Implementing the right **Key Performance Indicators** (KPI's) starts with thoughtful **Key Performance Questions** (KPQ's)

Facility Management Metrics That Matter

OVERVIEW

IN A WORLD OF INCREASING DATA, IT IS BECOMING MORE IMPORTANT TO EXTRACT THAT INFORMATION OF VALUE TO US WHEN AND WHERE WE NEED IT. UNDERSTANDING THE TYPES OF METRICS, FORMULATING USEFUL KPI'S, AND MAKING THESE READILY AVAILABLE TO US AND OUR COLLEAGUES CAN LET US DEVELOP FACILITY MANAGEMENT METRICS THAT MATTER.

Facility Management Metrics That Matter

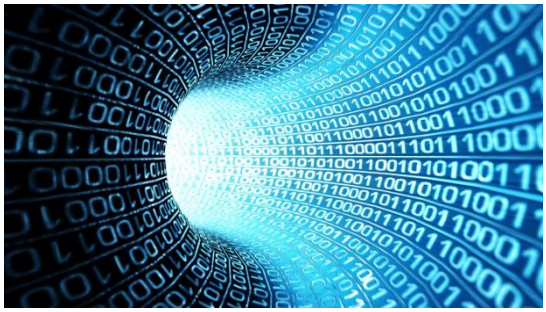
Introduction

Facilities Managers (like everyone else) are being deluged with data, and in turn are being asked to generate data for others.

The problem is, data on its own does not tell a story that can lead to action. Data can be sorted and totalled to show what you did in the past but does not tell you where you are going.

It is when data is used in combination with objectives that it enables smarter, more efficient facility management.

Information Overload?



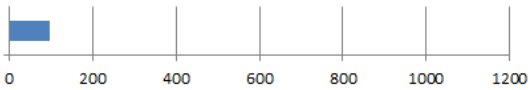
Data, data everywhere – we are being bombarded with it and there is more to come. All of our business systems, sensors in the environment, the internet of things, even the apps on our smartphones are vying for our attention. Sometimes it can feel like keeping up with all this information is just one more thing we have to do rather than something that helps us work smarter.

Common data sources for facilities managers include all of the following and more:

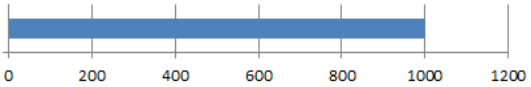
- Enterprise finance systems
- Enterprise HR systems
- Facility work order/CMMS systems
- CAFM/CADD/BIM systems
- Construction plans & specs
- Project management reports
- Equipment sensors
- Occupancy sensors
- Security systems
- Cameras
- Meter readings
- Spreadsheets
- Building Audits
- Equipment Alarms
- Building Automation systems
- Energy Management systems
- Email
- Text messages
- Cloud systems
- Online data services
- Industry publications
- Benchmarking reports
- Commissioning reports
- Social media
- Photographs
- Technical/design reports
- Regulations & standards
- Industry cost guides

Types of Metrics

For simplicity, all the types of data and information will be called metrics in this whitepaper. The exact terminology used is not important, but it is essential that we understand the difference between data, information, and knowledge.



Emergency work orders wrench time last month



Total wrench time worked last month

Measurements

Measurements are just data, consisting of a value for defined unit of measure and time/date stamp. Examples include things such as cost, size, temperature, status, and a range of yes/no conditions.

Indicators

Indicators are a sum of measurements about a single topic. For example, number of work orders completed for a designated period. On their own they do not provide any insight other than magnitude which is the lowest level of information.

Indicators Require:

1. A unit of measure ($, hrs, sum)
2. A dimension of time

Key Indicators / Key Performance Indicators

Key Indicators use a math calculation (typically the divide key) between multiple Indicators to bring perspective to the results and provide meaningful information. For example;

Indicators	Key Indicator
$\frac{\text{open work orders}}{\text{total work orders}}$	= % of work orders completed

Key Indicators Require

1. Indicators or other KPI's
2. A math calculation
3. The desired target/range

Key Performance Indicators (KPI's) usually add a target or goal to define the desired or acceptable values for an Indicator that is believed to be important.

Lagging (Past Results)

Lagging indicators are those that report past results. These can be considered “factual” representation of past performance because they are based on actual measurements. An example is the number of scheduled work orders completed on time by who performed the work.

Lagging indicators are best used to review recent performance and historical trends. Lagging indicators are certainly valid information, and many times contribute towards knowledge and leading indicators.

Leading (Future Performance Prediction)

Leading indicators are those that are believed to show information that suggests likely future performance. Implicit in these indicators is some type of knowledge of cause and effect. An example is a forecast for hot humid weather as a leading indicator for increased air conditioning demand and higher energy usage.

Leading indicators are best used by managers to guide action towards desired outcomes. Because of the challenge in measurable items with reliable forecasting capability, we often use “real time” lagging indicators as proxies for valid leading indicators. This at least allows much less elapsed time between the measure and any corrective action.

KPI “Matrix”

We can create a matrix of Indicator/Key Indicator x Lagging/Leading as a way to organize our various KPI’s to provide a blend of metrics.

Results Indicator RI

Tells you what you have done

Performance Indicator PI

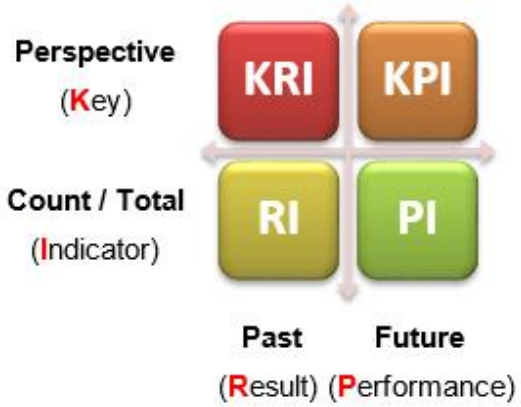
Tells you what to do

Key Results Indicator KRI

Provides perspective on how you have performed

Key Performance Indicator KPI

Tells you what to do to increase performance



Useful Metrics Are Situational

Now let's answer the question asked as the title of this paper: **Which Facility Management Metrics Really Matter?**

The answer is: **It depends.** (Yes it was a trick question.)

The metrics that matter depend upon the situation: Who is using the metric and why do they need it?

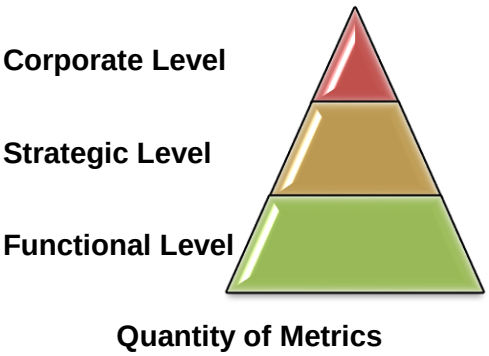
Typically the complexity of the metric will increase with the distance from hands-on performance of facility work.

For a **Building Engineer**, measurements can be useful metrics:

- Which open work orders need to be done today?
- What is the current equipment temperature for unit 1?
- How long has pump A been running?

For the **Regional Building Manager**, more complex indicators are needed to be useful:

- Parts inventory as a percentage of asset value
- Service request on-time completion percentage
- Work orders completed within 10% of allotted time



The **Director of Facilities** is probably looking for even more complex indicators, including data sets outside of any Facilities Management systems:

- Staff satisfaction rate with building services
- Operating cost per occupied square foot
- Utilization rate for office space by department

And the **CFO** is only interested in very high level metrics of the overall business, of which Facilities Management is just a portion:

- Total Facility Cost as Earnings per Share.
- Return on Net Asset for Properties

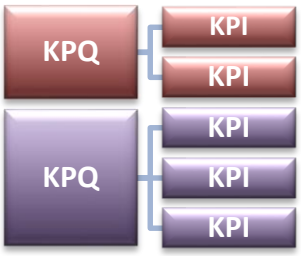
Establish KPI's using KPQ's

Many organizations have difficulty identifying KPI's that will assist them in measuring their facility management performance. The purpose of a KPI is to provide information for decision makers and other users about the performance of their operations and actions needed to stay on course.

A common approach to designing KPI's is to look at the data available and then try to figure out how to use that data. There are two problems with this approach: 1) When we start collecting data without knowing what answers we are looking for then we often end up wasting time collecting the wrong or unnecessary data. 2) When we start from the data that we have, we end up with KPIs on things that might be easy to measure but which offer few insights about the really important questions we need answered.

Another tendency is to copy the KPI's used by peers. There is some benefit to learning from others with similar needs as long as we confirm that our KPIs help us make the best progress towards our own organization goals, which may or may not be the same as our peers.

Here is where **Key Performance Questions (KPQ's)** come in handy – ***ask the questions that need to be answered to accomplish our strategic objectives***. The best KPIs will be the answers to these very questions. Understanding the question we are trying to answer also clarifies why we are using a particular KPI so it is easier to see when it needs to be changed.



Questions that lead to KPI's

Do our facilities provide a safe and productive environment for customers and employees?

How well do we react to spikes in service requests?

Is our facility cost as low as it can be without jeopardizing the building condition?

Do we have qualified staff ready and willing to fill vacancies when needed?

Do our buildings perform (energy) as well as they should?

What sustainability investments would provide the largest benefit per cost?

Base KPQ's on The Organizational Scorecard

The starting point for choosing which performance indicators are key to a particular organization should be those that senior management use. We probably have some type of strategic scorecard, so that is the place to start.

Structure key performance questions to initiate discussion and the search for useful answers. As we can see from the list on the side, the questions may not have a simple answer. The resulting discussion on how to answer it could determine that several KPI's will be required.

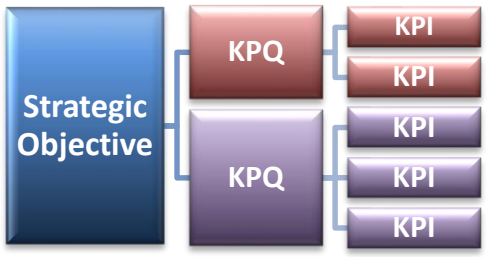
The most powerful KPQ's will be those focused on desired future outcomes. While we use historical data to build knowledge, a primary value of KPI's is to provide decision makers with actionable information that helps us achieve desired results.

As noted earlier, the actionable information varies by situation (user role) so it is important to refine the KPQ's as we cascade down the organization to make them relevant to the user while ensuring alignment with the larger organizational objectives.

Management should also periodically review the chosen KPQ's. Needs and objectives change over time, making it important to update the KPI's accordingly.

Design KPI's To Answer The KPQs

Once we have good KPQ's, Key Performance Indicators (KPI's) can be developed to measure progress towards the organization's goals. Developing key performance indicators can be challenging because we need to understand which actions will contribute to success and how to measure them. This is why good leading indicators are particularly difficult to define.



A good KPI is one that:

- Helps to answer one or more KPQ.
- Is based on relevant, available data.
- Provides actionable information for the intended user.
- Is available on the required frequency.

A good KPI design will include the factors in the list to the side. In this way the organization's strategic objective will generate KPQ's, and the answers to these KPQ's will be provided by the KPI's.

KPI Design Considerations:

1. Link to Strategy
2. Definition
3. Calculation
4. Purpose
5. Data Sources
6. Future Targets

Bernard Marr lists "***75 KPIs Every Manager Needs to Know***" described in a book of the same name. Note that while he specifically defines this for "manager," not all of these are appropriate for all levels of managers in an organization. Also, this list is offered only to provide some examples; these are not necessarily recommended as the KPIs that everyone should be using.

Reference:
www.linkedin.com/pulse/20130905053105-64875646-the-75-kpis-every-manager-needs-to-know

FM Metrics Need Non-FM Data

An area of growing sophistication and value is in integrating traditional facilities management metrics (energy usage, area, occupancy) with other business operation metrics.

An easy to understand example of this for retail is “sales per square foot.”

This is increasingly important for us in order to understand and communicate the importance of facilities management and its impact on organizational performance.

Ideally, information from IWMS, CRM, ERP and other systems in our organization would all be brought together and be available to us when we need, whether on our mobile device or desktop. Business intelligence systems offer this capability but may require significant effort to accomplish this goal.

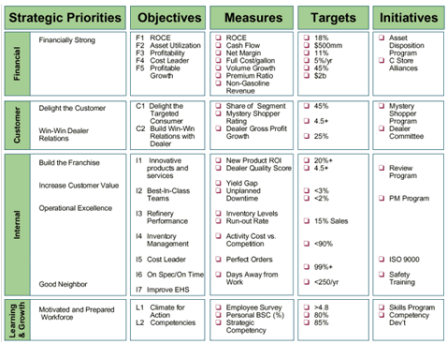
In the meantime, we can realize most of the benefits pretty efficiently with less automated integration – merged exports and selective data entry, especially when dealing with unstructured data. Example where data entry is efficient would be adding utility meter readings or the number of workplace injuries (where the volume of data entry does not justify an expensive IT integration).

Presentation of KPI's

The usefulness of a KPI depends on the situation, so does the method of its presentation.

Scorecards

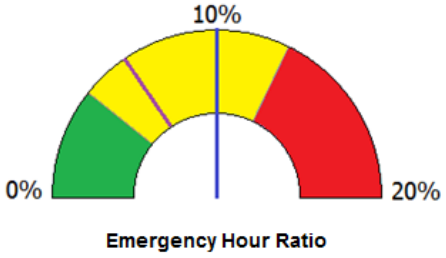
Many organizations use Scorecards to track and report progress on multiple concurrent performance measures against a pre-set goal. Scorecards are typically higher level KPI's that align with the larger strategic objectives of the business, updated annually or quarterly.



Facilities management may have their own scorecard, usually with items that cascade down from a few designated items at the overall organization level.

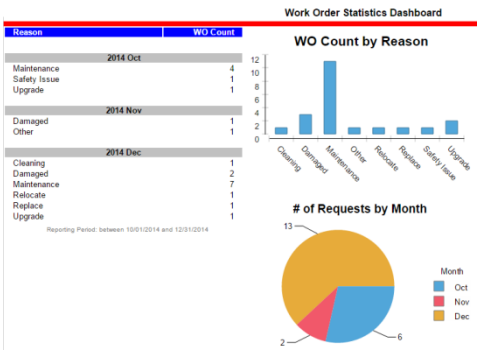
Dashboards

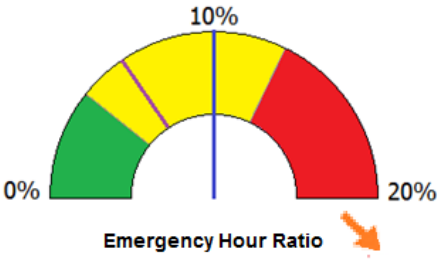
Dashboards are typically less focused on a strategic objective and more tied to specific operational issues. Dashboards may be real-time or at least updated daily, to provide the user with actionable information in a format that is both intuitive and insightful. Information on a dashboard could range from raw data measures to KPI's.



Reports

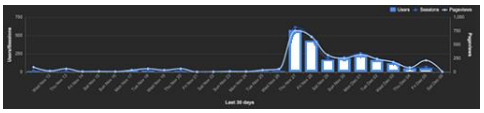
Reports are best used to present information that is less dynamic in nature, including complicated data calculations and longer term trends. Since reports typically summarize past information, they are most useful for administrative review of past performance and technical analysis to identify trends for future planning.





Trending

A KPI displaying performance in isolation over a single period may not provide us with enough information to take action. An indication on whether performance is improving or not may be more valuable for us in assessing the need for action. (The example on the side displays a color coded arrow that communicates the current trend.)



Ineffective KPI Graphic

Does not assist the user in understanding if action is required

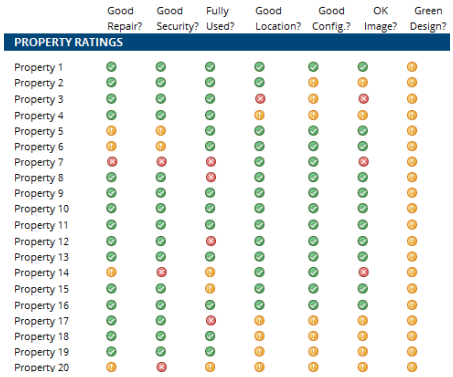
Graphic Displays Help Communication

There are “human factors” to consider in the presentation of our KPI’s, typical of any system user interface.

While the top chart on the side provides all the “data” for this indicator it does not provide any insight on whether action is required or not. The “information” is more effectively conveyed with the lower graphic that intuitively shows if the value is “better” or “worse” relative to our goal. It instantly communicates whether or not I need to take action on this item.

More Effective KPI Graphic

Easy to understand current position and desired position.



Use Icons for Multiple KPIs

Stoplights are one way to simplify large data sets.

Group or Nest Large Quantity of KPIs

Most reporting includes far more metrics than we can really focus upon. Studies suggest that humans can only focus on 4 to 7 things at once (Miller's Law says 7 ± 2 but others say 4) – far less than the 75 “Key” Performance Indicators we reference categories).

Even simple design is important to help us make sense of a large number of metrics and then drill down into those of interest by grouping, “chunking” or otherwise simplifying the information presented.

Conclusion

This overview identified the types of metrics that can be used for Facilities Management, and the value of each type. It also identified how useful metrics are situational – both over time and by the job function of the user.

Key Performance Questions can be the best way to develop KPI's that are useful, and these need to be reviewed to ensure they still align with organizational needs and are appropriate for the designated user.

Finally, the typical metric interfaces were reviewed to describe considerations for selecting the presentation most appropriate for the desired purpose.

Interested readers may also want to consider one of the publications listed as references.

About the Authors

Chris Dodds is the President of Facility Team, an Integrated Workplace Management Software (IWMS) system that allows users to create and track whatever metrics and KPIs they want. www.FacilityTeam.com

Bob Lambe is the President of RAL Location Strategies, a consulting firm that helps organizations identify the facility assets and associated data/systems that best support their business objectives. www.RALStrategies.com

The Following References are all available on Amazon:

Key Performance Indicators, Developing, Implementing, and Using Winning KPIs
By David Parmenter

Key Performance Indicators, The 75 Measures Every Manager Needs to Know
By Bernard Marr

The Maintenance Scorecard, Creating Strategic Advantage
By Daryl Mather

Analytics at Work, Smarter Decisions, Better Results
Thomas Davenport, Jeanne Harris and Robert Morison

How to Measure Anything, Finding the Value of Intangibles in Business
By Douglas Hubbard

Key Performance Indicators For Dummies
By Bernard Marr