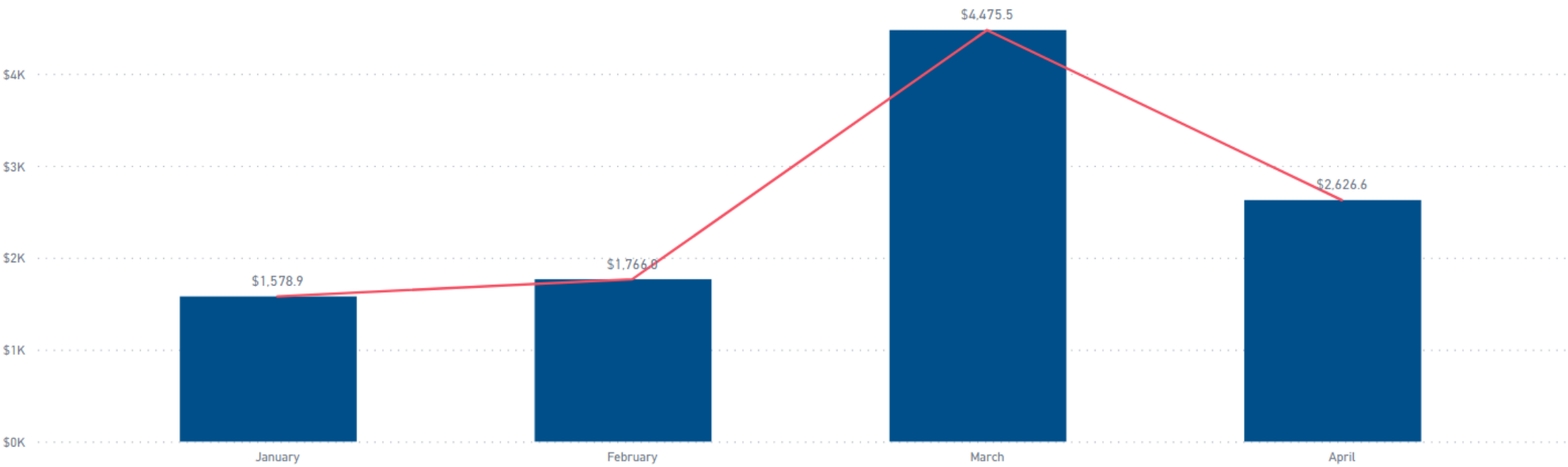


RESOURCES

393

LAST 6 MONTHS

BY COST





2. Assess for Improvements

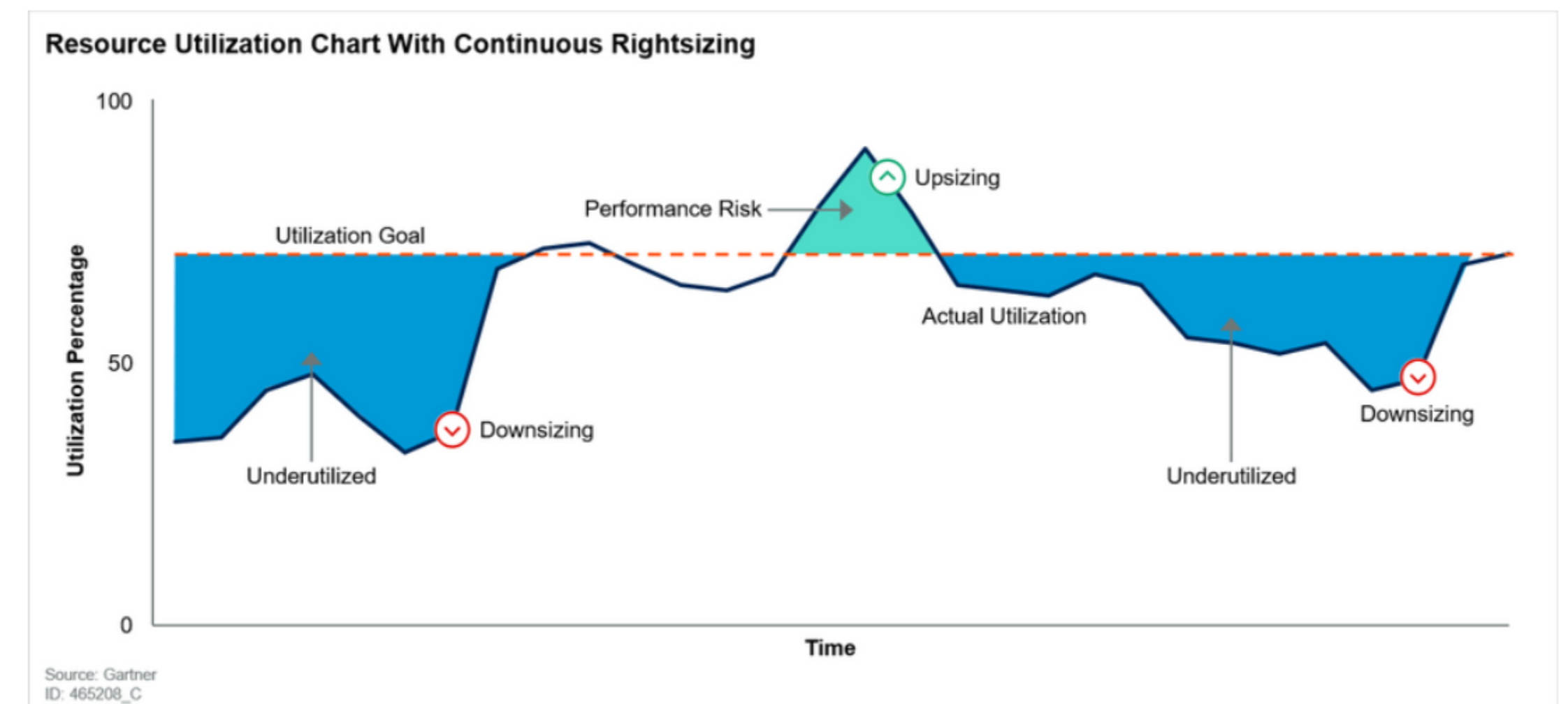
Identify areas that need improvement and opportunities to save money

1. Involve all stakeholders from **Tech** and **Business**
2. *Benchmark* the current system over time
3. Identify low hanging fruit with a cost/benefit analyses
 1. What are the top expenses?
 2. Are there resources that are no longer used?
 3. Compare customer availability with system availability schedules
4. Perform a **Governance** Maturity Assessment
5. Prepare an implementation **Plan**
6. Assign an accountable **Owner** to the Plan

3. Optimize your Usage

Implement Cost-Saving optimizations in order of Effort/Benefit and measure the result

1. Reserved Instances (Prepay with discount)
 2. Review Cloud offers for Development Licenses
 3. Review native PaaS capabilities
 4. Right-Size Resources
 5. Remove Zombie Resources
 6. Schedule Workloads
 7. Review Backup Requirements
 8. Review Data Storage Requirements
 9. Cut down and be on top of your data transfer costs
 10. Review pricing structures and set for your workloads/ use-cases
- and many more...





4. Set up good Governance

Enforced Preventative Maintenance is the easiest way to reduce the management chaos on large systems

1. *Enforce* good Resource Naming Conventions
2. Establish who is the Owner (Person accountable) of *each* resource
3. Set up a monthly cost report to be emailed to all stakeholders
4. Set up cost alerts when costs exceed budget or forecast
5. Set up cost alerts for cost anomalies
6. Budgeting should be enabled as granular as possible:
 - Pace of Budget
 - Alerts to Owner
7. Enforce use of Tags
8. Environments should be split by Subscription – Dev and Prod
9. Use a single source of truth for identity
10. Schedule regular review sessions



5. Educate

An effective cost management strategy needs to be built into the organization culture to bridge technical and business

1. Executives (e.g. CxOs, Executive Sponsors)

- Have the power to *effect change* in the organisation

2. Business Owners (e.g. Project Managers, Program Managers)

- Put Cost Management and Optimisation into the project *budget*
- Understand customer schedules and business hours availability

3. Technical Leads (e.g. Lead Architects, Principal Consultants, Team Leads)

- Ensure architecture embraces cloud PaaS capabilities
- Ensure backlog has Cost Management and Optimisation tasks
- Educate Dev Team on developmental cost best practices



Development Best Practices for Cost-Saving

1. Start Small
2. Consider architectural changes before scaling up to solve a performance problem
3. Your Dev and Prod Environments probably will NOT be the same due to cost
4. Use DevOps and Automation to pause/unpause/deploy environments on demand
5. When you scale something up, set up a notification/reminder
6. Choose *Horizontal* scaling over *Vertical* Scaling
7. With integration components, keep an eye on data ingress/egress charges.
8. Be aware of the premium of PaaS services
9. IaaS can be more expensive than PaaS due to its "On or Off" approach
10. Plan from the start for Redundancy
11. Test Cost Saving optimisations on DEV first to reduce risk



Cost Saving Tips

1. Repeat Steps 1-5 continually – Cost Optimisation is not a once-off exercise
2. Get your IT Team on board to find the right balance between Preventative Maintenance policies and Innovation
3. Get buy in from the top to build a data-driven cost culture in your organization
4. Educate all stakeholders (business and technical) in every project around cloud costs
5. If you contract out work – ensure your Vendor includes Cost Optimisation during Dev AND in their Managed Support
6. Automate – Trying to manage a cloud platform manually is crazy
7. Extract the granular data and connect your BI tool of choice to it
8. Invest in an automated Cost Management tool like CloudMonitor, CloudHealth, Sharegate Overcast etc.



CloudMonitor

Reduce your Cloud Spend with Automated Cost Governance

Your customers are online 40 hours a week - Why run your services overnight? Auto-pause or scale-down according to your custom business schedules

Smart Scheduling

AI-Driven Recommendations

Cost-Saving opportunities and recommendations based on real-time utilization metrics to find oversized and unused resources

Anomalies, recommendations and reminders to the person accountable via multiple Microsoft 365 channels

Intelligent Alerting

Cost Anomaly Detections

If you spent more than the day before you want to know why. CloudMonitor will alert you with an audit log of what happened yesterday

CloudMonitor Bot embeds directly into your Dev Teams project workflow to catch expensive mishaps immediately and answer real-time cost queries

Teams/Slack Bot

Smart Budgets

Budgets and forecasts that considers the pace of consumption and alerts the Owner sooner rather than later

Extensible self-service, reporting to match your business processes with budgeting, forecasting and scheduled reports to business unit owners.

Reporting

Ownership & Accountability

Every resource has an Owner and a Created Date. Create Cost Groups that match your business structures for non-technical users



Reduce your Cloud Spend with Automated Cost Governance



CREATED ON

2021/01/13



OWNER

karan.singh@data-dri...

data-driven

Executive Summary

CloudMonitor

COST GROUP

All

FINANCIAL YEAR

2021

TOTAL PERIOD COST

\$4,475.5

▲ 142.8% / previous

PROJECTED FY COST

\$22,379.2

0.0% / prev FY

AVERAGE COST PER DAY

\$144.4

▲ 142.8% / previous



COST GROUPS

6



SUBSCRIPTIONS

14



RESOURCE GROUPS

66



RESOURCES

334

Subscription

PROD - Silver Credits

Meter Category

Azure App Service

Meter Sub Category

PROD - Silver Credits
\$5,849.1

RJ (QueMesa) - MSDN
\$209.3

RK - MSDN
\$734.9

SO - MSDN
\$1.4

Visual Studio Enterprise Subscri...
\$745.3

WK - MSDN
\$285.9

YT - MSDN
\$457.0

Azure App Service
\$1,664.7

Azure Bastion
\$241.3

Azure Bot Service
\$0.0

Azure Cognitive Search
\$0.3

Azure Cosmos DB
\$2.7

Azure Data Factory v2
\$2.2

Azure Databricks
\$0.1

Basic Plan
\$129.5

Free Plan
\$0.0

Free Plan - Linux
\$0.0

Shared Plan
\$63.8

Standard Plan
\$1,471.5

High value

Low value

Cost Group

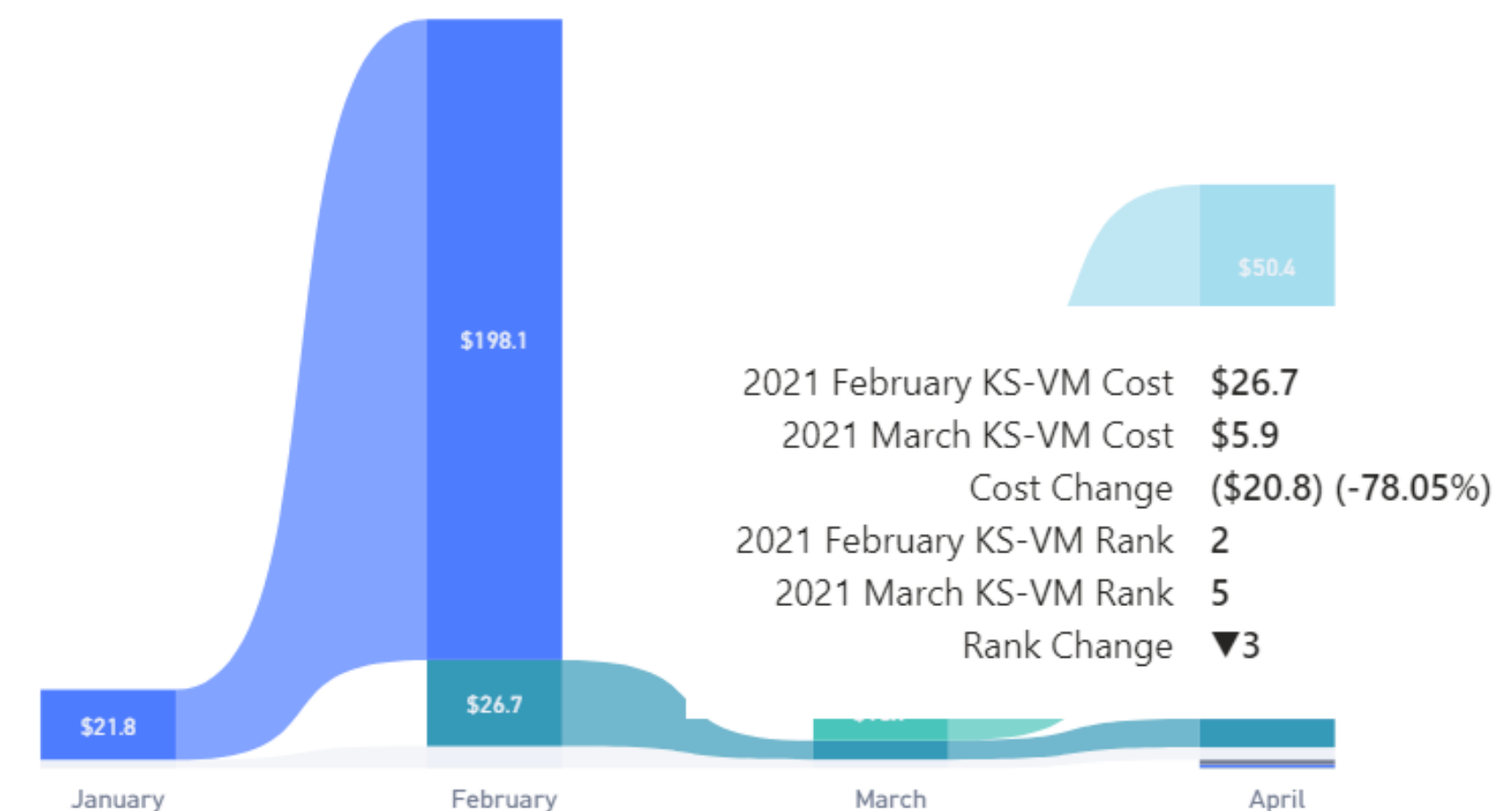
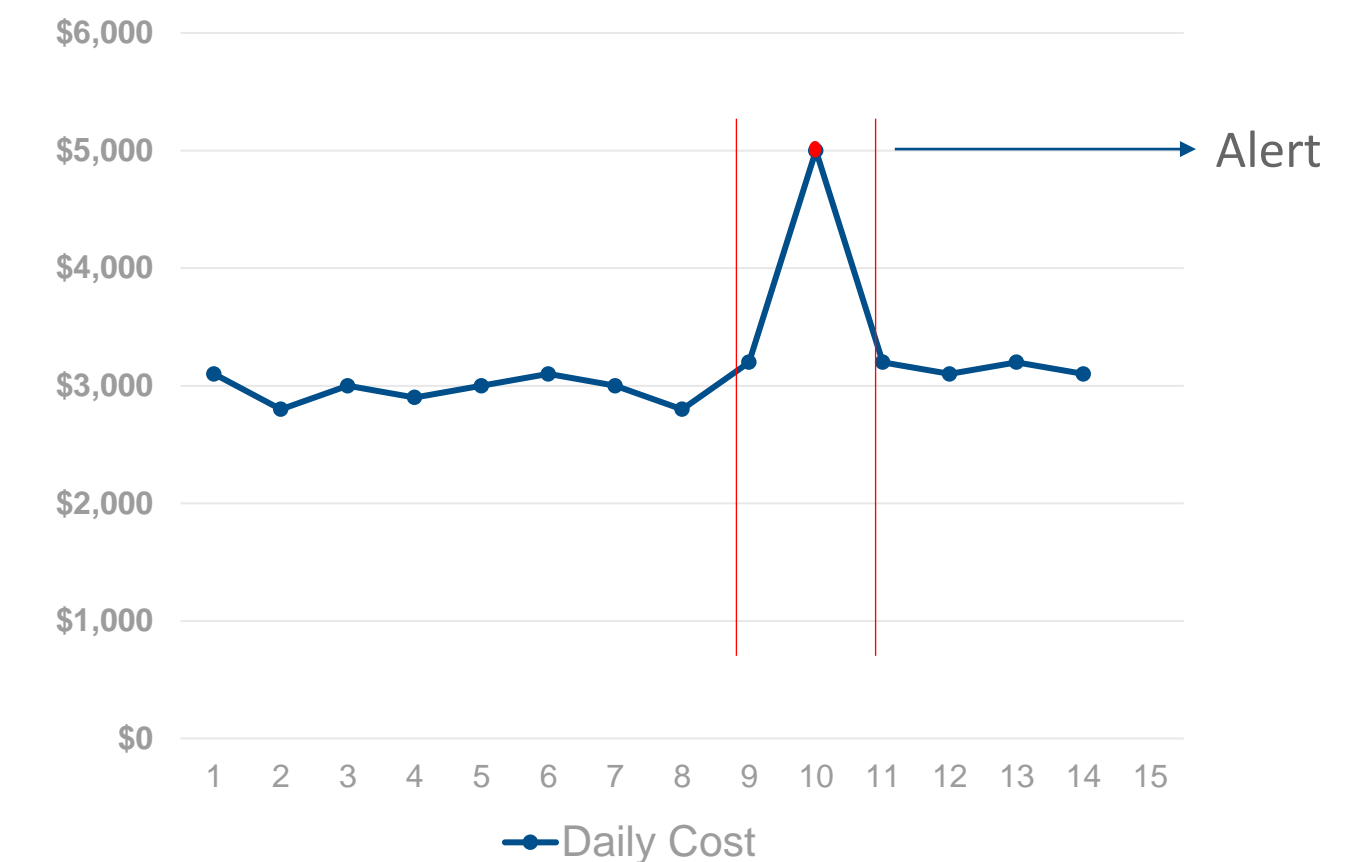
Resource Group

Resource

Consumed Service

Meter Name

Location



<https://cloudmonitor.ai>



Customer Success Stories

 data-driven



Data-Driven - Azure Cost Optimization Assessment

Our Agile approach involves the technical and business users from the start in a rapid feedback loop to quickly add value without disrupting your business

Report and Presentation (within 3 days)

We'll present our report and highlight the next steps to gain the biggest benefits, as well as which resources to "right-size" and other cost-saving opportunities (like Reserved Instances)

Review Cost Governance Process

We'll look at how you currently do your budgeting versus forecasting and how resources are created and managed

Document Quick Wins

Find the low hanging fruit with the least risk first to make big cost savings



Discovery Workshop

We hold a workshop with the technical users responsible for cost management to understand the environment, key workloads, and pain points

Review Azure Ecosystem

Using Reader Access only (no risk), we review your system in detail and begin compiling our report by Resource Group

Identify over-sized & zombie resources

Find resources that are underutilized and costing money. "Right-size" them to save on these costs



Reducing Azure Spend & DevOps Improvement

Customer Success Story – Cost Optimisation – [Read Online](#)



Clinic to Cloud

Clinic to Cloud is a cloud-based medical software that provides Australian healthcare teams with greater visibility and control - to ultimately improve patient care. Clinic to Cloud has invested in technology which help clinicians reduce costs, increase access to information and provide improved patient care.

The Challenge

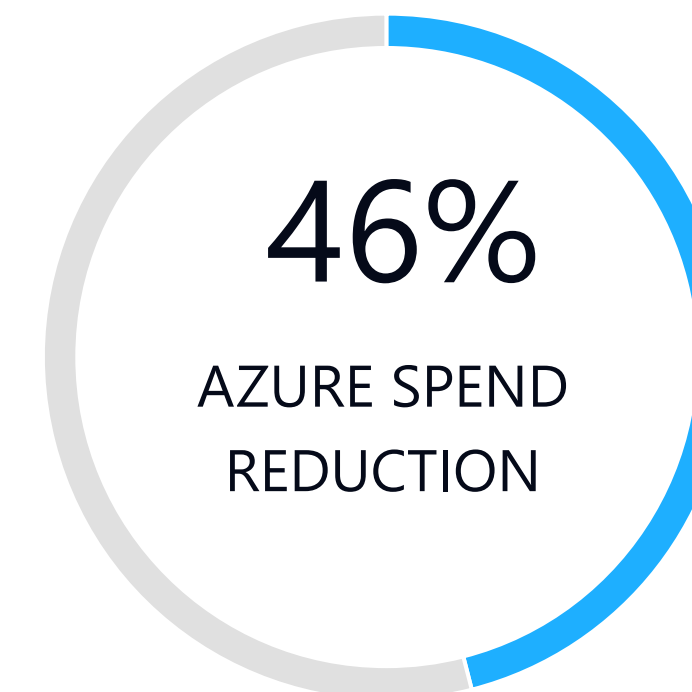
After a period of increased growth and additional customers the costs on the Azure platform increased significantly as more developers worked on the system.

This resulted in a large Azure bill each month which increased over time. In addition to this the DevOps solution needed to be updated to match recent platform enhancements.

The Solution & Business Value

We identified under-utilised resources and recommended a series of actions to remove or scale down services in order of benefit and risk.

Over a 2-week period we implemented and measured the changes to ensure the system performance remained unaffected. This resulted in **a 46% reduction in Azure spend** and better awareness amongst the development team of their actions regarding costs.



“Data-Driven did a comprehensive audit of our Azure infrastructure and DevOps processes. They identified and improved several areas, saving our company thousands of dollars each month in subscription costs.”

Rafic Habib,
Clinic to Cloud CEO

Contact Us

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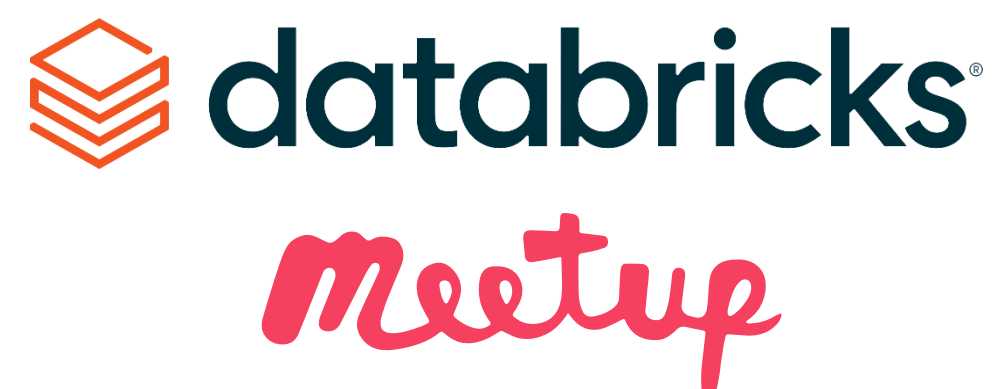
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Founders of the Sydney



The logo for data-driven CloudMonitor. It features a blue infinity-like icon to the left of the text "data-driven" in a white, sans-serif font. Below this, the word "CloudMonitor" is written in a white, sans-serif font, preceded by a white cloud icon with a blue pulse line.