## Commonwealth of Pennsylvania
### Department of Human Services

**INFORMATION TECHNOLOGY STANDARD**

<table>
<thead>
<tr>
<th>Name Of Standard:</th>
<th>Balanced Scorecard Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number:</td>
<td>STD-EKMS007</td>
</tr>
<tr>
<td>Domain:</td>
<td>Solutions Management</td>
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<td>Category:</td>
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<td>07/08/2008</td>
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## Abstract

The Department of Human Services (DHS) is committed to improving the operational efficiencies by monitoring program performance with the use of a balanced scorecard system. The Balanced Scorecard (BSC) provides a framework that helps planners, analysts and managers identify what should be done and measured. It enables an enterprise view of an organization’s overall performance by integrating financial measures with other key performance indicators around business objectives and perspectives such as customer perspectives, internal business process perspectives and learning and growth perspectives.

Balanced Scorecards are a way of taking the strategic vision of the Department’s path to success and creating and analyzing manageable sets of metrics that tell us if we are on the right track to see the success of our initiatives. Some key elements are:

- Viewing the organization from its strategic objectives.
- Adopting a balance of measuring key performance indicators by using the underlying related metrics.
- No more than 25 Key Performance Indicators (KPIs) on a scorecard.
- Setting quantified, measurable goals.
- Reveal the relationships among and between each metric and the ways in which performance in one area affects the outcomes in another.
Standard

The purpose of this document is to introduce a methodology framework, establish standards and guidelines for the design and the development of a Balanced Scorecard Performance System. The standards established here apply to all analysts and developers, both state staff and contract employees, who participate in the development and the implementation of the balanced scorecards for the Department of Human Services (DHS). This document ensures that all scorecard applications developed will facilitate enterprise-wide interoperability and standardization.

The basic design of a balanced scorecard performance system shall entail the following four elements: financial, customers and stakeholders, internal business processes and employees and organizational capacity. This section provides a general framework for the development of a balanced scorecard performance system.

Planning

*Team Formation and Organizational Assessment*
- Select scorecard team.
- Develop team plan, schedule, budget and create a communication plan.
- Examine mission, vision statements and SWOT analysis if available.
- Identify needs and KPIs to achieve the vision.

*User Requirements*

*Define Strategic Themes*
- Derived from vision and assessments.
- Determine how to obtain KPIs.
- Develop KPIs.
- Sort out related issues.
- Provide more specific focus for planning.

*Define Perspectives and Desired Outcomes*
- Perspectives are diverse ways of looking at the organization.
- Define the desired outcomes and expectations and the meaning of mission success for each perspective and strategic theme.

*Create a Strategy Map*
- For each strategic theme, the team should propose a chain of causes and effects that they believe will lead to the desired outcomes.
- Mapping of the chain is done by creating a “strategy map” (cause-and-effect relationships among strategy components).
**Define Performance Measures and Targets**
- For each theme or desired outcome goal, the team should ask “How will we know if this goal is being achieved?”
- The team should identify how each goal should be measured e.g., surveys, data collection, etc.
- The team should examine baseline data (where available) to set schedules and targets.
- Create a measures dictionary workbook in Excel to define the measures and their targets.

**Define Tolerance and Variance with Users**
- For each measure, tolerance can be set. For instance, you can set a tolerance of if within five percent of an amount as acceptable. Tolerance can be set to 0 (no tolerance), a number or a percent. Tolerance will visually be shown as being within acceptable lines on the scorecard to be acceptable.
- The scorecards will automatically calculate and display a variance number between the measures and targets. User understanding of what variance numbers are acceptable will enhance the effectiveness of interpreting the scorecard information.

**Develop Strategic Initiatives**
- The team should prioritize user needs and requirements based on strategic importance and create initiatives for improvements
- Each initiative should be linked to strategic measurements, so progress can be monitored
- Define the KPIs from the strategic themes and decide which critical and important KPIs will be on the scorecard to be monitored as well as who/what department will be accountable. No more than 25 should be tracked at any one time.
- Should KPIs be leading, lagging or both?

**Conceptual System Design**

Conceptual system design identifies the inputs to the system, the outputs of the system, the system repositories and the data staging centers to prepare and format the information. This phase can include a BSC prototype to allow developers some more ideas as to how to design a full-scale system. The conceptual aspects of the following data warehouse elements and functions should be considered in the conceptual system design.

- Enterprise Data
- Composite Measures (a measure based on multiple variables)
- Data/Reporting Locations
- Advanced Executive Reporting
- Web Publishing
- Advanced Analysis
- Dynamic Links to Legacy Systems
BSC System Development

- Scorecard Design
- Integration Mapping
- User Acceptance Testing

BSC System Implementation

This phase provides the process of developing balanced scorecards at every level of the organization. When cascading a scorecard, we are doing the following:

- Driving BSC mentality and methodology deep into the fabric of the organization.
- Enabling all voices to share the orchestration of strategy.
- Implementing through technology a new management process and habit.

Scorecard Implementation

The preferred tool for creating scorecards in the Department of Human Services (DHS) is Tableau. Tableau was chosen overall due to its friendly user interface. Before developing a project, it’s important to be sure if a program office wants a scorecard or a dashboard. It’s important that the program offices understand the difference between a dashboard and a scorecard and agree that a scorecard is what is desired.

While a dashboard can be made interactive and display anything that is needed, a scorecard is not interactive and acts like a report card. It tells you if you are on track or off track. Think of a scorecard as a report card from school.

A scorecard measures performance against a specific KPI for an objective that was set out and how well you are adhering to meeting the required performance. A scorecard is a grading system. Instead of predictive analytics being displayed, the charts will display tolerance levels and if your count is within an acceptable tolerance of the measure.
Design Standards

ADA Compliance
Tableau has a built-in color-blind color palette. For any deployments to the public, this color palette must be used. For any consumed internally whether on the external or internal server, its use is optional.

System-Specific Design Perspectives
• A scorecard should fit on one screen at whatever resolution is considered be the lowest common denominator for the users who will be viewing the scorecard. If more information is desired through the scorecard than can be shown on one screen, consider the following:
  • Maximize the data to pixel ratio. It is important to use as few pixels as possible for ornamental purposes (titles, instructions, buttons, graphics, etc.) and instead keep the scorecard data rich by using prime real estate for the most important data. The more intuitive a scorecard is the less space that will be required for instructions (which should be context sensitive). The screen layout design should strive for eloquence through simplicity.
  • An initial scorecard layout should represent a consistently high level of information with drill-through links to more detailed information if necessary.
  • When using shades of grey, if a different color is used to call attention to something, it will stand out much more effectively than if many different colors are present. If the scorecard looks good printed on a black and white printer, then it will probably look good to colorblind people.

Best Practices

General
• Limit the number of Key Performance Indicators to less than 25 indicators
• Include measures for all perspectives and all strategies
• Seek relationship and balance among measures
• Develop solid baseline data
• Develop measures for past, present and future
• Don’t over rely on output, process and input measures
• Set stretch targets
• Hold people accountable for results
Criteria for Selecting Performance Measures

The most important decision in the development of a balanced scorecard is to choose measures and items to measure. Hence, before choosing, application developers must ask the user the following questions to ensure that performance measures are correctly selected for the application.

- Is the measure a leading or lagging indicator of performance?
- What type of measure is it?
- Why is this measure important? What does it tell me?
- Is this a simple way to uncover performance of any activity?
- What other measures that I am measuring will give me the same result in another form?
- Can I get this measure regularly and automatically or do I have to find it manually?
- Is this measure an equational measure (e.g. does it need to be formulated using a formula or is it just a single number?)

Furthermore, performance measures must fit the following simple criteria for selection:

- Easy to understand
- Data source integrity – must come from a reliable and repeatable source
- Cause-and-effect driven
- Frequency of change
- Bounded variable – not too unstable behavior
- Accurate
- Representative of reality
- Relevant to the objective and strategy

Performance Measure Dictionary

As organizations and leadership change, new measures need to be added. There is a need for a mechanism to discern whether a new measure should or should not be added and consequently the number of measures continued to grow. It is important to maintain a performance measure dictionary which will:

- Identify all performance measures
- Define the purpose of the measures
- Establish what the same measures are
- Direct the location of these measures
- Explain the basis that this measure exists
- Define the output and outcome for the measure
- Define an owner for the measure
- Define the objective and perspective that drive this measure
Appendix A: Sample Objective, Measures, and Target Mapping

<table>
<thead>
<tr>
<th>Sample Objective, Measures, and Targets</th>
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<tbody>
<tr>
<td><strong>Strategic Theme 1</strong></td>
</tr>
<tr>
<td>Children are healthy</td>
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<tr>
<td><strong>Objective 1</strong></td>
</tr>
<tr>
<td>Pregnant women receive adequate care.</td>
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<tr>
<td><strong>Performance Measures</strong></td>
</tr>
<tr>
<td>• Percent of low income women receiving prenatal care in the first month of pregnancy</td>
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<tr>
<td></td>
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<tr>
<td>• Percent of clients completing alcohol or drug treatment and are not abusing</td>
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Appendix B: Performance Measures Dictionary Sample

An Excel workbook with the following columns would be created as a dictionary.

- Measure
- Type (leading/lagging)
- Owner
- Source
- Target
- Supported Objective
- Description
- Comments
Appendix C: Example of Strategic Framework
(Perspectives and Strategic Themes)

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Theme 1: Effective &amp; Efficient Government</th>
<th>Theme 2: Social, Education, &amp; Economic Opportunity</th>
<th>Theme 3: Community Health and Safety</th>
<th>Theme 4: Growth Management and Environment</th>
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</thead>
<tbody>
<tr>
<td>Customers</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Business Processes</td>
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<tr>
<td>Financial Value</td>
<td></td>
<td></td>
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<tr>
<td>Learning and Capacities</td>
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Exemptions from this Standard

There will be no exemptions to this standard.

Refresh Schedule

All standards and referenced documentation identified in this standard will be subject to review and possible revision annually or upon request by the DHS Information Technology Standards Team.

Standard Revision Log

<table>
<thead>
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<th>Change Date</th>
<th>Version</th>
<th>Change Description</th>
<th>Author and Organization</th>
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<tr>
<td>07/08/2008</td>
<td>1.0</td>
<td>Initial Creation</td>
<td>Jere Shifflett</td>
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<tr>
<td>08/27/2009</td>
<td>1.1</td>
<td>Reviewed Content, no changes</td>
<td>Jere Shifflett</td>
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<td>03/02/2018</td>
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<td>01/15/2019</td>
<td>2.3</td>
<td>Reviewed and updated</td>
<td>Stephen Woytovich</td>
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