Our Agenda

1) A Brief History of Management Accounting
2) The Return on Investment (ROI) Model
3) The Profitability Analytics Framework
4) What’s Next? How to Get Involved?
1) A Brief History of Management Accounting

Eleuthère Irénée du Pont de Nemours (1771 - 1834)

The DuPont Corporation

(See The Management Accounting Quarterly, Institute of Management Accountants, Winter 2021)
Pre-Industrial Revolution

Wheelwright and Wagon Shop

Francis Cabot Lowell (1775 - 1817)

Direct and indirect costs of manufacturing

Efficiency of materials, labor, and overhead costs

Boston Manufacturing Company
Albert Fink (1827 - 1897)

Louisville & Nashville Railroad

Costs per ton-mile

Operating ratios
(operating expenses ÷ revenues)

Andrew Carnegie (1835 - 1919)

Carnegie Steel Company

Overhead costs assigned to intermediate and final products
Richard Sears (1863 - 1914)

Stockturns
(inventory ÷ sales)

Sears, Roebuck & Company

DuPont Company
Before 1903

Outside Suppliers and Transportation

DuPont Manufacturing Company

Outside Retailers and Distribution

Customers

A Brief History
DuPont Company After 1903

- Limited Outside Suppliers and Transportation
- No Outside Retailers and Distribution

F. Donaldson Brown (1885 - 1965)

At Dupont, circa 1920
F. Donaldson Brown (1885 - 1965)

The “Eureka Summer” of 1914

“I undertook the job…. and I have often wondered what might have been my fate and fortune in industrial management if I had not, that summer, hit upon the mathematical equation (R = T × P).”

At Dupont, circa 1920

The DuPont Formula (simple)

\[
\frac{\text{Return on Investment}}{\text{Investment Turnover}} = \frac{\text{Investment Turnover}}{\text{Profit Margin}} \\
\frac{\text{Profit}}{\text{Investment}} = \frac{\text{Sales}}{\text{Investment}} \times \frac{\text{Profit}}{\text{Sales}}
\]
2) The Return on Investment (ROI) Model

The DuPont Model (simple)

\[
\text{Return on Investment} = \frac{\text{Profit Margin}}{\text{Revenue Turnover}} \times \text{Revenue Turnover}
\]

\[
\text{Profit} = \frac{\text{Profit Margin}}{\text{Revenue}} \times \text{Revenue}
\]

The DuPont Model (expanded)

Return on Investment × Investment Turnover ÷ Revenue

Profit Margin ÷ Revenue

Revenue × Price Volume

Price Volume Working Capital + Long-Term Assets

Investment + Cash - Accounts Receivable - Inventories

Production Costs + Selling Expense + Admin. Overhead


The Dupont Chartroom, circa 1950
The DuPont Model
(expanded)

Revenue

Profit

Profit Margin

Return on Investment

Revenue

Revenue

Investment Turnover

Investment

Computational Drill Downs (control) versus Causal Modeling (strategy execution)

The ROI Model

Orphaned by Mgt Accounting?
3) The Profitability Analytics Framework

Statement on Management Accounting

SMAs present IMA’s position on best practices in management accounting. These authoritative monographs cover the broad range of issues encountered in practice.
The Profitability Analytics Center of Excellence (PACE) is a non-profit community of professionals and academicians dedicated to helping organizations make better, more informed decisions through the development and use of analytical models employing sound economic principles.
The DuPont Model (expanded)

Profit Margin \times Return on Investment \div \text{Revenue Turnover} \div \text{Investment} = \frac{\text{Profit}}{\text{Revenue}} - \frac{\text{Costs}}{\text{Revenue}}

Profitability Analytics is ...

...the Point where Revenue Management, Cost Management and Investment Management Intersect
The Profitability Analytics Model

Three ROI Factors
- Revenue Management
- Cost Management
- Investment Management

Three Strategy Stages
- Formulate the Strategy
- Quantify the Strategy
- Execute the Strategy

Strategy Formulation
- Operational Strategy: Internal Capability, Capacity, and the Operational Strategy
- Investment Strategy: Current and Evolving Resources, and Investment Strategy

Strategy Validation (Causal Models)
- Revenue Model: Based on the IMA's Revenue Management Fundamentals
- Cost Model: Based on the IMA's Managerial Costing Concepts
- Investment Model: Sustain, Expand, Innovate, Secure, and Comply

Strategy Execution (Forecasting & Decision Making)
- Revenue Mgt: Products, Services, Customers, Channels, and SBU's
- Cost Management: Processes, Activities, and Cost Drivers
- Investment Mgt: Tangible and Intangible Assets

Results
The Profitability Analytics Model

**Strategy Formulation**
- **Market Strategy**
  - Markets, Competition, and the Market Strategy
- **Operational Strategy**
  - Internal Capability, Capacity, and Operational Strategy
- **Investment Strategy**
  - Current and Evolving Resources, and Investment Strategy

**Strategy Validation** (Causal Models)
- **Market Model**
  - Quantitative Model of Market Opportunities to be addressed
- **Operational Model**
  - Quantitative Model of Operational Capabilities to be Deployed
- **Investment Model**
  - New Capacities Acquired and Capabilities Expected

**Revenue Model**
- Based on the IMA’s Revenue Management Fundamentals

**Cost Model**
- Based on the IMA’s Managerial Costing Concepts

**Investment**
- Capital Acquisition, Preservation, and Cost of Capital

**Monetize Processes and Resources**
- Forecasted, planned, or actual

**Nonmonetary ← Analytics → Monetary**

**Strategy Execution** (Forecasting & Decision Making)
- **Revenue Mgt**
  - Products, Services, Customers, Channels, and SBUs
- **Operations Mgt**
  - Processes, Activities, and Cost Drivers
- **Resource and Investment Mgt**
  - Tangible and Intangible Assets

**Results**
The Profitability Analytics Model

**Strategy Validation (Causal Models)**

- **Market Model**: Quantitative Model of Market Opportunities to be addressed
- **Operational Model**: Quantitative Model of Operational Capabilities to be Deployed
- **Investment Model**: New Capacities Acquired and Capabilities Expected

**Monetize Processes and Resources**: Forecasted, planned, or actual

- **Revenue Model**: Based on the IMA’s Revenue Management Fundamentals
- **Cost Model**: Based on the IMA’s Managerial Costing Concepts
- **Investment**: Capital Acquisition, Preservation, and Cost of Capital

**Strategy Execution (Forecasting, Planning, & Decision Making)**

- **Revenue Mgt**: Products, Services, Customers, Channels, and SBUs
- **Operations Mgt**: Processes, Activities, and Cost Drivers
- **Resource & Investment Mgt**: Tangible and Intangible Assets

**Harvest Value**: Measures, Targets, and Initiatives
- Pricing Segments
- Inventory Allocation
- Product Configuration
- Duration Control
- Cost Reduction
- Quality Improvement
- Timely Delivery
- Capital Investment
- HR Development
- IP Management

**Nonmonetary ↔ Analytics ↔ Monetary**

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The Profitability Analytics Model

**Strategy Formulation**

- **Market Strategy**: Markets, Competition, and the Market Strategy
- **Operational Strategy**: Internal Capability, Capacity, and Operational Strategy
- **Investment Strategy**: Current and Evolving Resources, and Investment Strategy

**Internal and External Data**: Forecasted, planned, or actual

**Plans**

**Monetize Processes and Resources**: Forecasted, planned, or actual

- **Revenue Model**: Based on the IMA’s Revenue Management Fundamentals
- **Cost Model**: Based on the IMA’s Managerial Costing Concepts
- **Investment**: Capital Acquisition, Preservation, and Cost of Capital

**Strategy Evaluation**

- **Resource & Investment Mgt**: Tangible and Intangible Assets

**Results**
4) What’s Next? How to Get Involved?
The PACE Profitability Analytics Model

Strategy Formulation
- Operational Strategy: Internal Capability, Capacity, and the Operational Strategy
- Investment Strategy: New Resources and the Investment Strategy

Strategy Validation (Causal Models)
- Revenue Model: Based on the IMA's Revenue Management Fundamentals
- Cost Model: Based on the IMA's Managerial Costing Concepts
- Investment Model: Sustain, Expand, Innovate, Secure, and Comply

Strategy Execution (Forecasting & Decision Making)
- Revenue Management: Products, Services, Customers, Channels, or SBUs
- Cost Management: Processes and Costs
- Investment Management: Tangible and Intangible Assets

Results

PACE

REVENUE MANAGEMENT FUNDAMENTALS

Julie Harrison, Fred Ng, Paul Rouse, and Monte Swain (Oct 2020)
The DuPont Model
(expanded)

The ROI Model

Managing Revenue Drivers and Cost Drivers

Managerial Objectives → Resources and Work Activities

- Value Drivers (Revenue and Cost)
  - Basic Drivers (Revenue and Cost)
  - Waste Drivers (Cost Only)

Cost Outcome → Revenue Outcome

Value Attributes
- Basic Attributes
- Wasteful Attributes

Value → Survival → Waste


www.profitability-analytics.org

Come join the discussion!