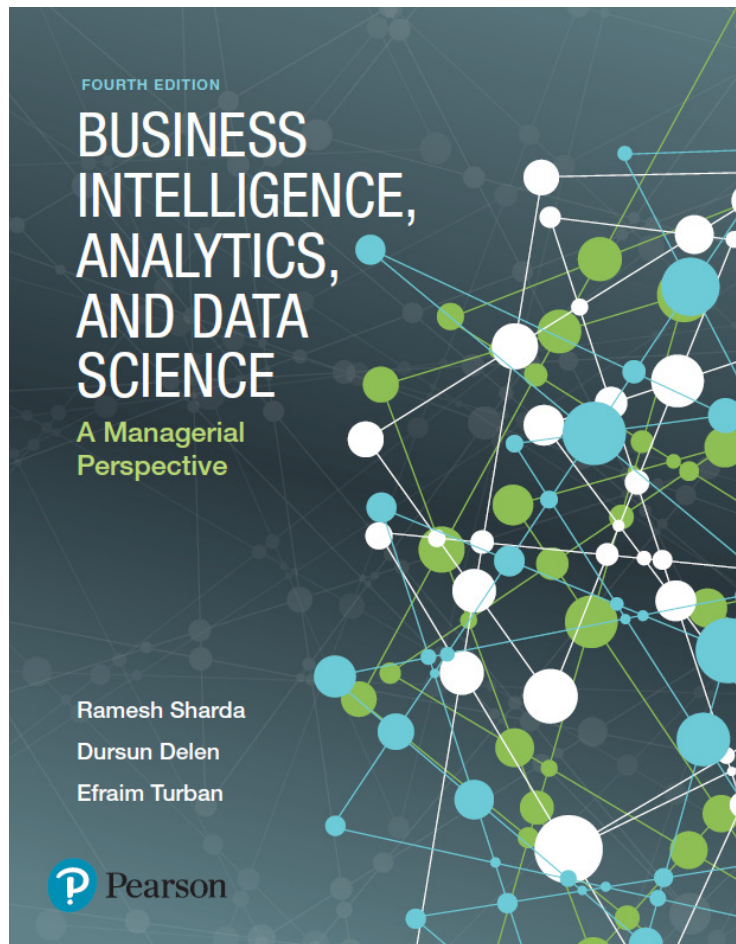


Business Intelligence, Analytics, and Data Science: A Managerial Perspective

Fourth Edition



Chapter 3 – Part C

Descriptive Analytics II:
Business Intelligence and
Data Warehousing

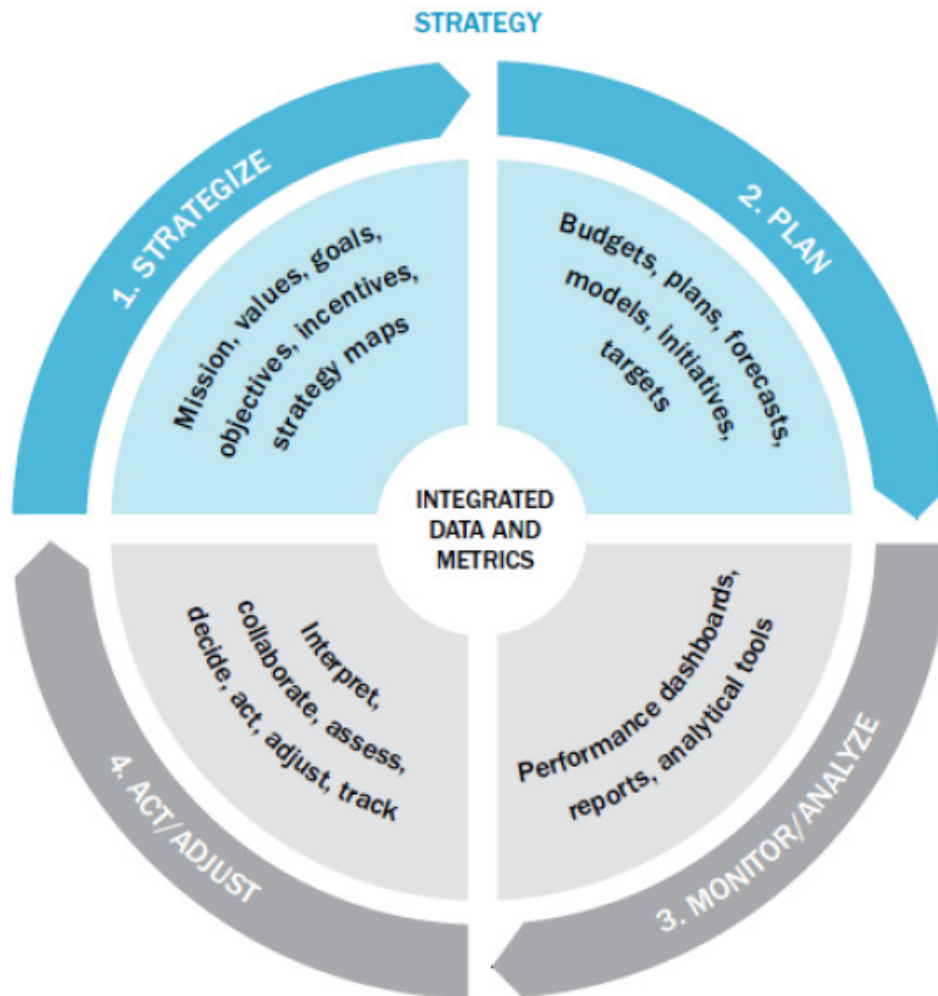
Business Performance Management

- Business Performance Management (BPM) is...
A real-time system that alerts managers to potential opportunities, impending problems, and threats, and then empowers them to react through models and collaboration
- Also called corporate performance management (CPM by Gartner Group), enterprise performance management (EPM by Oracle), strategic enterprise management (SEM by SAP)

Business Performance Management

- BPM refers to the business processes, methodologies, metrics, and technologies used by enterprises to measure, monitor, and manage business performance.
- BPM encompasses three key components
 - A set of integrated, closed-loop management and analytic processes, supported by technology ...
 - Tools for businesses to define strategic goals and then measure/manage performance against them
 - Methods and tools for monitoring key performance indicators (KPIs), linked to organizational strategy

A Closed-Loop Process to Optimize Business Performance



- **Process Steps**

1. Strategize
2. Plan
3. Monitor/analyze
4. Act/adjust

Each with its own
sub-process steps

1 - Strategize: Where Do We Want to Go?

- Strategic planning
 - Common tasks for the strategic planning process:
 1. Conduct a current situation analysis
 2. Determine the planning horizon
 3. Conduct an environment scan
 4. Identify critical success factors
 5. Complete a gap analysis
 6. Create a strategic vision
 7. Develop a business strategy
 8. Identify strategic objectives and goals

2 - Plan: How Do We Get There?

- Operational planning
 - Operational plan: plan that 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 a year).
- Operational planning can be
 - Tactic-centric (operationally focused)
 - Budget-centric plan (financially focused)

3 - Monitor/Analyze: How Are We Doing?

- A comprehensive framework for monitoring performance should address two key issues:
 - What to monitor?
 - Critical success factors
 - Strategic goals and targets
 - How to monitor?

4 - Act and Adjust:

What Do We Need to Do Differently?

- Success (or mere survival) depends on new projects: creating new products, entering new markets, acquiring new customers (or businesses), or streamlining some process.
- Many new projects and ventures fail!
- What is the chance of failure?
 - 60% of Hollywood movies fail
 - 70% of large IT projects fail, ...

Application Case 3.5

AARP Transforms Its BI Infrastructure and Achieves a 347% ROI in Three Years

Questions for Discussion

1. What were the challenges AARP was facing?
2. What was the approach for a potential solution?
3. What were the results obtained in the short term, and what were the future plans?

Performance Measurement

- **Performance measurement system**

A system that assists managers in tracking the implementations of business strategy by comparing actual results against strategic goals and objectives

- Comprises systematic comparative methods that indicate progress (or lack thereof) against goals

KPIs and Operational Metrics

- **Key performance indicator (KPI)**

A KPI represents a strategic objective and metrics that measure performance against a goal

- Distinguishing features of KPIs

- Strategy
- Targets
- Ranges
- Encodings
- Time frames
- Benchmarks

Performance Measurement

- **Key performance indicator (KPI)**

Outcome KPIs vs. **Driver KPIs**

(lagging indicators (leading indicators
e.g., revenues) e.g., sales leads)

- Operational areas covered by driver KPIs
 - Customer performance
 - Service performance
 - Sales operations
 - Sales plan/forecast

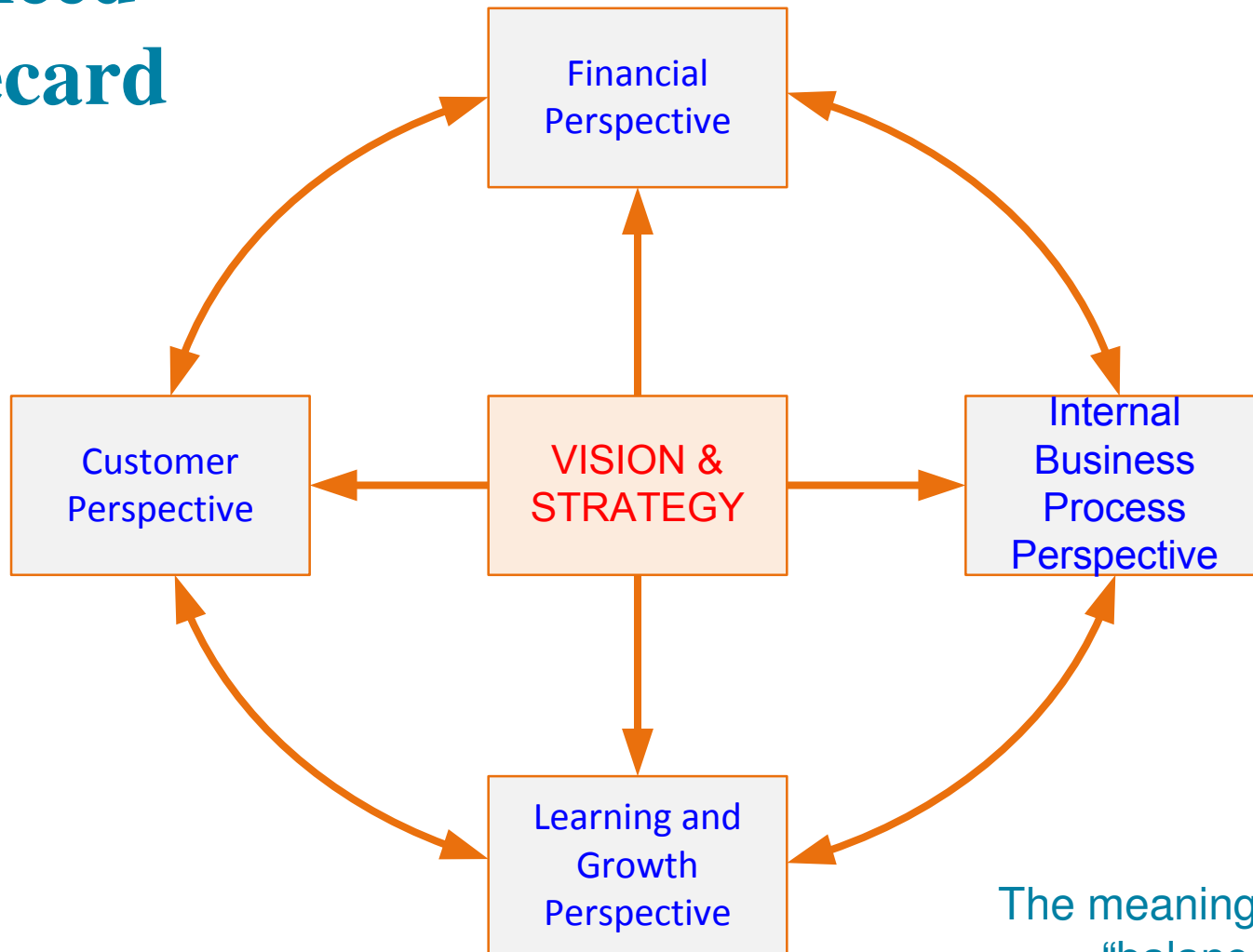
Performance Measurement System

- **Balanced Scorecard (BSC)**

A performance measurement and management methodology that helps translate an organization's financial, customer, internal process, and learning and growth objectives and targets into a set of actionable initiatives

“The Balanced Scorecard: Measures That Drive Performance”
(HBR, 1992)

Balanced Scorecard



The meaning of
“balance” ?

Six Sigma as a Performance Measurement System

- **Six Sigma**

A performance management methodology aimed at reducing the number of defects in a business process to as close to zero defects per million opportunities (DPMO) as possible

Six Sigma as a Performance Measurement System

- The DMAIC performance model

A closed-loop business improvement model that encompasses the steps of **defining**, **measuring**, **analyzing**, **improving**, and **controlling** a process

- Lean Six Sigma

- Lean manufacturing / lean production
- Lean production versus six sigma?

Comparison of BSC and Six Sigma

TABLE 3.7 Comparison of the Balanced Scorecard and Six Sigma

Balanced Scorecard	Six Sigma
Strategic management system	Performance measurement system
Relates to the longer-term view of the business	Provides snapshot of business's performance and identifies measures that drive performance toward profitability
Designed to develop a balanced set of measures	Designed to identify a set of measurements that impact profitability
Identifies measurements around vision and values	Establishes accountability for leadership for wellness and profitability
Critical management processes are to clarify vision/strategy, communicate, plan, set targets, align strategic initiatives, and enhance feedback	Includes all business processes—management and operational
Balances customer and internal operations without a clearly defined leadership role	Balances management and employees' roles; balances costs and revenue of heavy processes
Emphasizes targets for each measurement	Emphasizes aggressive rate of improvement for each measurement, irrespective of target
Emphasizes learning of executives based on feedback	Emphasizes learning and innovation at all levels based on process feedback; enlists all employees' participation
Focuses on growth	Focuses on maximizing profitability
Heavy on strategic content	Heavy on execution for profitability
Management system consisting of measures	Measurement system based on process management

Effective Performance Measurement Should

- Measures should focus on key factors.
- Measures should be a mix of past, present, and future.
- Measures should balance the needs of shareholders, employees, partners, suppliers, and other stakeholders.
- Measures should start at the top and flow down to the bottom.
- Measures need to have targets that are based on research and reality rather than arbitrary.

Application Case 3.6

Expedia.com's Customer Satisfaction Scorecard

Questions for Discussion

1. Who are the customers for Expedia.com? Why is customer satisfaction a very important part of their business?
2. How did Expedia.com improve customer satisfaction with scorecards?
3. What were the challenges, the proposed solution, and the obtained results?