



Computer Sciences Corporation

Application of Independent Estimates to ERP



By Steve Winter
Director of Strategic Initiatives



EXPERIENCE. RESULTS.



Agenda

- **CSC – One of world's largest providers of IT/business services**
- **Application of Independent Estimates to ERP**
 - What are the customer's ERP phases?
 - An ERP estimate – What the customer wants?
 - A need to converge different perceptions of value?
 - Why independent estimates may not be comparable?
 - How can estimates become comparable?
 - Estimating concepts – Key drivers, function points, and labor effort?



CSC Is One of the World's Largest Providers of Information Technology (IT) and Business Services

- **Founded 1959**
- **Specializing in:**
 - IT and business process outsourcing
 - Systems development and integration
 - Management/technology consulting and professional services
- **\$14.3B in revenues for 12 months ended July 1, 2005**
- **Approximately 77,000 employees in locations worldwide**
- **Serving 15 industries on six continents**

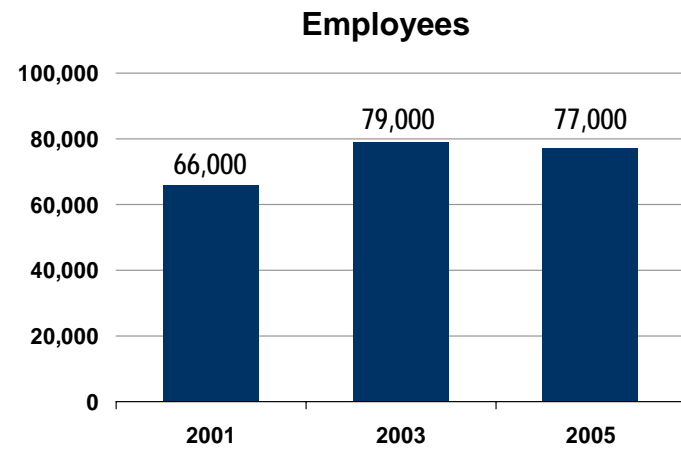
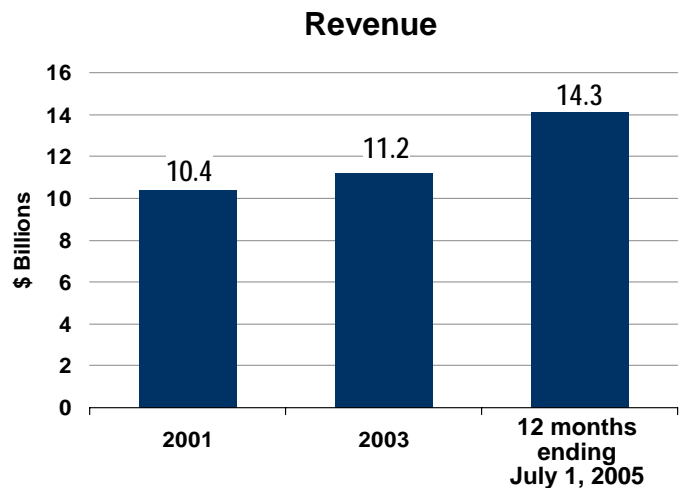


Our mission is to help clients achieve strategic goals and profit from the use of information technology.

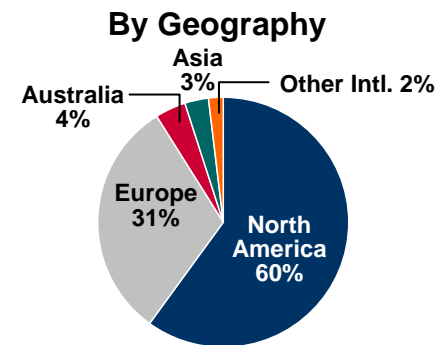
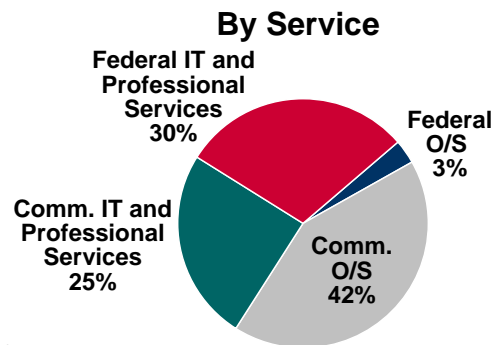
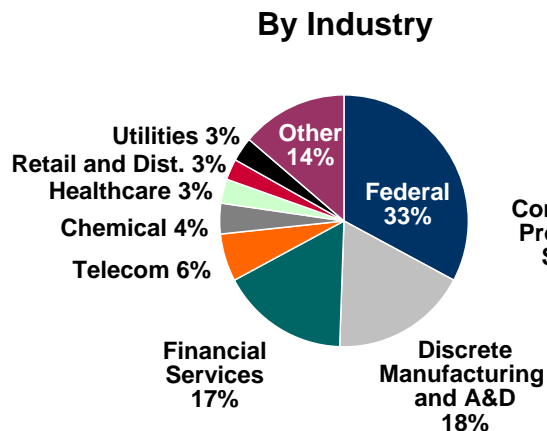


CSC Today

Fiscal Year Data



\$14.3B in revenue for 12 months ended July 1, 2005





A Snapshot of CSC's Global Computing Resources



- 40 data centers
- 65,000+ MIPS global mainframe capability
- 5,600 terabytes of compute storage
- 900,000+ desktops
- 66,000+ servers

- 76,300+ WAN Interfaces
- 1,000,000+ LAN ports
- 900,000+ voice ports

More than 12 million Help Desk calls annually in almost 50 countries

Answered in Afrikaans, Arabic, Cantonese, Czech, Danish, Dutch, English, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Korean, Malay, Mandarin, Norwegian, Polish, Portuguese, Romansh, Slovakian, Spanish, Swedish, Thai, and Vietnamese



A Snapshot of CSC's Global Applications Resources

35,000 Professionals Worldwide

- North America
 - Commercial 11,500
 - Federal 9,800
- Europe 8,000
- Australia/Asia-Pacific 5,700

Providing Complete Support for ...

Managed Application Services

- **Portfolio development and optimization**

Application Development

- **Legacy systems renewal and replacement**

Systems Integration

- **ERP, SCM, CRM, HR, and CSC Financial Services and Healthcare Products**

Business Process Services

- **Process-driven architecture, and process design and implementation**

Business Transformation

- **Implementing technology for sustained business value**



Our Regions and Countries

50

**Countries with
Permanent CSC Locations**

Argentina
Australia
Austria
Barbados
Belgium
Bermuda
Brazil
British V.I.
Canada
Chile
China
Colombia
Czech Republic
Denmark
Finland
France
Germany
Hong Kong

Hungary
India
Indonesia
Ireland
Italy
Japan
Luxembourg
Macau
Malaysia
Mexico
Netherlands
Netherlands
Antilles
New Zealand
Norway
Peru
Philippines

Poland
Portugal
Puerto Rico
Republic of Korea
Saudi Arabia
Singapore
Slovakia
South Africa
Spain
Sweden
Switzerland
Taiwan (ROC)
Thailand
United Arab
Emirates (UAE)
United Kingdom
United States

38

**Countries Where
CSC Serves Clients**

Afghanistan
Bahrain
Bosnia
Botswana
Brunei
Costa Rica
Croatia
Cyprus
Democratic
Republic of
Congo (DRC)
East Timor
Ecuador
Egypt

Greece
Guatemala
Honduras
Iceland
Israel
Jamaica
Kosovo
Kuwait
Liberia
Morocco
Namibia
Nepal
Pakistan
Panama

Papua
New Guinea
Romania
Russia
Sri Lanka
Swaziland
Trinidad
Turkey
Ukraine
Uruguay
Venezuela
Vietnam
Yemen

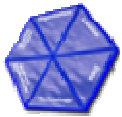


Representative Clients Worldwide





We Use State-of-the-Art Tools and Techniques



CSC CatalystSM Methodology

- Global business change and service delivery
- Common framework, language, and processes across CSC
- 40 years of best practices and lessons learned



CSC Portal

- Global collaboration and knowledge sharing
- Over 1,300 knowledge communities
- Access to a knowledge base with more than 300,000 knowledge assets
- Integration of applications and services
- E-learning platforms



SDEP Service Delivery Excellence Program

- Implement Core Processes
- Daily Service Review
- Change Management
- Service Restoration Team
- Escalation and Notification
- Root Cause Analysis



Six Sigma

- Drives defects from processes
- Focus on prevention
- Six Key Steps: Define, Measure, Analyze, Improve, Implement, Control



SEI CMM/CMMISM Software Engineering Institute Capability Maturity Model/Integration

- Appraised Organizations
 - CMM Level 5 — 6
 - CMMI Level 5 — 1
 - P-CMM Level 5 — 1
 - CMM Level 4 — 1
 - CMM Level 3 — 11
 - CMM Level 2 — 4
- No other company has six Level 5s against CMM for SW
- CSC is an SEI Partner authorized to provide SCAMPISM and CMMI Training Services



CSC Balanced Scorecard ProcessSM

- Captures fundamental expectations of client executives
- Links IT performance to business goals
- Changes organization behavior
- Five dimensions
 - Financial management
 - Quality
 - Productivity
 - Customer satisfaction
 - Future value



We Deliver Value By ...

- Understanding clients' needs
- Treating each client as a unique entity regarding specific solutions
- Applying technology at scale and chosen from the best suppliers across the entire industry
- Providing experts with real-world experience
- Delivering the best total solution for each client





Application of Independent Estimates to ERP



EXPERIENCE. RESULTS.



What Are the Customer's ERP Phases?

U.S. Department of Defense Acquisition Framework – COTS Enterprise Acquisition/Implementation phases

Pre-Systems Acquisition

Systems Acquisition

Sustainment



Pre-Initiation	Software & Systems Integration Selection, Project Prep & Blueprinting	Configuration & Report, Interface, Conversion, Extension (RICE) Development	Transition & Cutover	Go Live	Sustainment & Roll Out
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What is an Estimate?

- **Estimate** (Oxford Dictionary) - *“Approximate judgment of cost, value, size, etc.”*
- **Estimating** (NES Dictionary) – *“to predict costs. Generation of detailed and realistic forecasts of hours, material costs, or other requirements for a task, subtask, operation, or a part or groups thereof - generally in response to a request for proposal or specific statement of work.”*



The ERP Estimate - What the Customer Wants?

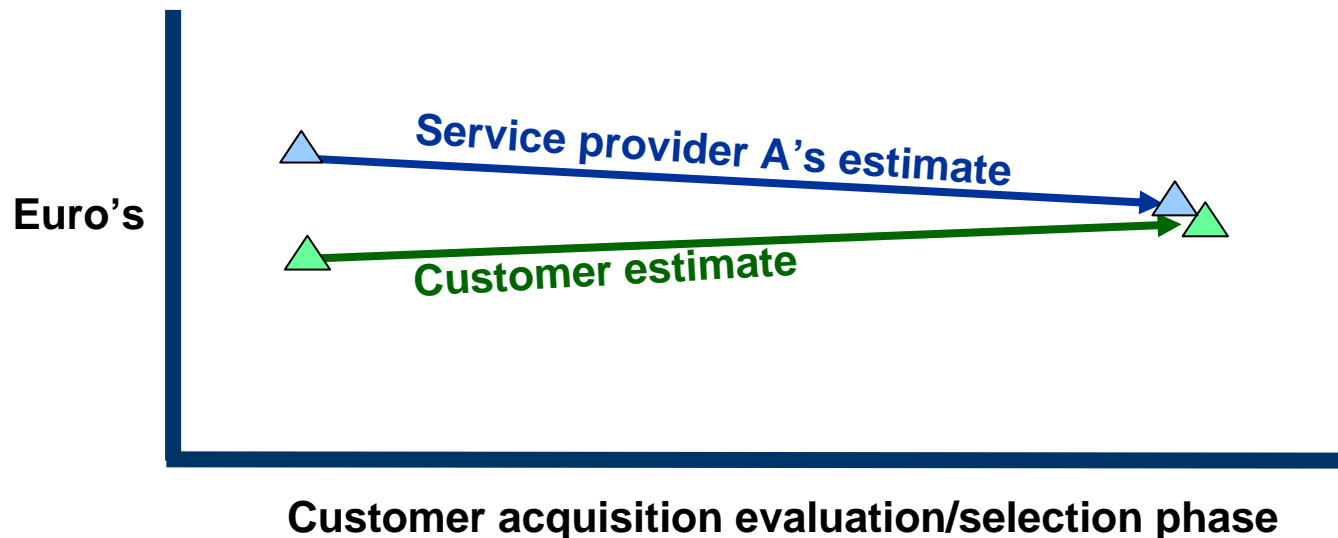
- Estimate addresses client's solicited capabilities and requirements
- Realistic
- Reasonable
- Measurable value
- Sound basis for change

The ERP Estimate - What does a service provider want?



A Need to Converge Perception of Value Differences

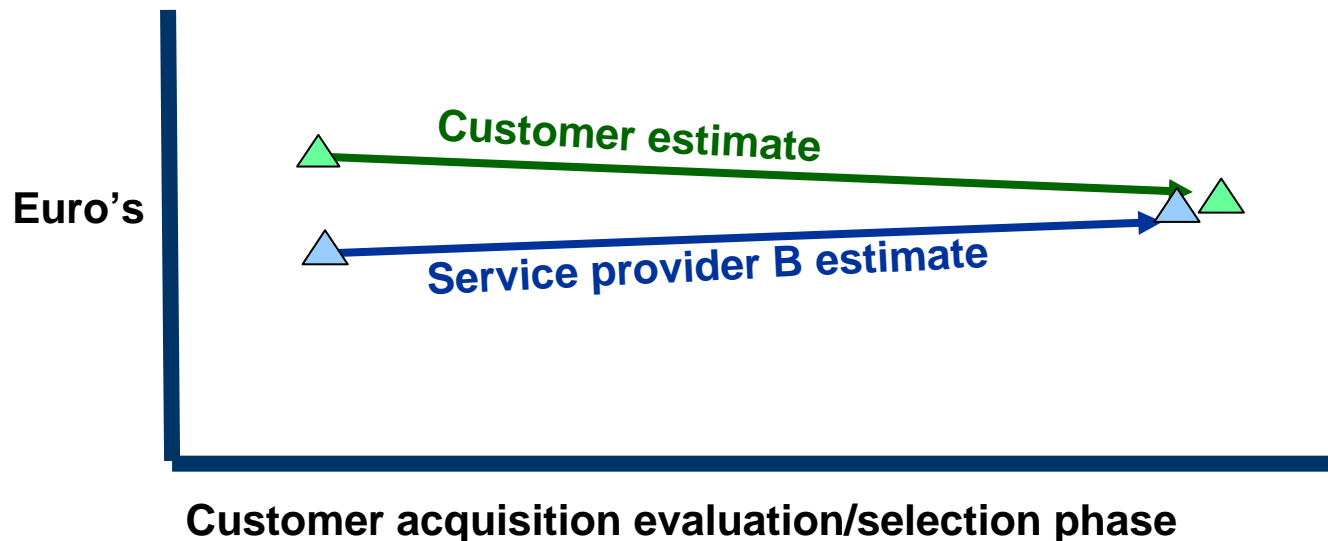
When the service provider's estimate is *higher* than the customer's estimate, a quality estimate should help move toward a converging perception of value





A Need to Converge Perceptions of Value Differences

When the initial service provider estimate is lower than the customer's estimate, a quality estimate should help move toward a converging perception of value





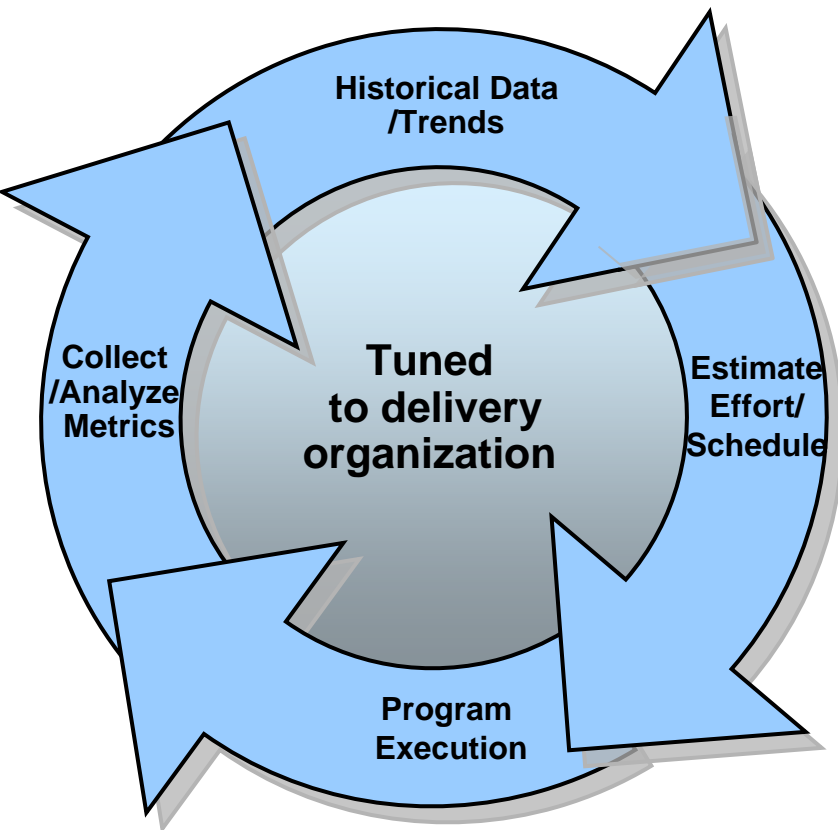
PRICE Systems Products Provide Independent Estimates

- **PRICE Systems model has been matured over many engagements/years**
 - Parametric data collected from industry sources
 - The estimates have been compared to actual results
- **Tool used by customer**
- **Tool used by other contractors**

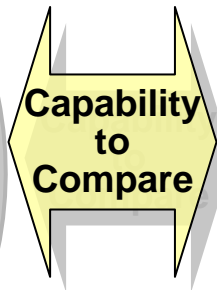
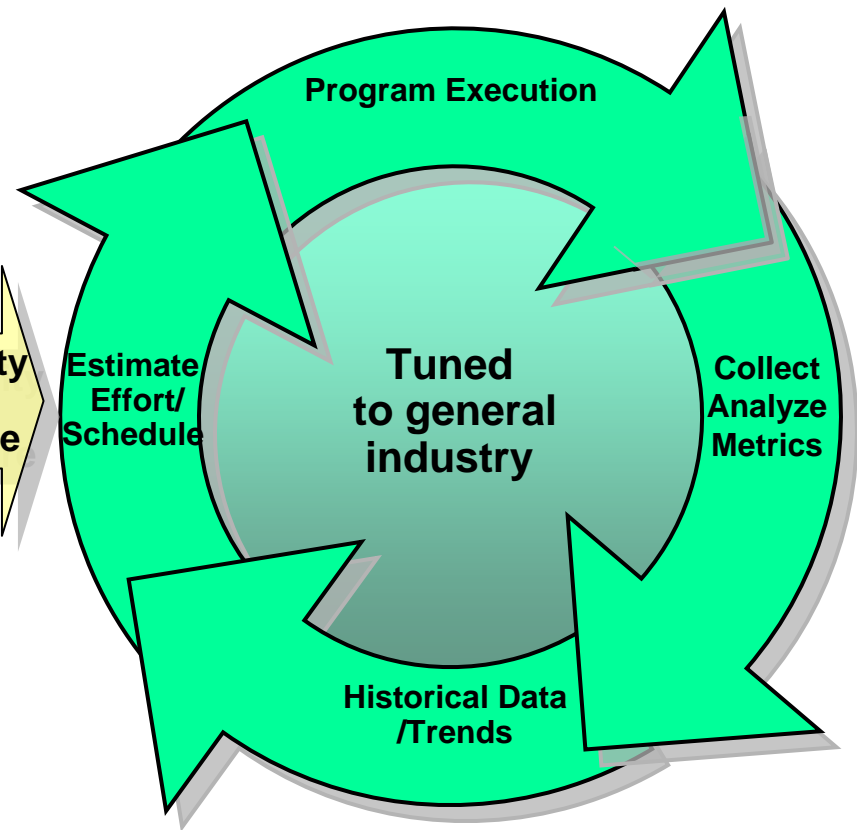


Why Independent Estimates Are Not Comparable?

Service Delivery Organization



Independent Estimate





How Can Estimates become comparable?

Calibrate the PRICE Systems model

- 1. Use the PRICE Systems model to generate an estimate for comparison to an historically-based, in-house estimate with a well-understood result**
- 2. Reconcile differences and determine whether to adjust the model or the model to produce an explainable variance**
 - Scope of work boundaries
 - Work breakdown structure
 - Alliance agreements/knowledge & product leverage
 - Organization ability to perform
 - Productivity/learning curve trends
 - Inflation/currency trends
 - Anomalies



Work Scope and Using the Calibrated PRICE Systems Model Drivers

Phases		Work Scope	Key Drivers
Pre-Systems Acquisition	Pre-Initiation		
	Software and Systems Integration Selection Project Prep and Blue Printing	Business Processes Sites Users Legacy Systems New Enterprise Systems Acquisition Approach	COTS SW Size Reused Modified Glue Code RICE Objects New Modified Reused
Systems Acquisition	Configuration		Workflow
	Transition & Cutover		Enterprise Data & Reports Training Classes Training Basic Advanced
Sustainment	Go Live		Data Cleansing System Overlap System Interdependencies
	Sustainment and Roll Out		



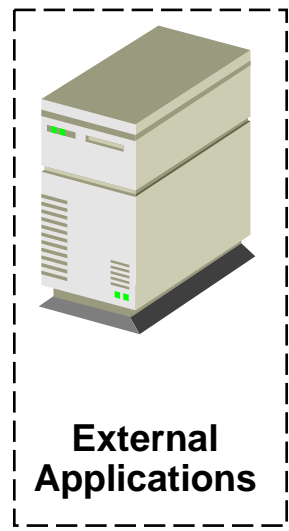
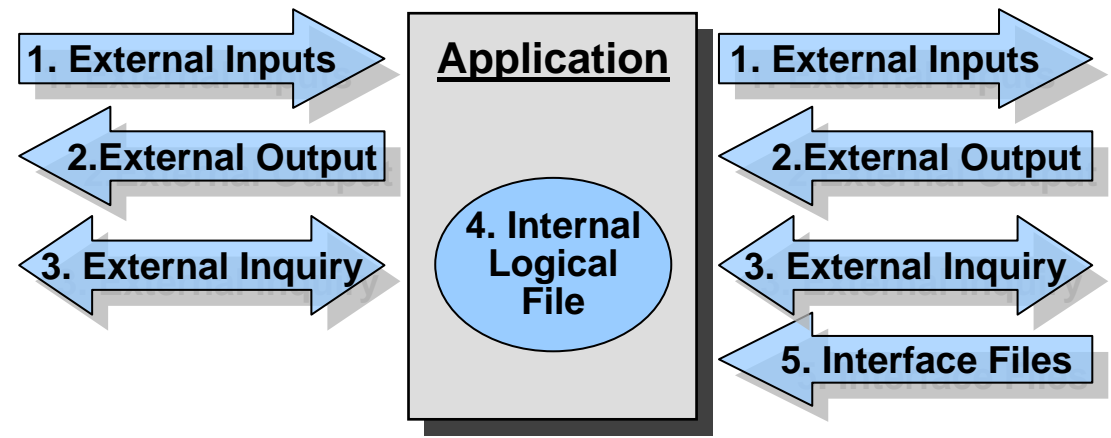
The PRICE Systems Model Uses Function Point Counts to Compute Resource Estimates

•What are function points?

- 5 major components form the basis for measuring functionality from the user's perspective



User Interface



External Applications



Overview of Function Point Measurement

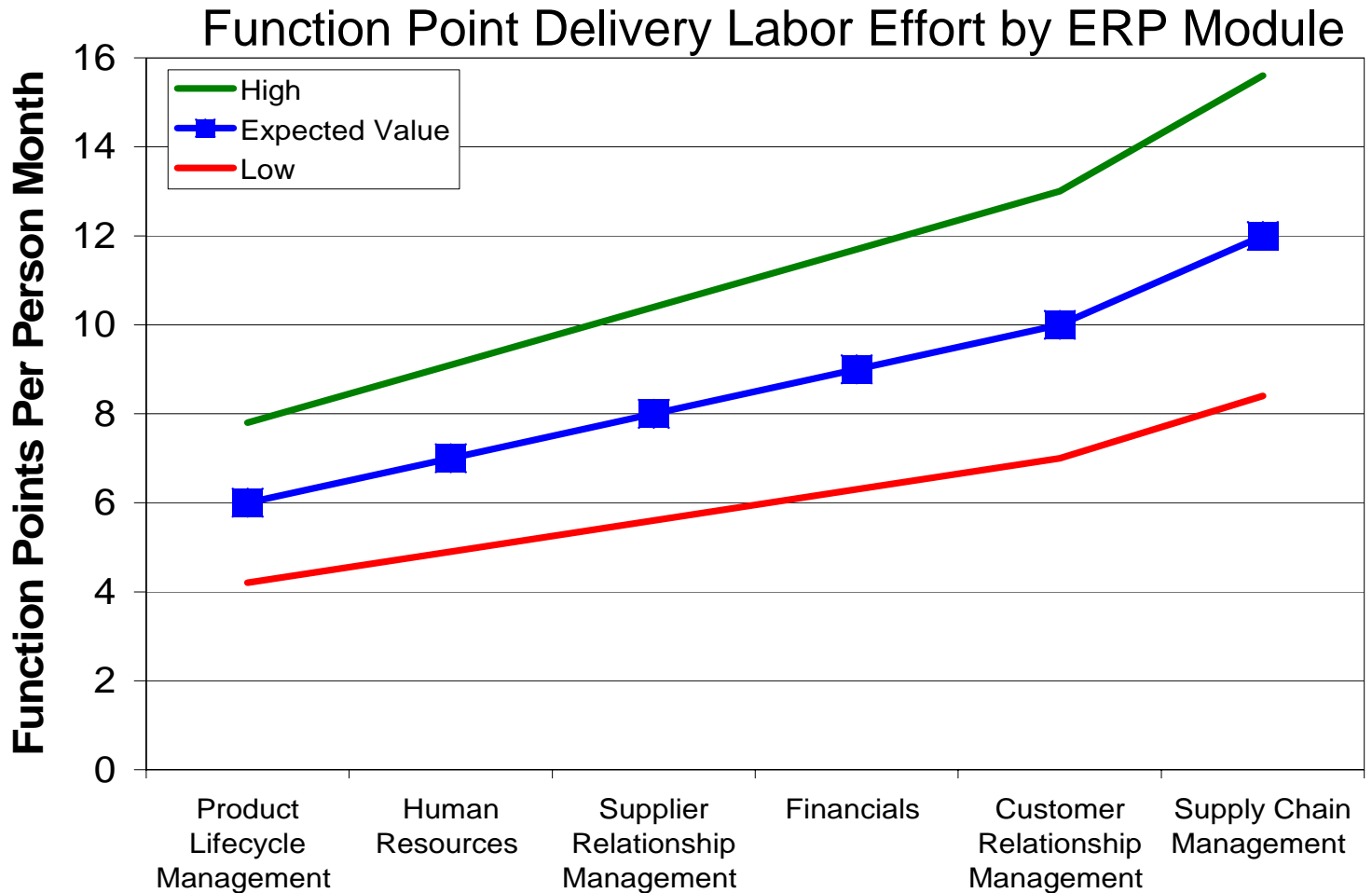
	Major components	Complexity		
		Low	Average	High
Displays	External Inputs			
Reports	External Outputs			
Master Files	External Inquiry			
Control Files	Internal Logical Files			
Reference Files	External Interface Files			
Signals				

FP Count



Are All Function Points Equal?

Source: PRICE Systems notional data





Plotting Complexity and Size

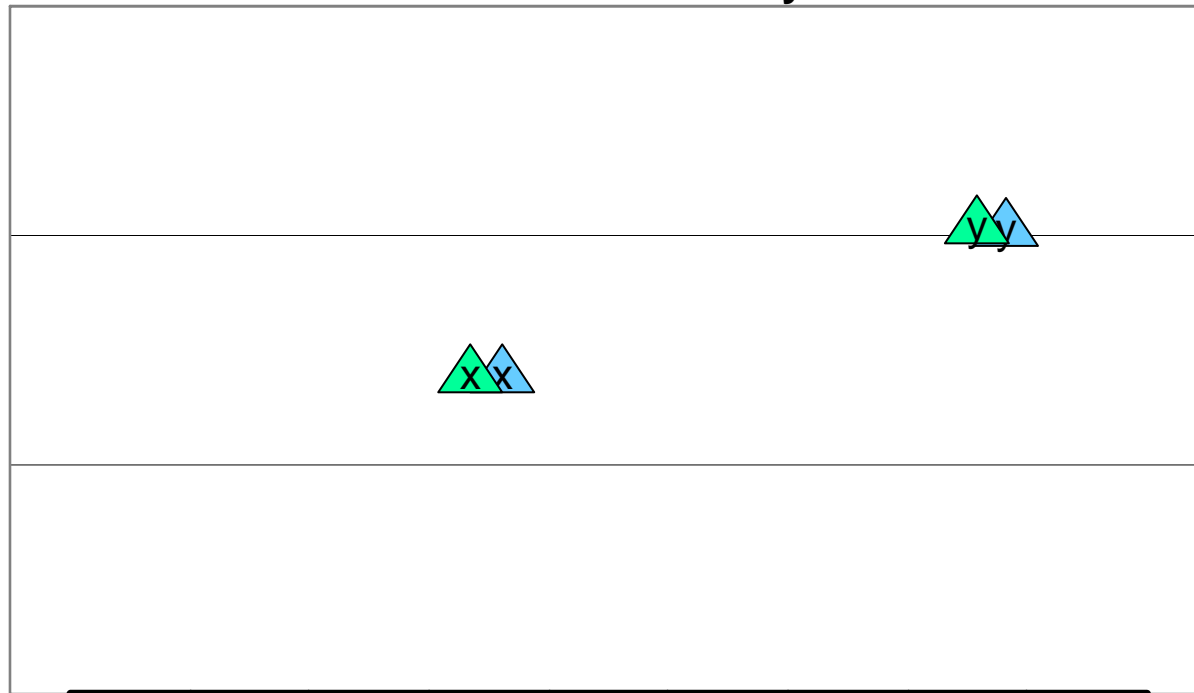
Complexity

Source: PRICE Systems notional data

Complex

Medium

Simple



Small

Medium

Large

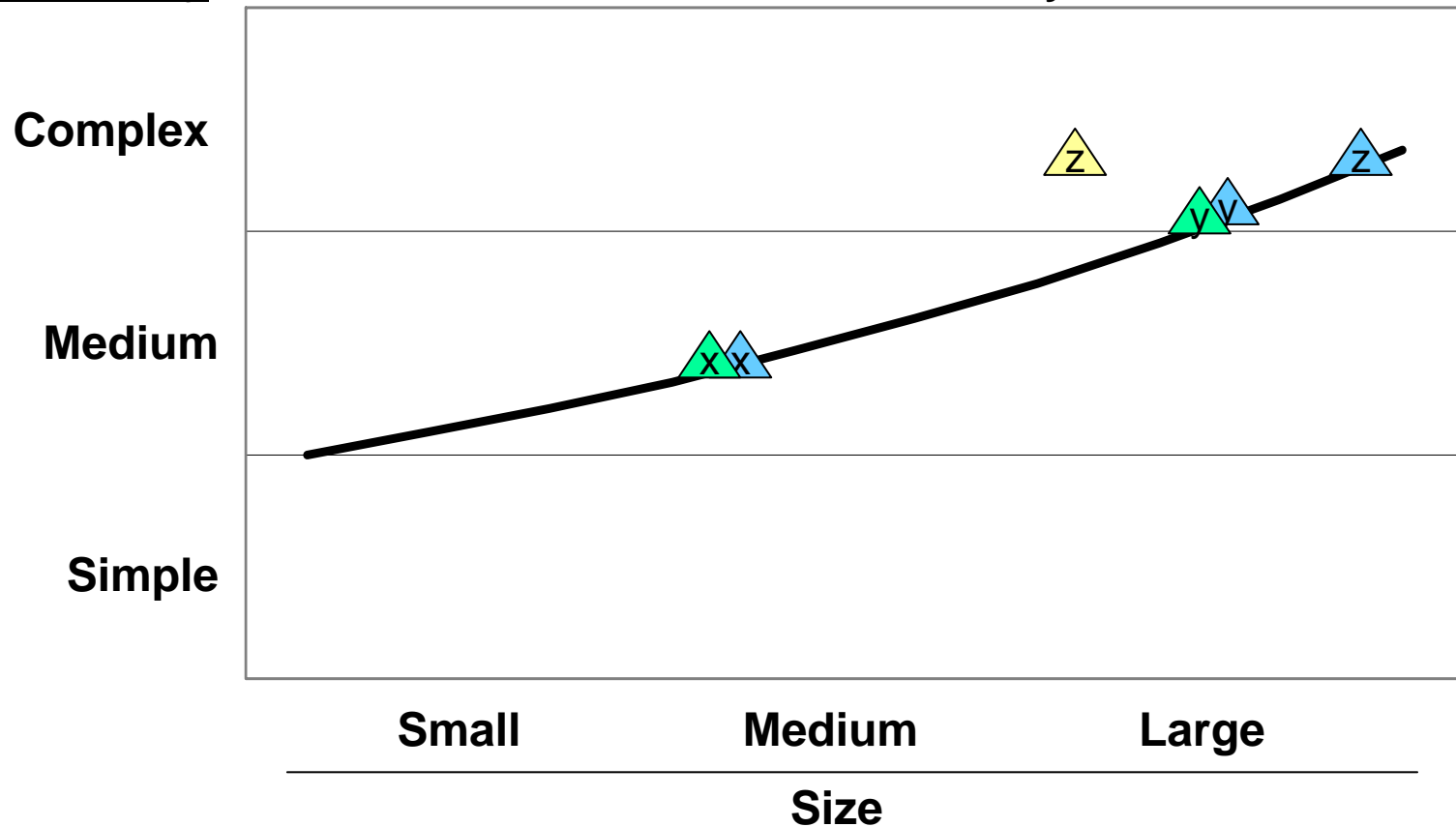
Size



Plotting Complexity and Size

Complexity

Source: PRICE Systems notional data





Conclusion

- **A quality estimate is one ingredient in achieving a win/win relationship between the Customer and Service Provider**
- **Service providers can benefit from the use of independent estimates**
- **Independent estimates must be calibrated in order to perform reasonable comparisons**