

CSC Balanced Scorecard ProcessSM

Measuring For Success

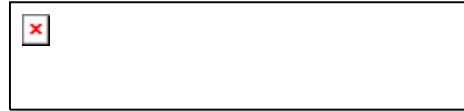
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Transform and manage business relationships



EXPERIENCE. RESULTS.



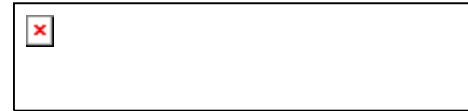
Agenda

- Overview
- Building the scorecard
 - Process
 - Work Products
- Examples
- Tools



End of the trilogy

- Stan Rifkin (2002: San Antonio)
 - “Why is it (so) Difficult to Implement a Function Point Analysis or Measurement Program?”
 - Failure of GQM to examine organizational strategy and focus on business goals
 - The Discipline of Market Leaders, Michael Treacy and Fred Wiersema
 - Customer Intimacy
 - Operational Excellence is more or less a solved problem.
 - Product Innovativeness
- John Tittle (2003: Scottsdale)
 - “You are Already an Expense, Are You an Asset?”
 - The Squeeze Play (Cost, Value pressures in FP counts)
 - Application Sizing technique
 - International Widget Users Group (IWUG)
 - CSC Balanced Scorecard ProcessSM
 - Understand org change mechanisms and how measurement drives behavior



Business Situation

"You're making my job harder instead of helping me"

Focused on getting the data not the actual performance

"You're only interested in avoiding Penalties"

"You reported 16 minutes of a TSO outage but it's not reflected in the SLA metric"

Don't know where you are because you have no measures of performance

"Mainframe may have been up, but we couldn't get to it, so it was really down to me"

"You need to round the SLA computations to 3 digits, not 2"

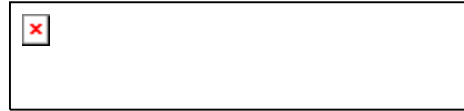
Contract is never put away

"Where's the innovation you promised ?"

Everything is a priority 1!

Metrics don't measure what I want

Solution: The CSC Balanced Scorecard ProcessSM



Why Manage your Organization using a Balanced Scorecard?

Provides a framework which

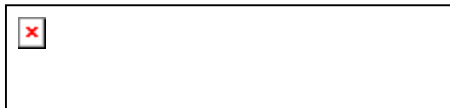
- Enables organizations to identify business goals
- Translates business goals into measures that drive the right behavior
- Aligns day to day activities to achieve goals
- Communicates performance to the organization
- Identifies and enables continuous improvement of performance to meet goals
- Evolves as the business situation changes

**The CSC Balanced Scorecard ProcessSM
drives organizational behavior to
meet business objectives**

Building the scorecard



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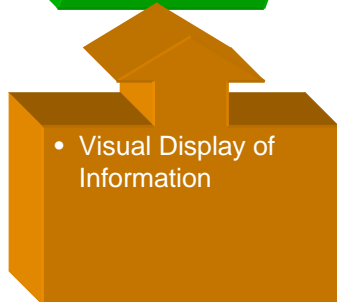
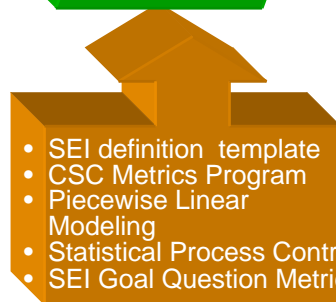
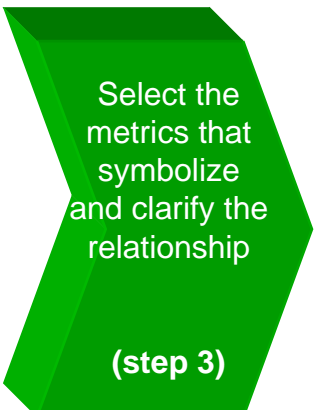
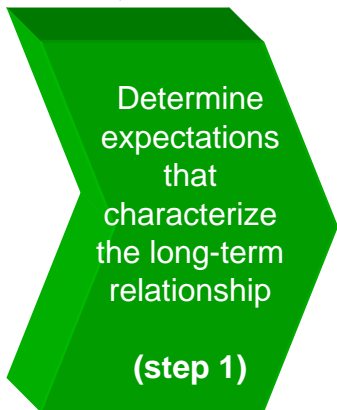
The Process

Development Time

Month 1-2

Month 3

Maintain currency with annual review



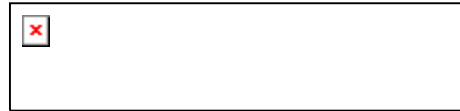
Tools and Techniques

Key Results

Decision Matrix

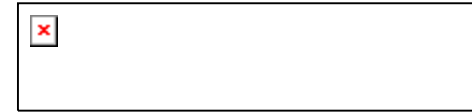
Metric Specifications

Vital Signs Report Format

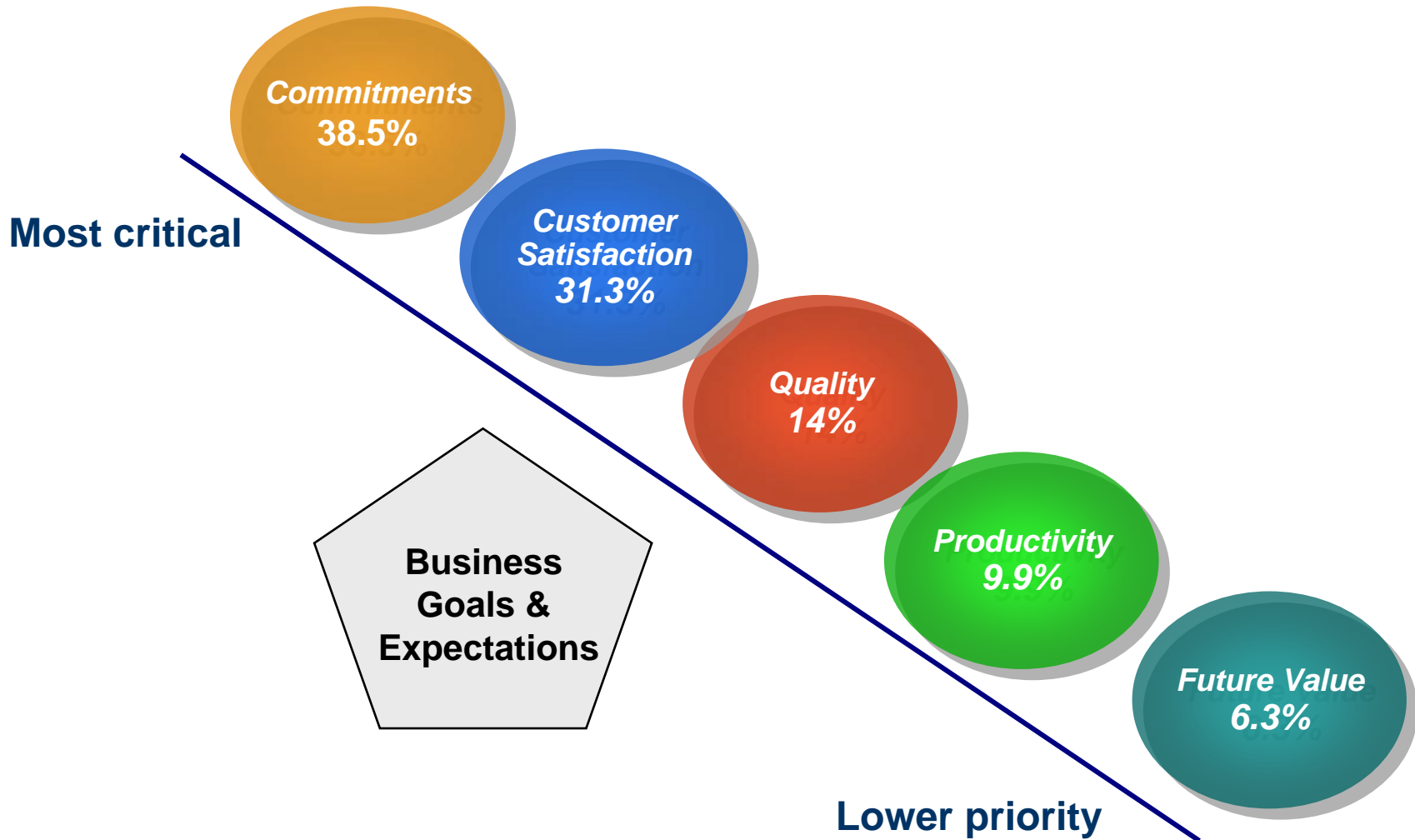


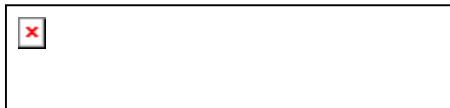
Measuring more than one business perspective ensures that appropriate attention is given to each requirement and that overall expectations are met instead of focusing on a single point of service





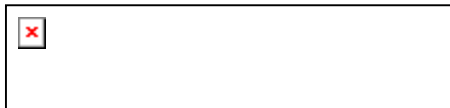
Weighting ensures that appropriate attention is given to your most critical goals and expectations





Metrics are defined that drive the desired behaviors; their relative importance is captured by weighting the individual metrics in order of priority





Client's long-term expectations and priorities are captured in living documents

Category	Weighting Factors %	Within Category	BSC Weighting (Total)	Metric	Goal	Summary Definition	Expected Behavior	Reporting Frequency
50% Maintenance - Measures of Non-Discretionary Work								
	10%	5.0%	5.0%	Resolution Time - Severity 1 problems	Critical operational problems for business critical applications are quickly resolved	% Severity 1 applications problems resolved within 4 hours	Appropriate number of CSC resources are dedicated to resolve the problem	Monthly
	10%	5.0%	5.0%	Resolution Time - Severity 2 problems	Critical operational problems for business critical applications are quickly resolved	% Severity 2 applications problems resolved within 8 hours	Appropriate number of CSC resources are dedicated to resolve the problem	Monthly
	50%	25.0%	25.0%	Maintenance Productivity	Decrease overall hours spent on maintenance activities	Maintenance hours (corrective, adaptive, preventive, user support) dependent on application portfolio	Removing non value-added tasks	Annually
	25%	12.5%	12.5%	Application Availability	Maximize availability of critical applications for end-users	% of time critical systems are available excluding scheduled downtime	CSC will generate increasing quality production systems and perfecting legacy systems to increase availability	Monthly
	5%	2.5%	2.5%	Quality of Production Code Mean Time between Defects	Minimize the occurrence of defects in applications	Days of critical application system availability divided by the number of critical application production defects	CSC will generate increasing quality production systems and perfecting legacy systems	Quarterly
35% Development & Enhancement - Measures of Discretionary Work (Projects)								
	20%	7.0%	7.0%	On Time Delivery projects <200 hours	Schedule commitments are met	% of projects meeting last approved schedule	Encourage CSC to deliver projects on schedule	Monthly, Rolling 6
	20%	7.0%	7.0%	On Budget Delivery projects >200 hours	Cost commitments are met	% of projects meeting last approved budget	Encourage CSC to deliver projects on budget	Monthly, Rolling 6
	40%	14.0%	14.0%	Development & Enhancement Project (to 200 hours) Productivity	Improve delivery of new applications and enhancements	Development & Enhancement hours per functionality delivered	Removing non value-added tasks	Annually
	10%	3.5%	3.5%	Performance to Schedule - Tasks 80 to 200 hours	Schedule commitments are met	Index of actual schedule to estimated (last approved) schedule	Encourage CSC to deliver to schedule commitments	Monthly
	10%	3.5%	3.5%	Performance to Budget - Tasks 80-200 hours	Cost commitments are met	Index of actual budget to estimated (last approved) budget	Encourage CSC to deliver to budget commitments	Monthly
10% Client Satisfaction - Measures of end customer satisfaction								
	10%	1.0%	1.0%	Client Satisfaction	Customers are satisfied with the service delivered	Rating from account APAR	Encourage CSC to balance Management Directives and End-User expectations	Quarterly
	10%	1.0%	1.0%	Annual IT Survey	Customers are satisfied with the service delivered	Overall rating for Applications from Annual Client Satisfaction Survey	Encourage CSC to balance Management Directives and End-User expectations	Annual
	30%	3.0%	3.0%	Projects Customer Satisfaction	Customers are satisfied with the service delivered	Project close out survey, one question with 5 point scale	Encourage CSC to balance Management Directives and End-User expectations	Monthly, Rolling 6
	50%	5.0%	5.0%	Customer Satisfaction tasks between 80-200 hours	Customers are satisfied with the service delivered	Task close out survey, one question with 5 point scale	Encourage CSC to balance Management Directives and End-User expectations	Monthly
5% Bringing Future Value - Measures of Investments in Employees								
	50%	2.5%	2.5%	SEI CMM Assessment Level 2	Improve process consistency	Index of actual evidence monthly score against planned evidence score	CSC will be able to deliver consistently on our commitments	Monthly
	50%	2.5%	2.5%	SEI CMM Assessment Level 3	Improve process consistency	Index of actual evidence monthly score against planned evidence score	CSC will be able to deliver consistently on our commitments	Monthly

Summary of Captured Decisions

1 Balanced Scorecard Metrics and Measurement Techniques

1.1 Resolution Time of Application Severity 1 Problems

Measure: Resolution Time of Application Severity 1 Problems

Definition: The % applications problems resolved within the service level, measured from the time the tickets are opened by the End-User until the tickets are closed as a work item or provided an answer to users on the End-User Critical operational problems as quickly resolved appropriate number of CSC resources are dedicated to resolve the problem

Business Purpose/Measure Type: Critical operational problems as quickly resolved appropriate number of CSC resources are dedicated to resolve the problem

Performance and Standard: 90% of applications Severity 1 problems resolved in 4 hours

Measure Algorithm: For the calculation period:
 Number of problems tickets resolved within service target / (Number of Severity 1 tickets resolved within service target Total number of Severity 1 tickets) * 100

Calculation Period: Hours are calculated every fiscal month on a calendar based on business activity, the algorithm and reporting may be adjusted as appropriate to accommodate a non-traditional calendar year

Measure Data Source/Measure: Severity 2 Critical Systems is non-essential. There is no acceptable work-around to the problem. It is a job that cannot be performed in any other way. The failure causes a serious business and financial exposure. The critical systems requires failure has a serious business, operational, and financial impact to the client, end users, and customers. A significant number of end users are affected.

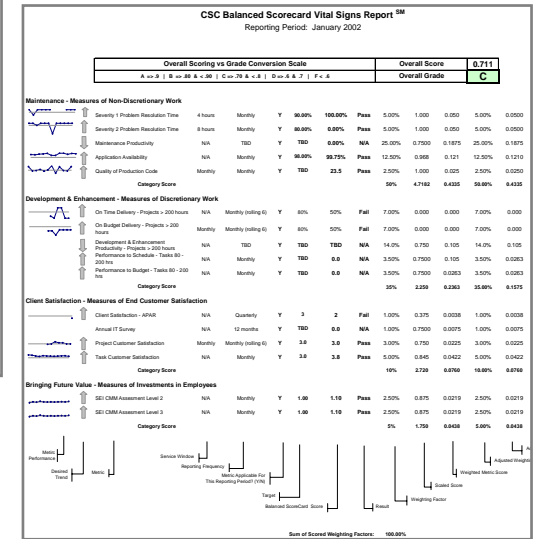
2000-2006: resolution of critical functionality by service users or by maintaining a work-around following the Problem Management Procedure

2007-2008: The algorithm used from this year that the tickets were against used the tickets was used of resolved (Critical issues) was used against "pending" status for resolution created by the customer. Pending user include users whose tickets are not resolved in a place, any pending user will be discontinued in the tickets database

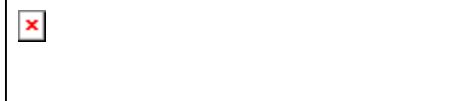
2009-2010: Severity 2 tickets resolved within 4 hours are included in the Severity 1 tickets resolved within 4 hours

2011-2012: Severity 2 tickets resolved within the period of user where (a) manually agreed upon resolution measurement criteria, (b) SEI CMM V3 CSC requires an average or (c) the metrics score of CSC's failure in above a Service Level was a focus standard in reasonable context!

Metrics Specification



CSC Balanced Scorecard Vital Signs ReportSM



The resulting Vital Signs Report communicates expectations and behaviors, providing an at-a-glance summary of performance

CSC Balanced Scorecard Vital Signs Reports											
Overall Scoring vs Grade Conversion Scale								Overall Score	0.898		
A => .9		B => .80 & < .90		C => .70 & < .8		D => .6 & .7		F < .6		Overall Grade	B
Performance	Metric	Service Level	Reporting Frequency	Target	Actual	Pass/Fail	Weighting Factor	Scale Score	Weighted Score		
Commitments "Deliver on Commitments"											
	↑ Severity 1 Problem Resolution Time	4 hours	Monthly	Y	90%	100%					
	↑ Severity 2 Problem Resolution Time	8 hours	Monthly	Y	80%						
	↑ On Time Delivery	N/A	Monthly (rolling 6)	Y	80%						
	↑ On Budget Delivery	N/A	Monthly (rolling 6)	Y	80%						
Category Score									0.381		
Quality "Get it right the first time, better the next time"											
	↑ Quality of Code Release	24x7	Monthly	Y	10%	19.6%	Pass	8.5%	0.990	0.084	
	↑ Compliance to Procedures	N/A	Monthly	Y	90%	98%	Pass	5.5%	0.990	0.054	
Category Score								14%	1.980	0.1386	
Future Value "Invest in the future today"											
	↑ Training Hours	N/A	Monthly	Y	90%	92%	Pass	1.8%	0.820	0.015	
	↑ Innovative Proposals	N/A	Monthly	Y	80%	83%	Pass	1.8%	0.8100	0.015	
	↑ Key Employee Succession	N/A	Monthly	Y	95%	96%	Pass	2.7%	0.8050	0.022	
Category Score								6.3%	2.44	0.0511	
Customer Satisfaction "Earning your trust"											
	↑ Post Implementation Survey	N/A	Monthly (rolling 6)	Y	3.0	3.9	Pass	18.80%	0.894	0.168	
	↑ IT Survey	N/A	Quarterly	Y	3.0	3.8	Pass	12.50%	0.900	0.113	
Category Score								31%	1.79	0.2805	
Productivity "Work smarter, not harder"											
	↑ Portfolio Efficiency	N/A	Quarterly	Y	3.75%	0.37%	Fail	5.50%	0.100	0.006	
	↑ Skill Mix Index	N/A	Quarterly	Y	3.0	3.0	Pass	1.40%	0.800	0.011	
	↑ Reduction in Small Jobs	N/A	Monthly	Y	5%	25%	Pass	3.0%	1.0	0.030	
Category Score								10%	1.900	0.0467	

Overall Score	0.898
Overall Grade	B

Examples

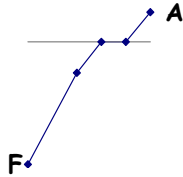


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Transform and Manage Business Relationships

Behaviors changed and aligned to business objectives



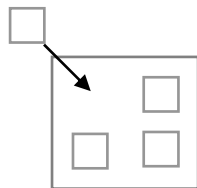
Troubled relationship: started at an “F” and 12 months later scored an “A”



Turned-around from being competitive to sole source



Removed penalty

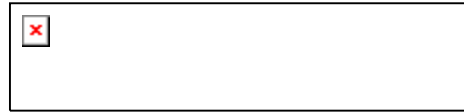


Building alignment within a fractured customer community



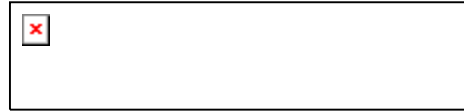
How the process works - Applications

- Business Goal
 - ***Increase production system availability***
- What is the expected behavior?
 - ***Generate quality production systems and perfect legacy systems***
 - ***Critical operational problems are quickly resolved***
 - ***Satisfied customers***
- Metrics to drive required behavior
 - ***% reduction in the number of defect problem tickets reported for code released into production compared to the baseline (Quality)***
 - ***% application problem tickets resolved within the service target (Commitments)***
 - ***IT satisfaction survey (Customer Satisfaction)***



How the process works - Infrastructure

- Business Goal
 - *Improve e-Mail system customer acceptance*
- What is the expected behavior?
 - *Maintain and improve server uptime (outside scheduled maintenance windows)*
 - *Critical operational problems are quickly resolved*
 - *Root cause analysis to eliminate problem source*
- Metrics to drive required behavior
 - *% of e-Mail server availability (Productivity)*
 - *Reduction in the number of repeated problems (Quality)*
 - *% of e-Mail problem tickets resolved within the service target (Commitments)*



How the process works – Business Process

- Business Goal
 - ***Real-time accounts receivable information***
- What is the expected behavior?
 - ***Receipts are processed quickly and accurately***
- Metrics to drive required behavior
 - ***Duration from check receipt to ledger posting (Productivity)***
 - ***% checks processed with no errors (Quality)***

Tools

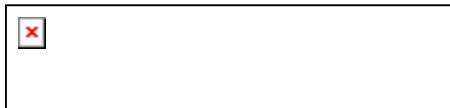


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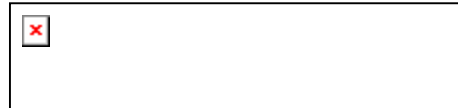
Decision Matrix

Category		Weighting Factors %		Behavior
1.0 Financial Management		35.2%		<i>Value for every dollar</i>
1.1	Accuracy	2.7%		Provide visibility to all costs
1.2	Delivery	24.8%		Deliver to targeted costs
	1.2.1 Maintenance Costs		20.6%	Deliver to targeted cost. Make an incentive to not spend all the money.
	1.2.1.1 Labor Maintenance Cost		15.5%	
	1.2.1.2 Non-Labor Maintenance Cost		5.1%	
	1.2.2 Project Costs		4.2%	Keep budget commitments
	1.2.2.1 Project CPI		2.1%	
	1.2.2.2 Project SPI		2.1%	
1.3	Maintenance Mix	7.7%		Ensure customer value for every dollar spent.
2.0 Customer Satisfaction		34.0%		<i>Earning your trust</i>
2.1	Post Implementation Survey	2.5%		Evaluate satisfaction effective after deployment
2.2	IT Survey	12.5%		Continue feedback mechanism from user from both IT & Raytheon System Manager, act on it and communicate customer alignment issues.
2.3	Maintenance Process Owners Survey	16.3%		Maintain customer satisfaction
2.4	Key Employee Succession Plan	2.7%		Plan to retain key skills by key job position.



Decision Matrix (cont)

Category		Summary Definition	Reporting Frequency	Current Month
1.0 Financial Management				
1.1	Accuracy	Cost information is accurate each month	Month	Billing Month
1.2	Delivery	Deliver to targeted costs for maintenance and development projects		
	1.2.1 Maintenance Costs	Deliver to Maintenance Plan, cumulative each month		
	1.2.1.1 Labor Maintenance Cost	Actual labor cost over planned, cumulative each month	Month	Billing Month
	1.2.1.2 Non-Labor Maintenance Cost	Actual non-labor costs to planned, cumulative each month	Month	Billing Month
	1.2.2 Project Costs	Deliver to development project plan cost and schedule		
	1.2.2.1 Project CPI	Active projects CPI average each month	Month	Calendar
	1.2.2.2 Project SPI	Active projects SPI average each month	Month	Calendar
1.3	Maintenance Mix	Maintenance labor hours divided by total labor hours, cumulative each month.	Month	Billing Month
2.0 Customer Satisfaction				
2.1	Post Implementation Survey	Post deployment survey of defined users	Quarter	Calendar
2.2	IT Survey	Monthly survey of Raytheon IT satisfaction	Month	Calendar
2.3	Maintenance Process Owners Survey	Survey of selected customers for maintenance satisfaction	Month	Calendar
2.4	Key Employee Succession Plan	Approved succession plan exists for key employees.	Month	Calendar

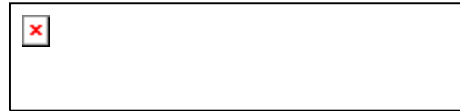


Specification Sheet

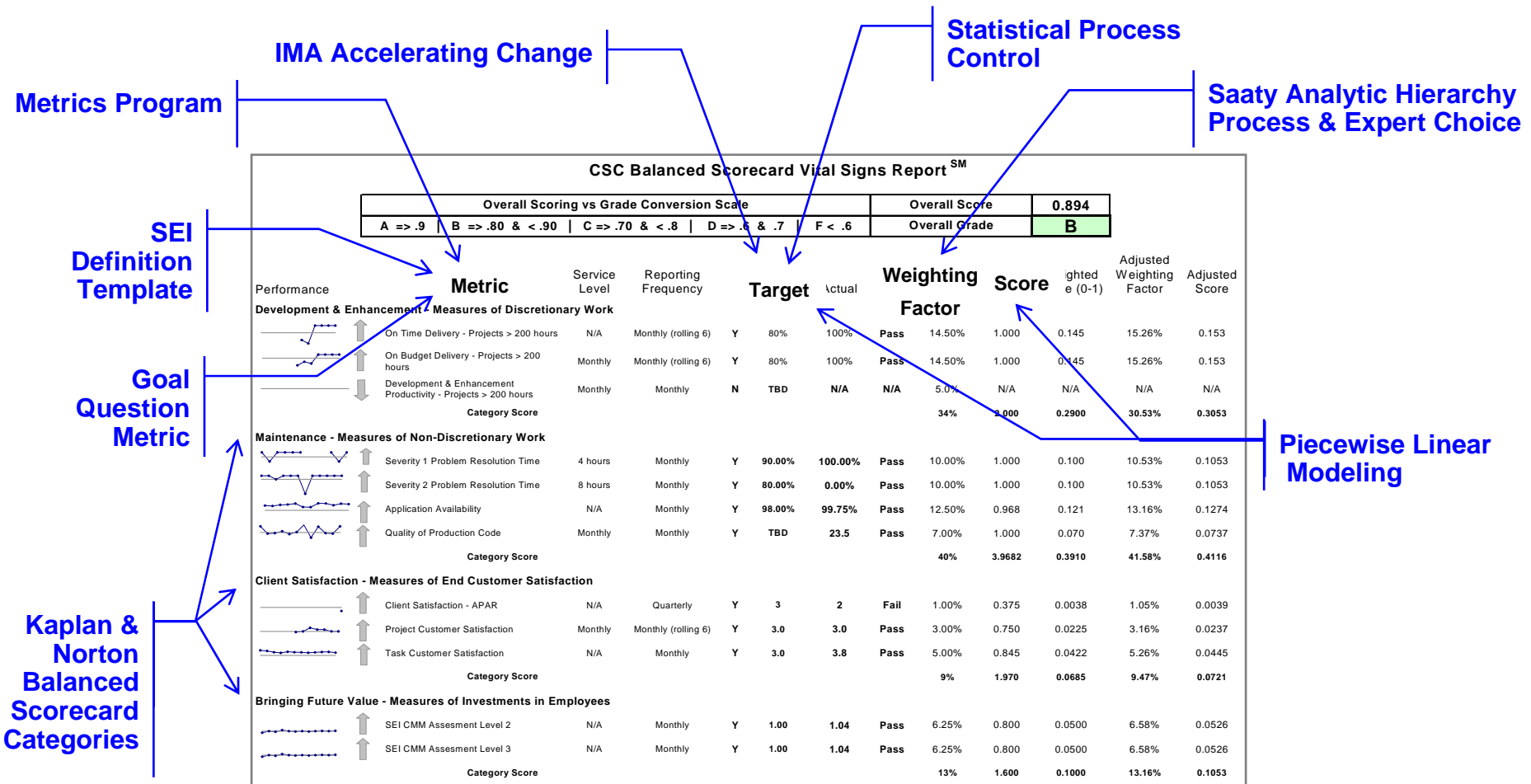
CSC BSC Metric Definitions

Each CSC Balanced Scorecard metric will be defined as prescribed below.

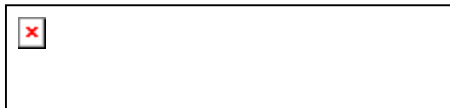
Metric Name	<i>Name of the metric</i>
Definition	<i>Textual description of the metric</i>
Business Purpose/ Goal	<i>Underlying factors that drive the metric towards a desirable level</i>
Metric Target	<i>The metric target score... (Define the metric)</i>
Industry Reference and/or Standard	<i>External data on the common values found in the technology development industry for each measure. Note: N/A indicates Not Applicable.</i>
Metric Algorithm	<i>Formula to calculate the metric</i> <i>(The metric is calculated [show algorithm] for the time interval for which the base measure are collected and combined. Examples: base measure A for status month is divided by base measure B of status month; rolling 12 month; calendar quarter</i>
Calculation Period(s)	<i>Frequency with which this metric is calculated</i>
Metric Data Base Measures	<i>Component A of the metric is ...</i> <i>Component B of the metric is ...</i> <i>Inclusions: list any data components included in metric calculation</i> <i>Exclusions: list any data components excluded in metric calculation</i> <i>References for details if applicable are ...</i>
Data Generation	<i>Base measures are created by ... (Describe who, what, where, when, how base measures are created. Examples: Help Desk agent enters ticker, Project Manager enters data in the metrics repository.)</i>



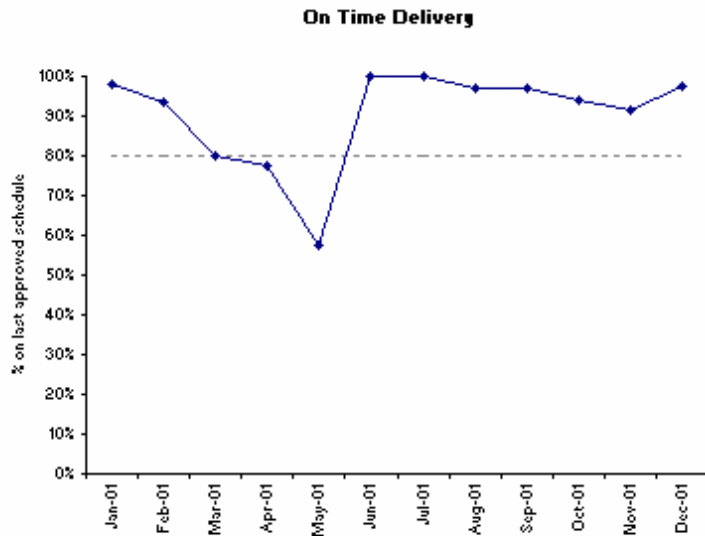
Integration of a variety of disciplines and tools



CSC Balanced Scorecard Vital Signs Report SM												
Overall Scoring vs Grade Conversion Scale										Overall Score	0.894	
A => .9	B => .80 & < .90	C => .70 & < .8	D => .6 & < .7	F < .6						Overall Grade	B	
Performance	Metric	Service Level	Reporting Frequency	Target	Actual	Weighting Factor	Score	Adjusted Score (0-1)	Adjusted Weighting Factor	Adjusted Score		
Development & Enhancement - Measures of Discretionary Work												
On Time Delivery - Projects > 200 hours	N/A	Monthly (rolling 6)	Y	80%	100%	Pass	14.50%	1.000	0.145	15.26%	0.153	
On Budget Delivery - Projects > 200 hours	Monthly	Monthly (rolling 6)	Y	80%	100%	Pass	14.50%	1.000	0.145	15.26%	0.153	
Development & Enhancement Productivity - Projects > 200 hours	Monthly	Monthly	N	TBD	N/A	N/A	5.0%	N/A	N/A	N/A	N/A	
Category Score							34%	3.000	0.2900	30.53%	0.3053	
Maintenance - Measures of Non-Discretionary Work												
Severity 1 Problem Resolution Time	4 hours	Monthly	Y	90.00%	100.00%	Pass	10.00%	1.000	0.100	10.53%	0.1053	
Severity 2 Problem Resolution Time	8 hours	Monthly	Y	80.00%	0.00%	Pass	10.00%	1.000	0.100	10.53%	0.1053	
Application Availability	N/A	Monthly	Y	98.00%	99.75%	Pass	12.50%	0.968	0.121	13.16%	0.1274	
Quality of Production Code	Monthly	Monthly	Y	TBD	23.5	Pass	7.00%	1.000	0.070	7.37%	0.0737	
Category Score							40%	3.9682	0.3910	41.58%	0.4116	
Client Satisfaction - Measures of End Customer Satisfaction												
Client Satisfaction - APAR	N/A	Quarterly	Y	3	2	Fail	1.00%	0.375	0.0038	1.05%	0.0039	
Project Customer Satisfaction	Monthly	Monthly (rolling 6)	Y	3.0	3.0	Pass	3.00%	0.750	0.0225	3.16%	0.0237	
Task Customer Satisfaction	N/A	Monthly	Y	3.0	3.8	Pass	5.00%	0.845	0.0422	5.26%	0.0445	
Category Score							9%	1.970	0.0685	9.47%	0.0721	
Bringing Future Value - Measures of Investments in Employees												
SEI CMM Assessment Level 2	N/A	Monthly	Y	1.00	1.04	Pass	6.25%	0.800	0.0500	6.58%	0.0526	
SEI CMM Assessment Level 3	N/A	Monthly	Y	1.00	1.04	Pass	6.25%	0.800	0.0500	6.58%	0.0526	
Category Score							13%	1.600	0.1000	13.16%	0.1053	



Vital Signs Tab



Source: Sample BSC

Metric Category: **Enhancement**
 Metric Name: **On Time Delivery**
 Reporting Month: **Dec-01**
 Service Window: **N/A**
 Target: **80%**
 Scoring Frequency: **Monthly (rolling 6)**
 Applicable This Report: **Yes**
 Metric Weight: **15%**

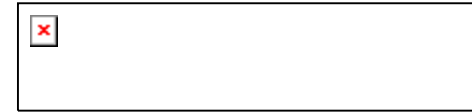
Metric Performance: **98%**

BSC Metric Scoring:	Low	Mid-Pt	Hi	Current	Score
	0.00	0.75	1.00	98%	0.97
	60%	80%	100%		

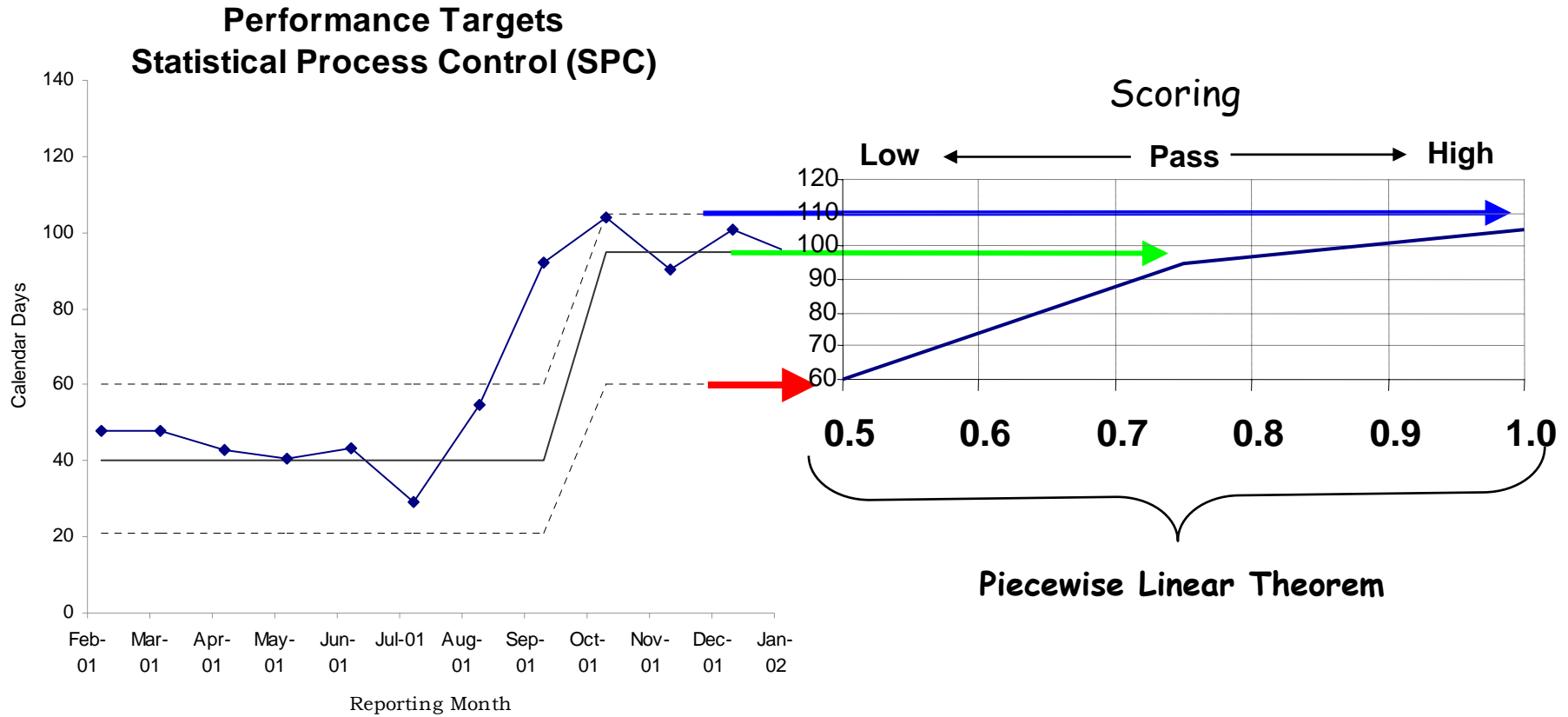
Weighted Score: 0.15

Notes: **Sample Data**

Reporting Month	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01	Nov-01	Dec-01
Service Target	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Service Window	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Metric Performance	98%	93%	80%	78%	58%	100%	100%	97%	97%	94%	91%	98%
Pass / Fail	Pass	Pass	Pass	Fail	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Score adjusted (Yes/No)												
Incident Report Number												
#SRs Completed on Schedule	49	70	80	94	49	49	82	90	70	65	53	43
Total SRs completed	50	75	100	121	85	49	82	93	72	69	58	44



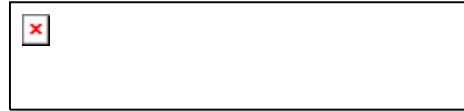
Performance Targets and Scoring





References

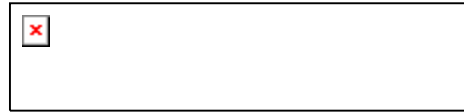
- **Edward Tufte**
 - <http://www.edwardtufte.com/tufte/>
- **Expert Choice**
 - <http://www.expertchoice.com/>
- **Implementation Management Associates (IMA)**
 - <http://www.imaworldwide.com/home.asp>
- **Dr. Donald J. Wheeler (Statistical Process Control)**
 - <http://www.spcpress.com/>
- **Software Engineering Institute**
 - <http://www.sei.cmu.edu/sei-home.html/>
- **Survey Monkey**
 - <http://www.surveymonkey.com/>



Summary

- **Captures** the executives' fundamental expectations
- **Reflects** a set of meaningful metrics
- **Changes** organizational behavior by focusing on desired outcomes
- **Communicates** actual performance and highlights improvement areas
- **Focuses** and balances effort on what's important

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