PROFIT CONTRIBUTION MAPPING
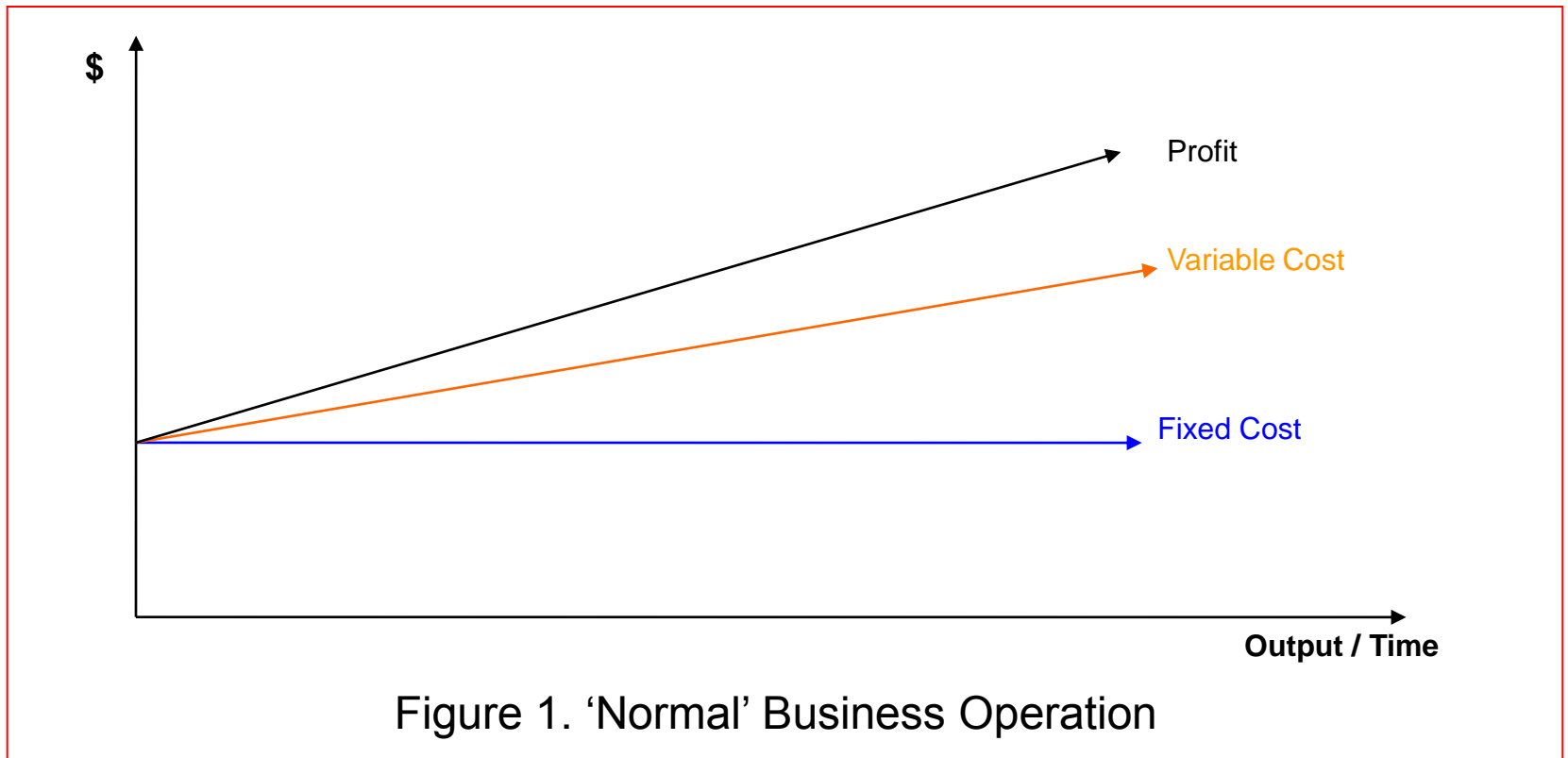
ICOMS 2006 Conference
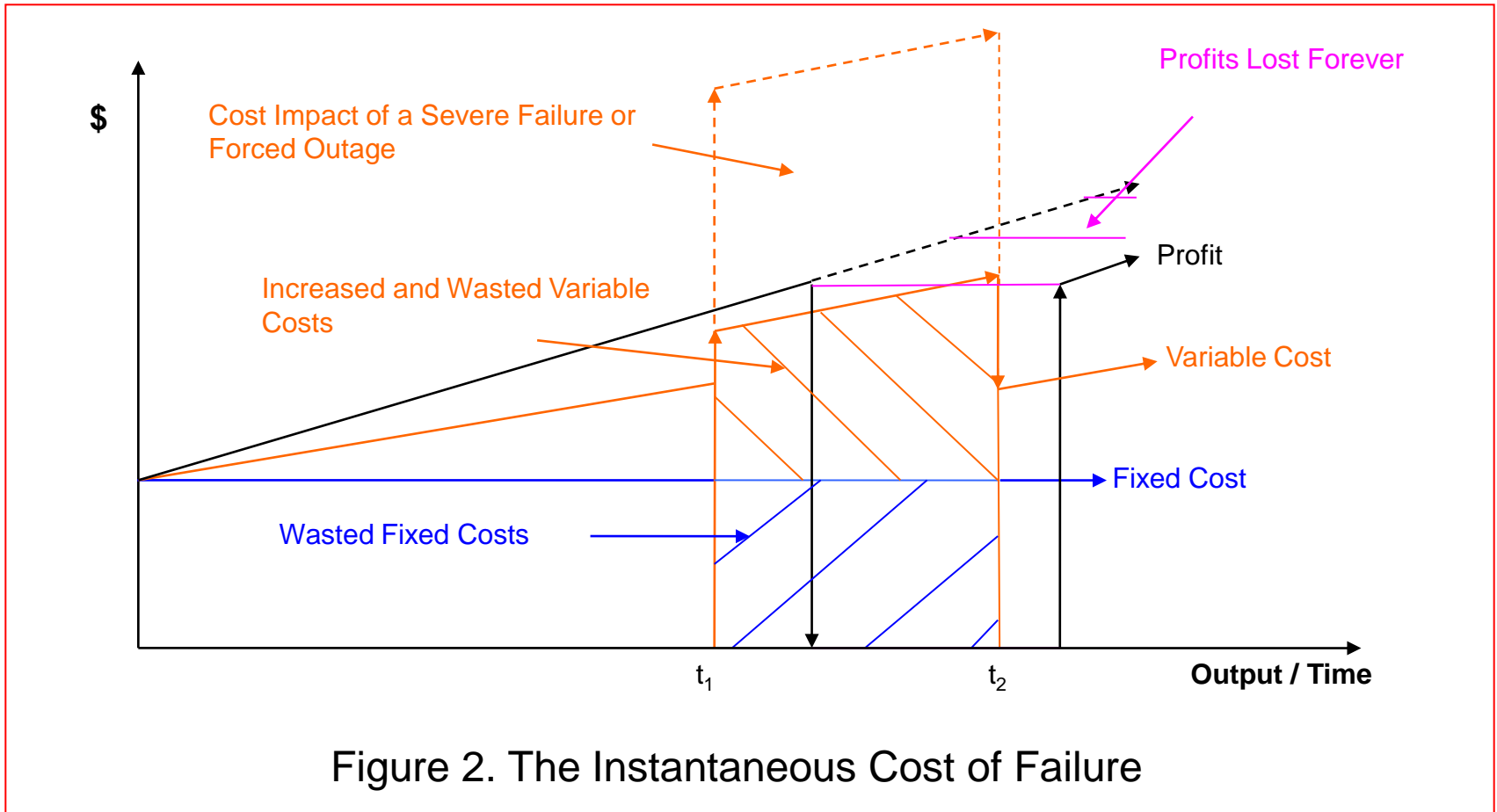
By

Mike Sondalini

www.lifetime-reliability.com

Accounting and Business Theory

Figure 1. 'Normal' Business Operation

Lifetime Reliability · Solutions

The Cost of Failure

Figure 2. The Instantaneous Cost of Failure
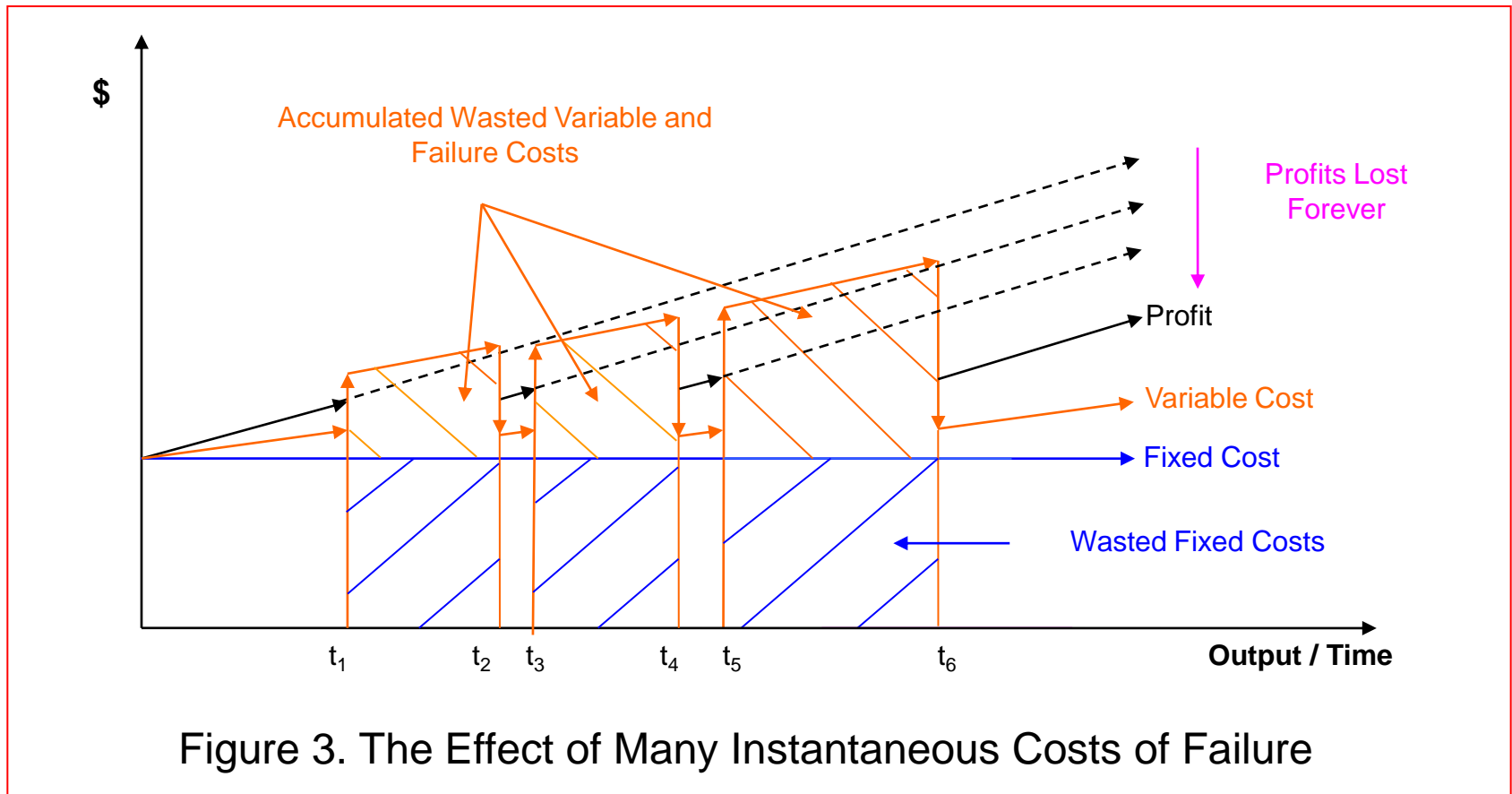
The Cost of Many Failures

Figure 3. The Effect of Many Instantaneous Costs of Failure

Defect and Failure True Costs

Labour **Costs**

- Operators
- Repairers
- Supervisory
- Management
- Engineering
- Overtime / penalty rates

Services **Costs**

- Emergency hire
- Sub-contractors
- Travelling
- Consultants
- Utility repairs
- Temporary accommodation

Consequential **Costs**

- Penalty payments
- Lost future sales
- Legal fees
- Loss of future contracts
- Environmental clean-up
- Death and injury

Material **Costs**

- Replacement parts
- Fabricated parts
- Inventory replenishment
- Welding consumables
- Workshop hire
- Shipping, loading, transport
- Storage space
- Handling
- Disposal
- Design changes
- Materials
- Quality control

Equipment **Costs**

- Energy waste
- Start-up
- Shutdown/Handover
- Inefficiencies
- Emergency hire
- Damaged items
- Moving in, out, about

Capital **Costs**

- Replacement equipment
- New insurance spares
- Buildings and storage
- Asset write-off

Waste **Costs**

- Scrap
- Replacement production
- Clean-up
- Reprocessing
- Lost production
- Lost material and parts
- Off-site storage

Administration **Costs**

- Planning, schedule changes
- Investigations and audits
- Invoicing and matching
- Purchase orders
- Documentation
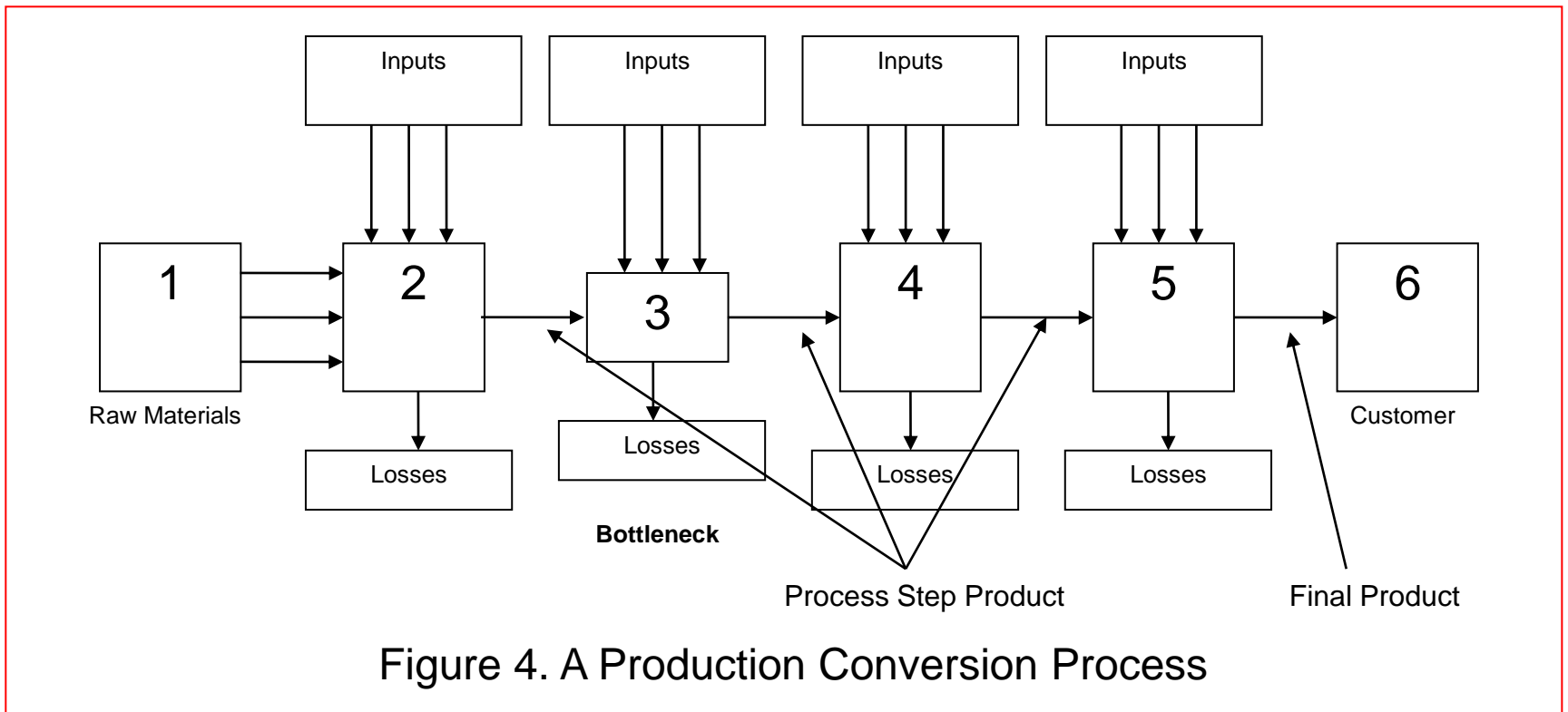- Meetings
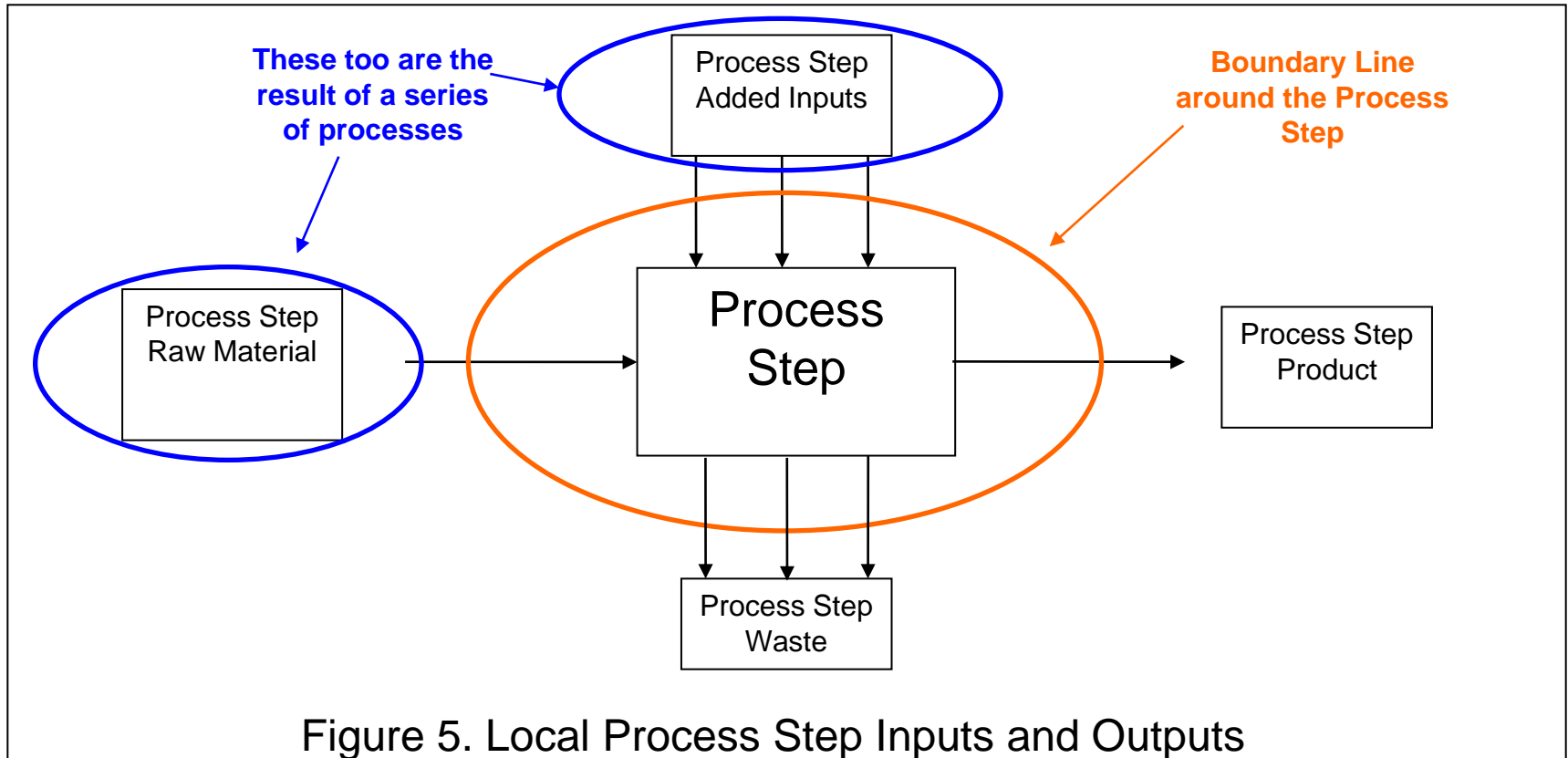- Utilities

Where is the Money Going?

Figure 4. A Production Conversion Process

Lifetime Reliability • Solutions

What Happens at Each Step?

Figure 5. Local Process Step Inputs and Outputs
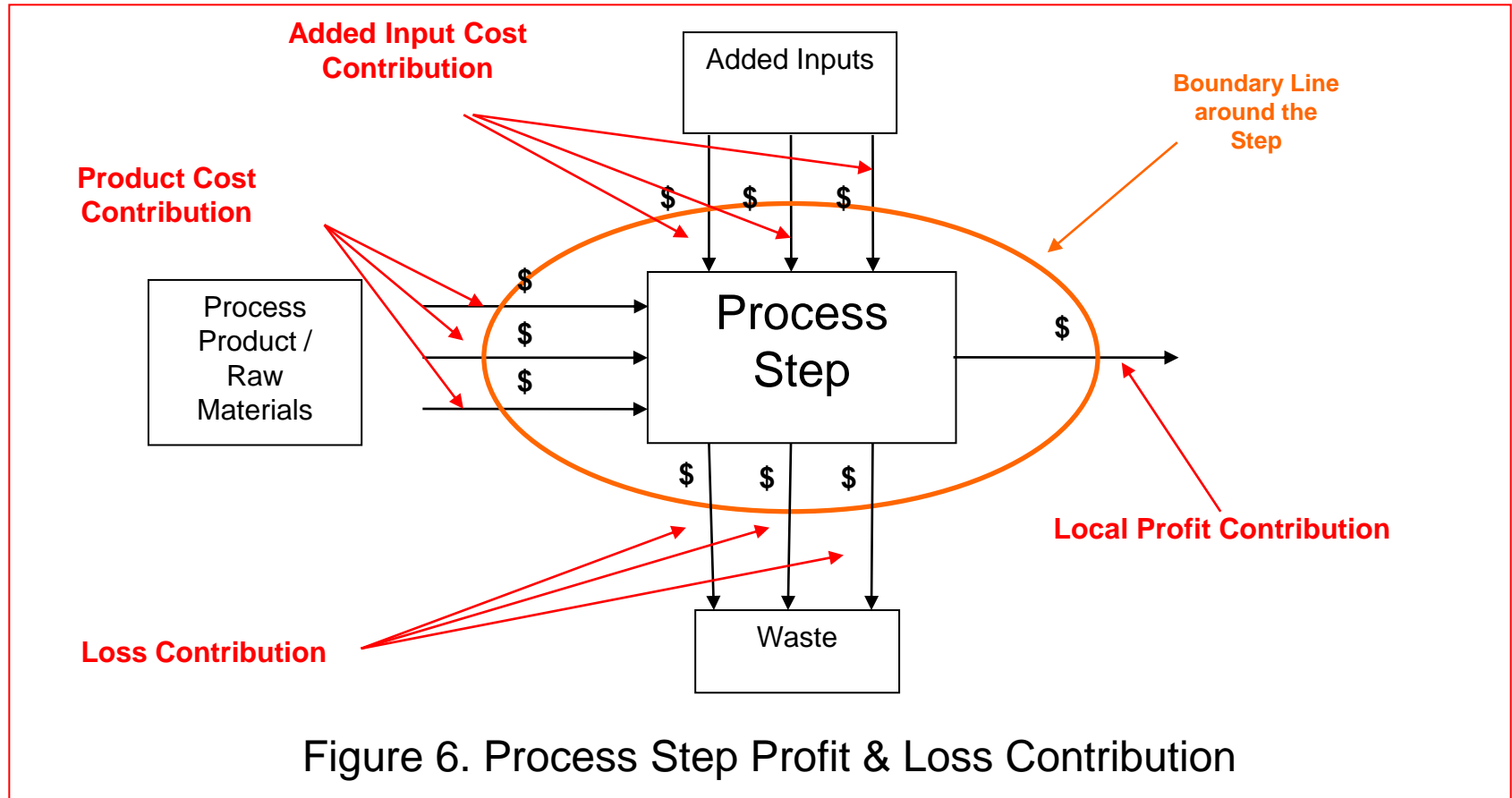
What are the Effects on Costs & Profit?

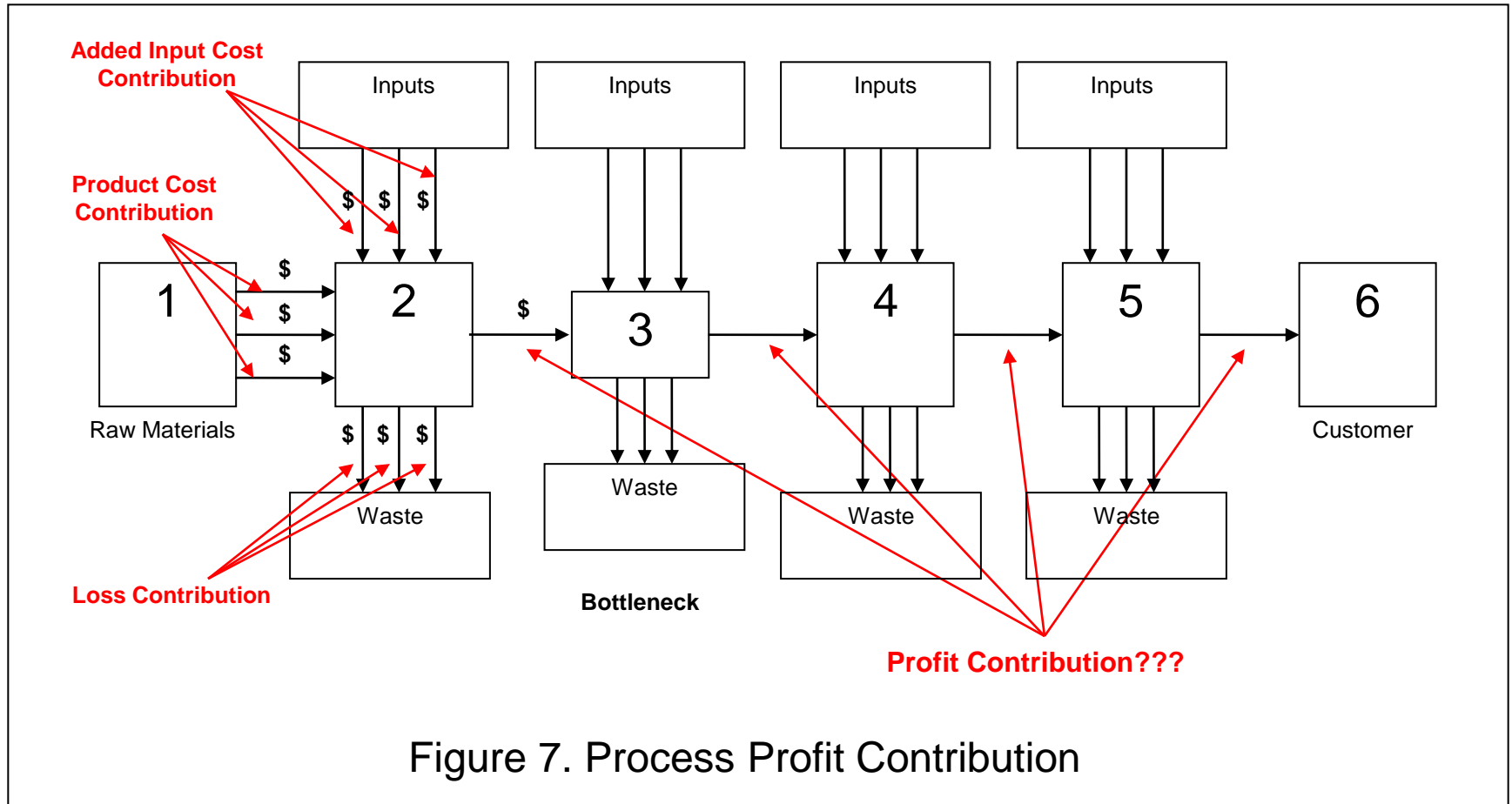Figure 6. Process Step Profit & Loss Contribution

Cost of Process Product Input + Cost of Added Inputs = Local Profit Contribution + Cost of Waste

Alternately the equation can be written as:

- **Cost of Process Product Input + Cost of Added Inputs - Cost of Waste = Local Profit Contribution**

We now have a means to financially model the money flows in a process and identify where and why money is made and lost.

Where is the Profit Made … and Lost?

Figure 7. Process Profit Contribution

Lifetime Reliability • Solutions

Make the Reality Obvious to Everyone

Figure 8. Profit Contribution Map for a Canning Line

Lifetime Reliability • Solutions