Continuous Improvement Toolkit

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World-Class Performance Tools for Business and

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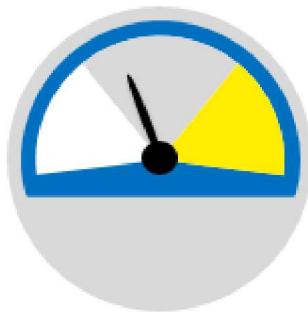# Key Performance Indicators (KPIs)

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Performance management is an approach used to manage performance of an organization. It can play an important role in the success or failure of a business. It can be applied to measure the performance of an organization, a business unit, a single department, a project, an employee, and even the process to build a product or service. It includes activities that will help to ensure goals are consistently being met in an effective manner. Those activities include planning

and setting expectations, developing the capacity to perform, continually monitoring performance, periodically rating performance in a summary fashion, and rewarding good performance.

Performance indicators are measurements that define and assess the performance and the success of an organization. They are objectives to be targeted in order to add the most value to a business. They are means to periodically assess the performance of an organization, its departments and the people working there. Performance indicators are developed to impact the entire organization. Accordingly, choosing the right performance indicators relies upon a good understanding of what is important to the organization.

An organization may use performance indicators to assess its success as well as the success of an operational goal or a particular activity. Performance indicators are either result oriented or process oriented. **Result oriented indicators** focus on the key outputs of a process and related to the critical success factors (e.g. customer complaints from key customers and return on investment). While **process oriented indicators** focus on the inputs to a process (e.g. time to process customer order and late deliveries to key customers).

Performance Indicators are Used to:
- Help an organization to understand its performance levels and set realistic performance goals.
- Help aligning daily work to the organization's strategic goals.

- Help an organization monitoring its progress on a real-time basis.
- Help an organization to understand its weaknesses and establish improvement priorities.
- Determine whether an improvement is being made and maintained.
- Help benchmark internally and externally.
- Identify if staff are doing well and to help them if they are not.
- Provide a basis for recognizing team and individual performance.

# Selecting the Proper Performance Indicators:

Performance indicators are often developed based on the **critical success factor**. CSFs are the elements that are necessary for a strategy to be successful and for an organization to achieve its mission. CSFs selection is a very subjective exercise and requires active leadership by senior management. Examples of CSFs are: delivery on-time and in-full, providing superior customer service, short time to market new products, management commitment and staff orientation.

For example, if one of your goals is to deliver product on-time in-full, then a performance indicator may be the percentage of deliveries that are received by customers not on-time in-full. By monitoring this, you can improve your delivery performance by directly measure how well your organization is meeting its long-term goal of providing an on-time in-full delivery to customers.

Kippy provides a global cloud platform which enables organizations to track KPIs and increase performance. It includes **KPIs Module** and **Projects Module** which can be linked directly to the organization strategy. Learn more...

Performance indicators need also to reflect the **Voice of the Customer**. By understanding the Critical-to-Quality characteristics (CTQs) features of your customer, you can use them as a basis to select your performance indicators. Customer satisfaction level, customer retention rate, the number of key customer visits, and the profitability of customers are among the indicators that may be measured. In order to calculate those performance indicators, raw data needs to be collected from customers.
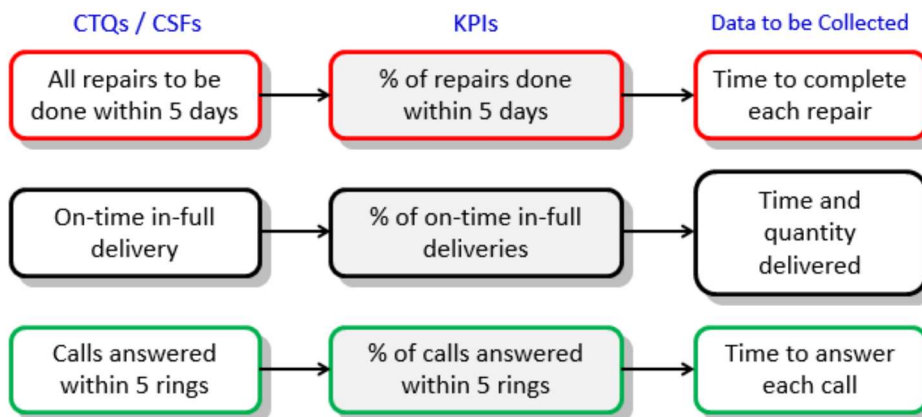
KPI Tree:

An ideal situation is where performance indicators cascade down through an organization. A **KPI Tree** is a visual method of displaying a range of measures in an organization or related to a project. This helps people work in such a way that

their activities are aligned with the organization strategy, and helps individual work areas contribute to overall business performance. It helps bringing together a range of measures and provides a visual representation for which measures contribute to other measures.
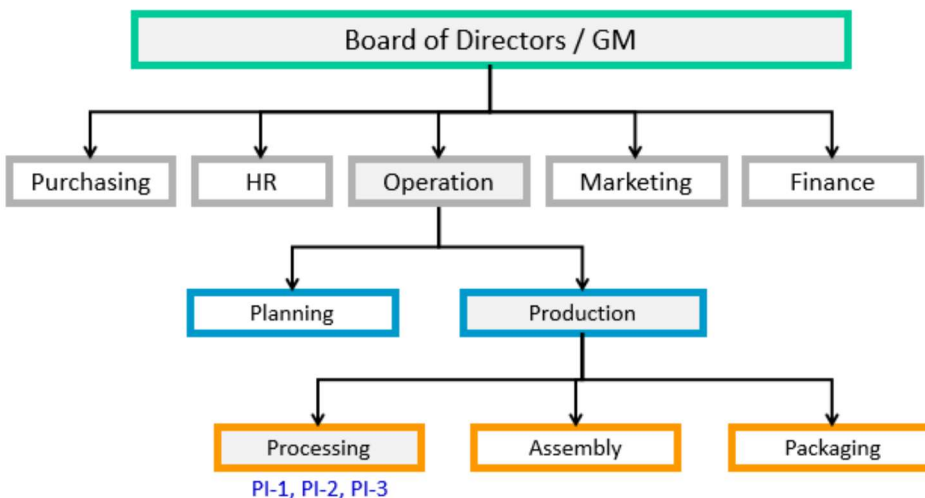
A successful KPI tree is the one that contains a balance of measures covering efficiency, effectiveness, quality, delivery and cost. You might find that sometimes you have to develop some new measures to achieve this balance. Effectiveness performance indicators measure processes in the eyes of the customer. They measure customer satisfaction such as quality, on-time delivery, cost, accuracy, ease of use, etc. Efficiency performance indicators measure processes from business perspective, and are of interest to the internal customers. They measure the amount of resources used by a process and are thus likely to have close links with the 8 Wastes. Examples are: processing time, waiting time, cycle time, inspection cost, repair cost and material usage.

Example:

The following is an example of a KPI Tree that was constructed during the implementation of a customer satisfaction research improvement project.
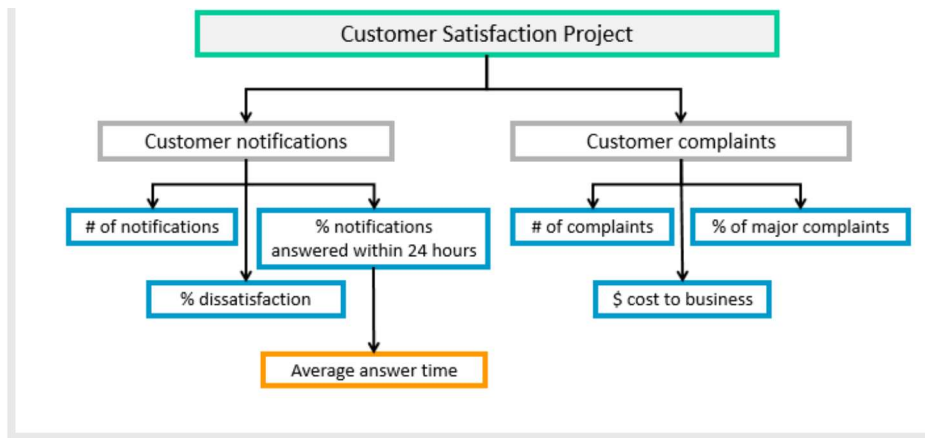
Operational Definitions:

An operational definition is a clear and detailed description of a performance indicator. The


need for operational definitions is fundamental when collecting data. The data collection will be meaningless if there is an inconsistency in understanding a measure, a specification, a requirement, or a procedure. Operational definitions ensure consistent data collection, eliminate ambiguity, and ensure standards are applied in the same manner.

The following is an example of a form that can be used to present the operational definitions of performance indicators.

Performance Indicator:	Perspective:	Unit:
Description / Formula:		
Data Source:	Measurement Instrument:	Process Diagram or Drawings:
Method of Test (How):		
Frequency (When):	Decision Criteria:	
Data Collector (Who):	Owner:	
Baseline:	Target:	

Balanced Scorecard and Dashboard Reporting:

A very common way to manage and monitor performance
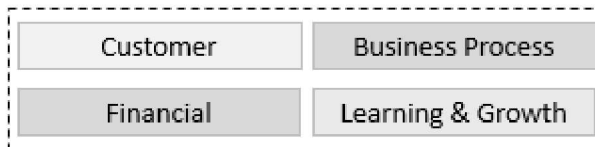
The Four-Perspectives Balanced Scorecard

indicators is to apply a management framework such as the **balanced scorecard**. A scorecard is simply a report that displays a collection of performance indicators. The balanced scorecard has evolved from its early use as a simple performance measurement framework to a full strategic planning and management system. It helps align business activities to the vision and strategy of the organization and monitor performance against strategic goals.

Performance dashboards are used to easily monitor the performance in an organization. They are often a

Functions	Count	Key	% target set	% on target	% improved
Production	5	2	80.0%	25.0%	50.0%
Sales	3	2	100.0%	66.7%	33.3%
Quality	4	2	100.0%	25.0%	100.0%
Innovation	2	0	100.0%	100.0%	50.0%
Maintenance	3	0	100.0%	66.7%	100.0%
HR	4	2	75.0%	0.0%	66.7%
Finance	2	2	0.0%	0.0%	0.0%
	23	10	82.6%		

Click to enlarge

series of graphics, charts, gauges and other visual tools that

can be easily interpreted and analyzed. They allow to see if the performance indicators are being met based on the goals in place. If not, they will visually alert that corrective actions should be made. They are typically limited to show summaries, comparisons and trends. A good dashboard:

- Is simple and easy to understand.
- Conveys important information at a glance.
- Contains minimal distractions and visually appealing.
- Displays real-time information.
- Should be displayed on the shop floor using a screen or a bulletin boards.

Common Key Performance Indicators:

Here are some of the common KPIs to measure and monitor per business function:

Manufacturing and Production

Spoilage / rejection rate

Re-work rate

Time spent on product re-work

Total units manufactured

Units per day

Units per labor hour

Line efficiency

Production capacity

Capacity utilization

First time right ratio

Rolled throughput yield (RTY)

Average changeover time

Material usage

Purchasing and Inventory

Cancelled purchase requests

Purchase orders completed

Purchase order cycle time

Emergency purchase rate

Rejected receipt rate

Late deliveries from suppliers

Changes in approved suppliers

Unloading time

Stock level

Inventory days coverage

Re-work on procured inventory

Sales, Marketing and Shipping

Time to process customer orders

Time to resolve customer claims

Visits to key customers

New customers rate

Customer retention rate

Sales forecast accuracy

Market share growth

Marketing expenses

Product availability

Loading time

Not on-time in-full (NOTIF)

Finance and Accounting

Net profit margin

Cost of goods sold

Operating income

Cost per unit

Working capital

Accounts receivable turnover

Inventory turnover ratio

Return on investment (ROI)

Budget variance

Capital expenditure (CAPEX)

Monthly department expenses

Maintenance

Response Time to Breakdown

Mean Time Between Failures

Mean Time to Repair

Spare Parts Inventory Turnover

Work Orders Completed

Preventive Maintenance
Completed

Repair Cost

Repair Cost per Unit

Maintenance / Repair Downtime

Human Resources

Staff turnover ratio

Employee satisfaction index

Exit interview satisfaction ratio

Internal promotion rate

Labor utilization rate

High performing employees

Training hours ratio

Training attendance ratio

Absenteeism rate

Part-time employees

Disabled staff ratio

Environment, Health & Safety

Recorded safety observations

Workplace inspection audits

Risk assessments implemented

Lost work days

Significant injury cases

Near miss cases

First aid treatment cases

Environmental incidents

Safety circles conducted

Satisfaction with ergonomics

EHS training hours

Quality

Customer complaints

Returns from key customers

Customer satisfaction index

Customer surveys conducted

Defects at customer site

Defects per million
opportunities

Defects per unit

Cost of non quality

Quality circles conducted

Audits performed on schedule

Lean

Value added time

Takt time

Operator / machine cycle time

Order processing cycle time

Net available time

Work in process time

Value stream ratio

Process Cycle efficiency

Uptime ratio

Overall equipment effectiveness

Muda-free cost

KPIs and Continuous Improvement:

Performance indicators are key to the continuous improvement process. They are used to establish

improvement priorities and track the progress of improvement projects. The following are examples of indicators that are used to measure continuous improvement activities:

- Chartered improvement projects
- Project charters approved and signed off
- SOPs developed after improvement projects
- Completed improvement projects
- Financial department involvement in improvement projects
- Processes perform at 4.5 Sigma or higher
- Staff trained in Lean Six Sigma
- Savings resulting from improvement implemented by employee suggestions
- Time to respond to suggestions
- Idea conversion rate
- Kaizen events conducted
- Cross-industry benchmarking studies conducted

Utilizing Performance Indicators:

The following steps will help you understand how to establish and best utilize your winning performance indicators:

- Review the quality of the current data collection methods (are you collecting data unnecessarily?).
- Train staff on CTFs, KPIs, empowerment and process improvement methods.
- Start by a few easily understood performance indicators.
- Relate to critical success factors and reflect the voice of the customer.
- Allow teams to define and select their own performance indicators.

- Have your performance indicators approved by senior management.
- Measure and report only what matters.
- Monitor performance using dashboards.
- Display at workplace (on screens or public display boards).
- Use performance indicators as a basis for team meetings and decision making.
- Identify and pursue improvement goals.

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