

CAN YOU HANDLE THE TRUTH?

Do Cost Engineers Really Want to Measure Costs Accurately?

Automotive Cost Engineering 2017

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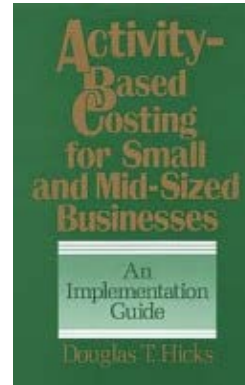
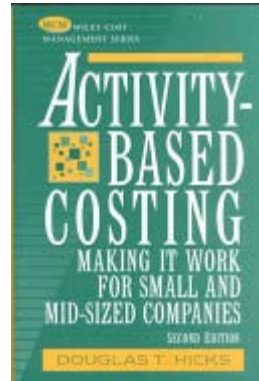
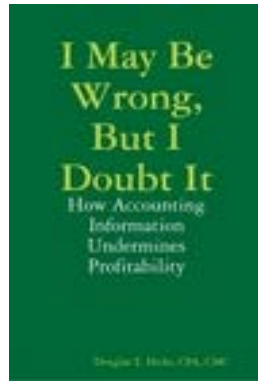
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About Doug Hicks

President, D. T. Hicks & Co.

B.B.A. – University of Michigan – Dearborn 1970

C.P.A. – State of Michigan - 1972



Published in periodicals including:

- Journal of Accountancy
- Management Accounting
- Manufacturing Engineering

Associations:

- Institute of Management Accountants
- Michigan Association of CPAs
- Center for Managerial Costing Quality

Experience:

- Cost Management Consultant – 32 years
- CFO/Controller – 7 years
- Operations Auditor – 6 years

THE GOAL OF COST ENGINEERS

For over forty years, cost estimators, sales executives, buyers and cost engineers have been consistent in telling me that their goal in costing is to know “**the truth**” about a company’s product costs.

Does anyone actually believe that to be their real goal?

Would you like to buy some ocean-front property in Arizona?

THE GOAL OF COST ENGINEERS

Based on my four decades of observation, the goal of cost engineers and cost estimators is to measure costs in a way that will be to their organization's advantage, fit their organization's needs, and/or make their bosses happy.

This is not intended as a “slam” against cost engineers or cost estimators; it's just a manifestation of an overall “inconvenient truth” about cost information.

THE INCONVENIENT TRUTH ABOUT COST INFORMATION

Most cost information is used to justify a position already taken or confirm the wisdom of a decision that has already been made, not to support the decision making process itself.

THE INCONVENIENT TRUTH ABOUT COST INFORMATION

My 12-Year, Informal, One-Question Survey:

What percentage of the cost information used by your organization is provided before a decision has been made and what percentage after it has been made?

The relatively consistent result:

25% Before

75% After

THE INCONVENIENT TRUTH ABOUT COST INFORMATION

Auto industry executives, like all human beings, rely primarily on their emotions – the sum of their accumulated experience, observations, goals and fears – to make decisions.

They then ask their accountants, cost engineers and cost estimators to develop cost information that validates those decisions.

THE INCONVENIENT TRUTH ABOUT COST INFORMATION

The two factors required to measure the cost of anything accurately:

- 1) Quality data
- 2) A valid model with which to process that data

THE INCONVENIENT TRUTH ABOUT COST INFORMATION

One cannot measure costs accurately by processing extremely precise information through a cost model that does not reflect economic reality.

THE INCONVENIENT TRUTH ABOUT COST INFORMATION

- The area of a circle is a function of its radius and π
- The radius of one particular circle is 5.225”
- $\pi = 3.14159265$
- The area of this circle is 269.446368037 sq. in.

THE INCONVENIENT TRUTH ABOUT COST INFORMATION

- Rufus measures the radius of the circle at 5.25" and π at 3.1416
 - *Rufus calculates 32.9868 sq. in.*
- Dufus measures the radius of the circle at 5.00" and π at 3.14
 - *Dufus calculates 246.49 sq. in.*
- Whose answer will be closer to "the truth"
 - *The answer is 269.446368037 sq. in.*
 - *Why did Rufus arrive at a better answer with poorer data?*

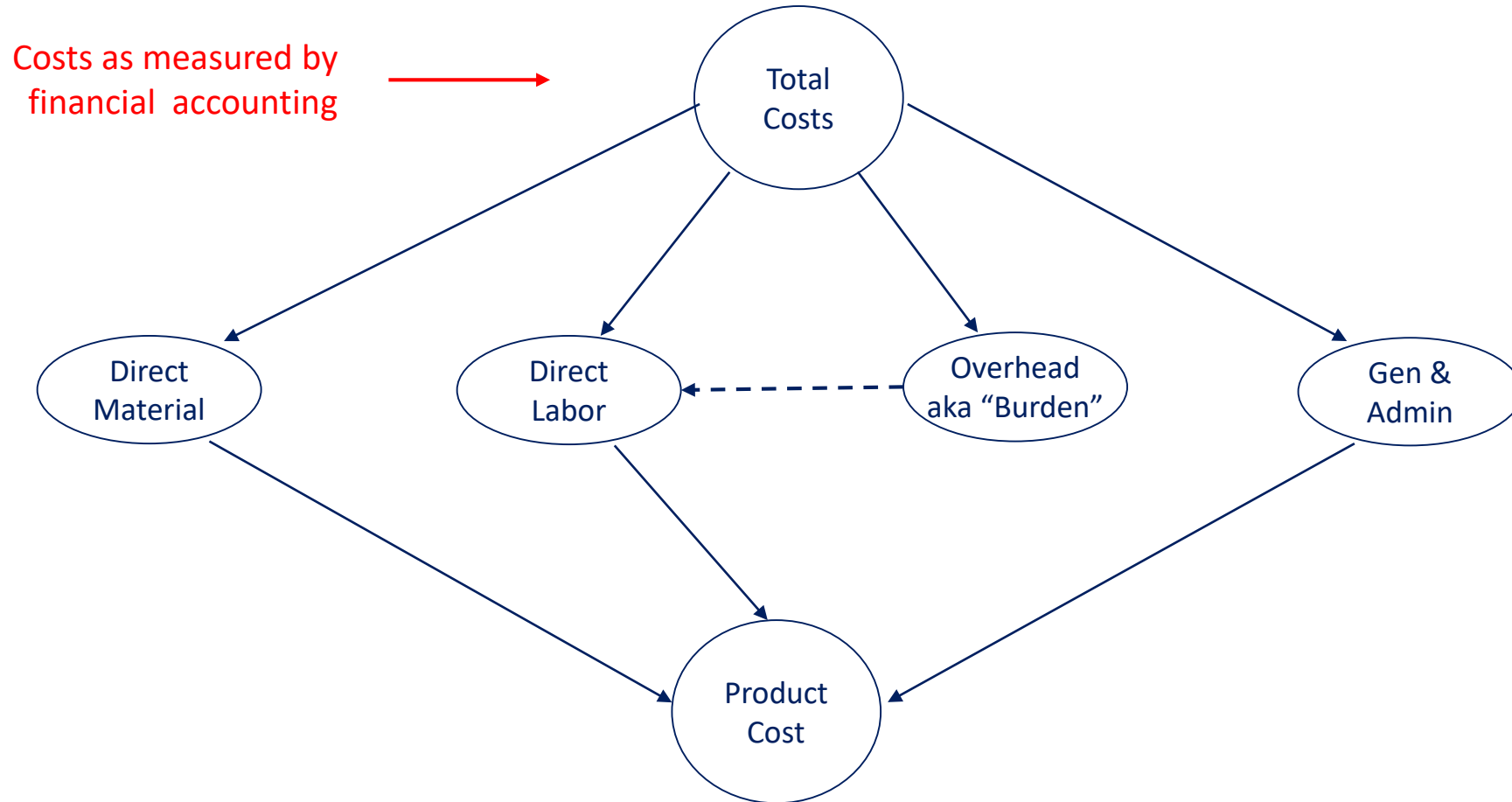
THE INCONVENIENT TRUTH ABOUT COST INFORMATION

- Rufus used the formula (model) - $A = 2\pi r$
- Dufus used the formula (model) - $A = \pi r^2$
- Rufus processed his very accurate data through an invalid model of the phenomenon he was trying to measure
- Dufus processed his less than perfect data through a valid model of the phenomenon he was trying to measure

THE INCONVENIENT TRUTH ABOUT COST INFORMATION

The 100-year-old “Material, Labor, Burden & G&A” model didn’t reflect economic reality in 1917 and it certainly doesn’t reflect the economics that underlie a modern manufacturing firm in 2017.

STRUCTURE OF AN INVALID COST MODEL



STRUCTURE OF AN INVALID COST MODEL

What is the cost of a component or tool purchased from an overseas vendor?

What is the additional cost of sequencing parts for shipment?

What is the savings from creating a cell to replace several independent operations?

What is the cost of providing additional non-manufacturing services to certain customers?

What is the cost of building to stock vs. building to order?

THE INCONVENIENT TRUTH ABOUT COST INFORMATION

Suppliers manipulate cost information in attempt to justify higher prices

Customers manipulate cost information in attempt to justify lower prices

Neither party really wants to know “the truth”

Costing is just part of “the game” played by buyers and sellers

COSTING AS A PRODUCTIVE TOOL

Determining a fair price for a product is not the same as determining its cost.

A supplier must be able to measure its cost accurately to determine if it wants to produce a product at the price a customer is willing to pay

A buyer must be able to estimate a cost accurately to insure it is paying the best price for the best product possible

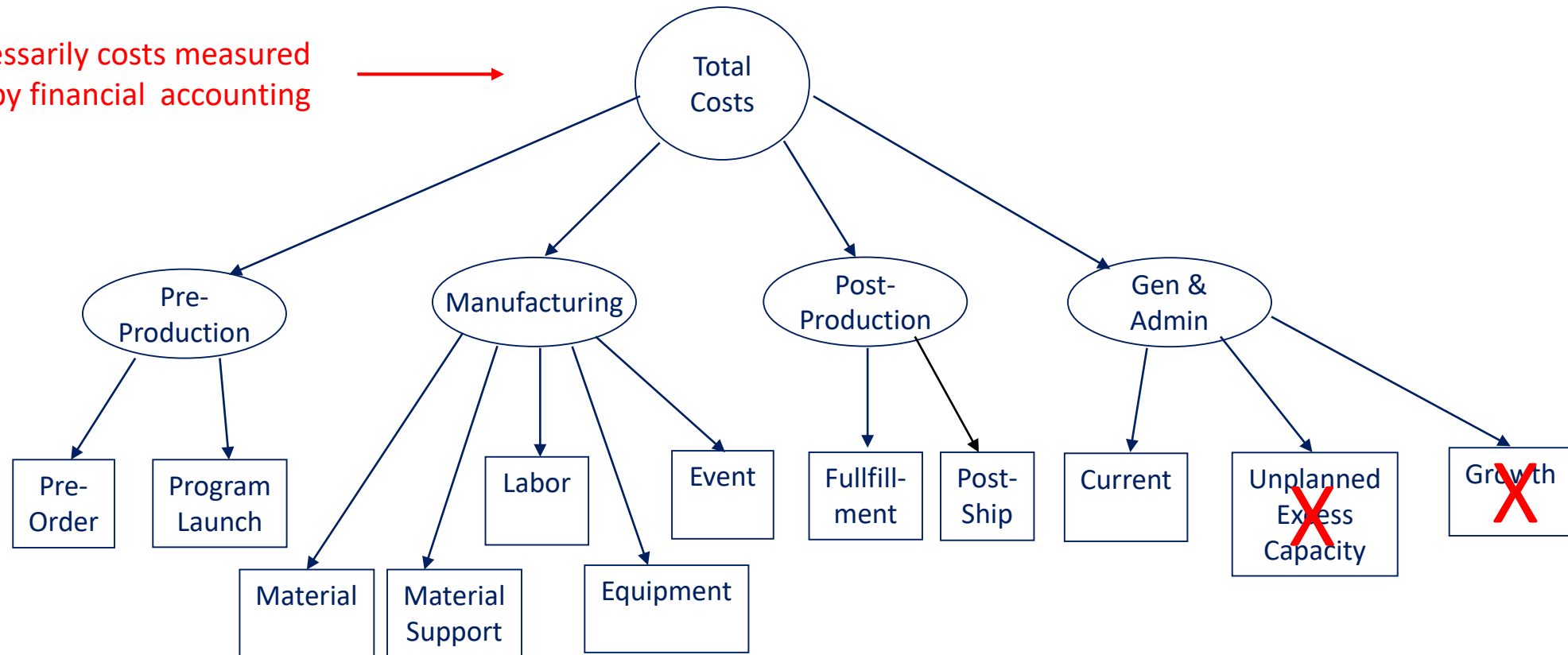
COSTING AS A PRODUCTIVE TOOL

To be a productive tool a manufacturer's cost information must be based on a cost model that reflects economic reality...it must be a valid model

The 100-year old, direct labor-based cost model does not qualify...it is an invalid cost model

STRUCTURE OF A VALID COST MODEL

Not necessarily costs measured
by financial accounting



STRUCTURE OF AN VALID COST MODEL

What is the cost of a component or tool purchased from an overseas vendor?

What is the additional cost of sequencing parts for shipment?

What is the savings from creating a cell to replace several independent operations?

What is the cost of providing additional non-manufacturing services to certain customers?

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STANDARDS NOT STANDARDIZATION

All manufacturing firms are unique and have special issues that need to be addressed by their cost model

A “one-size-fits-all” model is, in reality, an “one-size-fits-none” model

Standards for cost models can be universal

Standards for supplier cost models should be developed

A manufacturer should be entitled to develop a cost model that reflects its unique circumstances provided it complies with those standards

STANDARDS NOT STANDARDIZATION

That model can then be reviewed by an independent party to assure it meets the standards and reflects the manufacturers operations

Once that model passes that review it should be accepted as a valid cost model and that portion of the costing equation eliminated as a topic for debate or negotiation

STANDARDS NOT STANDARDIZATION

The data used to populate the model can still be subject to debate or negotiation, but not the model itself.

Parties can still argue about:

- Throughput rates
- Capacity assumptions
- Processes required
- and other model input

But not the model used to process those assumptions.

THE FIRST STEPS

Develop a set of standards for developing a valid cost model that reflects the economics of a supplier's operations

Develop a group of auditors who can “certify” the validity of a supplier's cost model

Stop arguing about the validity of the supplier's cost model and restrict debate to the data that populates that model

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