



# Consortium for Advanced Management - International

*OVER FOUR DECADES OF INDUSTRY-LED COLLABORATIVE RESEARCH*



# Who We Are

- CAM-I (Consortium for Advanced Management-International) is a Non-Profit 501c3 collaborative international consortium of manufacturing companies, service companies, government organizations, state, consultancies, academic and professional bodies who have elected to work cooperatively in a pre-competitive environment to solve management problems and critical business issues that are common to the group.
- CAM-I, working with its membership, has created innovative models and approach which have improved cost management, target costing methods through the application of process-based management Risk Management and performance management tools driving operational excellence nationally and internationally.
- CAM-I is here to put all this business knowledge and experience into a form that allows our members to benefit quantitatively.
- CAM-I was founded with Department of Commerce support in 1972.
- *Our mission - To serve as a collaborative forum of thought leaders who develop practical and effective management tools, techniques, and methods to advance the way organizations manage costs, processes and performance.*

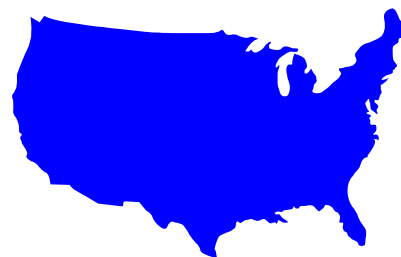


# Global Presence

**Australia**



**United States of America**



**Canada**



**United Kingdom**

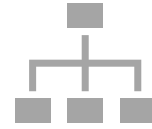


**India**





# CAM-I IP Process



Identify issues and challenges facing your organization.



Co-create actionable practical solutions, new models and techniques.



Apply solutions in real world setting.



Archive the knowledge on the CAM-I portal.



Disseminate knowledge.



Implement new knowledge through training.



# CAM-I Collaborating Organizations

- Avnet
- BAE Systems
- Bank of America
- Barclays Bank PLC - UK
- BCH Electric Limited – India
- Cambia Health Solutions
- Caterpillar
- Cherry Bekaert LLC
- Chrysler
- City of Rockhill
- CPA Canada
- Decimal
- Deere & Company
- DFW Airport
- Dresser Rand
- ERS Texas
- Grant Thornton
- Harley-Davidson
- Hitachi Capital (UK) PLC
- Honda of America
- Honeywell International
- IBM
- Johnson Controls
- King County, Washington
- Landmark Decisions Inc., Canada
- Lockheed Martin
- Ministry of Defense, UK
- NASA
- Navistar
- Northrop Grumman
- ON Semiconductor
- Pace International
- Pilbara Group, Inc.
- Porsche
- Procter & Gamble
- Raytheon
- Rockwell Collins
- Royal Australian Navy
- SAP AG – Germany
- SAS Institute
- Shell Oil
- Texas Instruments
- The Boeing Company
- Transportation Security Agency
- U.S. Air Force
- U. S. Army
- U. S. Coast Guard
- U. S. Department of Agriculture
- U. S. Department of Education
- U. S. Department of Treasury
- U.S. Department of Navy
- U. S. Health and Human Services
- U. S. Patent and Trademark Office
- University of Alberta, Edmonton, Canada
- ViON
- Whirlpool Corporation



# Professional and Academia Collaborations



## Technical and Knowledge Partners

CPA Canada

Confederation of Indian Industries (CII), Delhi, India

Great Lakes Institute of Management – Chennai, India

IMS International, Arlington, Virginia

Institute for Defense Analyses, Washington, DC



## University and College Affiliations

Arizona State University, Tempe, Arizona

Babson College, Wellesley, Massachusetts

Kellogg (Northwestern), Evanston, Illinois

London School of Economics, London, United Kingdom

The University of Akron, Akron, Ohio

University of Bristol, Bristol, United Kingdom

Weber State University, Ogden, Utah



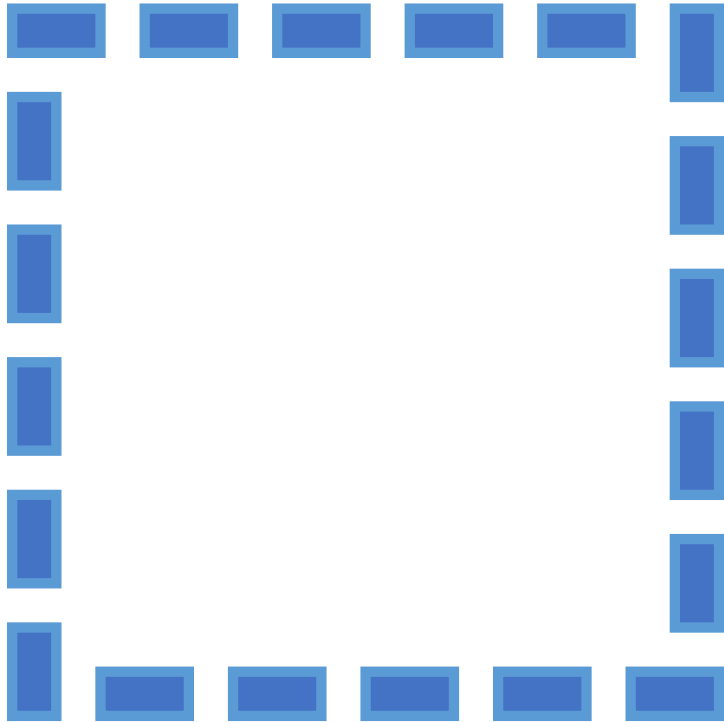
# Significant Present and Past Interest Groups

## Current Special Interest Groups

- Value, Cost and Profitability Management
- Integrated Risk & Value Management
- Performance Management
- Developing new ways of working to improve efficiencies
- Supply Chain Management

## Some of the past Special Interest Groups

- Activity Based Costing, Target Costing
- Principal Based Value Framework
- The Armed Services Group
- Performance Management
- Environment Sustainability
- Planning and Budgeting
- Capacity Management
- Health Care Interest Group
- Change Adaptation and Learning
- Intelligent Data Quality Management



# Examples of CAM-I Work

---





# Cost and Profitability Management

Issue:  
Strategic Cost and Profitability Value Management Roadmap – How do we utilize CAM-I body of knowledge to further innovate the application of traditional cost models.

Link Principle Based Value Framework to Value analysis.

Linkage of Environmental sustainability to cost models and supply chain.

Led by: The CAM-I Cost and Profitability Management Group

Project Purpose: Review methodologies and recent work to ensure the relevance to rapid changes that are occurring across industries today. By focusing on understanding additional stakeholders and their importance to an organization, along with a redefinition of value, we are re-aligning existing CAM-I methodologies and models to help organizations deliver sustainable stakeholder value. CAM-I understands the importance of Industry 4.0. As a first step in contributing to industry 4.0 learning and body of knowledge, we will focus on linking CAM-I's existing Target Costing methodologies to Industry 4.0.

Delivables:

Book - Value Quest - Driving Profit and Performance by Integrating Strategic Management Processes

Total Cost to Serve Model, Supplier Cost methodology, Customer profitability modes



# Integrated Risk and Value Management

**Issue:** Risk Management was focused on preventing and reducing operational loss through risk avoidance and risk transfer.

**Led By:** The CAM-I Integrated Risk and Value Management Group

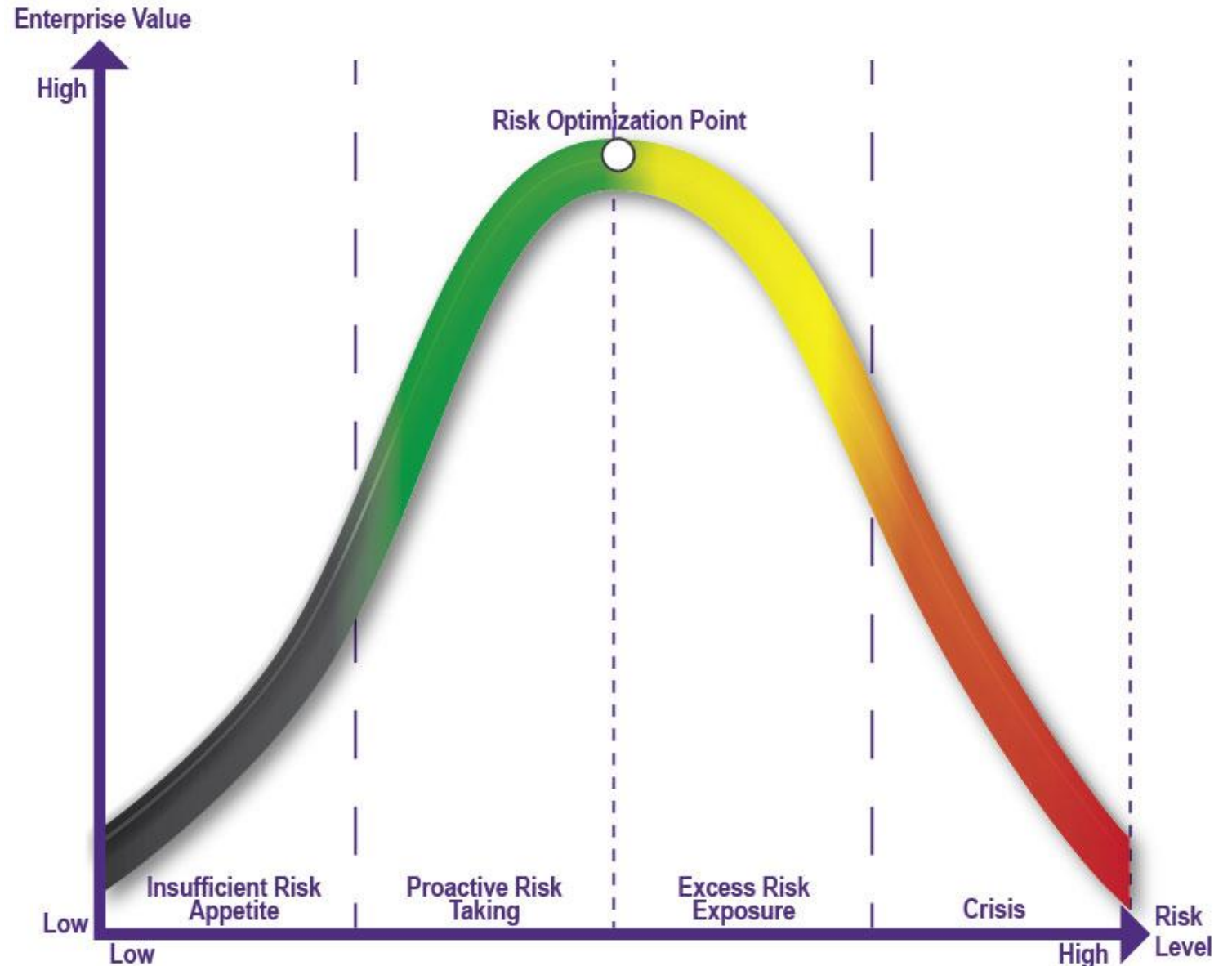
**Solution:** ERM approach that enriches the conversation with stakeholders by evaluating the strengths and weaknesses of a strategy, and how well that strategy aligns with the organization's missions and goals.

**Publications:**

“The CAM-I Risk-Value Curve: Understanding Your Risk Appetite to Create Value” (guideline)

“The Risk-Value Curve: How to optimize Risk and generate value for your organization” (article)

“Integrated Risk and Crisis Management” (paper)





# Performance Management Framework

Issue: The demand for improved organizational performance along with increased accountability has led to an increase in expectation around the management of performance. However, this has led to a great diversity of views as to what exactly constitutes Performance Management.

Led By: the Performance Management Interest Group (PMIG)

Solution Development/Application: The research led to the development of an integrated **Performance Management Framework (PMF)** to assist in strategy execution. The PMF:

- Conducts an **organizational readiness** assessment
- Identifies **maturity gaps** in business capabilities
- Recommends **specific techniques** to close maturity gaps
- Directionally suggests **appropriate measures** to track improvement
- Creates a performance focused culture by identifying **key initiatives** that will make a significant impact on improving performance

Deliverables: Emerging Issues Paper; Application Guideline and Case Study; Implementation Guidebook; in person and online Awareness Training and Implementation Workshop; PMF Facilitator Certification Program.

The Performance Management Framework (PMF) is a holistic methodology to **evaluate and improve organizational performance.**



Applications The Performance Management Framework has been extensively implemented by member companies and other CAM-I Interest Groups. A list of implementation organizations is provided on the CAM-I website.



# Developing New Ways of Working to Improve Efficiencies

Issue: Organizations are being continuously challenged by customers, shareholders, governing bodies and internal business partners to develop and implement new ways of working that improve effectiveness and productivity to maximize value creation. National Governments, Defense and Commercial customers have never been more challenged with budget constraints as a result of the Global pandemic therefore its an imperative for organizations to develop more agile, less bureaucratic processes and revised ways of working.

Led by: The CAM-I Developing New Ways of Working to Improve Efficiencies Group

Project Purpose - To examine methods of benefit realization and embedding a culture of effectiveness through sharing and collaborating with CAM-I members and extended Industry and Academic partners.

Deliverables: In progress.

1. Project Academic Research – what does the theory say and how has it evolved over time
2. Review automation/elimination of processes to remove non- value add activity
3. Review business partnering models to understand how to extract the most value from this
4. Undertake a SWOT analysis
5. Undertake case studies and identify best practice



# Supply Chain Management

- ❑ Issues: Focus on five contemporary challenges facing supply chains:
  - How to best prepare supply chains from major disruptions such as COVID-19?
  - What impact will the USA re-joining the Paris Climate Accord have on the design of supply chains?
  - How will BREXIT and colder relations with Beijing shake up traditional supply chains?
  - What supply chain vulnerabilities have been exposed by recent cyber security breaches?
  - How will industrial revolution 4.0 change supply chain principles and practices?
  
- ❑ Purpose of Project:
  - Propose changes to current supply chain practices such as single-sourcing or out-sourcing.
  - Determine whether the current supply chains have the requisite flexibility to deal with new challenges.
  - Catalog best practices in supply chain management to increase resiliency and mitigate risks.
  - How organizations are using data analytics to improve visibility and productivity across the supply chain.
  
- ❑ Deliverables: TBD (Book, Monograph or White Paper)



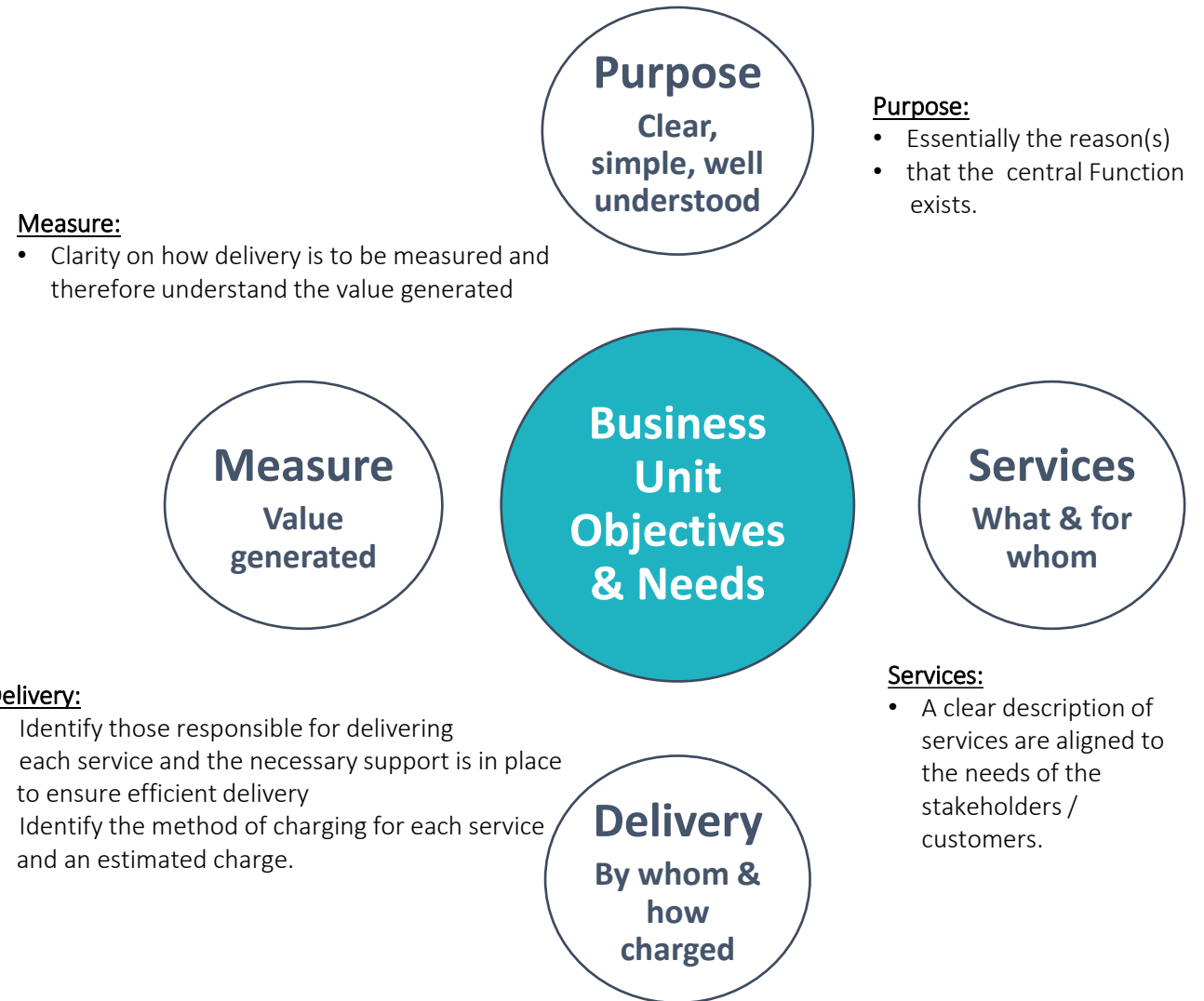
# Principle Based Value Framework

**Issue:** Organizations often struggle with defining, quantifying and demonstrating the value that they create. This is particularly true for internal business enabling functions. The nature of these functional areas is such that the activities and processes being performed are often hard to measure from a “value add” perspective and it is difficult to link any value being created to the resources providing the value.

**Led By:** The CAM-I Cost and Profitability and value analysis group

**Solution:** To develop a framework that will enable member organizations to consistently demonstrate the value business support functions bring to an organization and thereby allow cost / value trade-offs to be quantified and considered.

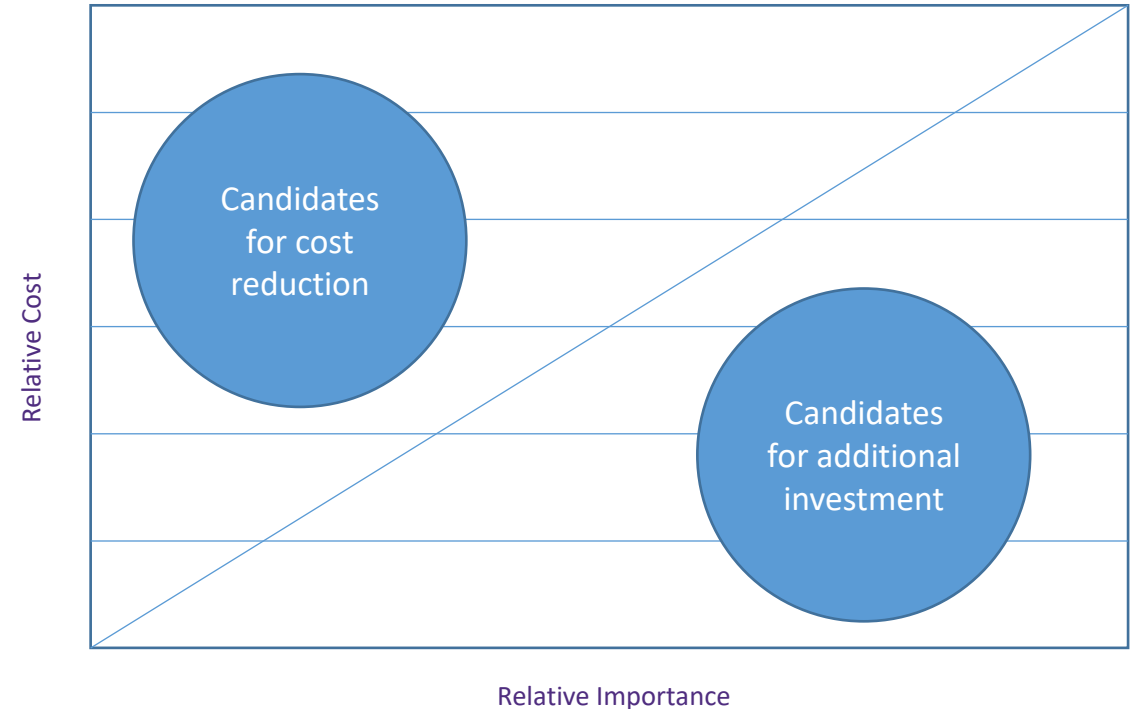
**Deliverable:** Principle Based Value Framework method





# Value Analysis

- Issue: organizations to channel their product/service development activities to areas which provide the maximum value for all stakeholders internal and external. Consider relative importance to employees, the general public, etc. (X axis)
- Led By: The CAM-I Cost and Profitability Group
- Solution Development/Application: identify the relationship between spending and an organizational objective's functional requirements, as defined by the customer and impacted by other stakeholders, maximize value capture during the design stage of new product/service development
- Deliverables:  
A workshop to teach the value analysis process.  
Target Value Process



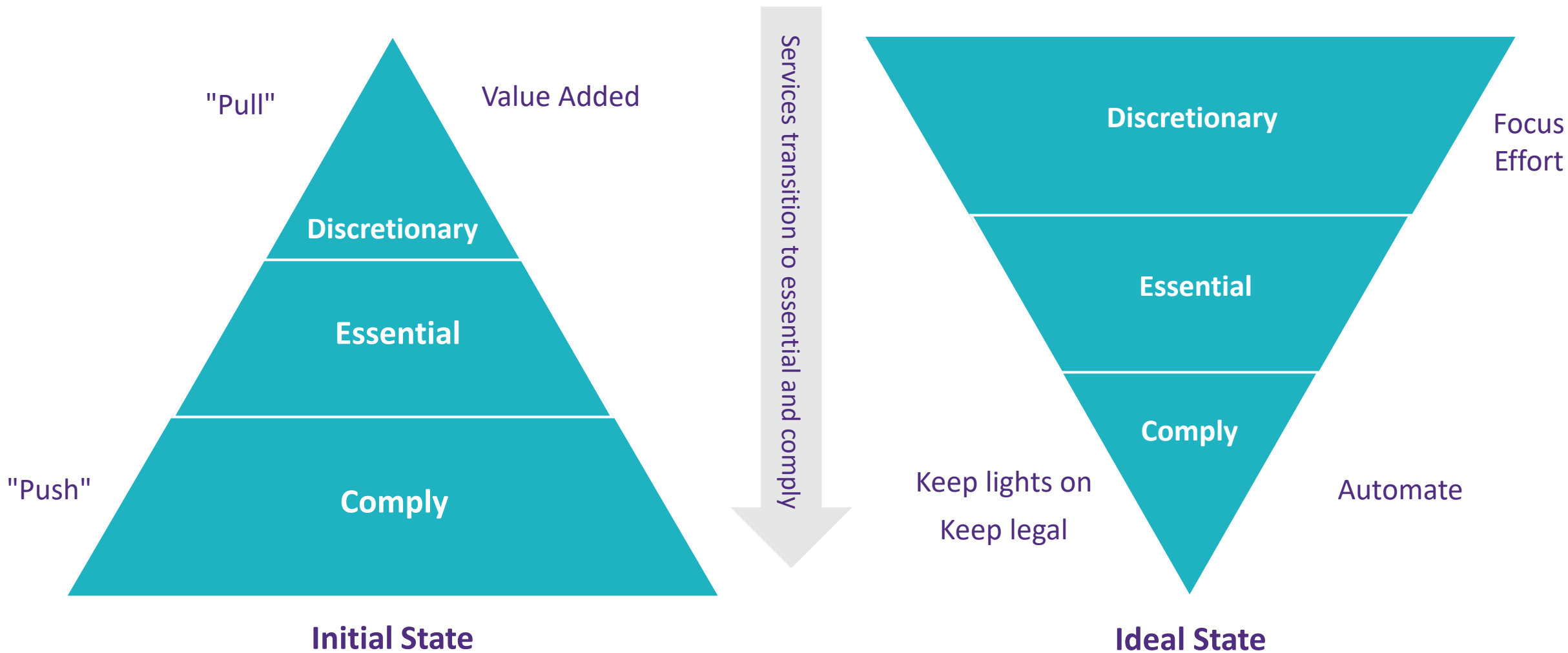
The size of the bubbles reflects the size of the revenue potential or the revenue impact. The size could also reflect something non-Financial (societal impact, service capacity, employee satisfaction).



# Principle Based Value Framework

## Demonstrating the value of the enabling function

### Value pyramid







# Activity Based Costing

## The CAM-I Cross

Issue: Under traditional accounting methods the allocation of overheads distorts cost of products and services

Led By: The CAM-I Cost Management Group

Solution Development/Application: A methodology that measures the cost and performance of cost objects, activities and resources.

### Deliverables:

Total Cost to Serve Model

Building an Activity-Based Model for Environmental footprint

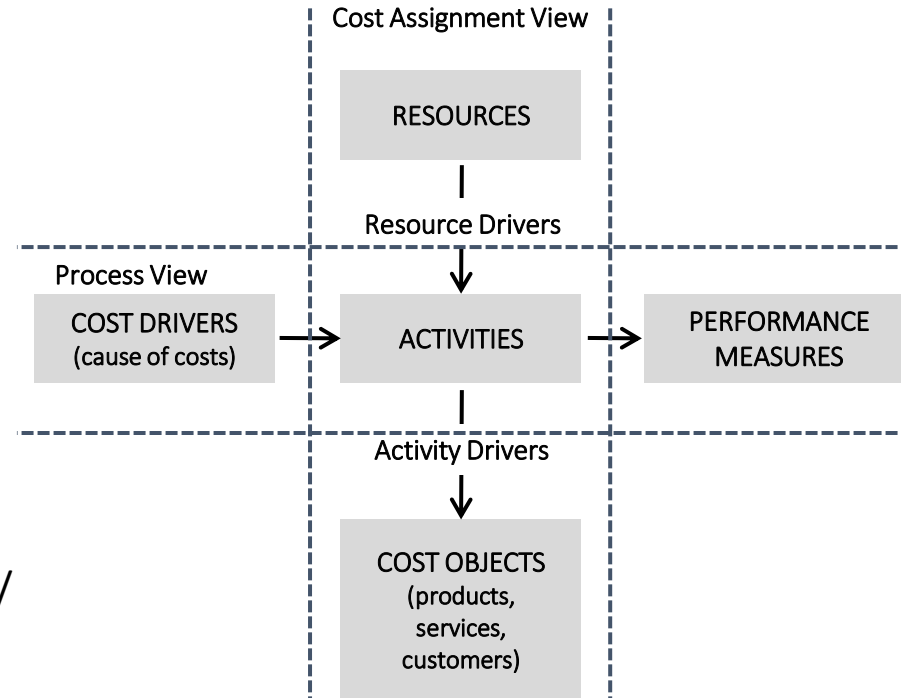
Pilot Project to Implement Environmental Activity-Based Costing/  
Management Principles

Activity Based Management Design Framework

Book - The Closed Loop - Implementing Activity Based Planning and Budgeting

The 60 Minute ABC Book

An ABC Manager's Primer





# Target Costing

Issue : How do the Japanese use this new technique called target costing to improve product development and profitability and how can we implement it in our companies?

Led By: The CAM-I Target Costing Group

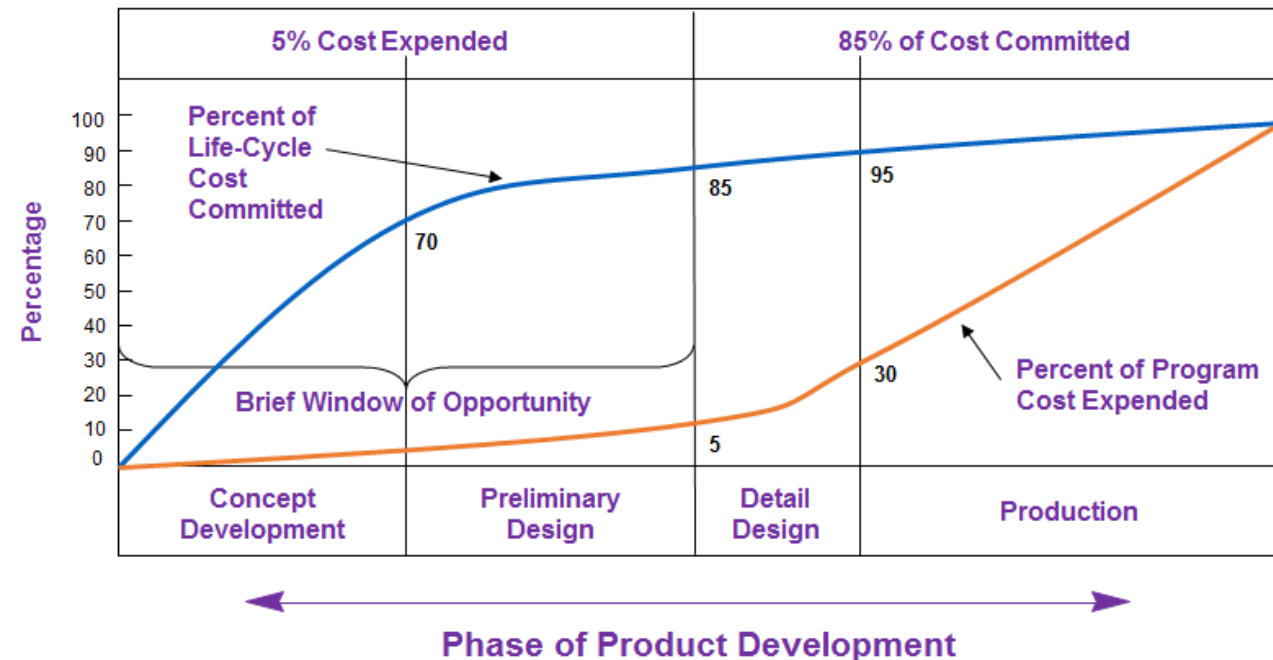
Solution Development/Application: Translation of Japanese Literature on Target Costing; A oneyear intensive study of US companies, and Best Practices Study Visit to Japan

Deliverables:

Translation of Japanese Literature on Target Costing, Target Costing and Hitting the Target Books; Supplier Cost Methodology, Managing Environmental Sustainability Using Target Costing Principles, Addressing Commodity Price Volatility in Product Development through a mature Target Costing Process and more

The Target Costing implementation framework tailored by CAM-I provides the basis to **attain desired “should cost”**. It requires sound Knowledge of customer perception of value, design impact of components and accuracy in supplier cost estimates.

## Shifting the Focus







# The Full Capacity Model (Physical Assets)

Issue: Existing capacity measurements and management practices are important. However, often they do not provide enough insight into the amounts and sources of idle or nonproductive capacity

Led By: The CAM-I Capacity Management Group

Solution Development/Application: Systematic analysis of capacity issues with practical application of the CAM-I Capacity Model

Deliverables:  
 Book - Capacity Measurement & Improvement Guide.  
 Capacity cost management paper

Rated Capacity	Summary Model	Industry-Specific Model	Strategy-Specific Model	Traditional Model
Rated Capacity	Idle	Not Marketable	Excess Not Usable	Theoretical
		Off Limits	Management Policy	
			Contractual	
	Legal			
	Marketable	Idle But Usable	Practical	
	Non-Productive	Standby	Process Balance	Scheduled
			Variability	
		Waste	Scrap	
			Rework	
			Yield Loss	
		Maintenance	Scheduled	
			Unscheduled	
		Setups	Time	
Volume				
Changeover				
Productive	Process Development	Good Products		
	Product Development			



# Intelligent Data Quality Management and Business Intelligence

Issue: Existing capacity measurements and management practices are important. However, often they do not provide enough insight into the amounts and sources of idle or nonproductive capacity

Led By: The CAM-I Intelligent Data Management and Business Intelligence Teams

Solution Development/Application: create data quality and data management frameworks for better informed business decision making, improved investment analysis and allocation of appropriate funding/resources, reduced risk exposure, and controlled improvement

Deliverables:

Data Life Cycle Model

Operational Data and Cost Measurement Assessment Modular Manual

Business Intelligence - Introduction and guide to the Matrix Reference Model

Business Intelligence - Matrix Reference Model Tables

Calculating & Reporting Customer Profitability

**Define > Appraise > Obtain > Transform > Store > Register > Consume > Archive > Dispose**



# Change Adaptation and Learning

Issue: Many of the published change advocates have created excellent frameworks for describing the change process, yet little on the specific actions one must take to successfully implement change. The group saw a significant gap existing between the knowledge in available “change management” literature and that which is needed to cope with the breaking waves of turbulent change that participating organizations were experiencing.

Led By: The CAM-I Change Adaptation and Learning Group

Solution Development/Application: An ability to diagnose the drivers of change within your organization and the type of change response required, a model to enable self-assessment of multiple dimensions of change responses in building a comprehensive strategy for increased organizational change capacity, a diagnostic framework for self-assessment of organizational capabilities to improve change responses.

Deliverables:

Book - Chasing Change: Building Organizational Capacity in a Turbulent Environment

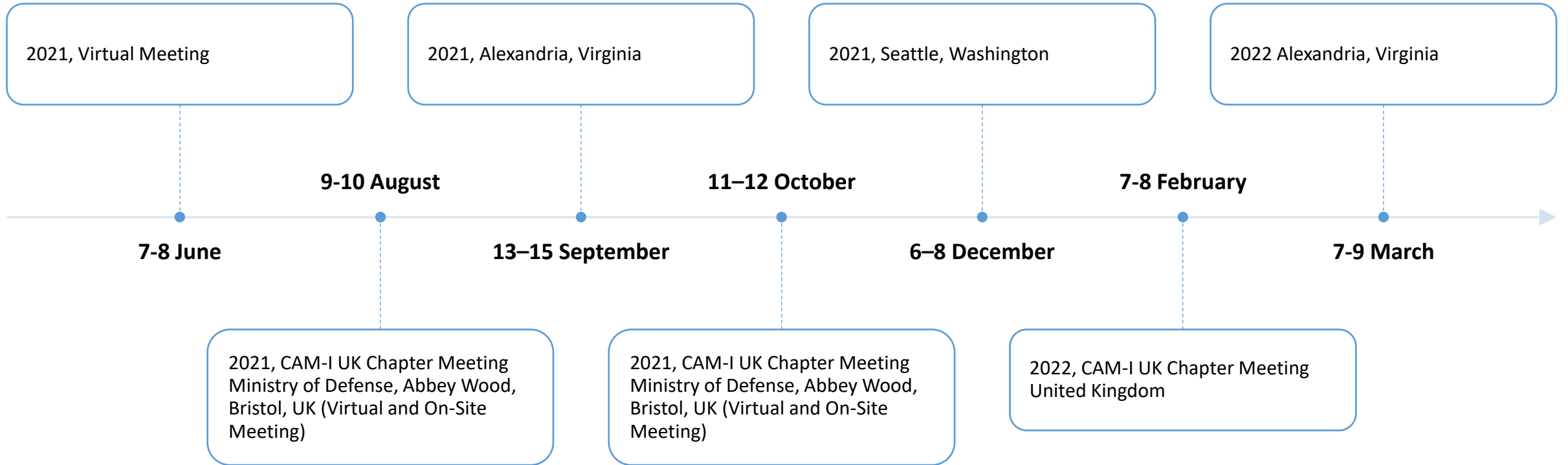
Integration- The Foundation for Continuous Organizational Improvement

Management Control Systems as a Tool for Planned Organizational Change: An Assessment of Two Organizations)

**This work led to development of the organizational readiness metrics for the Performance Management Framework.**



# Upcoming CAM-I Meetings





# CAM-I Books

## Target Costing:

- Target Costing - The Next Frontier in Strategic Cost Management
- Hitting The Target – The CAM-I Target Costing Implementation Guide

## Process Based Management:

- The Road to Excellence – Becoming a Process-Based Company
- Process Based Management – A Foundation for Business Excellence

## Planning and Budgeting:

- The Closed Loop – Implementing Activity Based Planning and Budgeting

## Change Adaptation and Learning:

- Chasing Change – Building Organizational Capacity in a Turbulent Environment

## Activity Based Costing

- An ABC Manager's Primer

## Capacity Measurement & Improvement:

- Guide to Evaluating & Optimizing Productivity





Ashok G. Vadgama

President

[ashok@cam-i.org](mailto:ashok@cam-i.org)

108 Wild Basin Road South

Suite # 250

Austin, TX 78746

Phone: (512) 617-6428

Mobile: 512-296-6872

<http://www.cam-i.org>