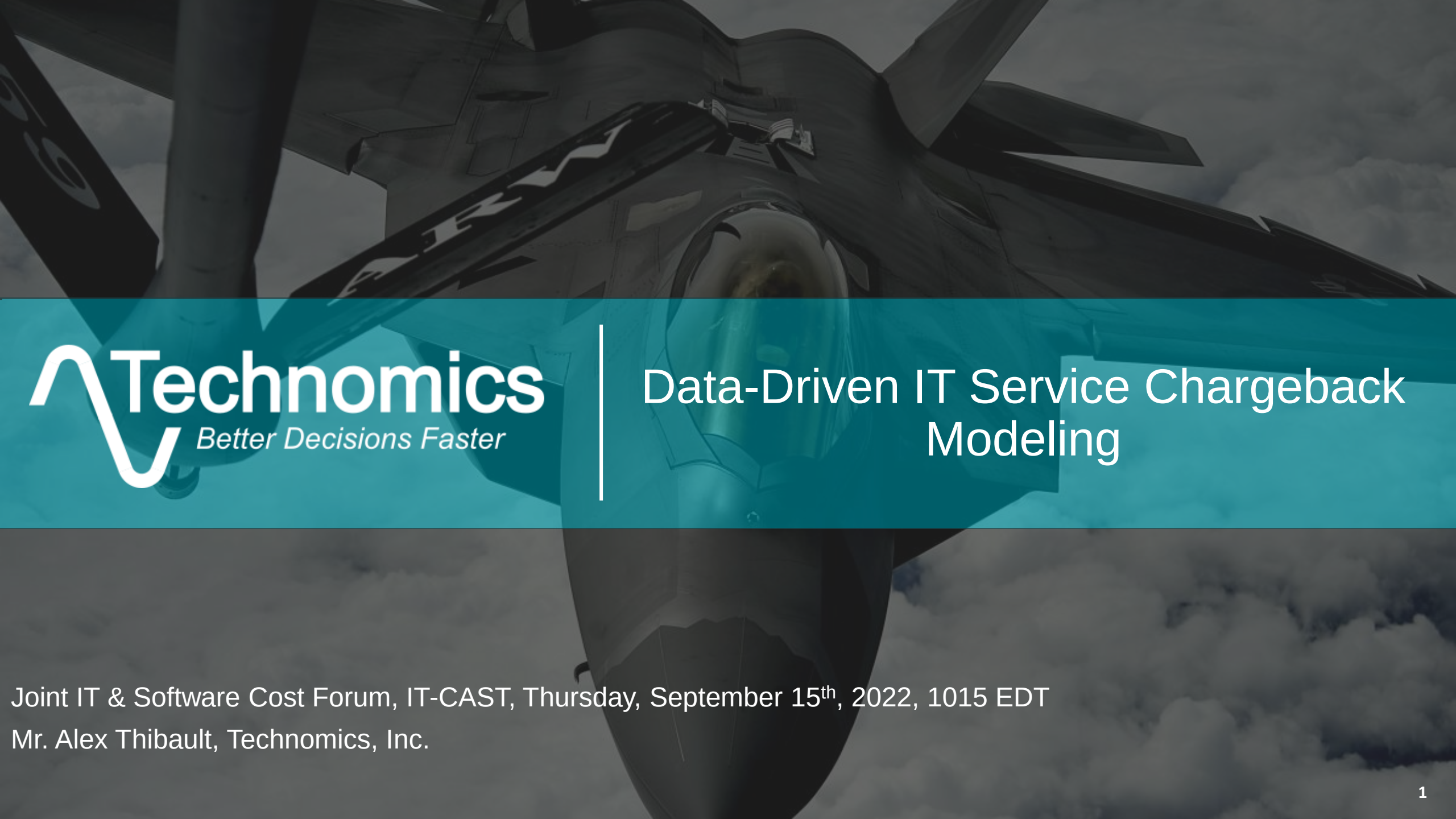


# Data-Driven IT Service Chargeback Modeling

Joint IT & Software Cost Forum, IT-CAST, Thursday, September 15th, 2022, 1015 EDT

Mr. Alex Thibault, Technomics, Inc.

# Abstract

Federal CIOs and IT Service Providers are experiencing "downward pressure" on budgets[1] while customers and leaders alike are requiring increased transparency into the cost of IT services[2]. Unfortunately, for many organizations the lack of fidelity around IT costs make it difficult for IT service providers to show value to customers while also reducing leadership's ability to make informed decisions[3]. Our own experience in the Federal CIO space suggests cost models for IT services ("Chargeback" models), when implemented, are often out of sync with other models within the organization and are almost always incongruent with IT service cost frameworks of other Federal organizations and industry. Finally, we've also found that the IT metrics that are collected are geared towards offering a service provider with the information they need to best deliver their capabilities, but are rarely collected with cost or transparency in mind. Over the course of our presentation, we will discuss how standardized, data-driven models can not only increase transparency and bolster credibility and defensibility around the cost for IT services, but also lead to potential cost savings as well as provide additional insight into an organization's IT spend. We will also discuss how the process of implementing these models can be transformative for organizations from a data collection perspective, as new data sets, processes, and automations are created to support these costing efforts. Finally, we will discuss how these models can "set the stage" for greater transparency in other areas of an organization such as lifecycle cost estimation and portfolio management.

[1] *Accelerating the Mission: Recommendations for Optimizing Federal Technology Cost and Value in the Age of FITARA*, Federal Commission on IT Cost, Opportunity, Strategy, and Transparency, July 21, 2016.

[2] *Hearing before the House Subcommittee on Information Technology*, Subcommittee on Government Operations, November 4, 2015.

[3] Boyd, Aaron. *"Feds, Industry Work to Improve Reporting on IT Spending."*, Federal Times. N.p., 20 May 2015.

# Meet the Presenter

Mr. Alex Thibault is a Senior Cost Analyst at Technomics Inc. within the Civilian Analytics-based Program Management team. Alex has nine years of Federal finance and costing experience. Currently staffed at the Department of Homeland Securities Headquarters, Mr. Thibault is performing data-driven IT Service Chargeback modeling for both On-Prem and Cloud-based IT services and is utilizing the Technology Business Management framework to structure models and tools. Prior to the DHS, Mr. Thibault supported several Federal cost projects including the FDA's Office of Information Management and Technology (OIMT) Working Capital Fund and the Census Bureau's CEDCaP Lifecycle Cost Estimate.

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# Agenda

**Introduction**

- Objective
- Costing Issues for IT Service Providers
- Stakeholders Want To Know…

**IT Chargeback Modeling**

- Data Driven Chargeback
- Model Standardization
- Financial Foundation
- Inventory of Services
- Developing Allocation Methodologies

**Benefits**

- Transparent IT Billing
- Additional Benefits – Cost Savings

# Introduction

# Objective

Over the course of this presentation, we will discuss how standardized, data-driven models can not only increase transparency and bolster credibility and defensibility around the cost for IT services, but also lead to potential cost savings as well as provide additional insight into an organization's IT spend. We will also discuss how the process of implementing these can be transformative for organizations from a data collection perspective, as new data sets, processes, and automations are created to support these costing efforts. Finally, we will discuss how these models can "set the stage" for greater transparency in other areas of an organization such as lifecycle cost estimation and portfolio management.

# Costing Issues for IT Service Providers

For many Federal IT Service Providers, challenges regarding

**Lack of Fidelity around IT Costs**

- The lack of fidelity around IT costs makes it difficult for IT service providers to demonstrate value to customers while also reducing leadership's ability to make informed decisions.

**Need for Increased Transparency**

- Internal customers and organizational leaders alike are requiring increased transparency into the cost of IT services

**Not Recouping the Full Cost to Deliver IT Services**

- Organizations that are already leveraging chargeback mechanisms to recoup IT service costs may not be recouping the full cost of the service as costs that are may be more difficult to capture are being left out of the equation (network, cybersecurity, power, etc.)

# Stakeholders Want to Know…

IT Service Providers are inundated with IT service cost questions from a variety of stakeholders at all levels of the organization.

**IT Service Owners and IT Managers want to know...**

- How much of my annual budget is being spent to maintain and operate my service(s)?
- What specific services do I provide and how in what manner are these services being consumed?
- What specific costs (e.g., Servers, Network, Cybersecurity) make up each of my customer-facing services?
- How can I trace Service costs back to my General Ledger, Financial Management System, or Spend Plan?
- What is the appropriate amount to charge my customers for each service and by what unit of measure?
- Which of our internal capabilities are incurring costs but are not directly consumed by our customers? Can we pass these internal costs along to our customers?

**CIOs, CFOs and IT Leadership want to know...**

- What IT Services does my organization offer and who is consuming them?
- What percentage of my IT Spend is Hardware vs. Software vs. Labor vs. Managed Services, etc.?
- How does my organization compare to its peers in terms of what I spend on each of my services? How do we compare to industry?
- Are we "lean" or do we need to find ways to reduce costs to be in alignment with our peers and/or industry?
- How much am I spending at each of my data centers? Should my service rates for customers vary from location to location?

**Customers want to know...**

- What makes up my annual IT Service bill? What am I getting for my money and how does that compare to acquiring it on my own?
- I'm considering expanding my current capacity (e.g., servers, seats, licenses). How much will that change my IT bill?
- How much can I save if I *reduce* my consumption of specific IT services?

# IT Chargeback Modeling

# Data Driven Chargeback

- IT Service Chargeback models utilize an organization's own data to develop credible and defensible allocation methodologies; these methodologies will then be used to allocate cost to services, and, ultimately, customers based on the customers' consumption of these services
- Chargeback model outputs include rates for service offerings on a per-unit basis; these outputs can be leveraged to drive billing to customers
  - Examples of per-unit service offerings include dollars per laptop, dollars per TB of networked storage, dollars per SharePoint collection, dollars per user/user account, etc.
- Service offering rates are "fully burdened" and therefore include costs that may not typically be counted
  - For example, while the typical cost of a customer laptop would include the device and operating system cost, a data-driven model would be able to credibly drive other important costs to the price of that laptop such as procurement and provisioning costs, maintenance and monitoring costs, etc.
- An organization can pull from a variety of data sources to populate their model including the general ledger data, spend plans or purchase order data, Service Desk tickets, User Counts, User Licenses, Device Counts, Usage Reports, etc.)

**Examples of potential chargeback model data sources:**

**Financial Data**
- General Ledger
- Financial Management System
- Spend Plan
- Purchasing Data
- Contract Data

**Service Offering Data**
- Service Catalog
- IT Customer Agreements/MOA
- Existing Chargeback Models
- Statements of Work
- Service Owner Interviews

**Allocation Methods Data**
- Service Consumption Metrics and Reporting
- Asset Counts and Reporting
- User/License Counts
- Expert Opinion (if no data)

# Model Standardization

- If you're creating multiple models for different parts of your organization, standardizing the models' frameworks will facilitate comparisons, reporting and billing across models
  - Additionally, in situations where offerings may be similar such as on-prem vs cloud storage, a standardized model framework enables "apples-to-apples" cost comparisons across services

- Consider standardizing your organization's models to an external framework or taxonomy
  - Using a externally recognized and practiced taxonomy for service offerings, for example, can enable IT service cost benchmarking with other agencies and/or industry
  - For example, OMB has prescribed a taxonomy for its Capital Planning reporting requirements; using this same taxonomy for Chargeback may help the organization "speak the same language" when reporting to leadership or external governing bodies.

**Example Framework and Taxonomy for Use in IT Chargeback Models (via TBM Council)**

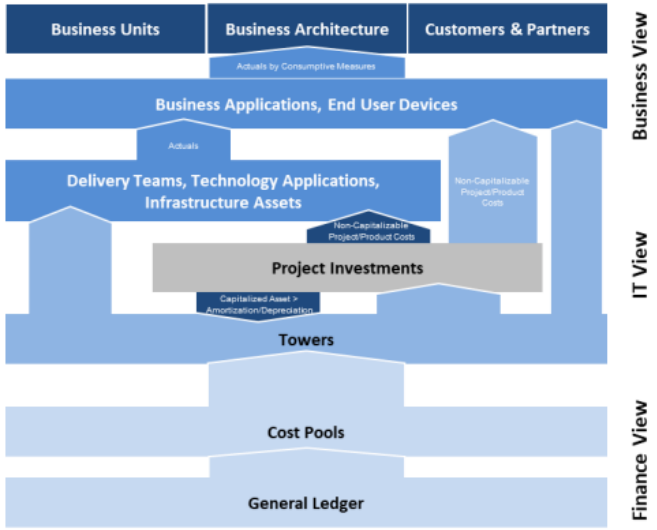


Figure 2: Conceptual TBM Model

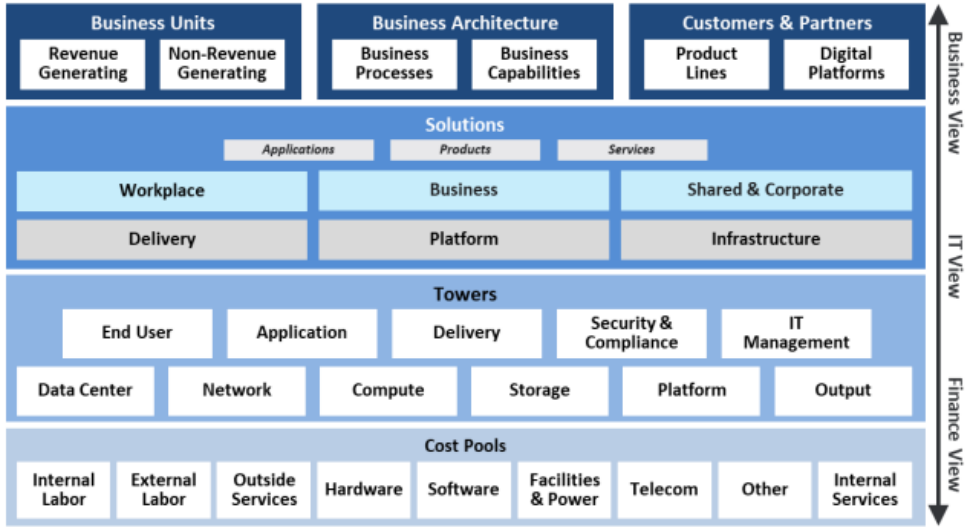


Figure 1: The TBM Taxonomy (Summary View)

*Source: "TBM Taxonomy Version 4.0" Dec. 16, 2020 (TBM Taxonomy - TBM Council)*

# Financial Foundation

- It is critical to *precisely* scope which financial data will be used in a chargeback model *up front* at the beginning of the modeling effort
  - Only costs incurred by the specific organization performing the chargeback can be included
  - Costs incurred by other organizations/groups *cannot be included* unless they, too, are reimbursed for those costs
  - For example, a system owner may recoup the licensing or maintenance costs their division spent from the customers using the system, but the system owner may not recoup the cost of the infrastructure or network upon which the system sits *if those costs are incurred by a separate division*. If this "double dip" were to occur, it would create an accidental surplus of funding and would potentially be in violation of federal law.
- Choose your financial data source carefully, as these costs are the starting point for your model and will be allocated through your model to your customers
- Be mindful of data sensitivities
  - Only use the data you need
  - Be sure to get the appropriate approvals
  - Consider your audience and their need to know

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# Inventory of Services and Capabilities

- The next step is to identify which services offerings and capabilities your organization is providing to customers or plans to provide to customers
- Existing data sources such as service catalogs are an ideal place to start when starting your inventory
  - Still, do not limit the model to just what you find in a catalog or Memorandum of Understanding; work with service owners to understand what is truly on offer. For example, are there different flavors of the service identified in the catalog (e.g., standard vs high-speed storage, broadband vs non-broad band devices, standard user license vs power user license)?
- Think carefully when identifying these offerings
  - For example, is your organization really providing “Tableau” or are you providing Data Visualization capabilities? If Tableau is phased out in favor of Power BI, the Data Visualization capability does not disappear. So it may make more sense to identify the offering as some flavor of “Data Visualization” than it does to align the offering to the system providing the capability.

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# Developing Allocation Methodologies

- As cost flows through each layer of your model, you will need a repeatable and defensible methodology for allocating each cost
  - A simple example would be to allocate the $500,000 my organization spends to maintain our 100 TB of storage for our customers
    - In this case, we could credibly charge our customers $5,000 per TB to recoup our costs of providing this service
- Allocation methodologies can be as simple as a one-to-one mapping or highly complex leveraging multiple data sets
  - Simple: 100% of my contract labor goes to Service X
  - Complex: In order to allocate cost for my data center co-location services, I need to know (1) square footage by floor type, (2) Rack cost and size, (3) Customer device location and count*
- The level of accuracy, too, may be variable depending on data availability
  - For example, for metered cloud server I may know exactly what each customer is consuming, but for a shared server on in my on-prem data center I may need to evenly split the cost of the server based on the number of systems running on that server (assuming I do not have utilization metrics for each system)
  - Uncertainty is inevitable, but can be mitigated through careful documentation of data sources, data collection processes, and assumptions
  - Methodologies can be improved over time as data maturity improves
  - Lack of detailed data should not prohibit the development of a model; work with service owners to develop and document credible assumptions

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**This is for example purposes only and not meant to be prescriptive; methodologies are highly dependent on the organization and data availability.*

# Benefits

# Transparent IT Billing

- The primary reason an organization will establish an IT Chargeback model is to enable customer billing in order to recoup costs for the delivery of IT Services
  - The model outputs can be utilized to provide either a complete bill of IT or can be utilized to populate specific customer agreements for individual services or groups of services
- Standardized, data-driven IT service chargeback models not only enable credible customer billing, but do so in a way that maximizes transparency and credibility of these customer bills
  - Customers can see not just their total cost for services, but they can also see that same total cost in an itemized, consumption-driven manner
  - Additionally, Service Providers can point to the metrics and data sets that drove those costs giving customers piece of mind and lending credibility to each charge



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# Additional Benefits – Cost Savings

- An incidental benefit of utilizing data-driven, consumption based IT service customer billing is the increased price sensitivity of customers
  - As cost transparency increases and customers can see how much they are spending for their consumption of IT services, the customers are incentivized to “right size” their service footprint
  - Savings through so called “low hanging fruit” can be realized as customers discontinue specific services that are being underutilized (e.g., unused devices, over-provisioned storage, etc.)



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# Questions