



BUAD 467/667
Service Management
Spring 2008

Professor Patrick T. Harker

Class 11a
Performance Measurement IV

Copyright P.T. Harker 2008 Page 1



Outline for the Class

- *Nashville National Bank*
- Example: Bank Efficiency
- DEA: Practical Advice

Copyright P.T. Harker 2008 Page 2

Nashville National Bank

- is the current DEA analysis meaningful?
- is there better analysis with the current data?
- are the inputs and outputs meaningful?
- what are the strengths and weaknesses of DEA as a performance evaluation method?

Branch Efficiency - All the Rage!

- What does a branch make?
- How can efficiency of a branch be measured?
- Sherman to the rescue!

Analyzing Bank Efficiency: *A Process-Oriented Approach*

- branches aren't enough anymore!
- must analyze the efficiency of delivery processes that literally cut across the institution
- can DEA be useful here?

Copyright P.T. Harker 2008 Page 5

Process Data Collected

- across a variety of products (checking, CDs, mutual funds, etc.)
- opening processes
- error correction processes

Maximum of 11 per bank

Copyright P.T. Harker 2008 Page 6

Does Process Efficiency Matter?

- We explored the relation between customer service delivery process performance and firm financial performance
- For firm financial performance we looked at three types of performance
 - ◆ Berger's (1997) standard profit efficiency and alternate profit efficiency
 - ◆ Tobin's Q, price-to-earnings ratio, and market-to-book
 - ◆ Return on assets (ROA) and return on equity (ROE)

Does Consistency Matter?

Process Noise (n.)

Variation in process performance across the bank

Which matter, efficiency or consistency?

Process Variation and Performance

- Process variation is a strong predictor of firm financial performance
 - ◆ Less variation relates to higher financial performance

Dependent Variable	R2	p-value	slope
Standard Profit Efficiecnny	8.0%	0.0433	-1.16
Tobin's Q	14.1%	0.0059	-1.03
ROA	7.7%	0.0200	-1.32

Copyright P.T. Harker 2008 Page 9

Process Variation and Performance

- Process variation and aggregate process performance are an even better predictor of firm performance
 - ◆ Consistently good processes (above median) relates to higher financial performance

Dependent Variable	R2	p-value	slope
Standard Profit Efficiecnny	28.6%	0.0283	-1.71
Tobin's Q	23.9%	0.0104	-1.43
ROA	23.0%	0.0066	-1.32

Copyright P.T. Harker 2008 Page 10

Process Variation and Performance

- Controlling for asset size, process variation is still a strong predictor

Dependent Variable	R2	Dep Variable	p-value	slope
Standard Profit Efficiency	13.6%	P Variation	0.0116	-1.55
		Assets	0.0711	1.4 E-12
Tobin's Q	13.4%	P Variation	0.0169	-0.93
		Assets	0.4169	0
ROA	8.7%	P Variation	0.0107	-1.42
		Assets	0.7441	0

Copyright P.T. Harker 2008 Page 11

What Drives Performance

- The larger the institution, the more inconsistent its processes

Dependent Variable	R2	p-value	slope
Asset Size	8.9%	0.0140	2.2 E11

Copyright P.T. Harker 2008 Page 12

Drivers of Customer Satisfaction

- The larger the bank, and the more variation in the processes, the worse the customer satisfaction

Dependent Variable	R2	Dep Variable	p-value	slope
Customer Satisfaction	13.6%	P Variation	0.0573	1.16
		Assets	0.0179	2.2 E-12

Copyright P.T. Harker 2008 Page 13

What of Process Thinking?

- process efficiency matters to the bottom line of profit and customer satisfaction
- consistency is more important than getting any one process right

NO ONE IS IN CHARGE OF THE PROCESSES!

Copyright P.T. Harker 2008 Page 14

Keys to Alignment

Technology

- Consistent use of technology across processes
- Processes effectively use the available IT functionality
- Available functionality was appropriate for the given strategy

Process Design

- Consistent process performance in terms of individual process efficiency
- High level of aggregate process performance
- Non-value added steps performed after the customer has left

Human Resources

- Consistent employment model
- Appropriate employment model for the given strategy

Copyright P.T. Harker 2008 Page 15

For Further Information:

Contact our Web Site:



<http://wrdsenet.wharton.upenn.edu/fic/wfic.html>

Copyright P.T. Harker 2008 Page 16

DEA: Practical Advice

- choose the input or output formulation carefully: *the case of Nepal*
- have at least twice the number of DMUs as inputs plus outputs
- keep it simply stupid (KISS)! But not too simple
- pick the timeframe of analysis carefully: *the case of Cyprus banks*
- be on-guard for “*you don’t understand*”ers

BUAD 467/667 Service Management Spring 2008

Professor Patrick T. Harker

*Class 11b
IT in Services*

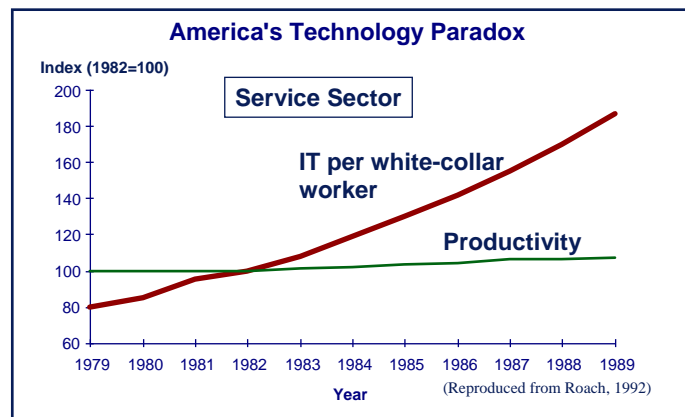
Outline for the Class

- The Service Sector Sinkhole
- Evidence from Retail Banking
- *State Street Bank and Trust*
- Next Class

Copyright P.T. Harker 2008 Page 19

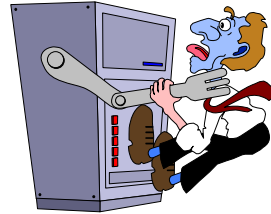
The Pessimists View

“Where is the black hole into which all these computers are falling” -
Robert Solow, Nobel Laureate



Copyright P.T. Harker 2008 Page 20

Success & Failure Stories Abound

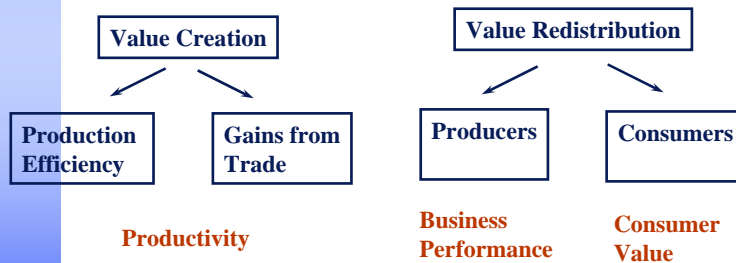
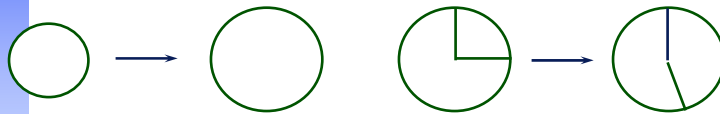


ATMs, Sabre,
Dell, Frito-lay,
Walmart, Capital One...

IRS, Denver Airport,
Zapmail, Intel MIS,
Blue Cross, Oxford
Health Systems...

Copyright P.T. Harker 2008 Page 21

Sources of value...



Copyright P.T. Harker 2008 Page 22

Keeping the value created...

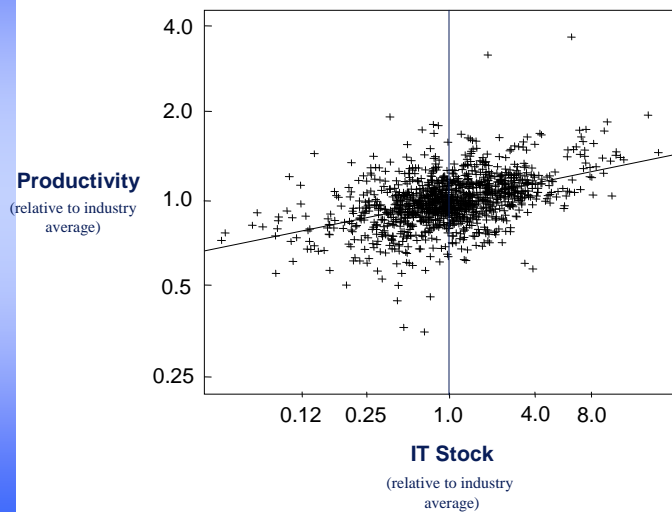
Three Criteria:

- Does it matter in a positive way?
- Is it hard to imitate?
- Can you keep doing it?

- ◆ An idea from 1980...
 - ☞ *Spend your way to competitive advantage*
- ◆ An idea from 1986...
 - ☞ *Hustle your way to competitive advantage*
- ◆ Today (?)
 - ☞ *Customer focus*
 - ☞ *Creating and leveraging intangible assets*
 - ☞ *Exploiting resource differences*

Copyright P.T. Harker 2008 Page 23

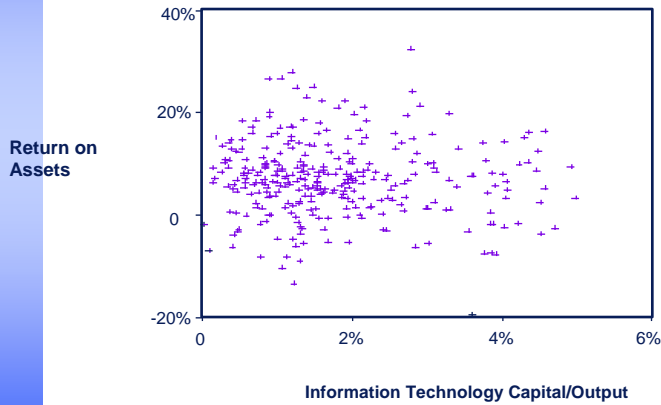
The data speak...



Copyright P.T. Harker 2008 Page 24

Productivity without profit?

Business Value of Computers?

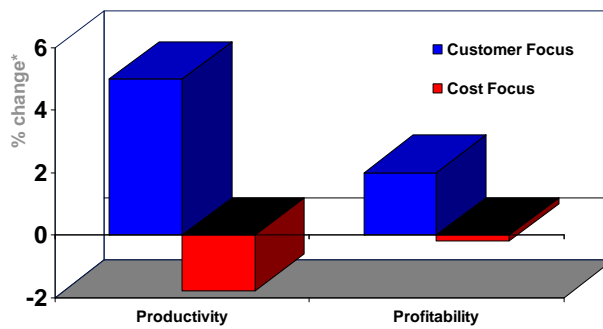


Copyright P.T. Harker 2008 Page 25

New Products and Services...

Customer Focus is correlated with performance

External vs. Internal Focus in IT Investment



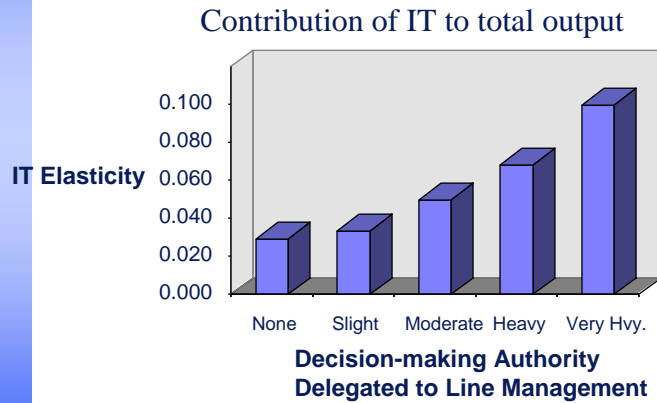
* % change in moving from the median of the low group (e.g. low Customer Focus) to the median of the high group (e.g. high Customer Focus)

Source: Brynjolfsson and Hitt, "The Customer Counts", *Informationweek*, September, 1996.

Copyright P.T. Harker 2008 Page 26

New Organizations...

IT is more productive when the line takes leadership




Source: Brynjolfsson and Hitt, "Information Technology and Organizational Design", *MIT Working Paper*, 1998.

Copyright P.T. Harker 2008 Page 27

Bottom Line on IT-Productivity

- ◆ There is a tremendous opportunity to create and retain value with IT
 - ☞ ... *but technology alone is not enough*
- ◆ Some strategies more effective than others...
 - ☞ *Focus on customer value*
 - ☞ *Redesigning business processes*
 - ☞ *Leveraging organizational and other intangible assets*

Copyright P.T. Harker 2008 Page 28



The introduction of new technologies in most services (retailing, banking, insurance, producer services) is very rapid and, to some extent, looks like classical industrialization. But all these studies converge to show that it is generally achieved not by the disappearance of the service dimension (i.e., relations, adaptation to individual demand, consultancy, assistance) but in such a way that, whereas the simplest part of the service is partly automatised, there is at the same time an expansion of the most relational and most complex part of the service. This could be one explanation for the apparent stagnation of productivity in these sectors, insofar as this productivity is assessed without taking into account the increasing level, range, and nature of the services provided.

Copyright P.T. Harker 2008 Page 29



Our Research Questions

- What processes do banks utilize to evaluate and manage IT investments?
- How well do actual practices align with theoretical arguments about how IT investments should be managed?
- What impact does that management of IT investments have on performance?

In-depth analysis of banks' decision making processes to answer these questions

Copyright P.T. Harker 2008 Page 30

IT Decision Making: *Common Wisdom*

- Identify opportunities
- Evaluate opportunities
- Approve projects
- Make-buy decisions
- Managing projects
- Evaluation
- Managing the IT function

Copyright P.T. Harker 2008 Page 31

IT Decision Making: *Current Practice*

- IT weak in educating end users
- IT project evaluations are not state-of-the-art and not accountable to anyone
- Senior management seems disengaged; little real prioritization
- Good initial user input; weaker input during the project
- No post-project audits

Copyright P.T. Harker 2008 Page 32

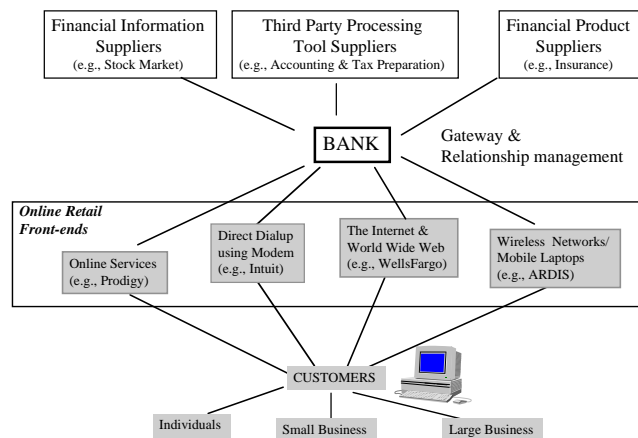
IT Decision Making: *PC Banking and the Web*

The Value Proposition

- cost reduction
- revenue enhancement
- cost avoidance
- customer retention

Copyright P.T. Harker 2008 Page 33

Financial Services Supply Chain



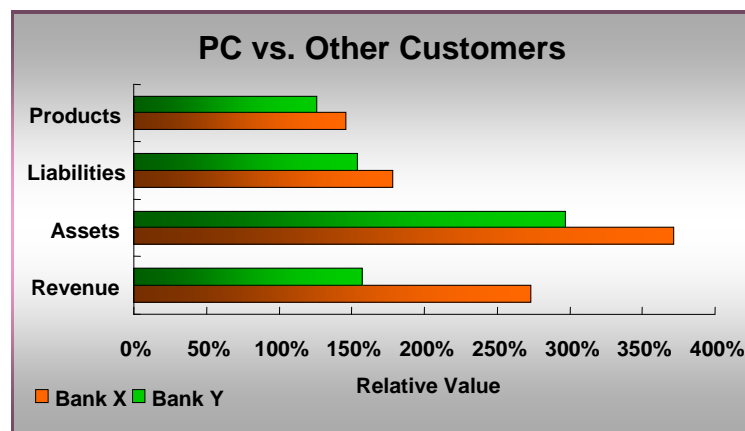
Copyright P.T. Harker 2008 Page 34

IT Decision Making: *PC Banking Value to Date*

- cost reduction
 - ◆ none to date
- revenue enhancement
 - ◆ more a retention versus new sales tool
- development strategy
 - ◆ outsourcing seems to work, except when giving the whole thing away!

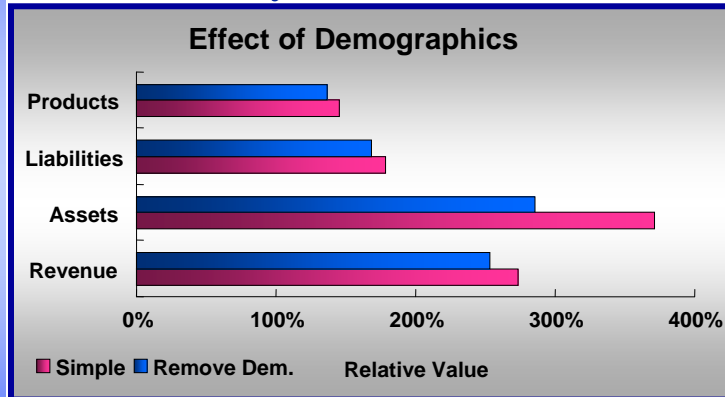
Copyright P.T. Harker 2008 Page 35

PC Customers Are Better Than Average



Copyright P.T. Harker 2008 Page 36

Demographics Do Not Tell the Whole Story for Bank X



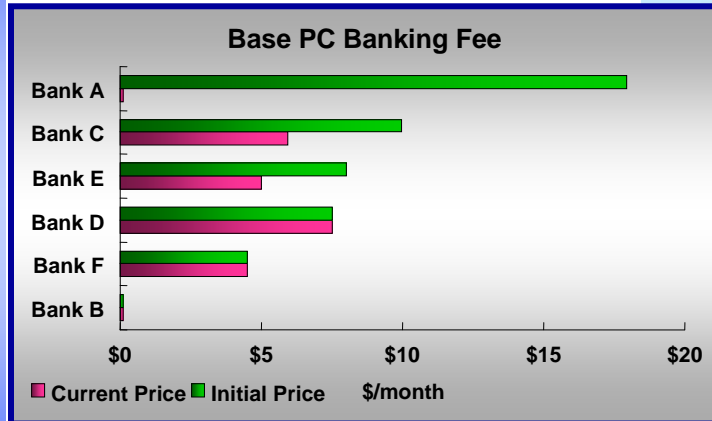
Copyright P.T. Harker 2008 Page 37

Revenue Opportunities for PC/Web Banking Are Limited

- ◆ Little opportunity to differentiate—most use 1 of 3 outsourced platforms
- ◆ Product functionality consistent
- ◆ Service differentiation difficult - contact bank only when problem
- ◆ Pricing is primary play
 - ☞ Many structures
 - ☞ Moving away from flat fee (which justified NPV)
 - ☞ Converging to free or subsidized for majority of customer base



PC/Home Page Prices



Cost Opportunities Are Illusory

Lower costs per transaction, but scale is key to

- ◆ Amortizing fixed costs which move up as technology changes
- ◆ Reducing meaningful costs elsewhere
- ◆ Ability to eliminate outsourcing cost effectively

Real Advantage May Be in Retention

Most justifications probably missed the mark

- ◆ Cost reduction realized only if other channel costs eliminated
- ◆ Tailored products and targeting must be clear strategy choices for the “PC segment”

Today most IT projects look like PC Banking

Copyright P.T. Harker 2008 Page 41

Steps to Better Evaluations and Decisions

- ◆ Identify and address uncertainties
- ◆ Fit the analytical approach to the issue—one size does not fit all
- ◆ Quantify with rigor where possible
 - ☞ Cost: Formal project estimates
 - ☞ Revenue/Value: Based on economics of the product and business, and the effects of IT changes
- ◆ Recognize non-quantifiable costs/benefits

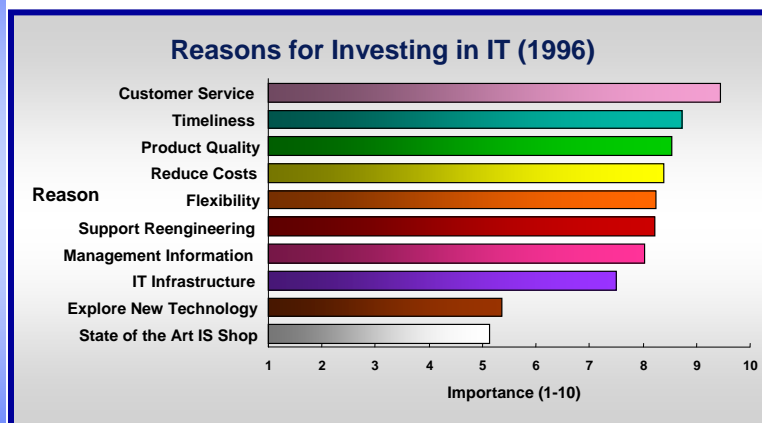
Copyright P.T. Harker 2008 Page 42

Approaches to Better Evaluations and Decisions

	<u>Best Used For</u>	<u>Example</u>
NPV	Well defined outcomes	Cost reduction
Value of Intangibles	“Soft” benefits	Customer service improvement
Future Option	Hedge future position	Option to terminate
Multiple Outcomes	Anticipate market response	New market entrant
High Uncertainty	Test multiple “futures”	Customer will not consolidate

Copyright P.T. Harker 2008 Page 43

NVP Analysis Is Less Useful in Evaluating Uncertainties or Intangibles



Copyright P.T. Harker 2008 Page 44

State Street Bank and Trust

- what are the technological limits that distort the new product development process at State Street?
- how should the development effort be organized?
- what are the proper expectations for the type of risk assessment systems described herein? Is a company-wide application possible?

Copyright P.T. Harker 2008 Page 45

Better Analytics Are Only Part of the Solution

Managing IT investments for longer term advantage requires Enterprise approaches:

- ◆ IT investments as a “Portfolio” of opportunities and risks
- ◆ New roles for IT professionals in driving evaluations and identifying business process improvements
- ◆ IT Steering Committees that drive stronger investment decisions and strategic IT management for the enterprise

Co

Steering Committee Can Play Major Role in Improving the Quality of IT Investment Management

- ◆ Challenge the quality of the analytics
- ◆ Hold fast to strategy imperatives
- ◆ Drive portfolio solutions that align with strategy
- ◆ Evaluate results to improve decision analytics and the quality of the decision process



Steering Committee Must Be Managed As Rigorously As Risk-Based Enterprise Groups

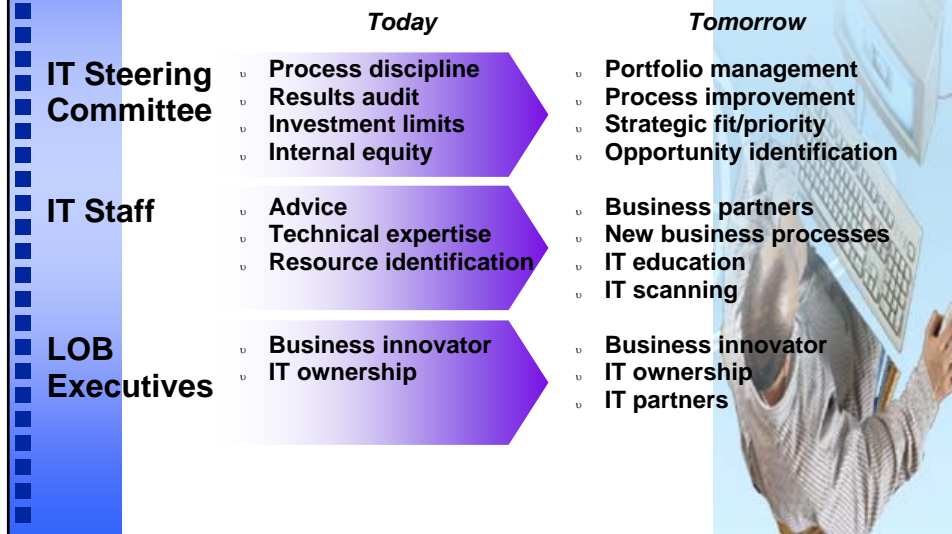
Asset/Liability
Committee

IT Investment
Committee

Enterprise Risk
Committee



This Means New Roles for IT Professionals



Next Class

- Putting It All Together: Miami Air
- Wrap up and get ready for projects!