

MSc GFIS

Information Presentation I - Performance Management System

Lynda.com “Measuring Business Performance”

Sharda et. al. (2018) Business Intelligence, Analytics and Data Science: A Managerial Perspective.

Pearson, New York. ISBN 0134633288 (Chapter 3)

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Capabilities of BI



**Organisational
Memory**

Storage of structured information in such a form that it can be later accessed and used for BI



**Information
Integration**

Integration of semi-structured and unstructured information so it can be used by BI



**Information
Insights**

Creating insights means to develop new intuitions for better decision making



**Information
Presentation**

Create visualizations that effectively communicate information

Objectives:

- ▶ Why do we measure?
- ▶ Metrics
- ▶ Examples
- ▶ Bad performance metrics
- ▶ Developing a metric
- ▶ A good metric
- ▶ 3 Categories of Measurement
- ▶ KPIs
- ▶ Performance measurement system
- ▶ Business Performance Management (BPM)
- ▶ Closed Loop methodology
- ▶ Scorecards and Six Sigma



Why do we Measure?

- What's the value in measuring?
 - Is it because we want more?
 - To maximise our life?
 - We want to make good decisions?
 - We want to improve?



What should be measured?

- What are the most common mistakes companies make when measuring?
 - measuring the wrong thing can lead to bad decisions, bad employee behaviors, and unhappy customers.
- How can a manager gain a competitive edge by understanding performance measurement?

Metrics

- “Measurements that help assess efficiency, performance, progress, or quality”
- In most cases, no single metric can provide a clear or complete picture. Why?
- A metric measures one dimension
 - what’s important to measure about humans?

Intelligence

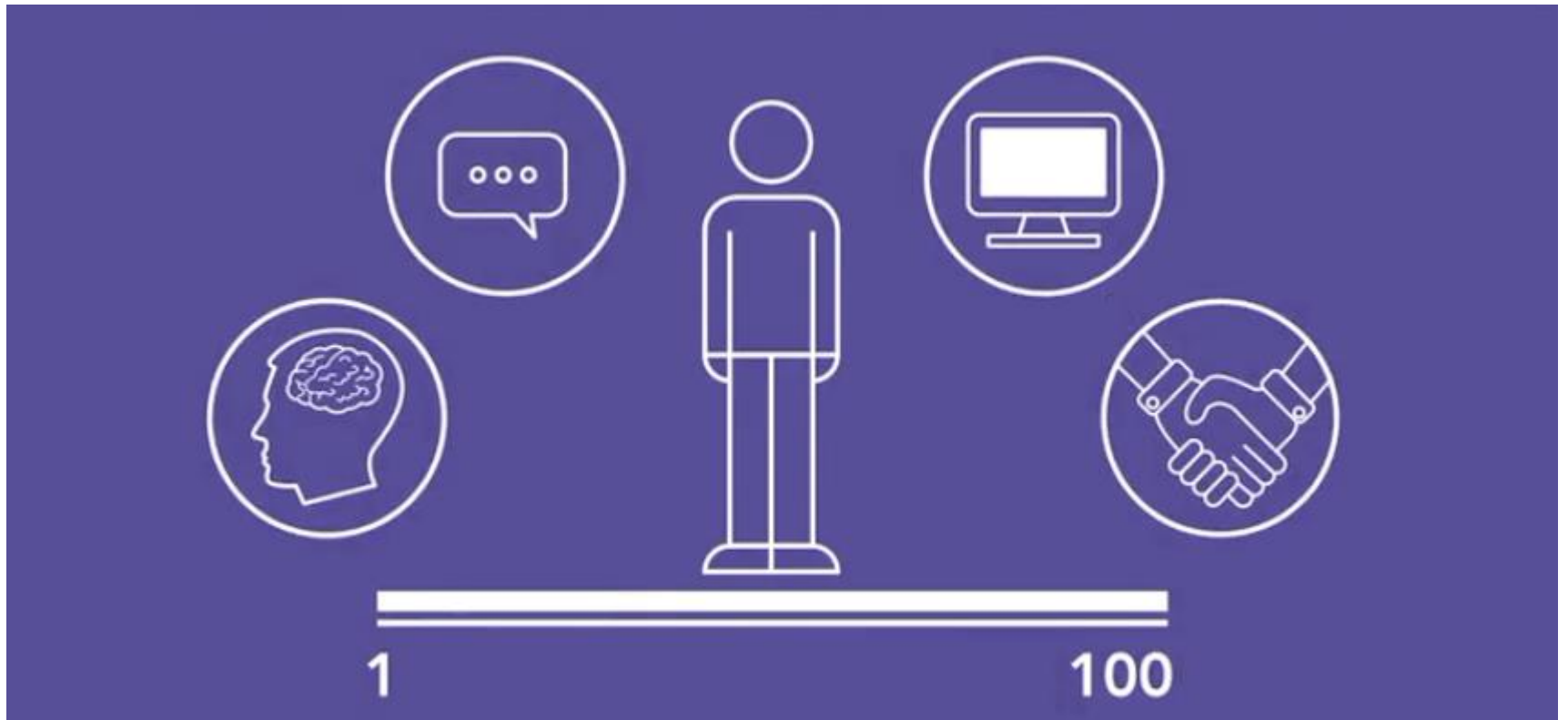
Communication skills

Technical skills

Ability to motivate others



The Total Human Metric



A system of metrics

- is a collection of metrics.



Key Performance Indicators (KPIs)



- Measurements that show how effectively a company is achieving a key business goal

Metric



What is a good metric?



What makes a good system of metrics?



How can my company use KPIs?

What are the most important metrics in business?

- Sport - You wouldn't use the same set of statistics for tennis, rugby and cricket?
- The same thing holds in business. Every industry and company is different.
- It doesn't make sense to measure every company the same way!
- Every company must work to develop the metrics that fit its individual definition of success.

What defines a win or a loss for your department or your company?

What are the key contributions required from your people?

What are the resources that are available to achieve a win?

What are the most ideal conditions for success?

What are the challenging conditions for success?

Why do Companies Measure?

- Resource Utilisation
- Continuous improvement
- Manage employee performance

The best companies want motivated people that don't just follow directions, they are looking for opportunities to make things better.

Bad Performance Measurement Attitudes

- Measuring to look good...
- Too much emphasis on metrics, e.g. scoring employees...



Developing a Metric

- Is the metric measurable?
- How would the data be gathered?



Developing a Metric



Consider your organisation's top 3 to 5 goals



Then, think about the three to five most important metrics you worry about everyday.



Are those metrics driving you toward meeting all of your goals, some of your goals?



How many of the key metrics are not at all tied to the organization's stated goals?



Before you develop the best metrics for your company, stop and consider the organization's goals and strategy

Requirements of a Good Metric

Measurable

Attainable

Easily understood

Cheater proof

Tied to strategy

Example – Basketball



Player A

18 points/game



Player B

30 points/game



Player C

12 points/game

Basketball players condit...



Player A

18 points/game
7 rebounds/game
2 blocks/game



Player B

30 points/game
12 rebounds/game
6 blocks/game



Player C

12 points/game
5 rebounds/game
1 blocks/game

Basketball players condit...

Player A	Player B	Player C
16 points/game	30 points/game	12 points/game
7 rebounds/game	12 rebounds/game	5 rebounds/game
2 blocks/game	6 blocks/game	1 blocks/game
14 shot attempts	16 shot attempts	10 shot attempts
25 minutes/game	15 minutes/game	35 minutes/game

3 Categories of Measurement

- Effectiveness. Which outcomes does your company desire?
- Efficiency. Which resources are used in creating those outcomes?
- Adaptability. What are the different types of situations under which those outcomes can occur?

Only when all three categories are represented in your system of metrics, can you begin to feel comfortable with what the numbers are telling you.

Performance Measurement

- The drawbacks of using financial data as the core of a performance measurement:
 - Financial measures are usually reported by organizational structures and not by the processes that produced them
 - Financial measures are lagging indicators, telling us what happened, not why it happened or what is likely to happen in the future
 - Financial measures are often the product of allocations that are not related to the underlying processes that generated them
 - Financial measures are focused on the short term returns

“Financial
myopia”

Performance Measurement KPIs and Operational Metrics

- **Key performance indicator (KPI)**

A KPI represents a strategic objective and metric that measures performance against a goal

- Distinguishing features of KPIs

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

[Read: Understanding KPI's by Wayne Eckerson](#)

[A Sample KPI Template for Any Business](#)



KPI's

Outcome KPIs vs.

(lagging indicators
indicators

e.g., revenues)

Driver KPIs

(leading

e.g., sales leads)

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



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



Business Performance Management (BPM) Overview

- Many data warehouse implementations end up with the development of a BPM system.
- Business Performance Management (BPM) is...
A real-time integrated system that alert managers to potential opportunities, impending problems, and threats, and then empowers them to react through models and collaboration.
- Previously independent of everything else and known as Executive information system (EIS)
- Also called, corporate performance management (CPM by Gartner Group), enterprise performance management (EPM by Oracle), strategic enterprise management (SEM by SAP)

BPM Definition

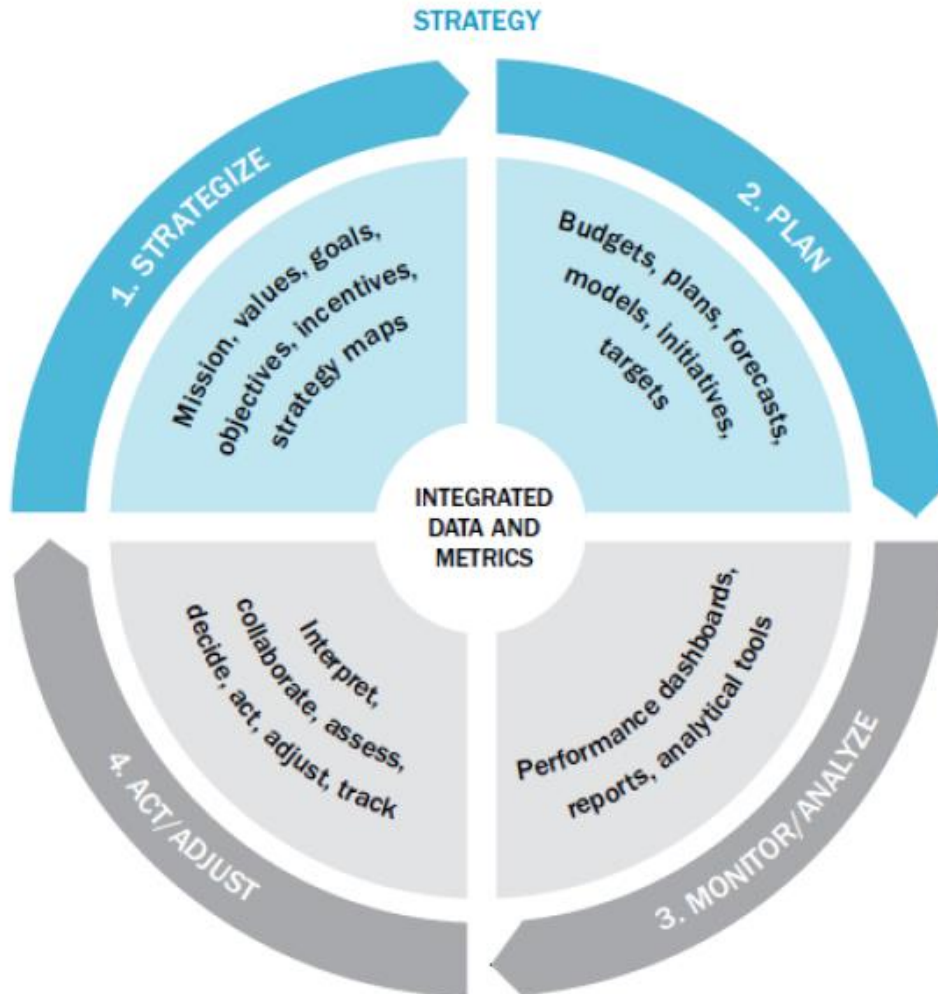
“A framework for organising, automating and analysing business methodologies, metrics, processes and systems to drive the overall performance of the enterprise. It helps organisations translate a unified set of objectives into plans, monitor execution and deliver critical insight to improve financial and operational performance.”



Business Performance Management (BPM) Overview

- 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
- <http://www.ap-institute.com/>

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 – “What”
 - ▶ Strategic goals and targets
 - ▶ How to monitor – if a company plans to introduce a new product every qtr for next 2 years, the org needs to track new prod introduction over this time.



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, ...

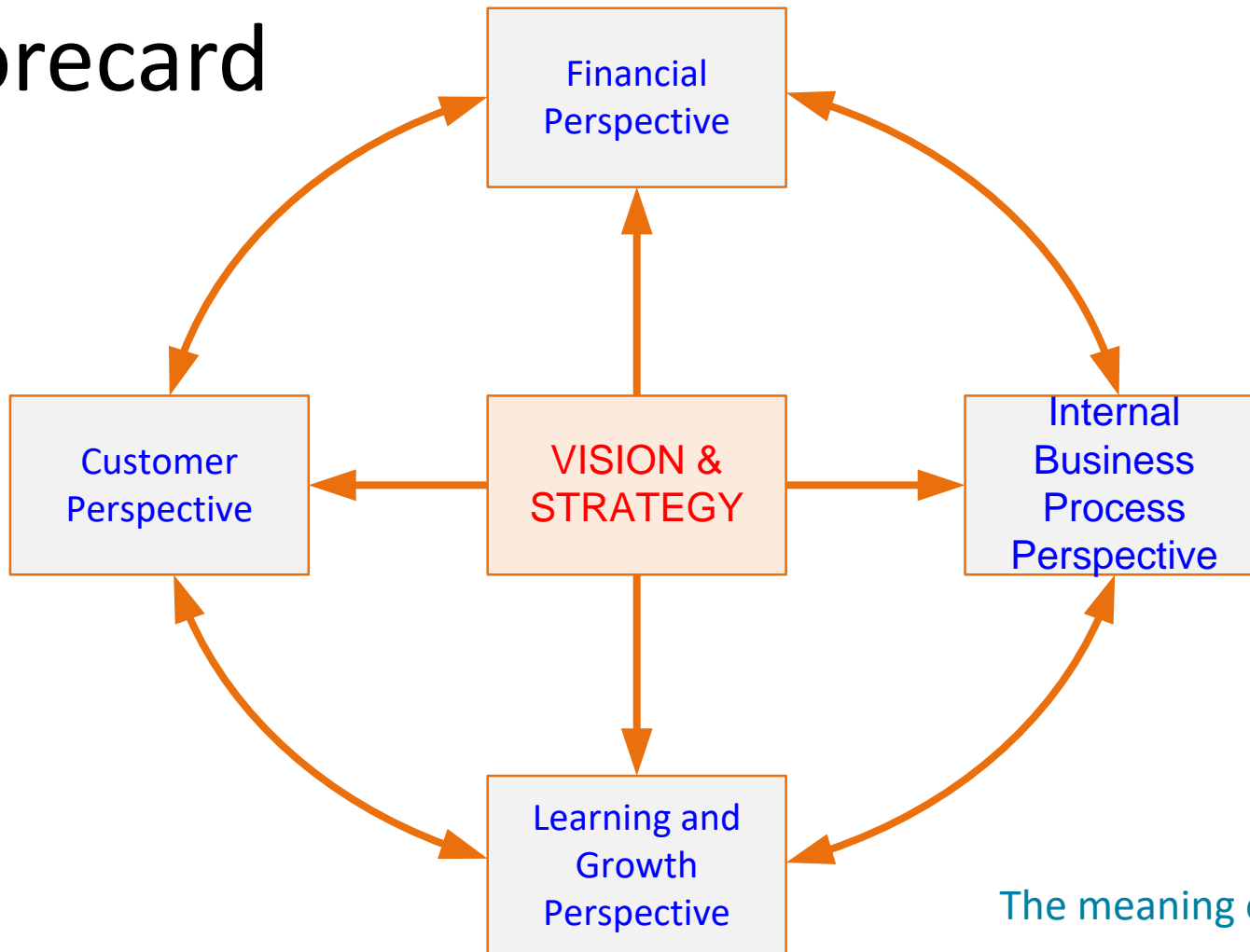
Performance Management System

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 Management 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

- **Six Sigma**

- 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

