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

Module 4 Bonus Materials

Lesson 1: Business Performance Management

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).

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.

Many organizations are enhancing the capabilities of traditional BI systems to enable even greater monitoring, measurement, and management of business performance than ever before. This corporate, or business, performance management has been touted in industry as one of the more critical applications of BI.

> Business performance management relies on a tightly integrated MSS application that is implemented through a new wave of BI tools called performance dashboards and scorecards that enable a variety of users throughout the organization to make decisions in a timelier manner by consolidating and analyzing a broad variety of data. For example, many companies use these MSS applications to consistently measure regional and unit performance against strategic objectives, and to translate its business strategy into actionable information on which organizational members can base a variety of decisions.

Components of BPM

- The first is **a set of integrated, closed-loop management and analytic processes** (supported by technology) that addresses financial as well as operational activities.
- The second involves **tools for businesses to define strategic goals and then measure and manage performance against those goals**.
- And the **third component involves a core set of processes,** including financial and operational planning, consolidation and reporting, modeling, analysis, and monitoring of key performance indicators (KPIs), linked to organizational strategy.

BPM is the organizational approach to assess and monitor performance in relation to set goals and objectives. It encompasses methodologies, frameworks and indicators that are used to help organizations in the formulation and assessment of the strategy, to motivate people and to communicate or report performance to external stakeholders. As a decision support tool, BPM is more than just a reporting technology. It is an integrated set of processes, methodologies, metrics, and applications designed to drive the overall financial and operational performance of an enterprise. It helps enterprises translate their strategies and objectives into plans, monitor performance against those plans, analyze variations between actual results and planned results, and adjust their objectives and actions in response to this analysis. BPM solutions include reporting/analysis, scorecards/dashboards, planning, budgeting, and forecasting components.

- **How to Architect a BPM Solution?** Architecting a BPM solution can also be challenging since it requires pulling together data from a multiplicity of groups each with different business processes and systems to deliver a single version of truth. Even with a BI infrastructure in place, organizations can struggle to figure out how to enhance their existing infrastructure to support BPM.

- **How to Ensure Usage?** Finally, deploying a BPM solution can be half the battle; getting users to use the solution and drive performance in the right direction often requires a cultural transformation that must be initiated by top executives and reinforced with carefully thought out compensation plans and incentives.

BPM Product Categories:

Excerpts from

Hagerty, J and Verma K. "[CPM Market Landscape: Office of the CFO is Hot again]". AMR Research Knowledge, and Performance Management, 2007, Technology and Vendor Landscape Series, Market, Services Report.

And

Dashboards and Scorecards: Linking Management Reporting to Execution by Andreea Vasiliu, Senior Marketing Manager, [Hyperion Solutions (Links to an external site.)]

- The most common place for BPM to originate is in the finance department. This is because the finance group manages budgeting and financial reporting processes and is familiar with using metrics to measure performance. Not surprisingly, operations is the next most likely department to implement BPM. That's because finance and operations must work hand in hand to implement BPM. Profitability analysis and enhanced reporting as two areas of expanding interest within their performance management systems. Cost management, profitability optimization, risk management, and new opportunity assessment
- Today, a BPM software solution integrates business and financial management applications with broad reporting and analysis functionality. With an integrated solution, users can ensure that the deliverables in the organization are aligned, the budgets are tied to the strategic and operational goals, and information is available to all decision makers with a unified point of view through dashboards and scorecards. For an integrated solution, users will define the strategy, tie it to the planning and budgeting cycle, refine the targets, and create scorecards based on actuals and forecasts. All the real-time data will be consolidated into a user-defined view as part of a dashboard.
- Some organizations take a holistic view for implementing business performance management, that is, different components of the solution can be implemented separately and integrated when ready for deployment. In this case, users typically start by perfecting their planning and budgeting cycle and making the results available for strategic planning.

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The BPM cycle contains four main phases. BPM encompasses a closed-loop set of processes that link strategy to execution in order to optimize business performance. The loop implies that optimum performance is achieved by setting goals and objectives (i.e., strategize), establishing initiatives and plans to achieve those goals (i.e., plan), monitoring actual performance against the goals and objectives (i.e., monitor), and taking corrective action (i.e., act and adjust). The continuous and repetitive nature of the cycle implies that the completion of an iteration leads to a new and improved one (supporting continues process improvement efforts).

- First is to strategize. This involves answering the question, "Where do we want to go?", and involves a high-level, long-term plan. Missions, visions, and objectives are key components of this phase. Strategy is the process of identifying and stating the organization's mission, vision, and objectives. Business strategy provides an overall direction to the enterprise, which is why it is so important.

- The second phase is to plan, which answers the question, "How do we get there?" Key elements here are a detailed operational plan and a financial plan including budget.
- The next phase is to monitor and analyze, which answers the question, "How are we doing?" Here is where KPIs, dashboards, reporting, and analytics are helpful. Finally come action and adjustment, based on comparing our analysis results against our plans. Sometimes this means changing the way we operate, and sometimes it means adjusting our strategy.

BPM Process. The concepts behind managing a business are straightforward: Executives set strategy, managers develop plans to achieve the strategy, and staff executes the plans. Then, everyone continuously monitors their progress towards meeting goals and objectives using reports and analysis and make course corrections as needed to stay on track. But defining a good strategy and managing to it are two different things. BPM processes and tools enable good management by making it easier for executives at all levels to identify, communicate, and monitor key drivers of business value.

- Strategy, in general terms, is a high level plan of action, encompassing a long period of time (often several years) to achieve a defined goal. It is especially necessary in a situation where there are numerous constraints (driven by market conditions, resource availabilities, and legal/political alterations) to deal with on the way to achieving the goal. In a business setting, strategy is the art and the science of crafting decisions that help businesses achieve their goals. More specifically, it is the process of identifying and stating the organization's mission, vision, and objectives, and developing plans (at different levels of granularity—strategic, tactical, and operational) to achieve these objectives. Business strategies are normally planned and created by a team of corporate executives (often led by the CEO), approved and authorized by the board of directors, and then implemented by the company's management team under the supervision of the senior executives. Business strategy provides an overall direction to the enterprise and is the first and foremost important process in the BPM methodology.

- When operational managers know and understand the *what* (i.e., the organizational objectives and goals), they will be able to come up with the *how* (i.e., detailed operational and financial plans). Operational and financial plans answer two questions: What tactics and initiatives will be pursued to meet the performance targets established by the strategic plan? What are the expected financial results of executing the tactics? An operational plan translates an organization's strategic objectives and goals into a set of well-defined tactics and initiatives, resource requirements, and expected results for some future time period, usually, but not always, a year. In essence, an operational plan is like a project plan that is designed to ensure that an organization's strategy is realized. Most operational plans encompass a portfolio of tactics and initiatives.

- The key to successful operational planning is integration. Strategy drives tactics, and tactics drive results. Basically, the tactics and initiatives defined in an operational plan need to be directly linked to key objectives and targets in the strategic plan. If there is no linkage between an individual tactic and one or more strategic objectives or targets, management should question whether the tactic and its associated initiatives are really needed at all. The financial planning and budgeting process has a logical structure that typically starts with those tactics that generate some form of revenue or income. In organizations that sell goods or services, the ability to generate revenue is based on either the ability to directly produce goods and services or acquire the right amount of goods and Services to sell. After a revenue figure has been established, the associated costs of delivering that level of revenue can be generated. Quite often, this entails input from several departments or tactics. This means the process has to be collaborative and that dependencies between functions need to be clearly communicated and understood. In addition to the collaborative input, the organization also needs to add various overhead costs, as well as the costs of the capital required. This information, once consolidated, shows the cost by tactic as well as the cash and funding requirements to put the plan into operation.

- **Plan**: The planning process involves creating budgets, project plans, forecasts, models, initiatives, and targets. Budgeting software can be as simple as Excel spreadsheets, or can involve accounting packages such as Quicken or Quickbooks or Peachtree.

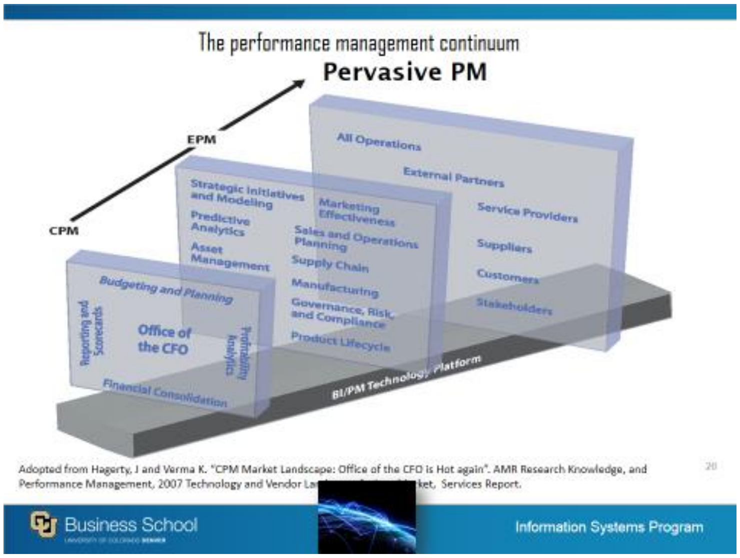
- **Monitor/Analyze:** Monitoring and analyzing typically involves dashboards, scorecards, and visual analytics tools.

When the operational and financial plans are underway, it is imperative that the performance of the organization be monitored. A comprehensive framework for monitoring performance should address two key issues: what to monitor and how to monitor. Because it is impossible to look at everything, an organization needs to focus on monitoring specific issues. After the organization has identified the indicators or measures to look at, it needs to develop a strategy for monitoring those factors and responding effectively. These measures are most often called key performance indicators (or KPI, in short). An overview of the process of determining KPI is given in the next lesson. A related topic to the selection of the optimal set of KPIs is the balanced scorecard method, which will also be covered in detail in the next lesson.

> Whether a company is interested in growing its business or simply improving its operations, virtually all strategies depend on new projects—creating new products, entering new markets, acquiring new customers or businesses, or streamlining some processes. Most companies approach these new projects with a spirit of optimism rather than objectivity, ignoring the fact that most new projects and ventures fail. What is the chance of failure? Obviously, it depends on the type of project. Hollywood movies have around a 60 percent chance of failure. The same is true for mergers and acquisitions. Large IT projects Fail at the rate of 70 percent. For new food products, the failure rate is 80 percent. For new pharmaceutical products, it is even higher, around 90 percent. Overall, the rate of failure for most new projects or ventures runs between 60 and 80 percent. Given these numbers, the answer to the question of "what do we need to do differently?" becomes a vital issue.

Excerpt from Hagerty, J and Verma K. "CPM Market Landscape: Office of the CFO is Hot again". AMR Research Knowledge, and Performance Management, 2007, Technology and Vendor Landscape Series, Market, Services Report.

- **Business Performance Management** (CPM, EPM, PM, SPM)
- **Definition:** Refers to tools and applications used to prepare, analyze, and share information—both historical and predictive in nature—in unified, enterprise wide deployments with strong integration to operational systems and a large user base comprised of senior executive, power users, and less-intensive lines of business users (Cowen, 2002).
    - CPM – Corporate Performance Management
    - EPM Enterprise performance management
    - PM Performance management



All these acronyms strive to explain the process of using information to manage and forecast across a company. Traditionally, financial analytic applications have been treated as separate but equal from other operational BI initiatives. This inside-out view limited each group's vision of enterprise-wide performance management. As organizations take an outside-in perspective of organizational execution by connecting the dots between operational and financial performance and value creation, they soon recognize the next logical step is to establish a pervasive-PM strategy that encompasses the entire organization along with its value network. All BPM processes strive to explain the process of using information to manage and forecast across a company. Therefore there are reasons for integration of BI and operational process execution.

Getting started with BPM (Source TDWI www.dw-institute.com)

- **Functional Approach.** Here, a functional leader in human resources, administration, or another area implements BPM to enhance management control and improve performance rather than implement new strategies or initiatives.
- **Cross-Functional Approach.** These projects are driven by enlightened financial and operational executives who want to optimize critical business processes that cut across functional areas, such as CRM initiatives that involve coordinating multiple "front office" and "back office" processes.
- **"Big Bang" Enterprise Approach.** Here, the executive team implements strategic change throughout the enterprise in a top-down manner enabled by BPM and other software.

Each of the above approaches has very differ In terms of specific applications, most organizations begin by implementing either a planning or dashboard application .rent requirements and objectives. The key is to get in play and make linkages between the initiatives as they evolve,"

- **Start Small.** Whatever the approach or initial application, most BPM practitioners recommend starting small, with a focused project that can be implemented quickly yet deliver substantial benefits. "Companies are impatient and the tendency is to try to do everything at once," says Phelps of ThinkFast Consulting. "We suggest that you develop a long-term plan, determine what is in place today, and what processes or components are missing or in need of repair. Start with the area that provides the greatest impact, with a goal of delivering short-term, incremental results."
- **Think Global.** However, delivering BPM from the bottom up puts organizations at risk when creating performance silos. To avoid this problem, Phelps advises clients to start any BPM process by creating a high-level roadmap, tied to corporate objectives, which defines the organization's priorities and what it wants to measure."

- **Incremental Deployment.** Lucent Technologies, for example, rolled out its packaged planning application in several increments over the course of a few months. “The planning application is so intuitive that we’ve been able to expand quickly,” says Bearison.
- **Prioritize by Source.** Experts recommend to deliver an enterprise scorecard in manageable increments and develop KPIs one source system at a time in order to deliver some functionality to every group every three to four months.

See supplemental readings and referenced below for more information

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