Technique 9.16 Metrics and Key Performance Indicators

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CBAP® Lerngruppe

Techniques Workshop
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A Key Performance Indicator (KPI) is an industry jargon term for a type of measure of performance. KPIs are commonly used by an organisation to evaluate its success of a particular activity in which it is engaged. (Wikipedia)

Key Performance indicators (KPIs) are the detailed specifications used to track business objectives. (IBM)

Key Performance Indicators are quantifiable measurements, agreed to beforehand, that reflect the critical success factors (of the company, department, project). (About.com)
The purpose of metrics and key performance indicators are to measure the performance of solutions, solution components, and other matters of interest to stakeholders. (BABOK®)

The BABOK® recommends to use metrics and KPIs in
• 2.6 Manage BA Performance
• 5.5 Define Business Case
• 6.3 Specify and Model Requirements
• 6.6 Validate Requirements
The BABOK® Guide defines:

- **Metric**: Quantifiable level of an indicator that an organisation uses to measure progress.
- **Indicator**: Identifies a specific numerical measurement that represents the degree of progress.
- **Key Performance Indicator**: Indicator that measures progress towards a strategic goal or objective.
- **Reporting**: Informing stakeholders of metrics of indicators in specified format at specified intervals.
Monitoring & Evaluation

The BABOK® Guide defines:

**Monitoring**
Monitoring is a continuous process of collecting data to determine how well a solution has been implemented. This is compared to expected results.

**Evaluation**
Evaluation is the systematic and objective assessment of a solution to determine its status and efficacy in meeting objectives over time. It is used to identify ways to improve a solution.

**Metrics & Reporting**
Metrics and reporting are key components of monitoring and evaluation.
Elements

The BABOK® Guide defines the following elements:

1. **Indicators** – An indicator identifies a specific numerical measurement for a goal, impact, output, activity, or input.

2. **Metrics** – Metrics are quantifiable levels of indicators that are measured at a specific point in time.

3. **Structure** – Establishing a monitoring and evaluation system requires procedures for data collection, data analysis, reporting, and collection of baseline data.

4. **Reporting** – Reports compare the baseline, current metrics and target metrics to each other.
An indicator identifies a specific measurement for a goal, impact, input, output, or input.

Each factor of interest has at least one indicator – some may require several.

Stakeholder interests are important.
## Metrics

### Metrics Definition

Metrics are quantifiable levels of indicators that are measured at a specific point in time.

A target metric is the objective to be reached within a specified period.

### Metrics Characteristics

In setting a metric:
- Have clear understanding of the baseline
- Have resources to improve the factors
- Consider political concerns

- A metric can be a specific point, threshold, or range
- A range can be useful if the indicator is new

- The scope of time to reach the target metric may vary from weeks to years depending on the need
Establish a monitoring and evaluation system requires a data procedure, a data analysis procedure, a reporting procedure, and a collection of baseline data.

<table>
<thead>
<tr>
<th>Structure Definition</th>
<th>Structure Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection: Sampling, data collection instruments &amp; frequency, responsibilities</td>
<td>✓ Collection: Sampling, data collection instruments &amp; frequency, responsibilities</td>
</tr>
<tr>
<td>Analysis: Data consumer and analysis methods</td>
<td>✓ Analysis: Data consumer and analysis methods</td>
</tr>
<tr>
<td>Reporting: Templates, recipients, frequency &amp; communication</td>
<td>✓ Reporting: Templates, recipients, frequency &amp; communication</td>
</tr>
<tr>
<td>Baseline information is that data provided immediately before or at the beginning of a measurement period</td>
<td>✓ Baseline information is that data provided immediately before or at the beginning of a measurement period</td>
</tr>
<tr>
<td>Determines recent performance</td>
<td>✓ Determines recent performance</td>
</tr>
<tr>
<td>Needs to be collected, analysed and reported for each indicator</td>
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- **Reliability**: data collection is stable across time and space
- **Validity**: Data measure what is intended to measure
- **Timeliness**: Frequency and latency need to meet the needs
<table>
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<tr>
<th>Reporting Definition</th>
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<tbody>
<tr>
<td>Reports typically compare the baseline, current metrics and target metrics to each other.</td>
<td>➢ Calculations of the differences are presented in both absolute and relative terms</td>
</tr>
<tr>
<td></td>
<td>➢ Trends are often more creditable than absolute metrics</td>
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<tr>
<td></td>
<td>➢ Visual presentations tend to be more effective than tables</td>
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Measurement System Analysis

Make sure the measurement system is capable to measure the required information.

Think about measurement error. Consider resolution, granularity, use of variable vs. attribute data, sample size & frequency, influence of the measurement system, stability.

Perform a Gage R & R (Repeatability & Reproducibility). Identify variations within the system (repeatability), between systems (reproducibility), residual error and interaction effects.
### Usage Considerations

#### Advantages
- Establishing a monitoring and evaluation system allows stakeholders to understand the extent to which a solution meets an objective.
- It shows how effective the inputs and activities for developing a solution were.
- Indicators, metrics, and reporting facilitate organisational alignment, linking goals to objectives, supporting tools, underlying tasks, and resources.

#### Disadvantages
- Gathering excessive amounts of data beyond the needs create unnecessary cost and may distract project team from other tasks.
- Collecting too much data and not generating useful reports will prevent from timely responsive actions. Timely feedback is important.
- You get what you measure.
## Application of Technique

<table>
<thead>
<tr>
<th>2.6 Manage BA Performance</th>
<th>6.3 Specify &amp; Model Requirements</th>
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<tbody>
<tr>
<td>Metrics and KPI: Can be used to determine what metrics are appropriate for assessing BA performance and how they may be tracked.</td>
<td>Metrics and KPI: Metrics may be included in the requirements specification.</td>
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<table>
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<tr>
<th>5.5 Define Business Case</th>
<th>6.6 Validate Requirements</th>
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<tbody>
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<td>Metrics and KPI: Assessed to support benefit management, measurement and reporting, including where realignment of internal measures is needed.</td>
<td>Metrics and KPI: Used to select appropriate performance measures for a solution, solution component, or requirement.</td>
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Summary

The introduction into Metrics & Key Performance Indicators included:

<table>
<thead>
<tr>
<th>Definition</th>
<th>Definition of Metrics &amp; Reporting, Evaluation, Monitoring, and Key Performance Indicators</th>
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<tbody>
<tr>
<td>Elements</td>
<td>Four Elements: Indicators, Metrics, Structure, and Reporting</td>
</tr>
<tr>
<td>Usage</td>
<td>Usage considerations (applied in 4 tasks) Pros and Cons</td>
</tr>
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Questions, Remarks, Discussion ...