A Conceptual Framework for Managerial Costing

Larry R. White, CMA, CFM, CGFM, CPA
Executive Director, RCA Institute
Chair, IMA Managerial Costing Conceptual Framework Task Force
Former Chair, IMA 2004/5
Agenda

• Introduction –
  - What is Managerial Costing?
  - What is a Conceptual Framework?
  - Why a Conceptual Framework for Managerial Costing?

• Conceptual Framework for Managerial Costing
  - Overview
  - Objective
  - Principles
  - Constraints
  - Concepts
Enterprise Financial Management

Cost Measurement

• Costs of goods sold
• Inventory valuation

Performance Evaluation & Analysis

For example:
• Assessment of current strategy & plans
• Integrated cost/operational performance measures (e.g. cost variance, capacity measurement, process efficiency etc)
• Profitability reporting
• Process analysis
• Learning & corrective actions

Planning & Decision Support

For example:
• Fully absorbed and incremental costing
• Adaptive operation & cost based planning, budgeting & forecasting
• What-if analysis & planning
• Product, process, channel, & customer strategic adaptations
• Enterprise optimization (e.g. make vs. buy, outsource etc)

The Domain of Costing

Historical

Value-added to managerial decisions

Predictive

Lower → Higher
Financial vs Managerial Accounting

• Financial Accounting
  ▸ Principles established to inform Investors & Creditors in Public Capital Markets without the power to demand more information
  ▸ Generally Accepted Accounting Principles are a social consensus – Standard Setting Bodies

• Managerial Costing (subset of MA)
  ▸ Informs Managers and Employees who can and should access any organizational information
  ▸ Need the TRUTH - operational and economic
  ▸ Truth about costs is found in understanding the organization’s resources – their employment and operation
Enterprise Financial Management

- Tax Accounting
- Financial Accounting
- Managerial Accounting

Cost Measurement

Cost Accounting
- External financial Reporting e.g. GAAP, IFRS
- Costs of goods sold
- Inventory valuation

Performance Evaluation & Analysis
- For example:
  - Assessment of current strategy & plans
  - Integrated cost/operational performance measures (e.g. cost variance, capacity measurement, process efficiency etc)
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The Domain of Costing

Historical
- Lower

Predictive
- Higher

Value-added to managerial decisions
What is Managerial Costing?

• Cost Accounting
  ▪ Tool for Financial Reporting

• Management Accounting
  ▪ Activities of Professional Accountants in Business

• Managerial Costing
  ▪ Managerial Decision Support
What is a Conceptual Framework?

The objective you seek to achieve boundaries you want to stay within as you build standards or a model.

What is a Conceptual Framework?

- **IASB/FASB Conceptual Framework**
  - Objective and Qualitative Characteristics
  - Elements and Recognition
  - Measurement
  - Reporting Entity
  - Presentation and Disclosure, including Financial Reporting Boundaries

- **Statement of Federal Financial Accounting Concepts**
  - SFFAC 1 - Objectives of Federal Financial Reporting
  - SFFAC 2 - Entity and Display
  - SFFAC 3 - Management's Discussion and Analysis - Concepts
  - SFFAC 4 - Intended Audience and Qualitative Characteristics
  - SFFAC 5, Definitions of Elements and Basic Recognition Criteria for Accrual-Basis Financial Statements
  - SFFAC 6 - Distinguishing Basic Information, RSI, and OAI
Why a Conceptual Framework for Managerial Costing?

- Where do you go for managerial accounting/costing concepts and guidance?
  - Financial Accounting/Reporting Standards provide guidance to meet their goals.
  - Textbooks teach methods to support specific applications:
    - Traditional Standard Costing
    - Variable Costing
    - Activity Based Costing

- Where do you go for the principles to build a better cost model to manage your organization?
- What are the principles and concepts to compare managerial costing methods?
Here is Part of the Problem. Which managerial accounting system should we use?

Even most management accountants do not understand what the differences are!
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  ▶ Overview
  ▶ Objective
  ▶ Principles
  ▶ Constraints
  ▶ Concepts
Conceptual Framework for Managerial Costing

- Objective
- Scope
- Characteristics
  - Principles
  - Concepts
  - Constraints
- Framework in Operation
- Call to Action
- Appendix: Truth in Managerial Costing
What is the Objective of Managerial Costing?

- What differentiates FA info from MA information?
- Target customer for Managerial Costing information?
- Most important result of Managerial Costing information?
- What do managers make decisions about? What drives cost?
The objective of managerial costing is to:

- Provide a monetary reflection of the utilization of business resources and
- Provide cause and effect insights into past, present, or future enterprise economic activities.

Managerial costing aids managers:

- In their analysis and decision making and
- Supports optimizing the achievement of an enterprise’s strategic objectives.
Conceptual Framework for Managerial Costing

- Objective
- Scope

**Characteristics**

- Principles
- Concepts
- Constraints

- Framework in Operation
- Call to Action
- Appendix: Truth in Managerial Costing
Process

Diagram:
- Concepts
- Principles
- Constraints
- Adopted Concepts
Foundation of Principles

• What must form the foundation for a set of principles?

Truth

• What is “True Cost”? 
Correspondence Definition of Truth
Truth corresponds to facts.

Resources in operation create a factual situation.
Example

• More Accounting Transactions – 12,000/yr
• Finance Operations Center:
  ‣ Personnel Cost $30,000,000
  ‣ Operating Cost $15,000,000
  ‣ Transactions/year: 3,000,000

  • Calculated Full Cost:
    ‣ $15/transaction X 12,000 = $180,000
  • Judgmental Marginal Cost:
    ‣ 1 Accounting Technician = $50,000
Principles

• **Causality**  (Cause & Effect)
  - The relation between a managerial objective’s quantitative output and the input quantities that must be, or must have been, consumed if the output is to be achieved.

• **Analogy**:  (Information Use)
  - The use of causal insights to infer past or future outcomes.
    - Logic: Rational Inference, Non-Contradiction
Inputs:
- Resources, Operational Quantities, Managerial Objectives

CAUSALITY

- Modeling Concepts
- Operational Model Costed

ANALOGY

- Information Use Concepts
- Baseline Optimization Information

Output:
- Information For Decisions
# Constraints for Managerial Costing

## Modeling Constraints

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<td>The degree to which MC information reflects the intended concepts modeled.</td>
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<td><strong>Materiality</strong></td>
<td>A characteristic of cost modeling that would allow for simplification without compromising managers’ decision making needs.</td>
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## Information Use Constraints

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<td>The interdependence of individual managerial actions to attempt to achieve both individual and enterprise objectives in an optimal manner.</td>
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Concepts
Causality

Modeling Concepts

- Resource
- Managerial Objective
- Cost
- Responsiveness
- Traceability
- Capacity
- Work
- Attributability
- Homogeneity
- Integrated Data Orientation

Analogy

Information Use Concepts

- Avoidability
- Divisibility
- Interdependence
- Interchangeability
## Concepts - Modeling

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<tr>
<th><strong>Resource</strong></th>
<th>A definitive component of an enterprise acquired to generate future benefits.</th>
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<td><strong>Managerial Objective</strong></td>
<td>A specific result or outcome of the application or provision of resources, which management chooses to monitor for the purpose of enabling one or more managerial activities.</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>A monetary measure of (1) consuming a resource or its output to achieve a specific managerial objective, or (2) making a resource or its output available and not using it.</td>
</tr>
</tbody>
</table>
Space  Power  Maintenance

Raw Material  

Labor  Machine  Supervisor

Product
# Concepts - Modeling

<table>
<thead>
<tr>
<th>Concept</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness</td>
<td>The correlation between a particular managerial objective’s output quantity and the input quantities required to produce that output.</td>
</tr>
<tr>
<td>Traceability</td>
<td>A characteristic of an input unit that permits it to be identified in its entirety with a specific managerial objective on the basis of verifiable transaction records.</td>
</tr>
<tr>
<td>Capacity</td>
<td>The potential for a resource to do work.</td>
</tr>
</tbody>
</table>
Responsiveness

Space

Power

Maintenance

Raw Material

Product

Labor

Machine

Supervisor
# Capacity

<table>
<thead>
<tr>
<th></th>
<th>Not Marketable</th>
<th>Excess - Not Usable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idle</td>
<td></td>
<td>Business Cost</td>
</tr>
<tr>
<td>Off-limits</td>
<td></td>
<td>Management Policy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contractual</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Legal</td>
</tr>
<tr>
<td>Marketable</td>
<td></td>
<td>Product Cost</td>
</tr>
<tr>
<td>Idle but Usable</td>
<td></td>
<td>Process Balance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Variability</td>
</tr>
<tr>
<td>Non-Productive</td>
<td></td>
<td>Scrap</td>
</tr>
<tr>
<td></td>
<td>Standby</td>
<td>Rework</td>
</tr>
<tr>
<td></td>
<td>Waste</td>
<td>Yield Loss</td>
</tr>
<tr>
<td></td>
<td>Maintenance</td>
<td>Scheduled</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unscheduled</td>
</tr>
<tr>
<td></td>
<td>Setups</td>
<td>Volume</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changeover</td>
</tr>
<tr>
<td>Productive</td>
<td>Process Development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product Development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Good Product</td>
<td></td>
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## Concepts - Modeling

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<tr>
<th>Work</th>
<th>A measure of the specific nature of units of resource output.</th>
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<td>Attributability</td>
<td>The responsiveness of inputs to decisions that change the provision and/or consumption of resources.</td>
</tr>
<tr>
<td>Homogeneity</td>
<td>A characteristic of one or more resources or inputs of similar technology or skill that allow for their costs to be governed by the same set of determinants and in an identical manner.</td>
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Work/Activity

Sensitive to variation & diversity of cost objects

Cost Assignment View
- Resources
- Resource Cost Assignment
- Activities
- Performance Measures

Process View
- Cost Drivers (Activity Triggers)
- Activity Cost Assignment
- Cost Objects (Outputs)

Sensitive to sequence and time

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### Attributability

<table>
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<tr>
<th>Causal Relationship</th>
<th>Managerial Objective</th>
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<tr>
<td><strong>Strong Proportional</strong></td>
<td>Resource</td>
</tr>
<tr>
<td><strong>Strong Fixed</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Weak Proportional</strong></td>
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<td><strong>Weak Fixed</strong></td>
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<tr>
<td><strong>None</strong></td>
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Homogeneity

Homogeneous Resources?
Integrated Data Orientation

Information about an organization's economic resources, events, and their corresponding monetary values free from traditional accounting conventions, which allows for the aggregation of elementary data elements and their values for any purpose.
CAUSALITY

- Resource
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ANALOGY

- Avoidability
- Divisibility
- Interdependence
- Interchangeability

Modeling Concepts

Information Use Concepts
### Concepts – Information Use

#### Primarily relevant to analysis:

<table>
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<td><strong>Avoidability</strong></td>
<td>A characteristic of an input that allows for the input (and hence its costs) to be eliminated as a result of a decision.</td>
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<td><strong>Divisibility</strong></td>
<td>A characteristic of a resource that allows it to be associated in its entirety with the change in a managerial objective’s output resulting from a decision.</td>
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Avoidability & Divisibility

Raw Material

Labor

Machine

Supervisor

Product 1
Product 2
Product 3
<table>
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<th><strong>Primarily relevant to decision making:</strong></th>
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<tr>
<td><strong>Interdependence</strong></td>
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<td><strong>Interchangeability</strong></td>
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Interdependence

Old Plant

50% New Labor

Machine

New Supervisor

Product 1

Product 2

Product 3

Experience

New Plant

Labor

Machine

Experienced Supervisor

Product 1

Product 2

Product 3
Apply the Framework

1. Identify the Resources
2. Identify the Managerial Objectives
3. Understand Cause and Effect Relationships
4. Capture Managerial Objectives and Their Relationships in a Cost Model
5. Document Scope, Intent, Required Inputs, Outputs and Underlying Assumptions and Limitations
6. Apply and Maintain the Model
Inputs:
- Resources
- Operational Quantities
- Objectives

Concepts:
- Resource
- Managerial Objective
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Constraints:
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- Materiality

Causality:
- Modeling Concepts
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Concepts:
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Constraints:
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Output:
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Information Use Concepts
- Baseline Optimization Information
Thoughts?

Questions?

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757 288 6082
lwhite@rcainstitute.org