7. Key performance indicators (KPIs)

What the standard requires

The standard requires that process and product performance is measured against targets and that this information is analysed, along with other information, to generate opportunities for improvement. This is on the basis that the aim of the standard is to generate continuous improvement and the key drivers for this are the measurement of your results and what you have achieved. Identifying measures or KPIs is quite straightforward. Making sure the organization has the right ones is another matter. As far as the standard is concerned the organization not only has to have these related to the product and its processes, but also needs to ensure that these are linked to the business objectives at the appropriate level. This is achieved by measuring them and reporting and communicating the results both to management and people within the wider organization generally.

What is a KPI?

A KPI is a metric, not a target. Often expressed as a ratio or percentage it allows data to be tracked over time to form trends in performance. Targets are often expressed as objectives and may be included in the performance data to highlight under- or over-performance. They are also likely to be found in business plans.

For example, the actual number of complaints is not a KPI it is just information. On the other hand the number of complaints expressed as a
percentage of the number of orders dispatched or the number of customers seen would be:

\[
\frac{\text{Number of complaints received}}{\text{Number of customers serviced}} \times 100
\]

This is much more meaningful than just the bare number of complaints.

KPIs can relate to any part of the organization or any process or sub-process based on its needs and requirements. Strictly speaking, every process or sub-process could have one or more KPI, which can be used to help manage and control it. The standard, however, allows KPIs to be used ‘as appropriate’, which means that not all processes and sub-processes require measures. This allows a degree of flexibility, particularly for smaller organizations (say up to 20 employees with a £2 million turnover) where measuring every process and the system overall would be too much and inappropriate given the size of the organization. If you are in this situation then use one set of system KPIs that include process KPIs operating at a tactical level only where you feel they are absolutely necessary, see below for more detail on ‘the right KPIs’.

How do I know if we have the right measures?

There are no prizes for having many KPIs, but there are for having the right ones. Some organizations have many KPIs or every performance indicator (EPI) and spend inordinate amounts of time collecting, collating and reporting on information. It is far better to design the right measures, often a smaller number, that can be used on an ongoing basis and provide a good overall picture of what is happening, not only in the process, but also collectively in the system overall.

The main aim of the KPI is to measure either system or process performance. Often it is easier to think of KPIs as either strategic for system measurement or tactical for process measurement. Strategic measures tend to be aligned to the needs of stakeholders and therefore ‘customers’ of the organization. They tend to be concerned with longer-term trends in performance and operate at this level to ensure that the organization (and its management system) is delivering the required results over time. As KPIs are a key part of the continuous improvement cycle these strategic measures are aimed at making sure the organization does not take its ‘eye off the ball’ and uses the data to improve the overall performance of the organization, ie at an organizational level (see Figure 7.1, which illustrates this principle).
KPIs at a system level are driven by the needs of the different stakeholders. As discussed in chapter 3, these requirements often conflict with each other and need to be analysed and a risk assessment made of their impact on the organization in order to create a prioritized list. The KPIs are therefore influenced by those factors at the top of the prioritized list. The analysis also helps create the business objectives, on the basis that no organization can satisfy everyone all the time and decisions have to be made on who will or won't have their needs satisfied or, more likely to what extent. In ISO 9001:2000, clause 5.2 covers this area with the same principles being extended in ISO 9004:2000 to cover other interested parties or stakeholders. In the ‘real world’ of course, organizations have to meet stakeholder as well as customer needs hence the probable need for a comprehensive list of system or strategic KPIs. Examples of system KPIs could be:

- percentage turnover from previous periods;
- percentage margin;
- percentage of customers ‘very satisfied’;
- percentage of market share;
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- percentage profit per person;
- percentage costs spent on energy consumption.

If we look at our ‘typical system’, and the processes that it consists of, we can perhaps illustrate the point about what are good and what are not so good system KPIs. This is shown in Table 7.1.

### Table 7.1 Suitable and unsuitable system KPIs

<table>
<thead>
<tr>
<th>Process</th>
<th>Suitable system KPI</th>
<th>Unsuitable system KPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding the market</td>
<td>Percentage of market reviews required in a process fully presented, validated and accepted by its planned date</td>
<td>Customer satisfaction rating</td>
</tr>
<tr>
<td>Business planning</td>
<td>Business plan agreed by board and group by required date</td>
<td>Number of initiatives in the business plan</td>
</tr>
<tr>
<td>Developing products</td>
<td>Percentage of new products that successfully deliver target profit</td>
<td>Number of new products released</td>
</tr>
<tr>
<td>Winning business</td>
<td>Value of sales made that have been confirmed by rest of business as achievable divided by sales target</td>
<td>Value of sales achieved</td>
</tr>
<tr>
<td>Delivering products</td>
<td>Customer satisfaction ratio against target</td>
<td>Deliveries made on time</td>
</tr>
<tr>
<td>Measuring performance</td>
<td>Percentage of accurate performance reports produced to timetable</td>
<td>Number of reports delivered</td>
</tr>
<tr>
<td>Making improvements</td>
<td>Percentage of planned deliverables achieved through major improvement projects</td>
<td>Number of improvement projects initiated</td>
</tr>
<tr>
<td>Managing people</td>
<td>Staff morale rating against target</td>
<td>Percentage of staff undergoing training</td>
</tr>
<tr>
<td>Managing assets</td>
<td>Percentage availability against plan</td>
<td>Number of maintenance schedules achieved</td>
</tr>
<tr>
<td>Managing finance</td>
<td>Profit achieved against target</td>
<td>Average debtor days</td>
</tr>
</tbody>
</table>
Process KPIs work in a similar manner but generally at a more tactical level. These tend to be based on the purpose of the process being measured. As before, the KPIs form an integral part of the continuous improvement cycle for the process (see Figure 7.2).

Figure 7.2 Process (tactical) KPIs and the continuous improvement cycle at a process level

Clearly defining the purpose of each process is therefore important if the correct KPIs are to be identified.

KPIs can be measured at any time or frequency based on the nature of the KPI and its importance. For example, data on staff turnover for many organizations would not be collected and reported on a daily or, perhaps, even a weekly or monthly basis but data on customer service or production, a more ‘everyday’ activity, could well be. The organization can decide the frequency.

Examples of process KPIs are obviously based on the process but could include:

- percentage machine/equipment utilization;
- percentage return on investment;
- percentage number of improvement ideas per employee;
- percentage volume of calls taken within 5 seconds;
• percentage sales lead conversion rate;
• percentage number of products or services needing rework;
• percentage cost of carrying out reworking or correcting errors.

Can we use existing measures that we already have and how many KPIs do we need?

There is no reason why the organization cannot use the existing measures or data it already has. If they do satisfy the requirements of a process-based approach, then there is great benefit in doing so. The most important point is that the KPIs have to be aligned directly to the process or the system and expressed as metric rather than just information. Often organizations will produce a lot of data and information and in many cases seem to be overloaded with it. The test is whether or not the information is used to generate improvements to the system or process. For some organizations, therefore, creating a system is also an opportunity to review the data produced and determine if it is being expressed in the correct manner and to the right people or even if it is needed at all.

When creating a system for the first time it is suggested that the existing data is reviewed for suitability and ease of use. Identify what is required and align this to the system or process as is necessary. This should produce a gap analysis, identifying where particular process or stakeholder KPIs are missing or expressed incorrectly. The gaps can then be addressed and you will be able to prove the links and therefore the requirements of the standard. This may take some time to achieve, so prioritizing which KPIs to develop first is important – again this is based on business risk.

As to how many KPIs are needed, this depends on the organization and the process. Processes needing little control, or where the business risk of failure is minimal, require fewer KPIs than processes where the impact, scope or instance of failure is higher. The more operational processes tend to have more KPIs than supporting processes. This does not mean that they are more important, just that they need more KPIs. So as a guide, aim for something between two and six KPIs for each process, with, for example, 12 as a maximum at the organizational (system) level. These are only guides and are not meant to be absolute – many organizations operate outside of these guidelines based on their needs and requirements. The main point is that they are key performance indicators, not every performance indicators.

It is easy to get seduced into the need to try to measure everything. The aim of KPIs is to provide a set of indicators that can be looked at collectively to determine improvement needs. There is a danger in taking one indicator in
isolation of the others and basing an improvement on this information alone. Often bringing about change to improve an indicator will have an impact on another, be that negative or positive – keeping an eye on the bigger picture is therefore important.

The other danger in measuring everything is that you will confuse the need to provide specific information to management, on which routine improvement decisions can be made, with collecting information relating specifically to a particular improvement. This second type of measurement comes after an improvement project has been initiated, and may only continue until the improvement has been embedded within the process. Over-measurement is often borne out of the desire to measure things ‘just in case’ or to identify where areas for improvement may be required. To avoid this, concentrate your routine measurement on the KPIs only. Then, having identified an improvement opportunity or project, start to collect more information on that particular issue in order to analyse the problem or cause further. This saves the need to regularly measure more than is necessary and provides the focus for why the measurement is taking place. This second phase of collecting information often takes place as part of the change or improvement process rather than prior to it starting, for example, for the management review.