

“As companies grow more complex and markets grow more intensely competitive, lack of good cost information is becoming increasingly dangerous. This book shows you how to simply and easily mobilize cost data for maximum management impact.”

—Benson P. Shapiro, Malcolm P. McNair  
Professor of Marketing, Emeritus, Harvard  
Business School

“Time-Driven ABC is an elegant solution that leapfrogs traditional ABC and eliminates the traditional cost/benefit trade-off. Bob Kaplan and Steven Anderson provide a diverse set of case studies that clearly illustrate the strengths of TDABC and give valuable insights into its implementation.”

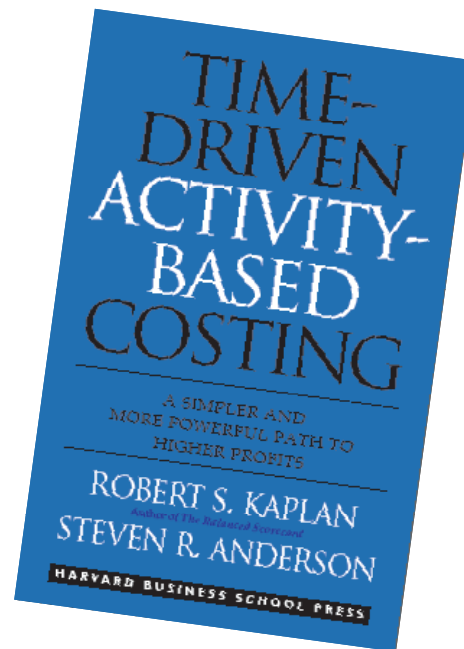
—Jeffrey Nachowitz, CFO for Citigroup IT

“*Time-Driven ABC* shows managers how this new and improved ABC will help control costs, prioritize investments, and better manage internal and external service levels. With this book, managers can begin to implement a TDABC system and begin to make better decisions.”

—Dave Martin, CFO of Janus Capital Group

# Time-Driven Activity-Based Costing

*A Simpler and More Powerful Path to Higher Profits*



Book Launch Webcast

March 29, 2007



## ROBERT L. HOWIE, JR.

President

Balanced Scorecard Collaborative,  
A Palladium company

Rob Howie is president of Balanced Scorecard Collaborative—the education and research division of Palladium Group, Inc.—and executive vice president of Palladium, a privately held professional services firm employing 400 professionals in 20 offices worldwide. Mr. Howie has 25 years of experience in management consulting, marketing, market research, and publishing. He is the founding publisher of Balanced Scorecard Report, distributed by Harvard Business School Publishing. He has advised a wide variety of clients such as the Massachusetts Institute of Technology/Sloan School of Business, the McGraw-Hill Companies, and U.S. Department of Defense. Mr. Howie has served as vice president of marketing for Renaissance Worldwide, Inc., director of emerging technologies consulting at DMR Group, Inc., and vice president and general manager of The Yankee Group, Inc. He holds undergraduate and graduate degrees from Boston College.



## DR. ROBERT KAPLAN

Baker Foundation Professor, Harvard Business School

Robert S. Kaplan is the Baker Foundation Professor at the Harvard Business School. Bob joined the HBS faculty in 1984 after spending 16 years on the faculty of the Graduate School of Industrial Administration (GSIA), Carnegie-Mellon University. He served as Dean of GSIA from 1977 to 1983. Bob received a B.S. and M.S. in Electrical Engineering from M.I.T., and a Ph.D. in Operations Research from Cornell University. In 1994, he was awarded an honorary doctorate from the University of Stuttgart. Kaplan's research, teaching, and consulting focus on linking cost and performance management systems to strategy implementation and operational excellence. He has been a co-developer of both activity-based costing and the Balanced Scorecard. He has authored or co-authored eleven books, thirteen *Harvard Business Review* articles, and more than 120 other papers. The Accenture Institute for Strategic Change named him among the Top 50 Thinkers and Writers on Management Topics in 2002 and 2003. *The Financial Times* included him in its list of Top 25 Business Thinkers. Bob received the Outstanding Accounting Educator Award in 1988 from the American Accounting Association (AAA), the 1994 CIMA Award from the Chartered Institute of Management Accountants (UK) for "Outstanding Contributions to the Accountancy Profession," and the 2001 Distinguished Service Award from the Institute of Management Accountants (IMA) for contributions to the IMA and the academic community.



## STEVEN R. ANDERSON

Founder and Chairman, Acorn Systems, Inc.

Steven R. Anderson is Chairman and Founder of Acorn Systems, a consulting and software company with offices in Houston, Austin and Philadelphia. The firm specializes in profit management and other decision automation software tools that help boost the operating profits of their clients. In 1996, Mr. Anderson founded Acorn and pioneered the new Time-Driven approach to Activity-Based Costing. He used the principles highlighted in this book to more than double the net operating profit of a large percentage of Acorn's clients. He has written over 30 white papers and articles on this and related subjects. Mr. Anderson is an alumnus of Harvard Business School (Baker Scholar) and McKinsey & Company. He received a dual degree with honors in Engineering Management Systems and Chemical Engineering from Princeton University. In addition, he has a Post Baccalaureate in Accounting from the University of Houston. He can be reached at [sanderson@acornsys.com](mailto:sanderson@acornsys.com)

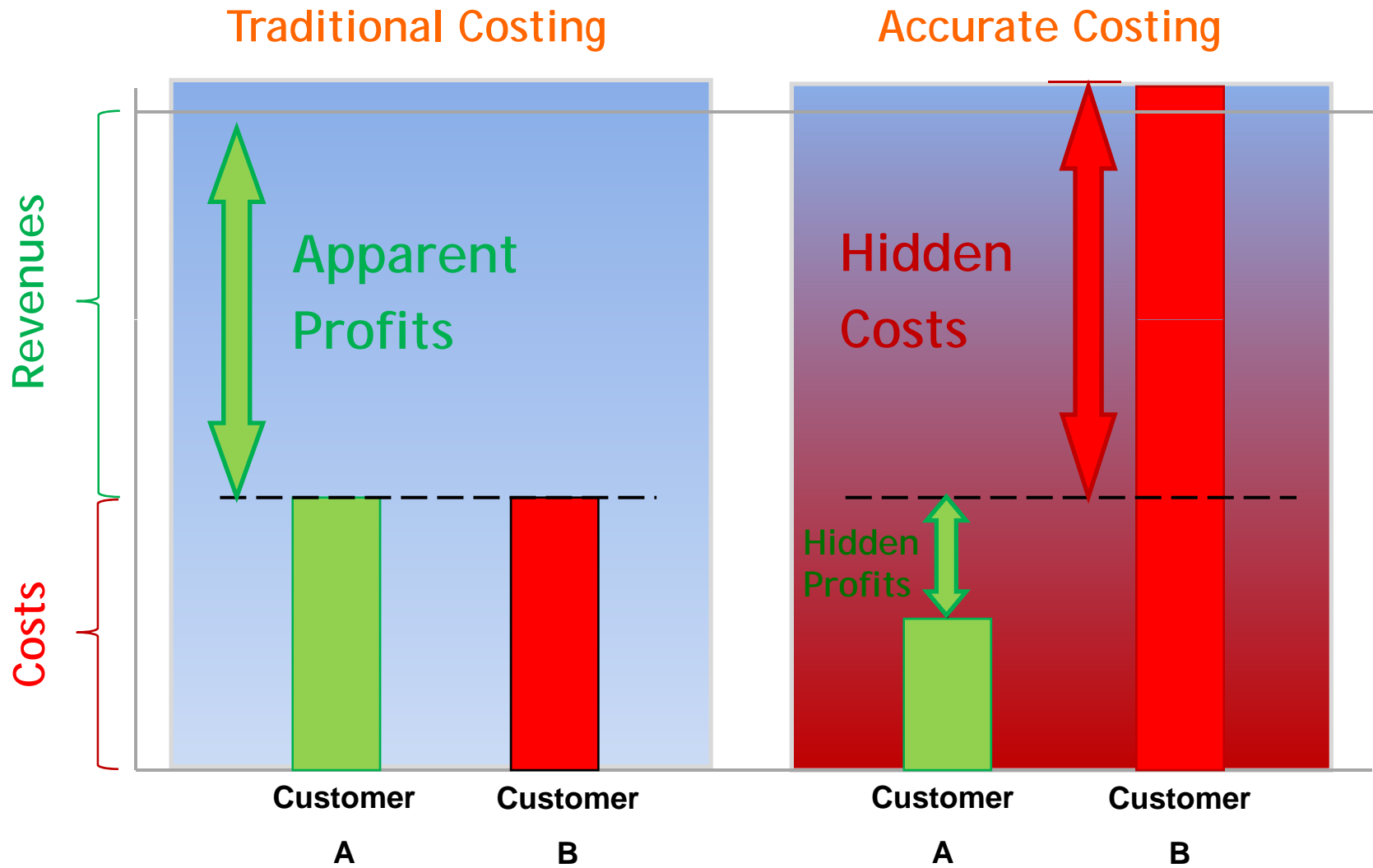


## PASCAL PLATTEAU

Financial Controller Coca Cola Enterprises,  
European Supply Chain

Pascal Platteau, Financial Controller for Coca-Cola Enterprises, joined the company in 1996 and has held a variety of management positions throughout his tenure. Mr. Platteau brings extensive finance and accounting experience to his role. Within the recently formed European Supply Chain organization, he is now responsible for financial controlling, reporting, forecasting and budgeting of logistics, production and capital management. Mr. Platteau holds a degree in Applied Economics from the University of Gent.

# Activity-Based Costing Reveals Hidden Profit And Cost Customers

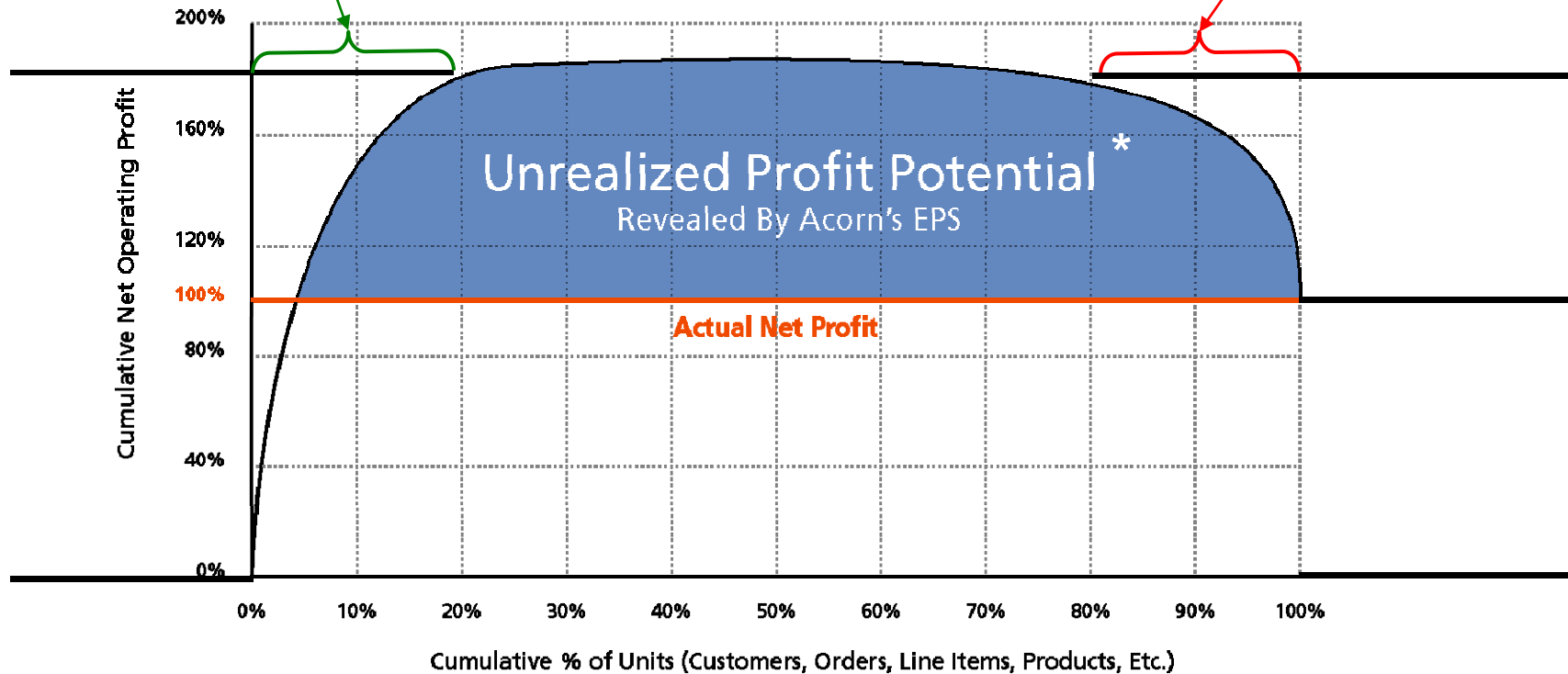


# Hidden Profits Drive The Opportunities From Time-Driven ABC

## Operating Profit Profile

20% most profitable  
generate 180% of  
profits

20% least  
profitable lose  
80% of net profits





# Conventional ABC Requires Extensive Interviews And Surveys

## Customer Administration Department: Activities Performed

- Process Customer Orders
- Handle Customer Inquiries
- Perform Customer Credit Checks

## Traditional ABC System

1. Estimate Costs of Resources Supplied \$567,000
2. *Estimate Percentage of Time on Each Activity*
3. Determine Quantity of Activity Performed
4. Calculate Activity Cost Driver Rates

Activity	Percentage	Assigned Cost	Activity Cost Driver Quantity	Activity Cost Driver Rate
Process Customer Orders	<b>70%</b>	\$396,900	49,000	\$ 8.10 /order
Handle Customer Inquiries	<b>10%</b>	\$56,700	1,400	\$ 40.50 /inquiry
Perform Credit Checks	<b>20%</b>	\$113,400	2,500	\$ 45.36 /credit check
<b>Total</b>	<b>100%</b>	<b>\$567,000</b>		

# Problems With Conventional ABC

## Resource Intensive

- Costly to interview and survey people for initial ABC model
- Costly and difficult to maintain and update the ABC model as processes and resource spending change, and new activities added

## Not Scalable

- Can only handle relatively few activities; masks diversity and complexity of demands from individual orders, channels or customers

## Inaccurate

- Percentage allocations are subjective; difficult to validate estimates
- Assumes resources are at 100% of capacity

## Wilson Mohr And ABC, Circa 1996/97

### Facts:

- Process controls and systems supplier, servicing Texas
- Revenue (1996): \$15 million
- Number of locations: 5
- Number of employees: 100
- Model run every month



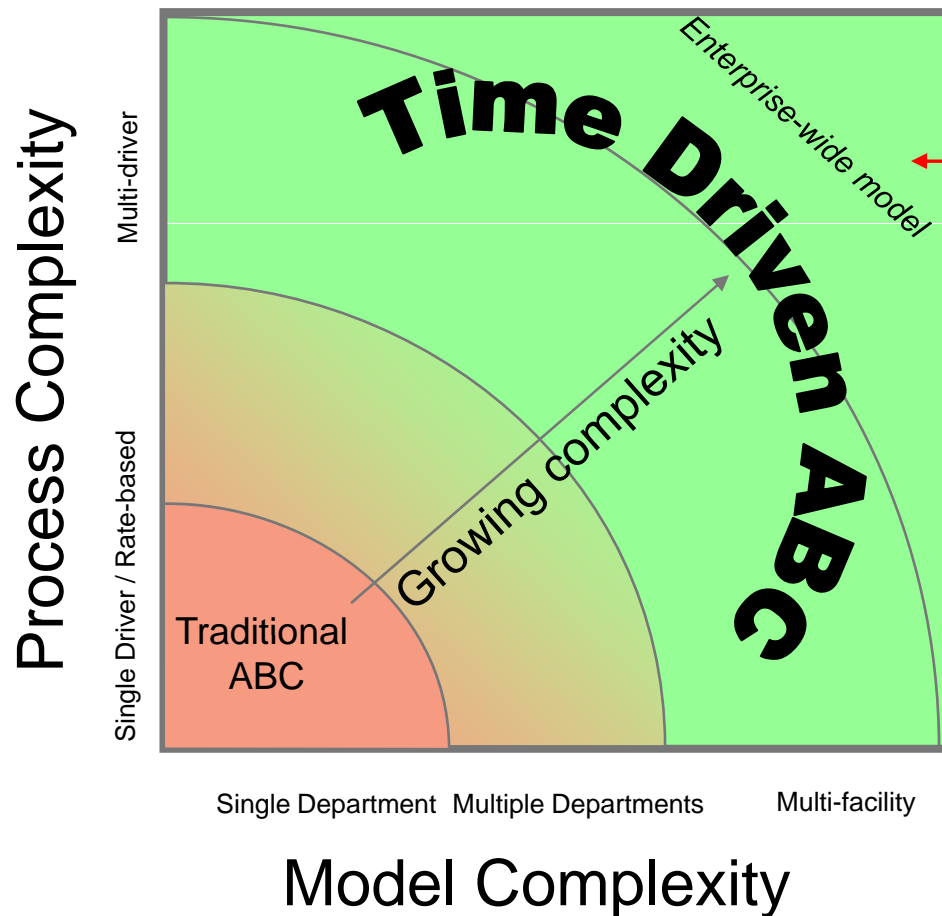
Dimension	Conventional ABC Model	TDABC
# Cost Centers / Departments	50	50
# Activities	<b>500</b>	<b>40 processes</b>
# Interviews or surveys per year	<b>1,200</b>	<b>40-60</b>
Time to Build	40 FTE days (includes aggregating survey results)	50 FTE days (includes time equations)
Monthly effort to run	<b>10 FTE days (monthly surveys, run time on software)</b>	1 hour
# Team Members	5	0.5

## Summary: Time-Driven ABC Provides Multiple Benefits

1. Easy and fast to implement, validate and audit
2. Integrates well with data from ERP and CRM systems
3. Inexpensive to maintain and update
4. Scales to enterprise-wide models
5. Incorporates specific features for particular orders, processes, suppliers, and customers
6. Provides visible opportunities for process efficiencies and capacity utilization
7. Forecasts future resource demands based on predicted order quantities and complexity

# Easier To Handle Business Complexity

Make sure your model matches what you are trying to accomplish



This is what Kemps needed:

- *company wide customer profitability*
- *SKU profitability*
- *Pricing*
- *Supply chain analysis*
- *Operational benchmarks*

## How TDABC Works At A High Level

**Step 1:** Calculate the **cost per unit** time of supplying capacity in processes or departments

$$\text{Unit Cost} = \frac{\text{Cost of capacity supplied}}{\text{Practical capacity of resources supplied}}$$

28 customer service employees do the front-line work.

Each employee shows up for work 60 days per quarter (240 days per year), 7.5 hours per day, and 60 minutes per hour, or 27,000 minutes per quarter.

Employees spend about 75 minutes per day in breaks, training and education leaving 375 minutes per day or ~22,500 minutes per quarter per employee for productive work. The unit cost of supplying capacity is easily calculated as:

$$\text{Unit Cost} = \frac{\$567,000}{22,500 * 28 = 630,000 \text{ minutes}} = \$0.90 \text{ per minute}$$

## How TDABC Works At A High Level

**Step 2:** Calculate the capacity used - typically unit times - by each transaction on each capacity resource.

Observe directly the time required by each type of transaction or order:	
Process customer orders	8 minutes
Handle customer inquiries	44 minutes
Perform credit check	50 minutes

## TDABC Calculates Cost Driver Rates Based On Capacity Consumption

TDABC combines unit cost and unit time estimates; it also reveals the quantity and cost of unused capacity each period.

1. Estimate Costs of Resources Supplied ————— \$567,000
2. Estimate Practical Capacity of Resources Supplied ——— 630,000 minutes
3. Calculate Cost of Capacity Time ————— \$0.90 per minute
4. Estimate Unit Times to Perform Each Activity
5. Calculate Capacity-Based Activity-Cost Driver Rates

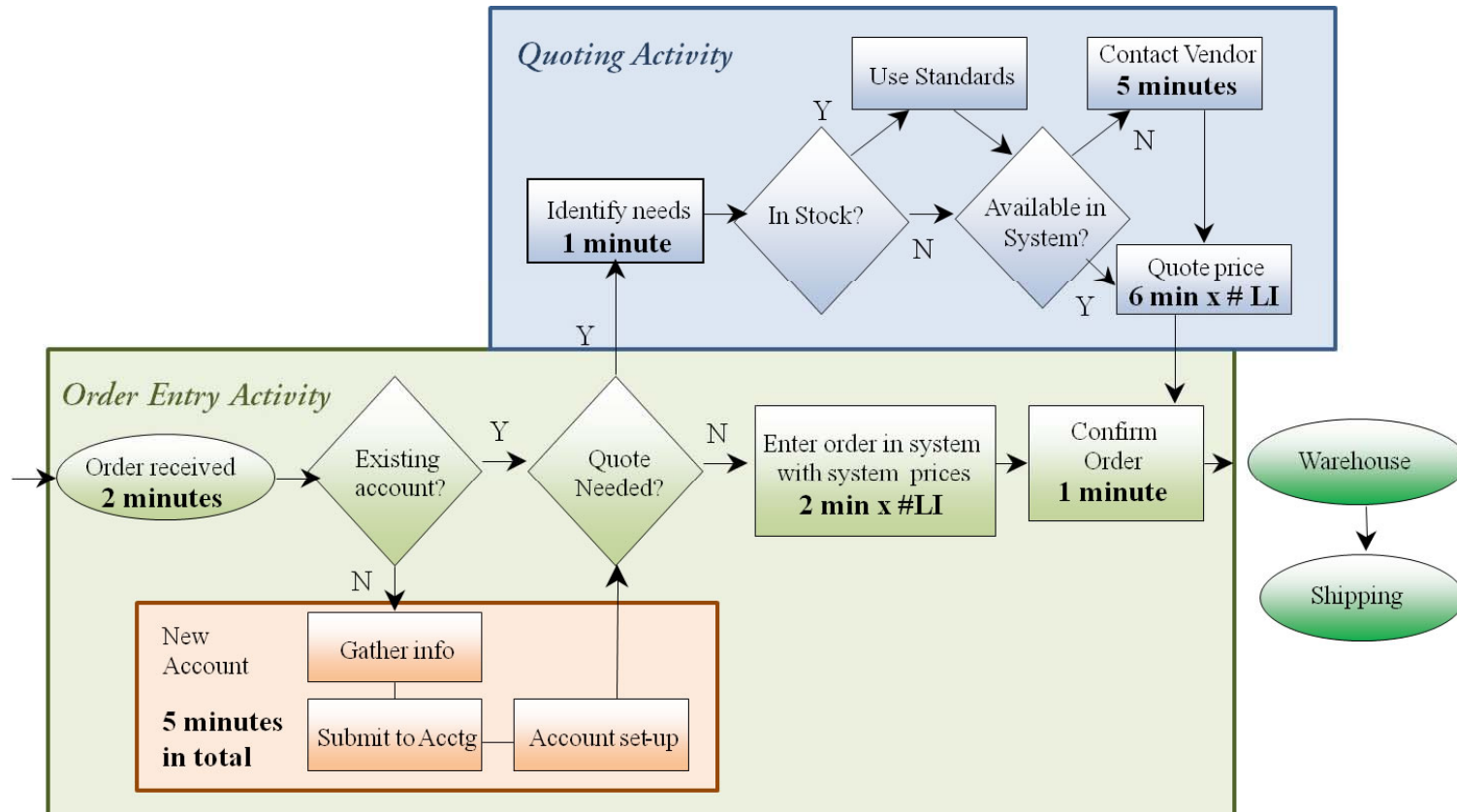
Activity	Unit Time (minutes)	Activity Cost Driver Rate	Activity Cost Driver Quantity	Activity Time	Activity Cost
Process Customer Orders	8	\$7.20 / Order	49,000	392,000	\$352,800
Handle Customer Inquiries	44	\$39.60 / Complaint	1,400	61,600	\$55,440
Perform Credit Checks	50	\$45.00 / Check	2,500	125,000	\$112,500
Used Capacity				578,600	\$520,740
Unused Capacity (8.2%)				51,400	\$46,260
<b>Total</b>				<b>630,000</b>	<b>\$567,000</b>



# TDABC Focuses On Processes

## Wilson Mohr Example (Chapter 2)

Step 1: Understand the process steps for each department (e.g. Inside Sales)



Step 2: Estimate the typical time it takes to complete each step. Incorporate complexity (e.g. rush) by merely adding available drivers and estimating times to complete

## Building The Time Equation

### Step 3: Aggregate activity steps and times to form time equation

$$\text{Inside Sales Process Time} = 2 + 2 * \text{LI} + 1 + 5 \{\text{if NEW}\} + 1 \{\text{if CONF}\} + 1 \{\text{if QUOTE}\} * (1 + 5 \{\text{NS}\}) * 6 \{\text{if QCONF}\} * \text{LI}$$

LI.....# of line item items on an order

NEW.....indicates that customer is new

CONF.....indicates if order is confirmed

QUOTE.....indicates if the order was quoted

NS.....indicates that product is not in stock

QCONF.....indicates that quote was confirmed

Note: each of the fields in the equation are captured in their order entry system, which supports the inside sales process.

## Benefits Of Using Time Equations

- Greater organizational buy-in (Chapter 2)
- Dynamic (no more interviews / surveys) (Chapter 2)
- Ability to model complexity (Chapter 2)
- Greater accuracy (Chapter 2)
- Rapid roll-out (Chapter 4)
- Isolates inefficiency (Chapter 7)
- Estimates capacity utilization (Chapter 5, 10, 13)
- Predictive analysis (Chapter 5 and 6)

# Time-Driven Activity Based Costing



Implementation

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*Coca-Cola Enterprises Belgium*

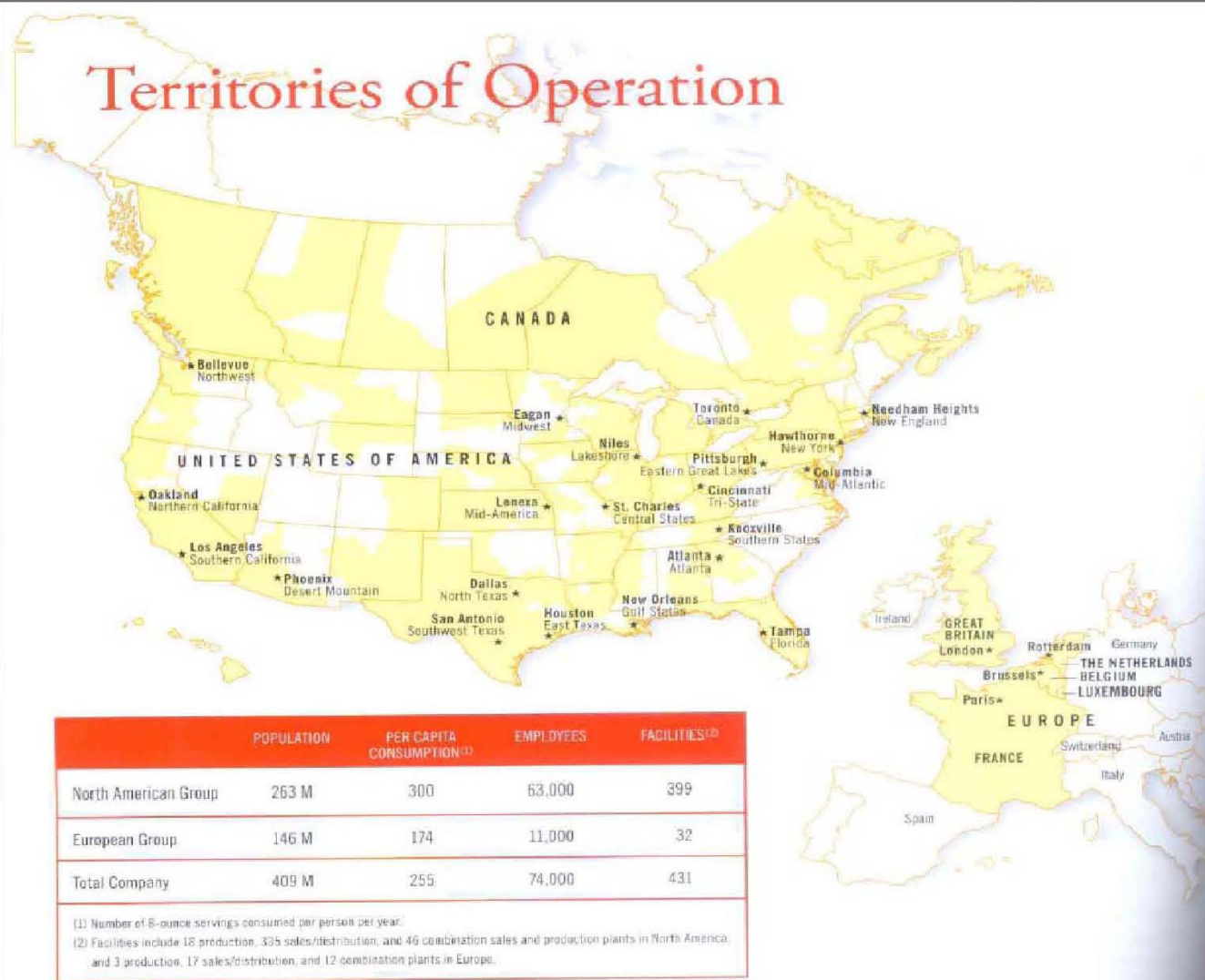
# Some key facts of Coca-Cola Enterprises

- CCE is the biggest Bottling Company for TCCC
- CCE is also the biggest Bottling Company for non alcoholic ready to drink beverages in the world
- Counts about 74.000 collaborators
- Has 431 sites in the world
- Realises a turnover of more than 18 billion dollar
- Represents about 21% of the total volume of TCCC
- Realises almost 90% of its turnover by selling products of TCCC
- Has 2,4 million vending machines, 54.000 vehicles, ...

# Overview CCE territories



## Territories of Operation



# Identity card Coca-Cola Enterprises Belgium



BELGIUM – BELGIUM – BELGIUM – BELGIUM – BELGIUM – BELGIUM  
 IDENTITEITSKAART CARTE D'IDENTITE PERSONALAUSWEIS IDENTITY CARD






**Results of the company (2005)**

- Turnover 797 mio €
- Volume in LRTD 849 mio liters

**Contacts**

- Customers 16.540
- Outlets 92.060
- Consumers 10,7 mio

**Infrastructure (2005)**

A. STAFF		B. EQUIPMENT		C. TRUCKS	
Sales	828	Vendors	31.647	Trucks	209
Logistics	670	Coolers	32.247	Direct delivery	
Production	801	Fountain	3.448	Others	929
Adm.	281		67.342		
	<u>2.580</u>				





Nr Identiteitskaart / Identity card No

Coca-Cola  
Belux

# The route to market @ CCE Belgium



Infrastructure



Sales Force





# Different pré-sales support



Pre-selling



tele-selling

# The route to market @ CCE Belgium



Infrastructure



Sales Force



Production



# ..... with specialized Inventory



Soft drink



Fruit drink



Iced tea



Sports drink



Juices



Sports water



Water

# The route to market @ CCE Belgium



Infrastructure



Sales Force



Production



Warehouse



# ...handling different order quantities



Full pallet



layerpicked



manual

# The route to market @ CCE Belgium



Infrastructure



Sales Force



Production



Warehouse



Delivery



# Customized "Route to market"



immediate  
Consumption

GROCERY SHOPPING

Hypermarket  
Supermarket  
Superette  
Cash & Carry  
Drinkcenter

Route to  
Market

**DSD**

HORECA

Cafés  
Restaurants

Beverage  
Wholesalers

INSTITUTIONAL

At Work  
Educational  
Health

**DSD**

SMALL STORES

Snackbar  
CTN  
Nightshops

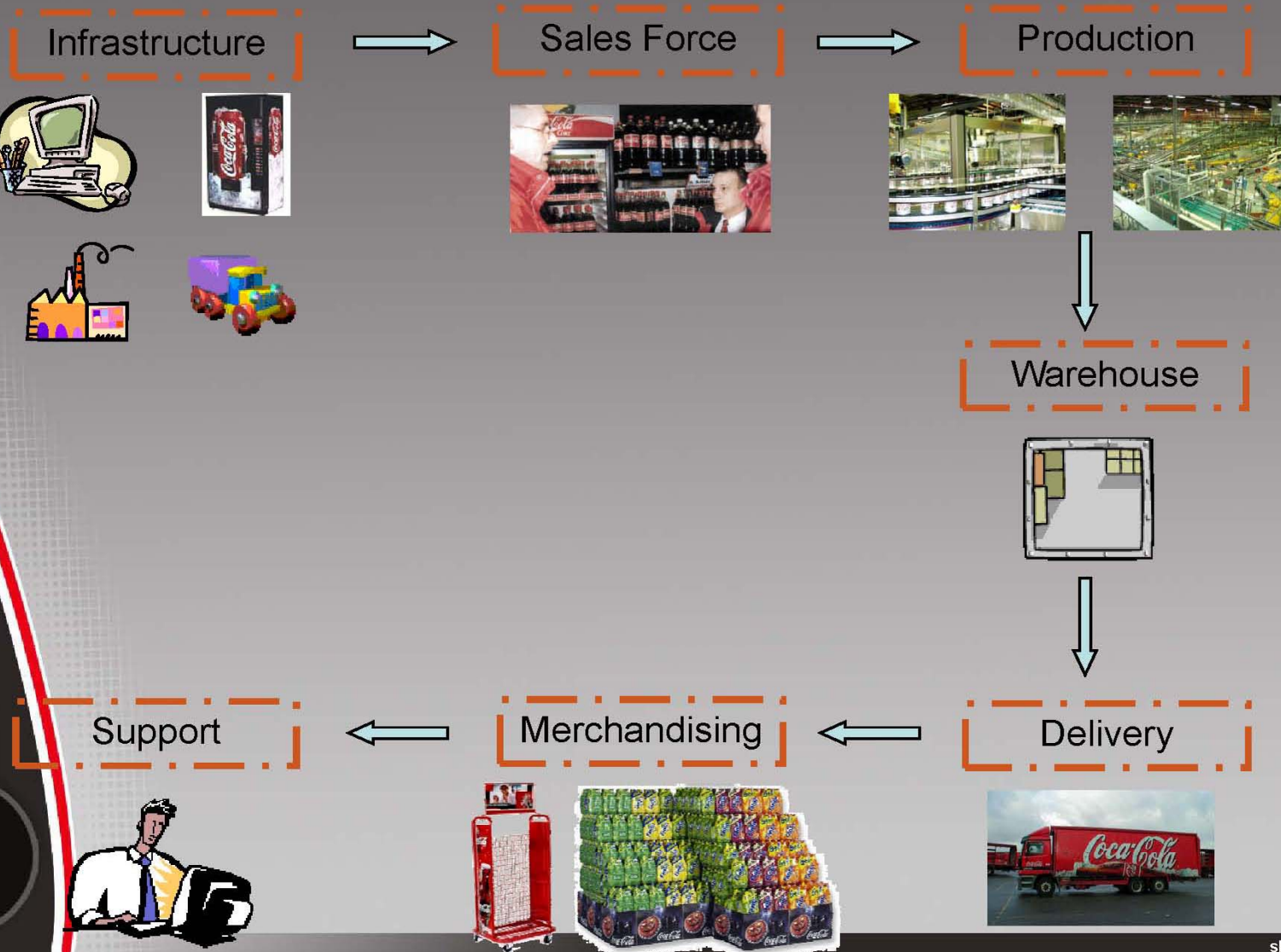
Wholesalers

PETROL

Petrol

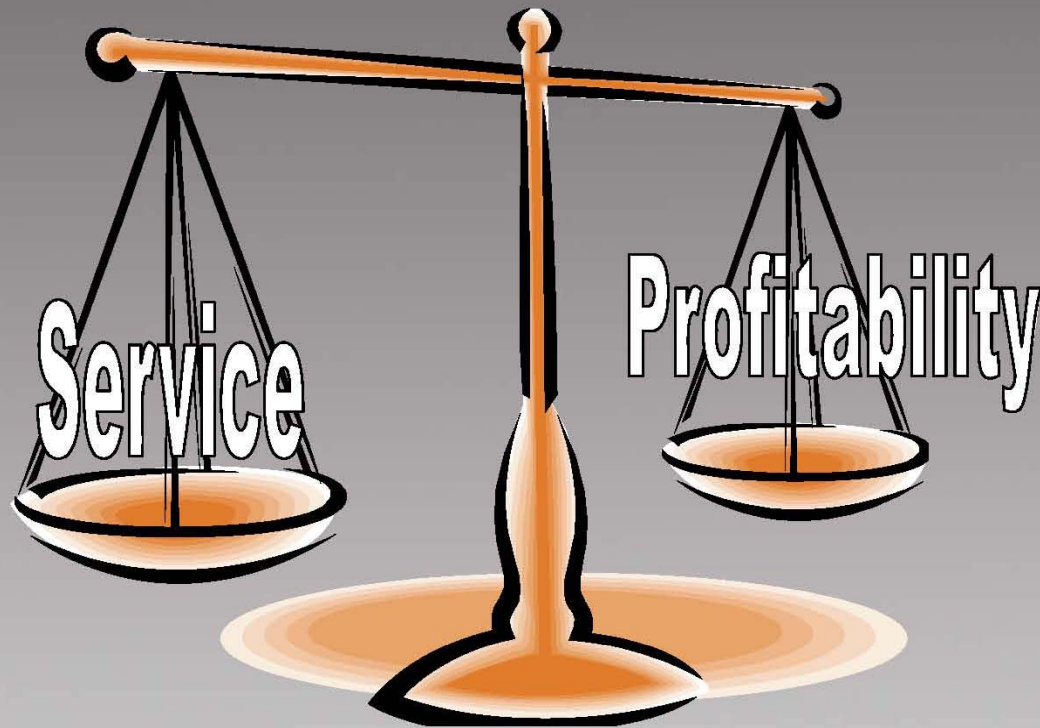
**DSD**

# The route to market @ CCE Belgium





# Objective of the TD ABC project



# Implementation of TD ABC in logistics

## 2 main goals :

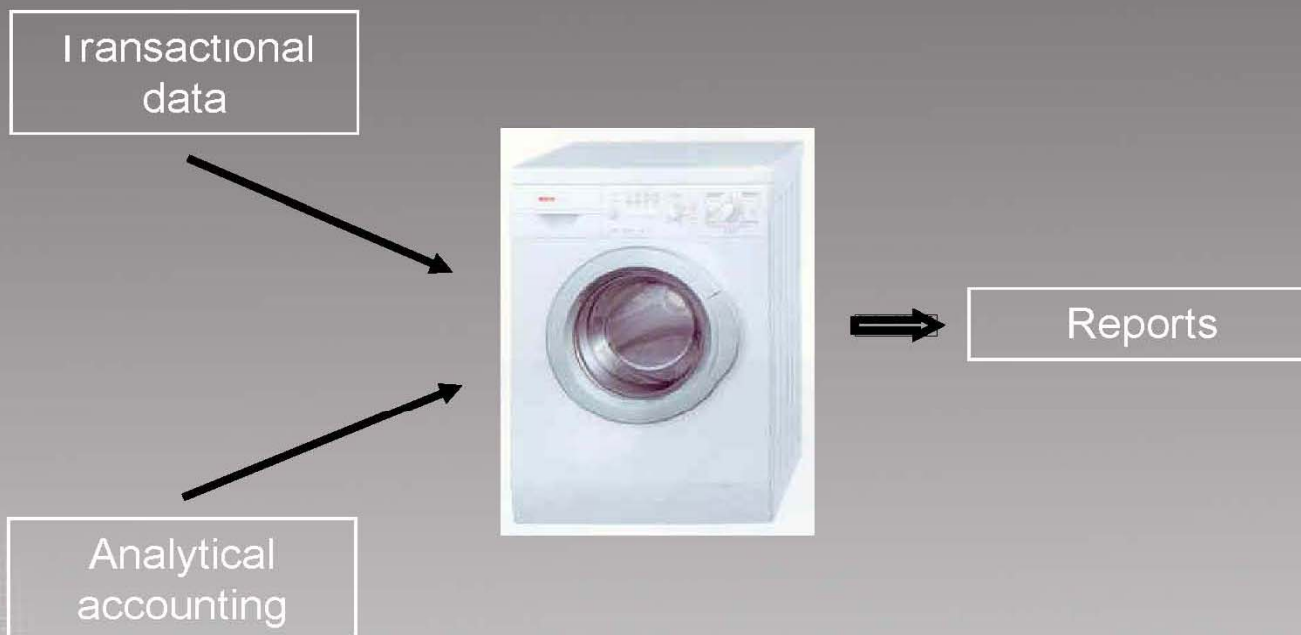
1. Create a tool to better understand our costs and underlying cost drivers = efficient cost management & better view on profitability
2. Maintain a “cross-functional” P&L for a correct cost allocation from logistics to sales



## Description in detail of all logistic processes :

- Dispatching
- Replenishment picking area
- Loading / unloading
- Stockkeeping
- Checking & admin follow-up
- Delivery
- ...

# A “simplified” explanation of Time Driven ABC





### Calculate :

- Profitability by Sales Center
- Profitability by channel  
eg. grocery channel versus petrol channel
- Profitability by key account  
eg. profitability "Delhaize" versus "Colruyt"
- Impact of undertaking on profitability  
eg telesales versus sales reps?
- Profitability by sales route...
- Frequency of visit ↔ profitability
- ...

## use of results of ABC analysis...



### Calculate :

- Profitability by brand  
eg. Coke, Coke Light, Aquarius, Mmaid,...
- Profitability for a group of brands  
eg. 

- Coke	}	Core 4
- Coke Light		
- Fanta		
- Sprite		
- Profitability by business model  
eg.
  - Softdrinks
  - Juices
  - Waters
- Profitability by package
- ...

## use of results of ABC analysis...



- Profitability by delivery type
  - conventional
  - full service
- Direct delivery versus local delivery
- Determine minimum drop levels ?
- Own delivery versus external delivery?
- Most cost efficient warehouse
- Profitability per delivered order
  - ↘ rush order
  - ↘ normal order
  - ↘ full pallet
  - ↘ tygard claw
  - ↘ manual picked
- Profitability per customer, product,...

## 1. Better business insight

we have a large set of data available regarding the logistic performance

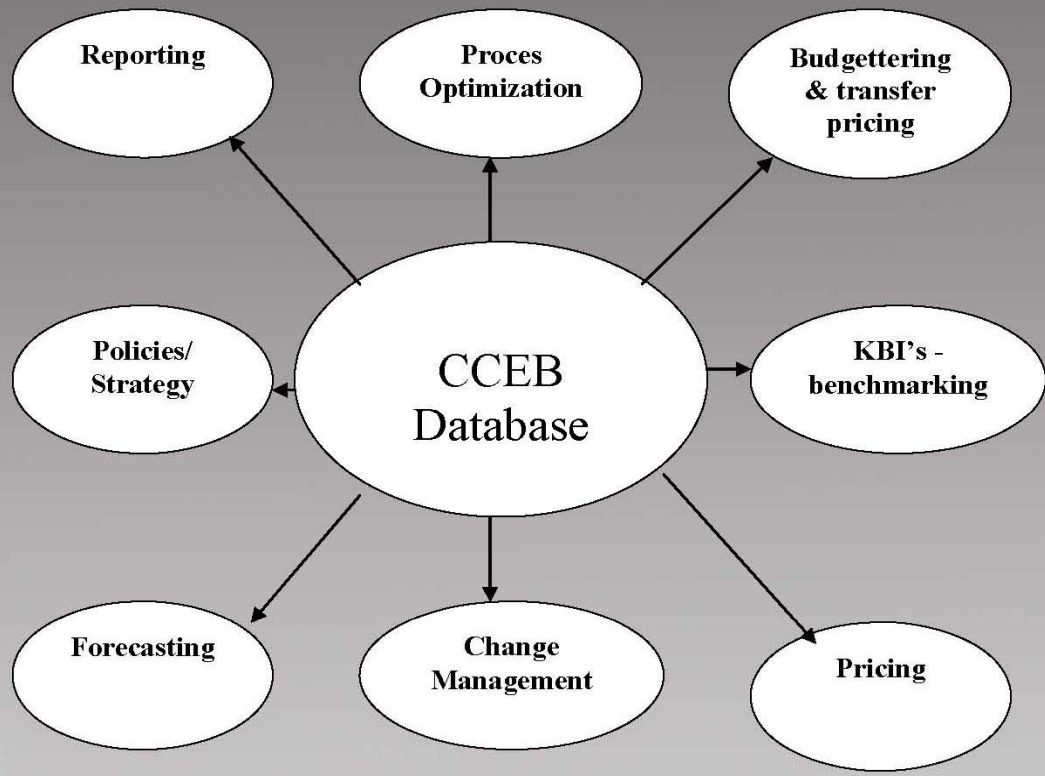
But we also have a detailed follow up of the sales performance

Communication of results via a reporting tool

2. We can provide detailed financial support



# Summary of next steps



# Time-Driven Activity Based Costing



Implementation

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*Coca-Cola Enterprises Belgium*

# Strategic Fit For Time-Driven ABC

Not all sectors are equally good fits!

	<b>Investment Banking</b>	<b>Insurance</b>	<b>Retail</b>	<b>Education</b>	<b>Healthcare</b>
Example Clients	<b>Citigroup,</b> Deutsche Bank, HSBC	<b>Global Insurance,</b> AON, York	<b>Simmon's,</b> <b>Target,</b> <b>Petco,</b> <b>Safeway</b>	<b>JSU</b>	Alliance, BC Biomed, Pharmanet
Labor Intensity	<b>High</b>	<b>High</b>	<b>High</b>	<b>High</b>	<b>High</b>
<b>Processes</b>	Diverse	<b>Standard / Repeatabile</b>	<b>Standard / Repeatabile</b>	Modellable Variability by professor	Modellable, some consistency Variability by physician
<b>Data Quality</b>	Poor - too many diverse systems	<b>Strong Accessible</b>	<b>Strong Accessible</b>	<b>Good</b> Getting better	<b>Good</b> Getting Better
Transaction Volume	Low, infrequent	<b>High</b>	<b>High</b>	<b>High</b>	<b>High</b>
Organization Structure	Sprawling / Divisional	<b>Branches</b>	<b>Retail Branches</b>	Single entity Schools / Departments	Hospitals with direct service departments

## Kemps Foods: Example Of Menu-Based Pricing

**Kemps CEO offers customers the choice among three options:**

1. Institute a 11 percent price increase to continue the status quo
2. Maintain existing pricing, but use Kemps-branded ice cream: standard recipes, large production runs, standard packaging, and weekly deliveries
3. Find another ice cream supplier

## Kemps' Diverse Actions Generated Substantial Near-Term Profitability Improvements

Process Improvements	Product and Pricing Decisions	Redefine Customer Relationships
<p>Accumulated customer orders weekly leading to fewer production runs/product;</p> <p><i>Saved 2 hours per product per month plus reduced materials loss at start and stop of each run</i></p>	<p>Formed senior executive SKU rationalization team, which met monthly.</p> <p><i>Repriced or dropped unprofitable products, increased production volumes of remaining products.</i></p>	<p>Consolidated labeling across three store chains; fewer deliveries of larger quantities.</p> <p><i>Lowered price to customer and retained business without competitive bidding</i></p>
<p>Standardized ingredients - such as label to reduce changeovers</p> <p><i>Reduced overtime and eliminated 1 shift/week</i></p>	<p><i>Shut down one plant by consolidating production into headquarters plant</i></p>	<p>Cross-docked orders with large sophisticated customers (Super-Valu)</p> <p><i>Enhanced value creation with strategic supply chain partners</i></p>

*"ABC enabled us to reduce complexity across all our operations, especially complexity that customers did not want to pay for. Today, we do not do any new contract without first going through an ABC analysis."*

Jim Green, CEO Kemps

# Initiatives Made Stronger By TDABC



## Profit Initiatives:

- **Order / transaction profitability** (*various*)






## Revenue Growth Initiatives:

- **Activity-based Pricing** (*Chapter 10, 11, 13*)
- **M&A modeling** (*Chapter 6*)
- **Price de-bundling** (*Chapter 10*)
- **Vendor & Customer Negotiations** (*Chapter 8, 9*)

## Cost Initiatives:

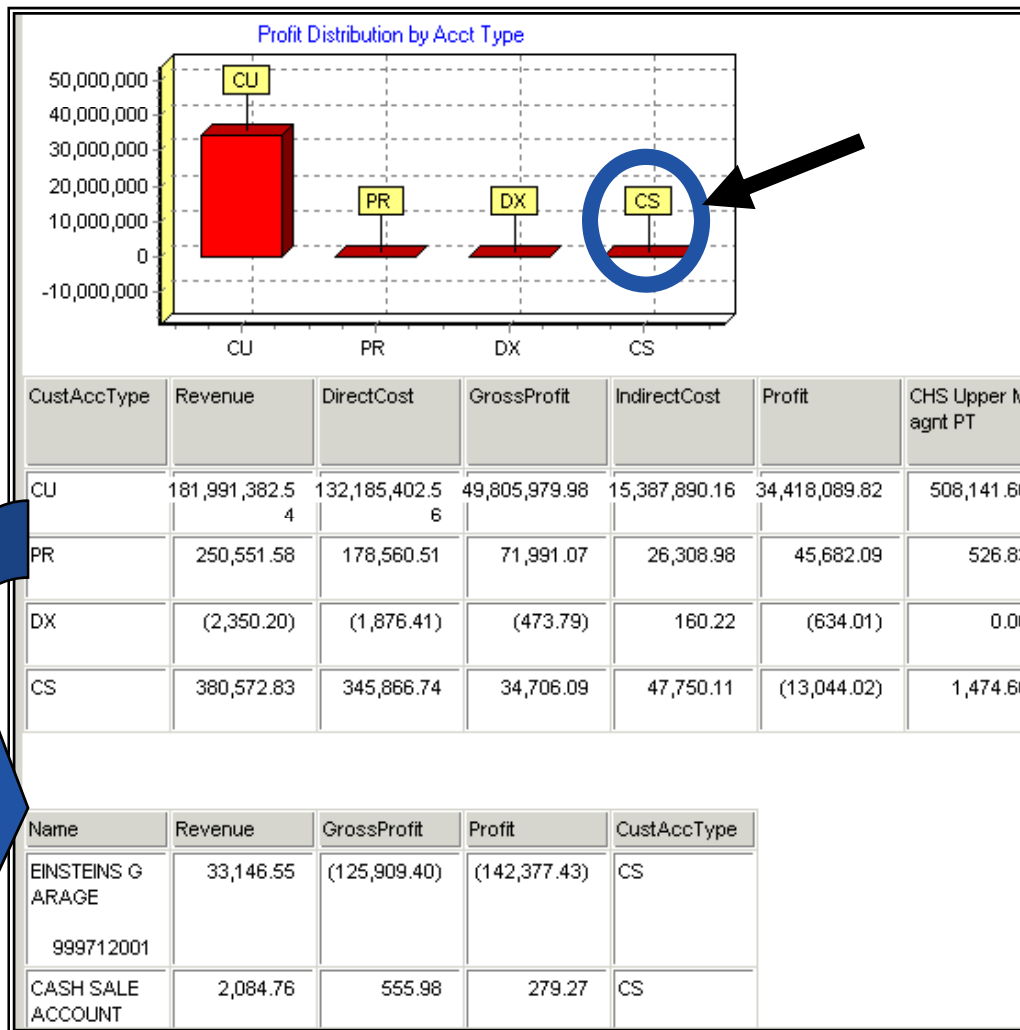
- **Staffing & Capacity Planning** (*Chapter 6, 7, 10, 13*)
- **Cost to Serve** (*Chapter 8, 9, 11*)
- **Supply Chain Optimization** (*Chapter 7, 8, 9*)
- **Shared Services & IT Value Management** (*Chapter 12, 14*)
- **Lean Management / Process Improvement** (*Chapter 7*)

# How Financial Service Clients Use TDABC

	Product Cost / Profitability	Customer Profitability	Channel Profitability / Costs	Branch / Profit / Costs	Operations Improvement	Shared Services / IT Charge-back	Activity Based Costing	Capacity Planning
<i>charles</i> SCHWAB	✓	✓	✓	✓	✓	✓	✓	✓
<b>citigroup</b> 						✓	✓	
<b>ATB Financial</b>	✓	✓	✓	✓	✓	✓	✓	
<b>AIG</b>								✓
	✓	✓			✓	✓	✓	
<b>Deutsche Bank</b> 						✓	✓	
	✓	✓			✓	✓	✓	✓
<b>AON</b>		✓					✓	
	✓	✓				✓	✓	

# Transaction Analysis

Drill-down becomes much more powerful!



Accuracy is generated at the lowest level of detail, ensuring the high-level numbers are accurate

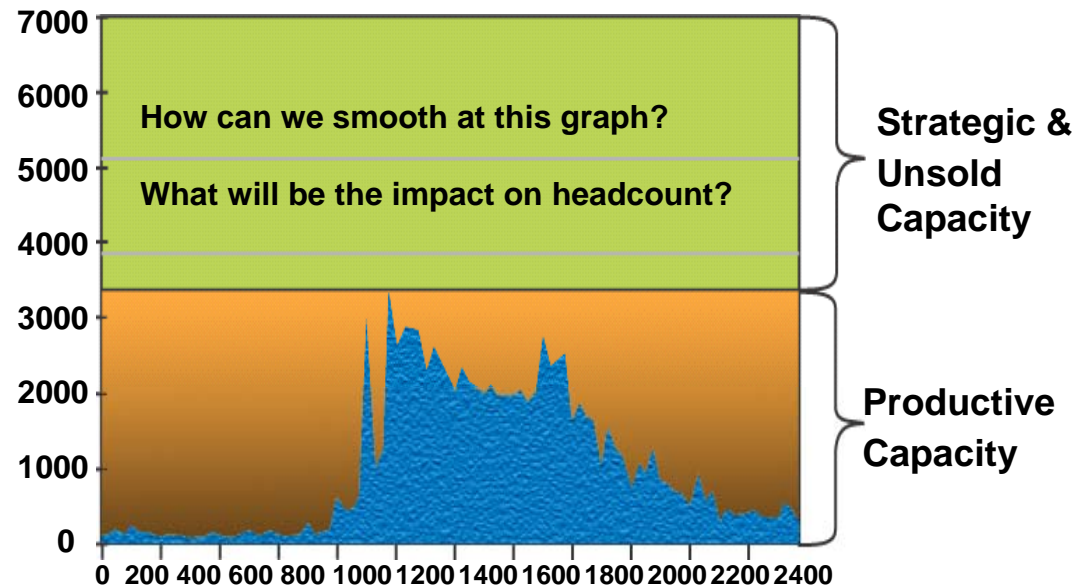
Spot the loser!

- CS customer category?
- Specific CS customer?
- Specific CS order?
- Specific CS product?
- Specific CS activity?



# Capacity Analysis By Department

**Compton Financial** (Chapter 10): TDABC tracks capacity utilization of departments like IT, Trading, and the Call Center, with the goal of optimizing staff levels.



**Retail Example:** TDABC tracks store labor capacity

Process	FTEs Available	FTEs Used	FTEs Idle	FTE Utilization	FTE Utilization	Capacity Rate	Actual Rate	Capacity Cost	Actual Cost
Customer Consultants	36	34.86	1.14	1.14	97%	1.21	1.25	422657.43	436,530.86
Cashiers	24	3.96	20.04	20.04	17%	0.91	5.5	36005.78	217,996.64
Customer Service / Returns	8	4.32	3.68	3.68	54%	0.84	1.56	36382.29	67,394.11
Inventory Control	1	0.79	0.21	0.21	79%	6.68	8.43	52978.57	66,824.64
Receiving	6	6.42	-0.42	0	107%	0.91	0.85	58561.6	54,696.39
Facility Management	4	2.58	1.42	1.42	64%	1.12	1.73	28766.53	44,658.12

## Using TDABC For Rapid Due Diligence In M&A (Chapter 6)

Leverage time-driven industry template to quickly build a model. Customize time equations as necessary

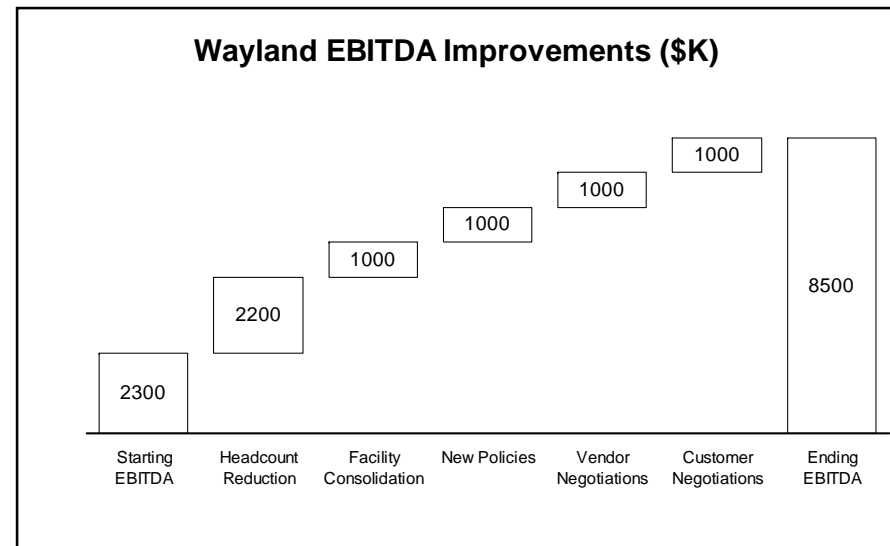
Load actual data from target company

Run numbers to identify profit improvement opportunities. Run what-if scenarios

**Example:** Wayland Foods, \$175 MM prepared foods company

### Facts:

- 10 locations
- 10,000 customers
- 20,000 SKUs
- 2 million transactions/ month
- Time to build: 3 weeks
- Size of model: 85 GBytes
- Opportunity identified = 3x EBITDA



## Link Strategic Planning To Resource Allocation With A TDABC Model

1. Develop an “as-is” cost and profitability model using time-driven activity-based costing. Refine near-term direction
2. Use the model to modify strategy
3. Use driver-based revenue planning to obtain next quarter’s sales forecast (Q1 in the 5 period “rolling forecast”)
4. Translate the sales forecast into more detailed sales and operating plans
5. Re-run the TDABC model, with the updated sales and operating plans, and forecasted process efficiencies, to forecast next-period’s resource needs
6. Develop forecast (budget) for next period’s operational and capital spending
7. Calculate pro-forma profitability, with detailed breakdown by product, customer, channel, and region

## Summary: Time-Driven ABC Provides Multiple Benefits.

1. Easy and fast to implement, validate and audit
2. Integrates well with data from ERP and CRM systems
3. Inexpensive to maintain and update
4. Scales to enterprise-wide models
5. Incorporates specific features for particular orders, processes, suppliers, and customers
6. Provides visible opportunities for process efficiencies and capacity utilization
7. Forecasts future resource demands based on predicted order quantities and complexity

## Thank You

If your question was not addressed, please send it to [kbox@acornsys.com](mailto:kbox@acornsys.com)

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You may request a copy of the presentation by emailing [kbox@acornsys.com](mailto:kbox@acornsys.com) or calling 713-963-9000 ext. 2017

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