

Attacking the Challenge of Valuing IT

Strategic Interop

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Lynn DeNoia

Idenoia@computer.org

What is “Value”?

- From the dictionary:
 - The monetary worth of something
 - Relative worth, utility, or importance
 - A numerical quantity assigned or computed

You can't manage what you can't measure

The Need for Metrics

- **Internal: details, performance-oriented for managing IT processes**
- **Business: choosing what's relevant and following up from justification through entire life cycle**
 - including ALL the costs
 - being realistic about the returns

Valuation Options

- **Traditional:**
 - ROI and Payback Period
 - Net Present Value (NPV)
 - Internal Rate of Return (IRR)
 - Economic Value Added (EVA)
 - Total Cost of Ownership (TCO)
- **More Complex**
 - Economic Value Sourced (EVS)
 - Portfolio Mgmt
 - Real Option Valuation
 - Customer Indexing
 - Balanced Scorecard
 - Many others . . .

Faith in ROI Numbers

CIO Insight survey 375 IT execs, Feb 2003

- 75% - metrics don't fully capture business value of IT projects
- 76% - pressure to measure intangible benefits has increased
- 73% - don't calculate ROI on projects until they're completed
- 70% - find it difficult to compute ROI

IT Investment Value

- Usually expressed in terms of:

– productivity

– business profitability

– customer value



**Overall Productivity ≡
output produced
per unit of input**

$$\frac{\text{Revenue per Employee}}{\text{Fully Loaded Salary (per Employee)}} = \text{Productivity per Employee (ratio)}$$

Sample

Key Inputs: Revenues = \$1,000,000,000
Empl = 4,000
Rev./Empl.= \$250K
Fully loaded cost = \$50K

$$\frac{\text{Revenue per Employee}}{\text{Fully Loaded Salary (per Employee)}} = \text{Productivity per Employee}$$

$$\frac{\$250\text{K}}{\$50\text{K}} = 5.0$$

Productivity Ratio (per Employee)

INDUSTRY	PRODUCTIVITY RATIO per employee
AG, services, forestry, fishing	2.7
Construction	5.0
Finance	6.7
Manufacturing	6.4
Mining	6.7
Non-classifiable establishments	4.3
Real estate	3.5
Retail	7.5
Services	2.6
Transportation, communication, utilities	5.9
Wholesale	21.1
Ins: medical service and health insurance	15.8
Ins: other insurance carriers	15.1
Ins: insurance agents/brokers	2.8
average	6.6

*Source: ITCentrix ValueBase and
U.S. Census Data, 2002*

Assessing IT Contributions

- **Goal: link IT systems to the output of the organization**
- **Combine:**
 - empirical data about organizational productivity with
 - subjective business knowledge
 - to evaluate the impact of IT applications on the business

Assessing, cont'd



- For productivity
 - the **users** determine value
- We need to ask them
 - in a comprehensive, consistent way

IT Value

- is a function of:
 - the time spent using IT applications
 - the productivity impact of that use



$$ITV = f (time, impact)$$

Impact Interpretation

- Subjective within an organization
- Pick something as a starting place that people can agree on
- For example:
 - Impact of 7 → multiply average org'l productivity by 1.75
 - Impact of 4 → multiply by 1
 - Impact of 1 → multiply by 0.1

IT User Survey

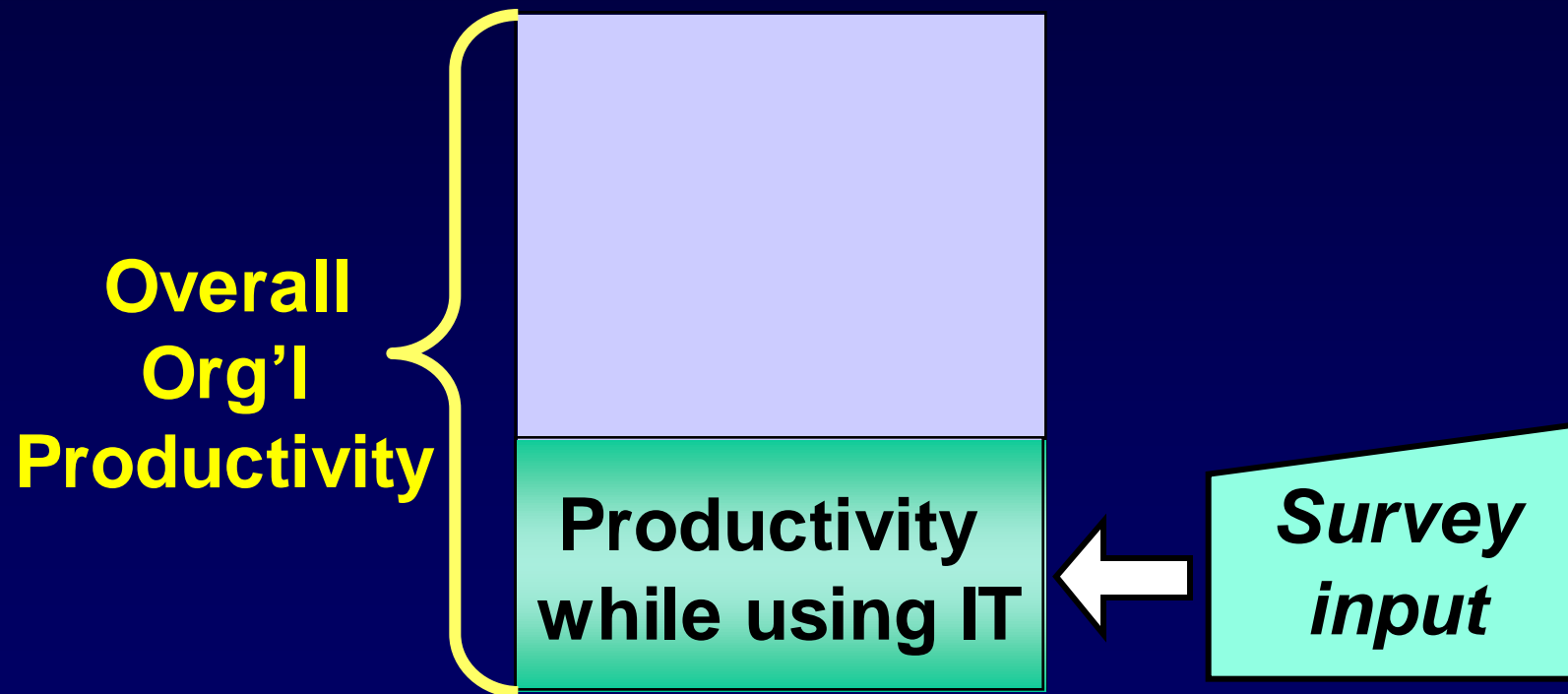
7-point impact scale, 1=low to 7=high

APPLICATION	TIME USED	IMPACT
<i>Applic'n 1</i>	1	5
<i>Applic'n 2</i>	2.5	4
<i>Applic'n 3</i>	2	3
...		

Cross-industry avg for time using IT ~ 1/3

The IT Value Contribution

Revenue per Employee
(e.g., \$250K per annum)



Overall IT Value

- User costs * IT productivity

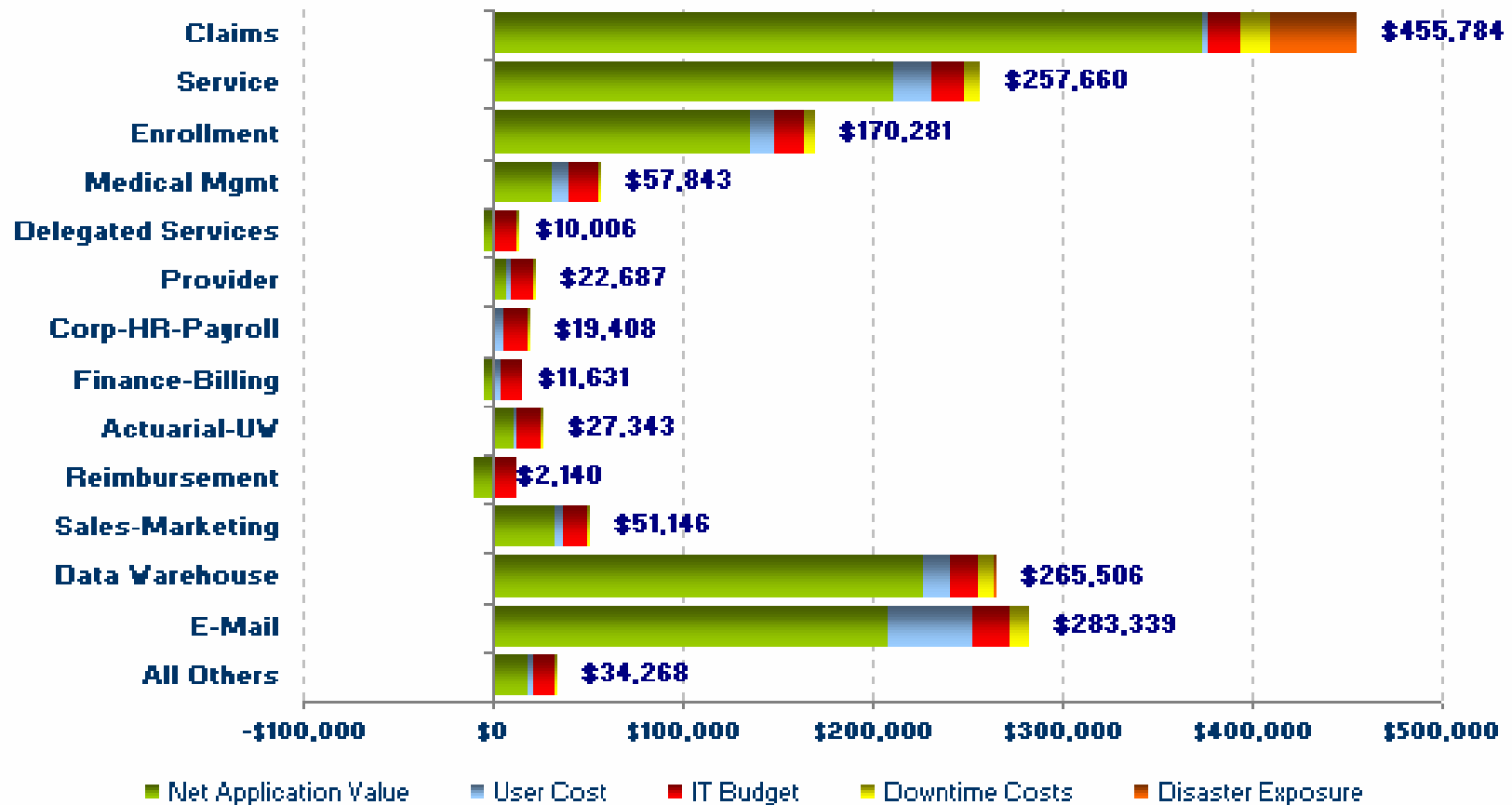
(#users * %time using IT * fully
burdened user cost) * (derived ratio)

$$(3,000 * .33 * 50,000) * (5 * 1.2) = \$300M$$

Net IT Value

- **Must subtract out the costs of delivery...**
- **both IT and business costs!**
- **Much more useful by individual application**

Nuco Insurance: Components of Total Value by Application (\$000)



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August 23, 2002

Challenges

- Engaging stakeholders
- Establishing assumptions
- Agreement on impact “rules”
- Suggestion: sensitivity analysis

A Higher Level of Abstraction

- **Pisello and Strassman, Alinean**
 - “shift attention from information technology itself to the effectiveness of the executives who manage it”
- **Information Productivity® = ratio of economic value-added to transaction costs**

*Information Productivity® trademark
owned by Strassman, Inc.*

*T. Pisello, “IT Value Chain Management –
Maximizing the ROI from IT Investments”*

Transaction Costs

- **Everything not directly related to delivering a product or service to a customer**
- **Typically found in Sales, General, & Administration (SG&A) category**

T. Pisello, "IT Value Chain Management – Maximizing the ROI from IT Investments"

Economic Value-Added

- **EVATM = profits after taxes –
all economic costs**
- **where costs = “land, cost of goods,
compensation for shareholder capital,
taxes and cost of information
management”**

*EVA® trademark owned by consulting
firm of Stern, Stewart*

*T. Pisello, “IT Value Chain Management –
Maximizing the ROI from IT Investments”*

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EVA Calculation

- *not* accounting profits after taxes (which does not reflect shareholder investments)
- $EVA = \text{profit} - \text{cost of ownership of capital}$
where latter = cost of capital * capital...
then use capital asset pricing model with risk premium...

T. Pisello, "IT Value Chain Management – Maximizing the ROI from IT Investments"

Example

	Income before adj \$millions	Cap't'l Asset Pricing model	Stockhldr's equity \$millions	Transact'n expenses \$millions	Inform'n value-added \$millions	Inform'n Productiv
Intel	\$2,204	19.1	\$35,649	\$8,402	\$1,848	22.0%
Micro soft	\$8,911	17.0	\$56,600	\$11,441	\$8,345	72.9%
Wal-Mart	\$7,355	9.7	\$37,220	\$38,608	\$6,983	18.1%
Xerox	\$23	17.6	\$2,346	\$5,487	-\$1	-0.0%

T. Pisello, "IT Value Chain Management – Maximizing the ROI from IT Investments"

Being Practical...

- **Start by engaging your stakeholders!**
- **Uncover basic assumptions**
- **Find a champion & a guinea pig**
- **Include three viewpoints**
 - **IT → Users → LOB management**
- **Iterate with step-wise refinement**

References

- “In Search of IT ROI”, ITCentrix, Inc., Framingham, MA, www.itcentrix.com
- T. Pisello, “IT Value Chain Management – Maximizing the ROI from IT Investments”, Alinean Press, 2003 and available free with registration at www.alinean.com

Thank You!

