Data Warehousing for Business Intelligence
Course 4: Business Intelligence Concepts, Tools, and Applications

Module 4 Bonus Materials

Lesson 3: Balanced Scorecards and Six Sigma

We've arranged for students in this MOOC to purchase at a very low cost digital versions of chapters 1, 2, and 4 of the authoritative textbook *Business Intelligence and Analytics: Systems for Decision Support*, 10th edition, 2015 by Sharda, R., Delen, D., and Turban, E. See the optional text book link under course overview to purchase (US$4 for one chapter, US$10 for all three; the regular price for students is $15 per digital chapter).

The critical characteristics that define a balanced scorecard are:

- its focus on the strategic agenda of the organization concerned
- the selection of a small number of data items to monitor
- a mix of financial and non-financial data items.

- The most important similarity is that both systems contain metrics that communicate what is important, monitor what is taking place, and help people be successful in their work. Metrics are displayed in dashboards in both systems. Scorecards go beyond dashboards. They explicitly link the dashboards to business strategy. This linking is the most significant difference between the two.
- The primary difference is that dashboards tend to monitor the performance of operational processes whereas scorecards tend to chart the progress of tactical and strategic goals. Dashboards also tend to display charts and tables with conditional formatting, whereas scorecards use graphical symbols and icons to represent the status and trends of key metrics.

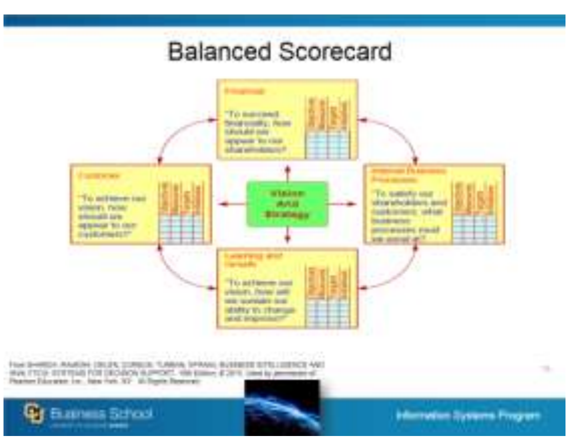
A good performance management system should be able to deliver either a dashboard or scorecard interface, since both do the same thing: display the status and trends of key performance indicators. ...."

According to Andreea Vasiliu, (2006) Dashboards and Scorecards: Linking Management Reporting to Execution, "although dashboards and scorecards have much in common, there are differences between the two.

- On the one hand, executives, managers, and staff use scorecards to monitor Strategic alignment and success with strategic objectives and targets. As noted, the best known example is the BSC.
- On the other hand, dashboards are used at the operational and tactical levels. Managers, supervisors, and operators use operational dashboards to monitor detailed operational performance on a weekly, daily, or even hourly basis. For example, operational dashboards might be used to monitor production quality. In the same vein, managers and staff use tactical dashboards to monitor tactical initiatives. For example, tactical dashboards might be used to monitor a marketing campaign or sales performance...."

Excerpts from SHARDA, RAMESH; DELEN, DURSUN; TURBAN, EFRAIM, BUSINESS INTELLIGENCE AND ANALYTICS: SYSTEMS FOR DECISION SUPPORT, 10th Edition, © 2015. Used by permission of Pearson Education, Inc., New York, NY. All Rights Reserved.

- The four perspectives are: customer, financial, internal business processes, and learning and growth. If customers are not satisfied, they will eventually find other suppliers that will meet their needs. Poor performance from this perspective is thus a leading indicator of future decline, even though the current financial picture may look good. Timely and accurate funding data will always be a priority, and managers will do whatever is necessary to provide it. This should include risk analysis. In the current climate of rapid technological change, it is becoming necessary for knowledge workers to be in a continuous learning and growing mode. Metrics based on this perspective allow the managers to know how well their internal business processes and functions are running, and whether the outcomes of these processes (i.e., products and services) meet and exceed the customer requirements (the mission).
- BSC is designed to overcome the limitations of systems that are financially focused. An organization's vision and strategy should recognize the interrelation between financial and nonfinancial objectives, measures, targets, and initiatives. Therefore, nonfinancial objectives form a simple causal chain with "learning and growth" driving "internal business process" change, which produces "customer" outcomes that are responsible for reaching a company's "financial" objectives.
- In BSC, the term "balance" arises because the combined set of measures is supposed to encompass indicators that are financial and nonfinancial, leading and lagging, internal and external, quantitative and qualitative, and both short term and long term.



Source: What is balanced Scorecards: http://web.archive.org/web/20140620093448/http://2gc.eu/files/2GC-FAQ1-What_is_a_Balanced_Scorecard_140616.pdf

"Dashboards and scorecards are multilayered performance management systems, built on a business intelligence and data integration infrastructure, which enable organizations to measure, monitor, and manage business activity using both financial and non-financial measures.

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- Dashboards and scorecards provide more than just a screen populated with fancy performance graphics: they are full-fledged business information systems designed to help organizations achieve strategic objectives. They help measure the past, monitor the present, and forecast the future, allowing an organization to adjust its strategy and tactics in real time to optimize performance. …."