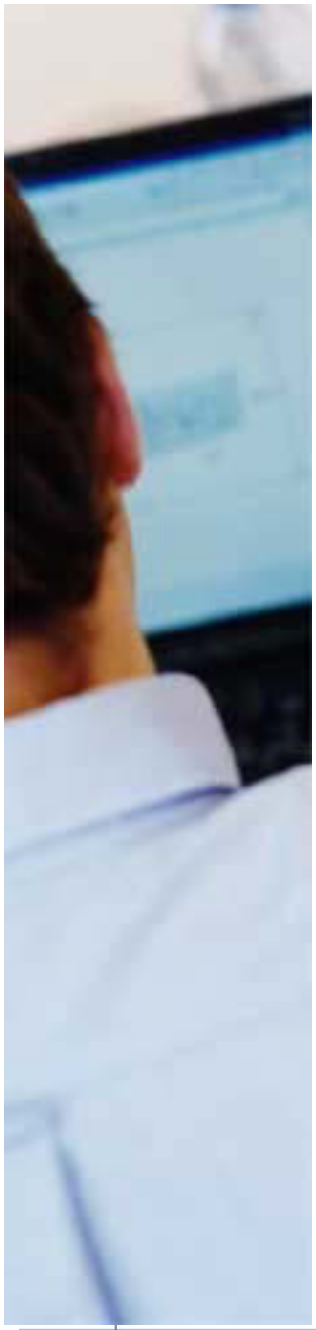


Are You Managing IT or Is IT Managing You?

September 2008
ISMA Conference

David Garmus

Presentation Topics

- What are top management's expectations
- What are your organization's needs
- What is IT's Impact on the business
- What gets measured
- What has an impact on results
- Sample results from DCG database
- Using the data

Expectations of Management Regarding IT

- Become a more competitive software provider
- Improve overall level of performance
- Deploy higher quality software
- Become a more credible IT shop
- Foster a more productive environment
- Favorably impact the business

Standish Group's CHAOS Report 2006

- Only 35% of software projects successful
- 19% were total failures
- 46% over time and cost and under quality expectations

Not a very credible report on our industry

Are we managing IT or is IT managing our lives

Critical IT Needs of Your Organization

New Business Opportunities

- Quick ‘Time To Market’ Development Projects
- Small Systems or Packages
- Use of High Level Source Code Languages
- Use of Agile Methodology
- Less Potential for Outsourcing

Critical IT Needs of Your Organization

New Development Staff Resources

- Younger
- Less Experienced with Legacy Systems
- Experienced with New Source Code Languages
- Prefer New Methodologies; e.g., Agile
- Anxious to Build Innovative Systems
- Like Exploratory Projects
- Active Business Partners

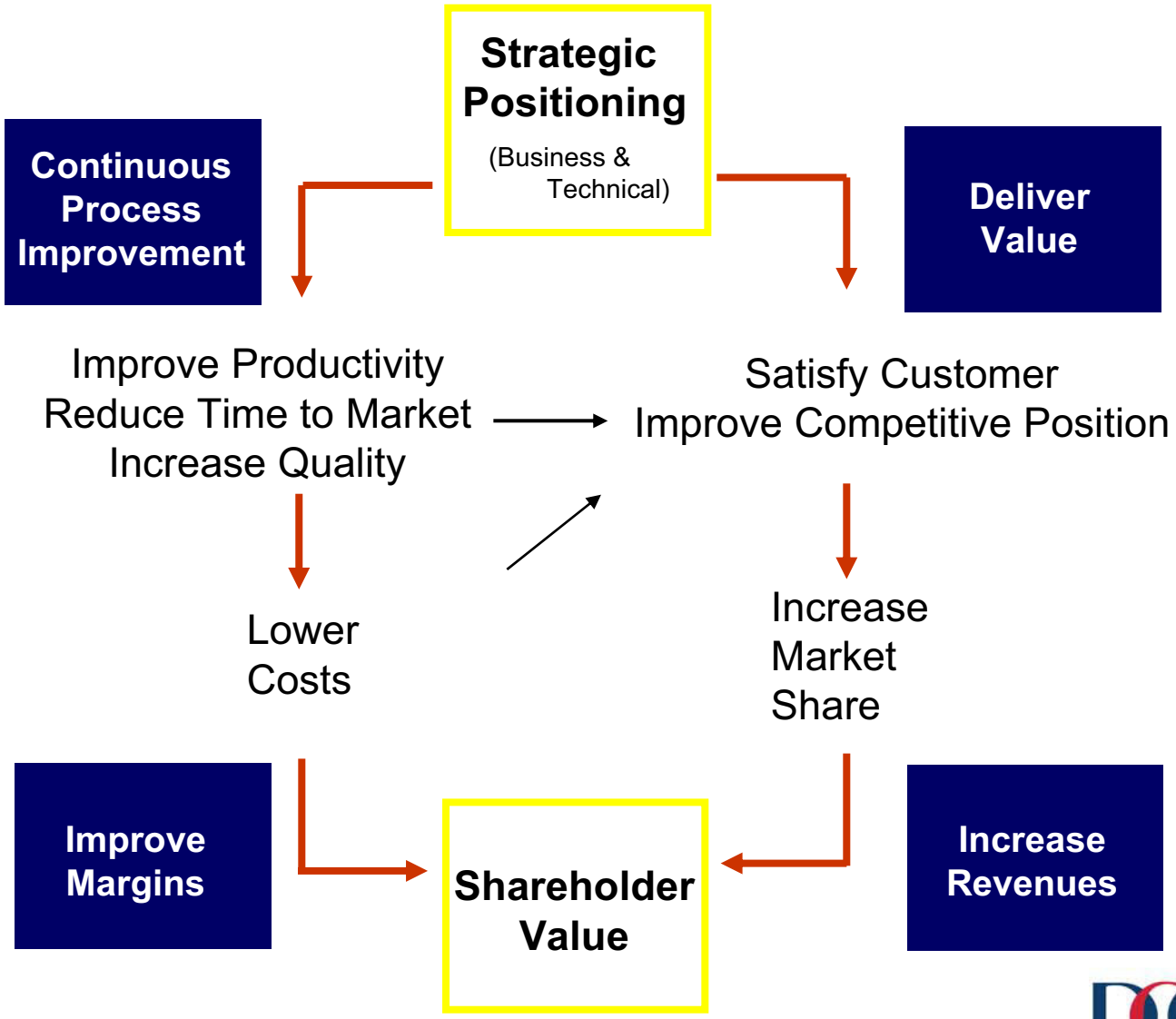
The Need for Measurement

FACT: It is important to improve your ability to define, design, develop, deploy and maintain cost effective, high quality software solutions.

ACTION: Improvement is a continuous process which requires organizations to introduce innovation and change.

SOLUTION: Effectively managing outsourcing or internal change requires an ability to measure the impact.

IT Impact on the Business



What Gets Measured

Contribution

Measures the impact of IT on the business

Identifies trends and helps to monitor progress

Effective utilization of measures in a pro-active format

Baseline vs. Benchmark

- Baseline – a value serving as a basis especially to calculate something
- Benchmark – a point of reference for measuring
- Benchmarking – multiple benchmarks

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Measuring (Baseline) and

Stake in the ground

Monitoring (Benchmark) Process Improvement

Progress, Constant Improvement

Measurement Issues

- What are appropriate benchmarking measures
- Where do I find the data
- What if the data is not accurate
- How should the data be analyzed
- Where are the results reported

Performance Benchmarking – A Process

Initiate

- Identify IT Strategic Needs
- Select Projects for Baselining

- Align with IT strategies
- Representative projects
- Defined deliverables

Collect

- Collect Quantitative Data
- Collect Qualitative Data

For each project:
- Quantitative (Size, Effort)
- Qualitative (Skills, Processes)

Analyze

- Establish Benchmarks and Profiles
- Establish Levels of Service

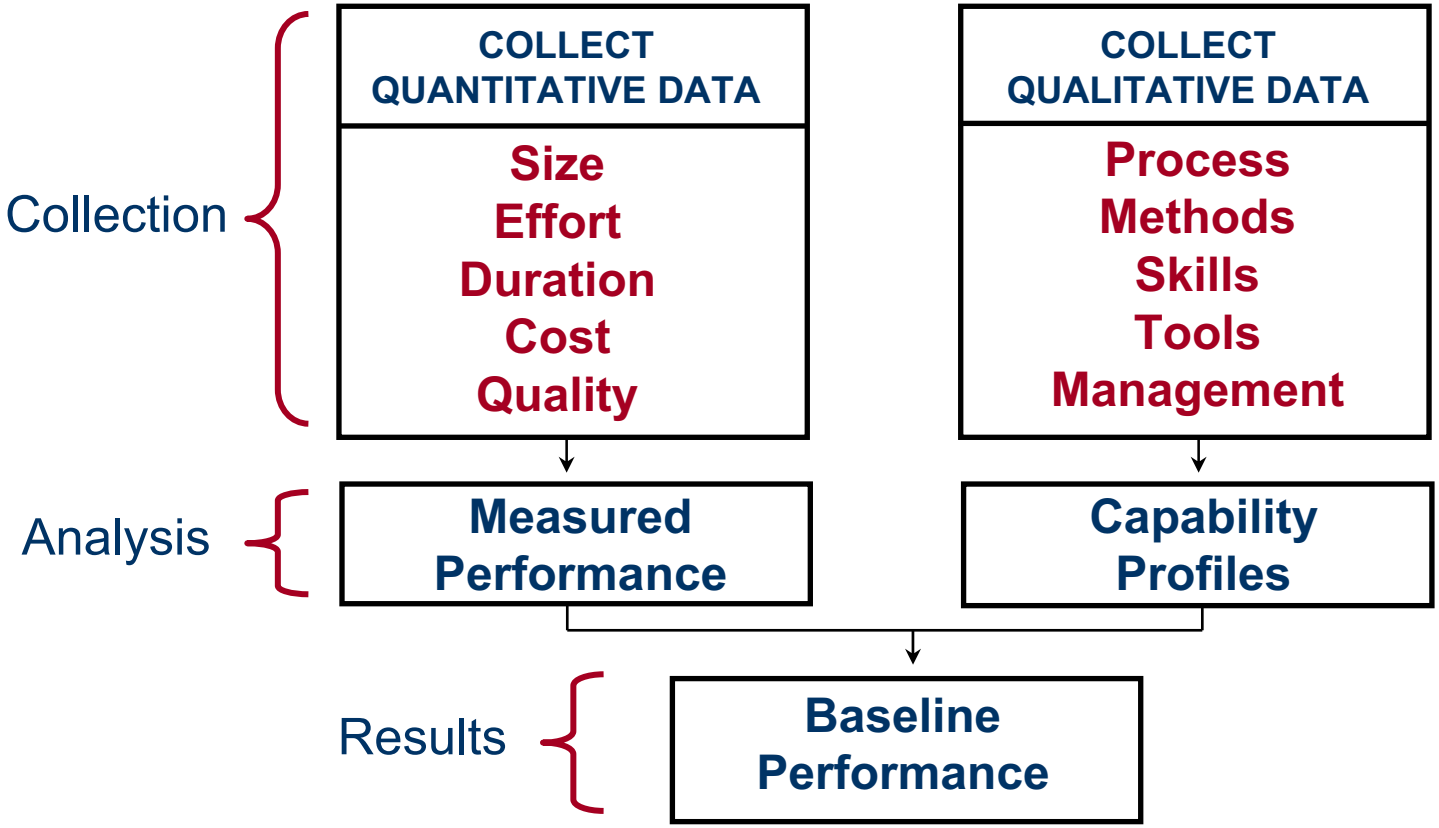
- Productivity Performance
- Deliverable Quality
- Comparative Analysis

Results

- Identify Best Practices
- Develop Improvement Initiatives

- Report Results
- Organization Baseline
- Recommendations

A Balanced Measurement Model



DCG's Data Base

Characteristics

Project Type
Platform
Data Base
Method
Language

Complexity Variables

Logical Algorithms
Mathematical Algorithms
Data Relationships
Functional Size
Reuse

Code Structure
Performance
Memory
Security
Warranty

Metrics

Size
Cost
Effort
Duration
Defects

Attributes

Management
Definition
Design
Build
Test
Environment

Process
Skill Levels
Quality Practices
Measures

Project Management

PERFORMANCE MEASURES

2.1 Business goals and objectives are clearly stated ☐

Accurate time keeping, including overtime

2.2 to task level ☐

2.3 to phase level ☐

2.4 to the project level ☐

2.5 Project plans vs actuals are analyzed during project ☐

2.6 Individual performance goals are linked to team performance ☐

TEAM DYNAMICS

2.7 Small team (less than 5 staff) ☐

2.8 Large team with one manager ☐

2.9 High morale on project ☐

2.10 Good morale on project ☐

2.11 Salaries and benefits are competitive ☐

Requirements

PROCESS

3.1 Stakeholder(s) participated in the requirements process ☐
3.2 Requirements changes are tracked through the entire project ☐
3.3 Defects are tracked with plans to correct ☐
3.4 Software developers are involved in reviewing the requirements ☐
3.5 Requirements are formally reviewed with the stakeholder ☐

Requirements were documented:

3.6 as use cases ☐
3.7 in a prototype ☐
3.8 in a text document ☐

EXPERIENCE

3.09 Stakeholders very experienced with their business domain ☐
3.10 Stakeholders familiar with their business domain ☐

3.11 Stakeholders have significant prior software experience ☐
3.12 Stakeholders understand their support roles and responsibilities ☐

3.13 Development staff very experienced with the business solution ☐
3.14 Development staff experienced with business solution ☐
3.15 Development staff is experienced with the requirements process ☐

Hours/Function Point for Enhancements

Average of Recent Projects Across Different Platforms

Client Server	7.6
Main Frame	10.0
Web	5.2
e-business Web	8.7
Vendor Packages	7.2
Data Warehouse	14.4

Hours/Function Point for Agile Projects

Average of Recent Small Agile Projects on Different Platforms

Client Server	4.2
Main Frame	7.0
Web	3.2
e-business Web	5.8

Function Points Supported By One FTE

Average of Support Provided for
Corrective Maintenance by One FTE

Client Server	642
Main Frame	978
Web	756
e-business Web	438
Vendor Packages	740
Data Warehouse	392

Average Function Point Productivity per Person Month by Application Release

Category	1-150	151-300	301-500	501-750	751+
New Dev Mainframe	12.2	10.6	9.3	8.1	6.7
New Dev C-S	17.9	15.9	13.8	11.8	9.9
Enh Mainframe Internal	15.7	14.7	12.3	10.8	8.8
Enh Mainframe Package	16.3	17.5	14.7	12.9	10.1
Enh C-S Internal	16.6	15.9	13.3	11.4	9.3

Note: Above values are expressed in Function Points delivered per Person Month (equivalent to 130 hours).

Delivery Cycle Time in Calendar Months by Application Release

Category	1-150	151-300	301-500	501-750	751+
New Dev Mainframe	4.7	6.3	8.3	11.9	14.8
New Dev C-S	3.8	6.3	8.7	10.4	12.7
Enh Mainframe Internal	3.9	7.0	9.6	12.5	16.6
Enh Mainframe Package	3.8	6.6	8.6	11.5	16.1
Enh C-S Internal	3.8	6.8	9.2	12.4	16.4

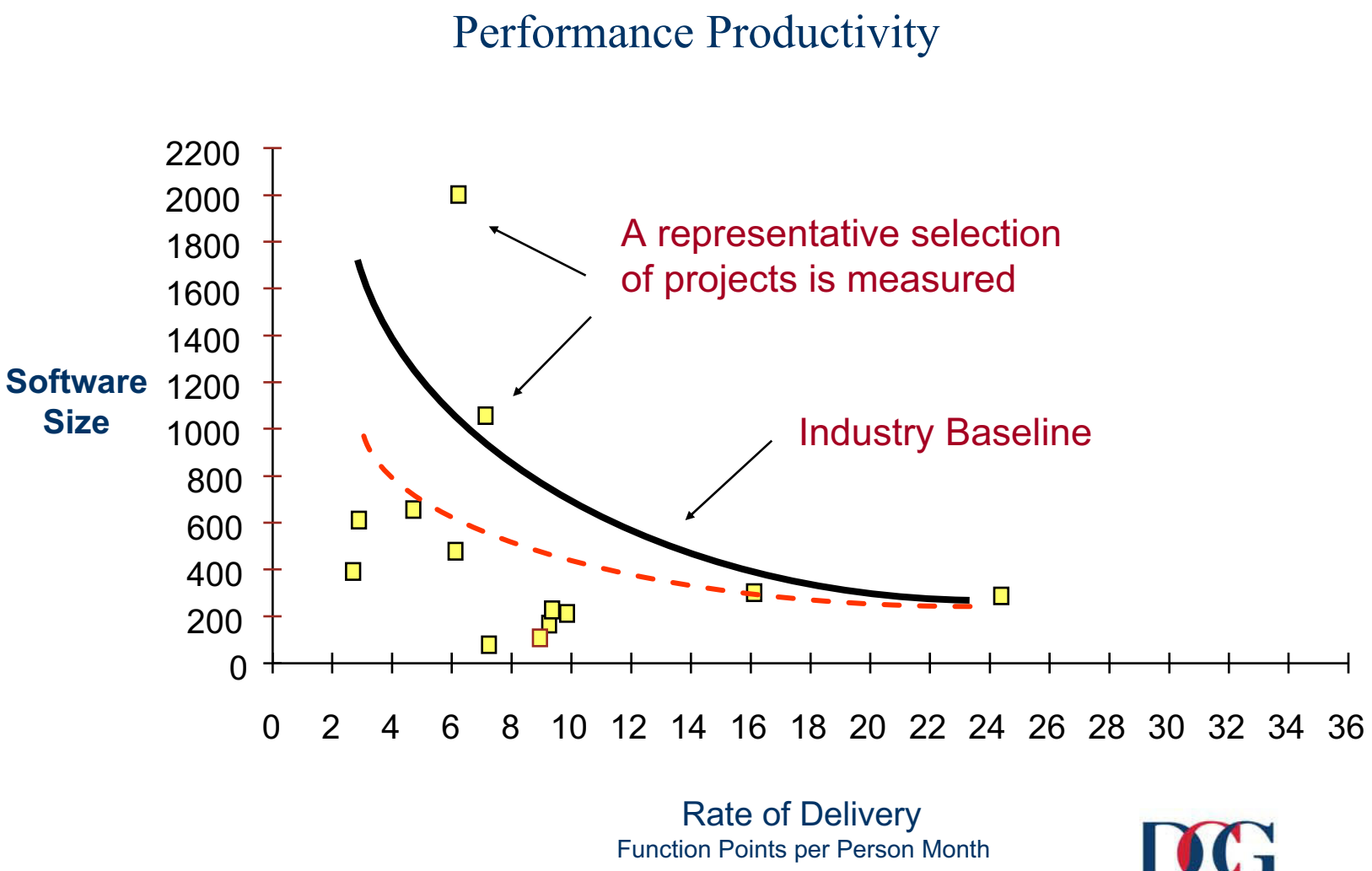
Note: Above values are expressed in Calendar Months to deliver a project within the specified range of Function Points. Any time for work stoppages is excluded.

Average Cost per FunctionPoint by Application Release

Category	1-150	151-300	301-500	501-750	751+
New Dev Mainframe	$934	$1073	$1230	$1414	$1692
New Dev C-S	638	714	823	964	1154
Enh Mainframe Internal	729	778	930	1059	1300
Enh Mainframe Package	702	653	778	886	1133
Enh C-S Internal	689	719	860	1004	1230

Note: Above values are expressed in US Dollar Cost per Function Point to deliver a project within the specified range of Function Points.

Comparing To Industry Benchmarks



Effectively Using the Data

What can you do with the information?

- Identify areas of improvement
- Identify best practices
- Set realistic levels of service
- Monitor vendor performance
- Improve estimating capabilities
- Make better decisions

Sources of Industry Data

Organizations that have provided benchmark data on performance levels within the software industry

- Benchmark Exchange (www.benchnet.com)
- David Consulting Group (www.davidconsultinggroup.com)
- Gartner Group (www.gartner.com)
- Hackett Benchmarking & Research (www.answerthink.com)
- ISBSG (www.isbsg.com)
- META Group (www.metagroup.com)
- Software Productivity Group (www.spr.com)

Summary

Utilize Results in Decision Making

- Improvements resulting from current and future initiatives must be measured
- The basis for measuring improvements may include:
  - Industry data
  - Organizational baseline data
- It is necessary for the organization to put a “stake in the ground” relative to current performance level in order to improve development practices