Quality

Quality

What is Quality?

Quality is defined as “the standard of something measured against others of a similar kind; its degree of excellence”. In Solvay we define quality as “delivering a product on time and in full to our customers that meets their requirements and expectations at a price they are willing to pay.” In today’s competitive scenario, we need to excel at meeting the quality requirements of our Customers.

This Wiki page aims to give an overview of the different initiatives in the Group and pull together the best resources concerning quality.

1. Principles and definitions

1.1. Main Principles of Quality at Solvay

1.1.1. Understand the Voice of the Customer

At Solvay we want to foster a customer-obsessed culture and be the best at meeting customer expectations. The Voice of the Customer (VOC) is one of the starting points to identify our Quality priorities. Net Promoter Score (and its follow-ups) should be one of the sources that provide feedback related to quality processes and feed Quality roadmaps and Tactical Implementation Plans (TIP). Customer visits and surveys should also be a way to “close the loop”: sales teams have an important role to play in Quality!

The Wiki page of the Voice of the Customer is available here , while the VOC Playbook is available here .

Customer complaints are also an important source of information on customer needs and satisfaction. The Customer Complaint Management Wiki page is available here and the Playbook is available here for more information.

Feedback from VOC and complaints should be transparently communicated throughout the organization.

A process should exist for Specific Customer Requirements review, validation and management. There are tools available to help translate customer needs into specifications where appropriate (e.g. House of Quality).

1.1.2. Track the Cost of Poor Quality

The Cost of Poor Quality (CoPQ) is what makes visible the impact of Quality issues on our performance and results. As you cannot improve what you do not measure, defining within a GBU / site the relevant components of CoPQ and enabling their tracking and distribution should be one of the first steps towards Quality excellence.

The relative importance of CoPQ sources and the prioritization of their tracking will differ from one GBU to another, however their definitions should be the same. The main sources are:

- Customer complaints (credit notes, additional freight, canceled orders)
- Additional freight caused by quality issues
- Non-Conforming Materials (unfulfilled orders, material return or scrapping, discount sales, storage of NC material)
- Adjustments during the production process (additional labor and materials, capacity loss)
- Supplier Quality (any costs under the supplier’s responsibility should be the object of a compensation request, see Supplier Non Conformance WIki page here and playbook here).

1.1.3. Create a Quality culture program

Quality is the responsibility of everyone from the shop floor to top management. It is important that everyone walks the talk every day. Therefore, creating and updating a Quality Culture Program will help to build a climate where the Quality Mindset will be fostered and where behaviors will change:

- Quality Policy should be defined at GBU level with strong support from the President
- Quality Roadmaps should be built according to findings from VOC ; GBU CoPQ/KPI analysis ; and any other initiative such as GMO or Star Factory diagnostic (with a constant feedback loop.
- Communication campaigns on Quality should be planned and executed by the GBUs, defining target audience, content, form, frequency.
- Quality should be integrated into shift handover meetings, production meetings, etc. Use them to listen to employees' ideas (through whiteboards in control rooms or team meeting rooms).
- Strong mottos, mascots, and visual identity can be incorporated to emphasize the message (e.g.: Composite Materials Motto "Our Quality is Our Customers' Safety")
- Involve and empower employees. Assign problem solving exercises to volunteers and coach them through the process.

1.1.4. Focus on main issues

There are many sources of information such as VOC, CoPQ and diagnostics that can help to identify short-term priorities to work on. However, a Quality roadmap should be set up to define the longer term vision (e.g. three years). Shorter term initiatives should be integrated in existing GBU / Site TIPs.

After one area shows improvement, focus on the next issue while continuing to consolidate what has been achieved (particularly by continuing to monitor the relevant KPIs with their corresponding targets).

Time and resources are not infinite, so concentrate efforts and resources where the most value will be extracted, depending on GBU/site objectives, for example :

- A severity matrix is useful to rank Customer Complaints and adapt the response to the severity;
- Recurrence can be taken into account to upgrade the severity;
- A similar approach can be used for non-conforming materials and supplier complaints (see Supplier Non-Conformance Management).

1.1.5. Solve problems sustainably

Quality is also about continuous improvement : consolidating past successes while moving on to the next priority, which means that you must go beyond the immediate causes. Identifying and avoiding recurring problems is one of the cornerstones of quality. Failing to do so is also one of the best ways to lose a customer. Using the power of Solvay's Problem Solving methodology and tools will help to solve problems sustainably. The relevant people should be trained in the methodology. A 3-hour self-training program on Problem Solving (Lean Six Sigma White Belt) is available in YouGrow in several languages.

In particular, Root Cause Analysis will be a powerful tool to define and implement the most impactful corrective actions. Validating potential root causes is a key step ; when lacking it leads to bulky action plans, which are difficult to monitor and often ineffective. Checking that those corrective actions have really eliminated the problem is also key (remember, lack of recurrence is not a proof of effectiveness). The use of a standard classification of root causes for all quality issues will allow to track the top root causes and to prioritize larger scale or longer term improvement actions.

Finally, it is important to communicate internally and externally on the outcome of problem solving exercises. This shows commitment to quality and continuous improvement.

1.1.6. Define leading Quality KPIs

KPIs in general are often lagging: they measure the performance of the process after its results have been obtained (for example, your weekly weight if you are trying to lose or gain weight). This does not mean that they are not useful, but they do not enable real-time adjustments. Traditional Quality KPIs follow this trend as well: complaint ratio, percentage of non-conformance, etc.

A leading KPI is a measurable factor that changes in real time before the process results start to show a particular pattern or trend, which means that you can create positive feedback loops much earlier (for example, your daily calorie intake). In order to establish meaningful leading KPIs, we need to understand what the root causes of our Quality issues are. Leading KPIs can and should change over time to reflect what the current priorities are.

Examples of leading KPIs can be the process capability (Ppk) of products which are causing recurring customer complaints ; or completion rate of periodic warehouse audits to check compliance to order preparation standards if there are recurring issues with customer requirements not met.

1.2. Glossary

CAPA	Corrective Actions & Preventive Actions
CEDAC	Cause and Effect Diagram with Addition of Cards
CoPQ	Cost of Poor Quality
E2E	End-to-end
GMO	Gross Margin Optimization
KPI	Key Performance Indicator
ME	Manufacturing Excellence
NC	Non-conforming
PRS	Product Requirement Specification (for raw materials)
QC	Quality Control

QMS	Quality Management System
RFT	Right First Time
SPC	Statistical Process Control
SQC	Statistical Quality Control
TIP	Tactical Implementation Plan
VOC	Voice Of Customer

2. Navigating Quality Playbooks

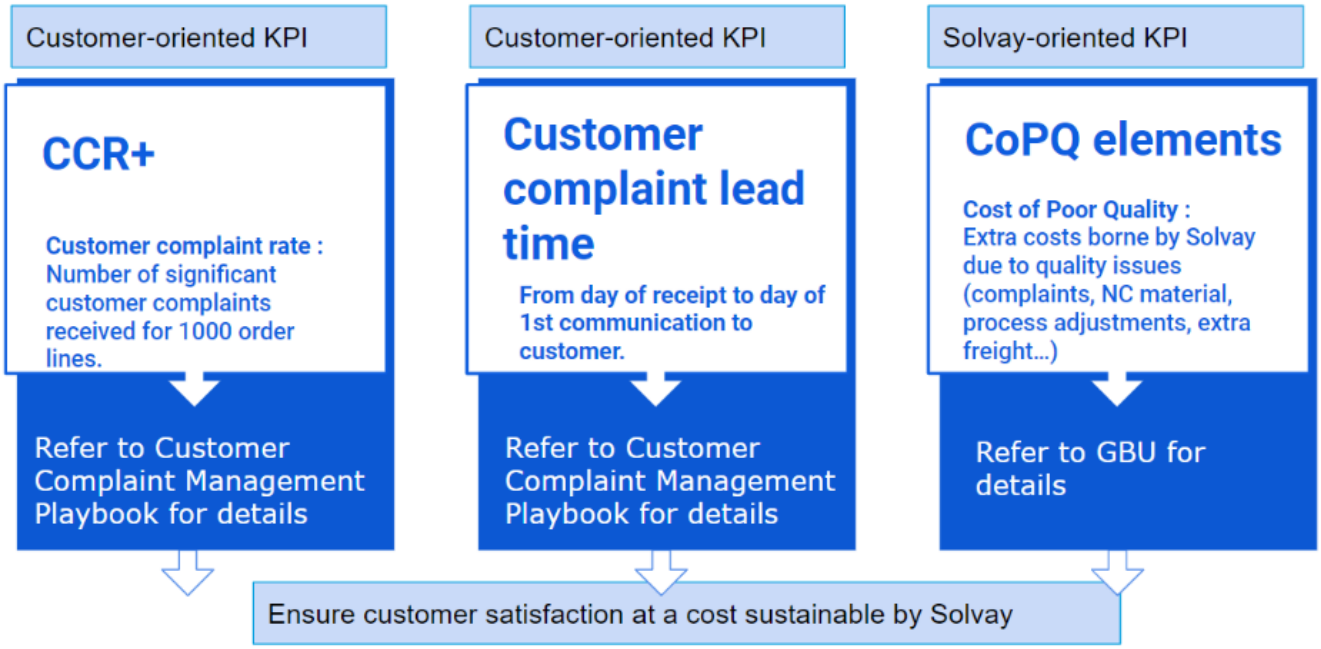
Quality or related playbooks under review or creation are the following:

- Voice of the Customer
- Customer Complaint Management
- Supplier Non-Conformance management
- QC Lab Diagnostic
- Right First Time
- Non-Conforming Product management (to be created)

3. KPIs

The following lagging KPIs should be standard for all GBUs, with monthly reporting, provided adequate reporting tools are available:

- **Customer Complaint Rate** (CCR+): Number of Significant Customer Complaints / 1000 order lines
- **Customer Complaint Lead Time** : From day of receipt to 1st communication to the Customer of RCA and corrective action plan
- **CoPQ elements** : extra costs borne by Solvay due to quality issues (complaints, NC material, process adjustments, extra freight, supplier quality) - specific elements taken into account should be selected according to their importance for the GBU



Note : Salesforce is the reference tool for customer complaint management. Where not available, alternative systems may be used to follow the approach recommended in the Quality playbooks until Salesforce is available. The CCR & lead time KPIs are native to Salesforce.

Additionally, some more lagging KPIs are optional and can be used or not depending on GBU specificities and priorities :

- Customer-oriented KPIs:
  - **Customer Complaint Response Lead Time** for specific sub-processes: this is available in Salesforce and can be made mandatory according to GBU policy.
  - **Customer feedback on complaint handling** : this is available in Salesforce and can be made mandatory according to GBU policy.
  - Composite KPIs combining several elements already mentioned as well as others such as rating of Solvay by customers, Customer Audit Feedback, OTIF, etc.

- Solvay-oriented KPIs :
    - **Conformity Rate** : Conform volume (tons produced) / Total volume (tons produced)
        - The criterion used to identify a conform product is based on GBU rules.

As mentioned earlier, defining some tailored leading KPIs is important to tackle quality head on. The following KPIs are examples of what can be used at the GBU / sites:

- **Customer-oriented KPI:** Each GBU should set up a target to reduce the occurrence of the top root causes of complaints. Recording of root causes is available in Salesforce with 3 levels of granularity and can be customized according to GBU needs.

- **Product quality:** target to improve the process capabilities (Ppk) for the GBU's top priority product / characteristics.
- Risk reduction: target to decrease quality risk level following Failure Modes and Effects Analysis (FMEA) or quality risk analysis
- Completion of action plans from audits: certification audits, customer audits, internal audits

Navigation tree

Expand all Collapse all

Pages recently viewed

Playbook

- **Quality**

Key Trainings

Key Contacts

- **Hélène Vrot - Domain Leader EMEA**

Linked Pages

- **Cost of poor quality**
- **Quality Control lab**
- **First Time Right**