

Quality Management Methods

Types of Control

Lecture

Quality Management Methods.

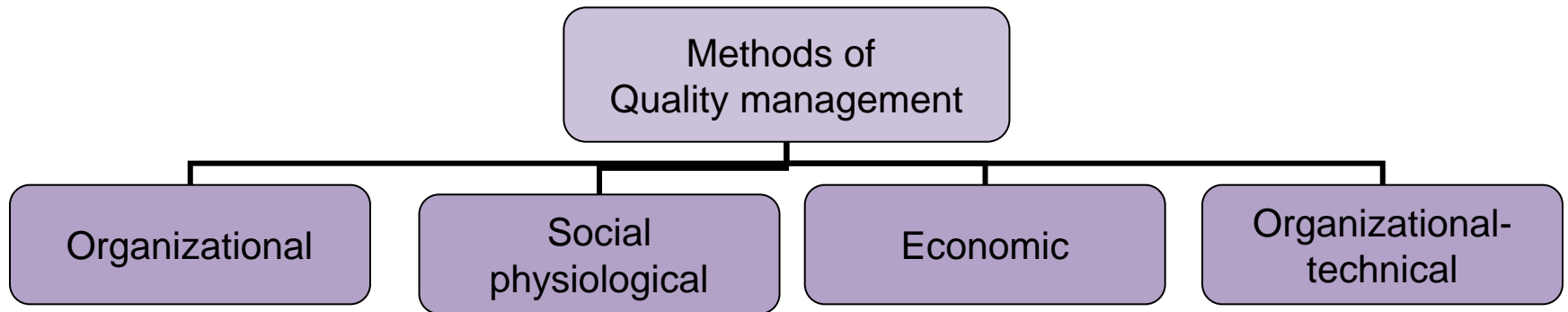
Types of Control.

Quality Management Methods

Quality management method– is a method and the set of methods and means of impact to the products of labor to achieve the required quality.

It can be argued that there is (or should be) a certain correspondence between the situation in which there is one or the other company, and by the applied *system of corporative mangement*.

Management Quality Method Classification



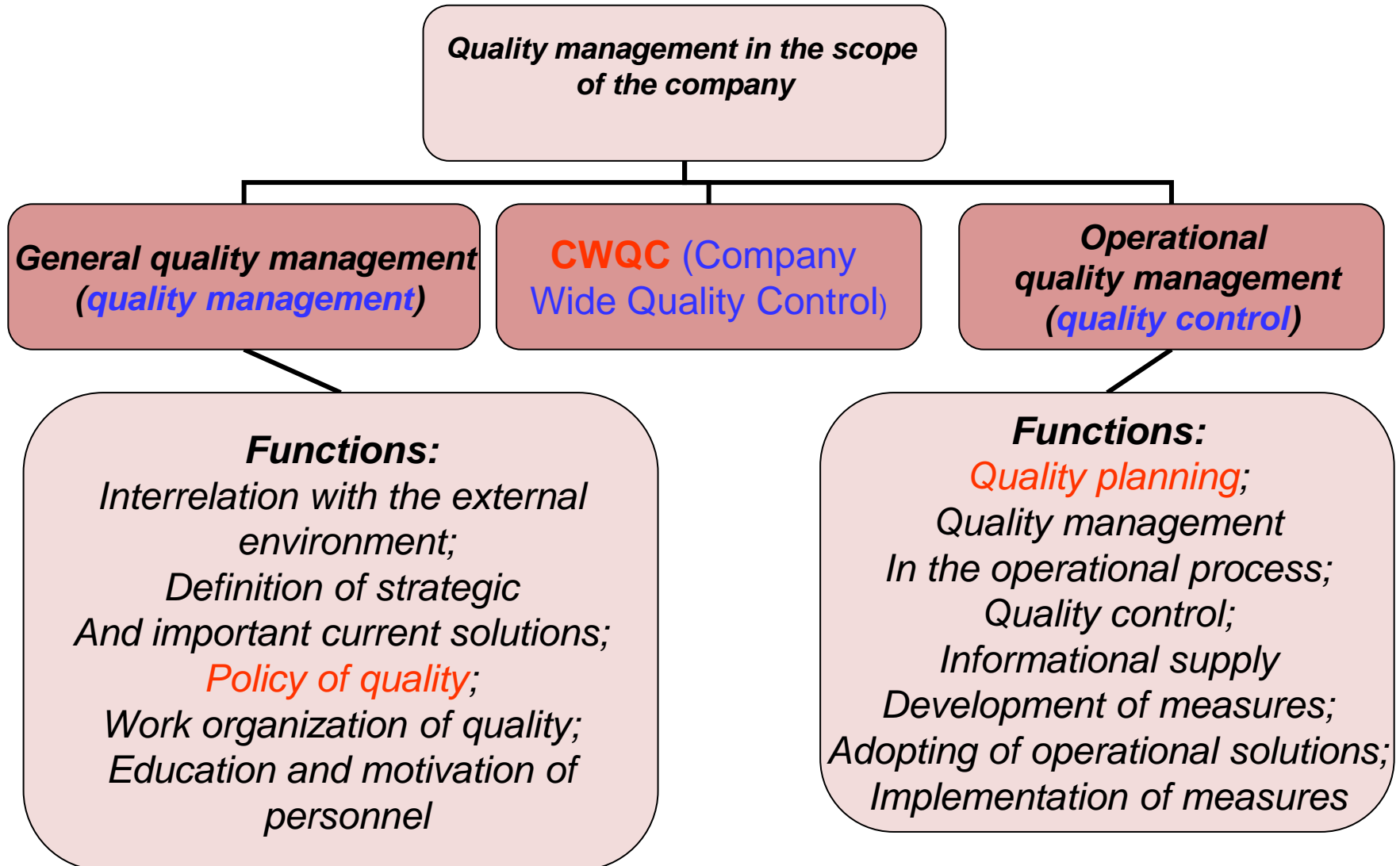
Management Quality Tasks

Quality management is as focused impact realized by management subsystems, having corresponding company.

In general quality management tasks are:

- To define the correct goals in the scope of quality;
- To achieve goals(effectiveness), optimally use resources;
- To maintain and support corresponding relations between people within labor process(necessary corporative culture);
- To supply constant perfection.

Scheme and Functions of Quality Management



Standard GOST R ISO9001-2008

5.4.2 Planning of creation and system development of quality management

Chief executive management should supply :

- implementation of the plan of creation and development of the quality management system to meet the requirements set out in section 4.1, as well as to achieve the quality objectives;
- keep *integrity* system in planning and implementing some *changes*.

Definition **SMART**

SMART (Specific, Measurable, Agreeable (Accordant), Realistic, Timebounded) is the principle of definition the correct formulation of strategy goals, in accordance with the **goals should be:**

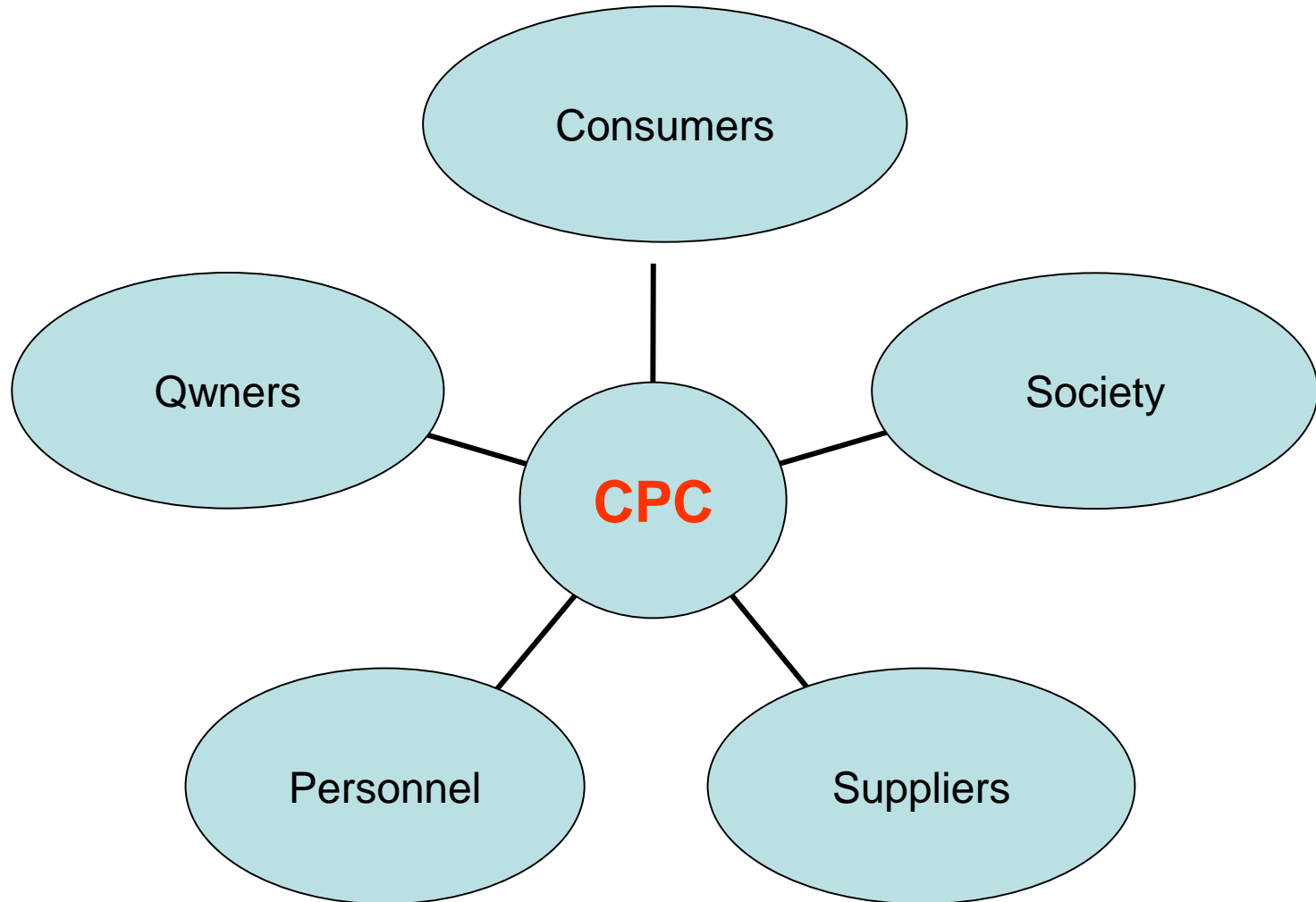
- *concrete,*
- *measurable,*
- *coordinated* (with mission, between each other, with those , who is responsible for their performance),
- *achieved,*
- *defined within time.*

System (subsystem) classification of company management

(depending on their task orientation and resource support)

1. Due to *goal – strategy* (with taking into consideration interests of parties concerned);
2. Due to material, financial, information time efficient *resource* (according to goals– *means*);
3. Due to different *aspects* (functions) of *management*.

Company Parties Concerned(CPC)



System (subsystem) Classification of Company Management

1. Due to goal– *strategies* (taking into consideration balance of interest parties concerned):
 - 1.1. *Customer Relationship Management* – CRM;
 - 1.2. *Human Resource Management* – HRM;
 - 1.3. *Financial Management* with the owners– FM;
 - 1.4. *Management of Corporate Social Responsibility* – CSR;
 - 1.5. *Material Requirement Planning* – MRP, *Supply Chain Management* - SCM

Standard ISO 9001:2008 (п.7.2)

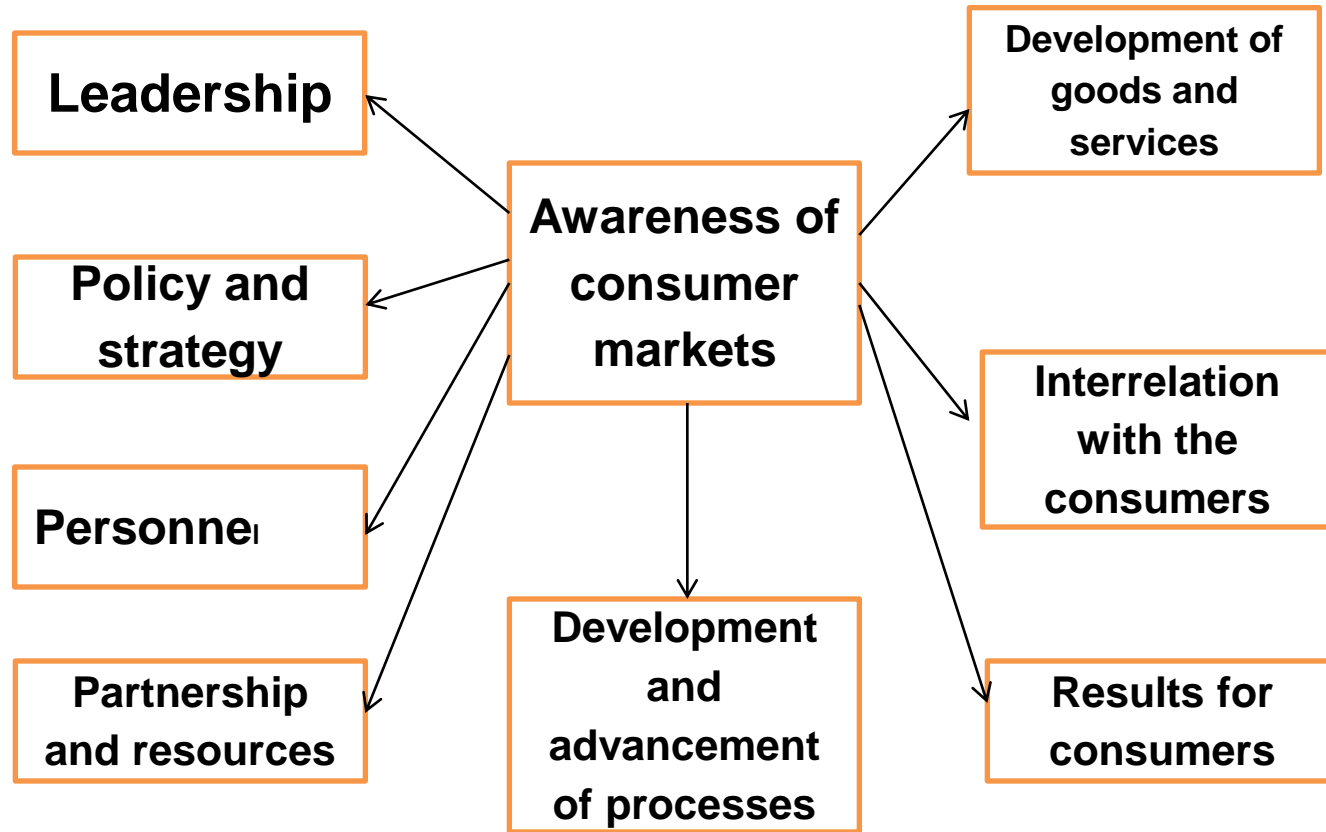
Company should determine(look.p.7.2.1):

- a) requirements, *set up by the consumer*, included requirements to delivery and activity after delivery;
- b) requirements, *are not determined by the consumer*, but necessary for concrete or implied use, when it is known;
- c) *legal* and compulsory *compulsory requirements*, applied to production;
- d) every *additional requirements*, regaraded by the company as necessary.

Note – Activity after delivery can include, for example, *actions of guarantee supply, contract requirements*, such as technical services and such additional services, as utilization or full distraction

(Customer Relationship Management – CRM)

Initial connections



To become a customer-oriented, the manager must clearly understand what is required for the company. Starting points - the evaluation criteria for enterprises EFQM model

(Customer Relationship Management – CRM)



(Customer Relationship Management – CRM)

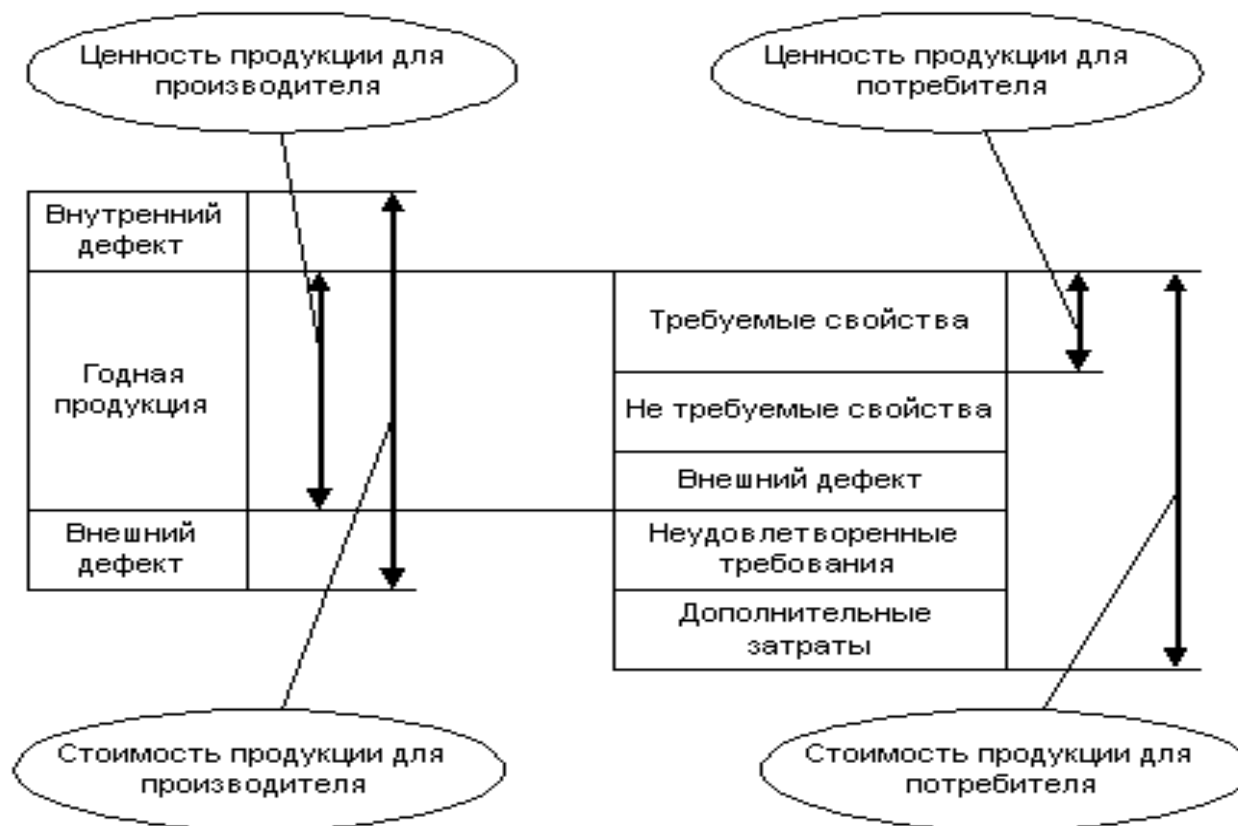
**Company goal is to create the consumer for it.
Reorientation for their interests presents positive, and more quick , realized way of company reorganization.**

- Company's orientation for consumer should be the priority of **ALL** its employees, and it guarantees the company's success
- Companies should intensively communicate with the global world, paid a special attention to data collection of their consumers(**CSI**) and competitors of real time.

CSI (Customer Satisfaction Index) – consumer satisfaction index.

Assessment tool of company activity, calculated on the base of complex consumer assessment of quality goods and services of the company.

Production Quality from the Point of View Producer and Consumer



Consumer Quality

1. **Value** – positive or negative object *significance* of the environment for a person, class, group, society at whole, determined by the involvement to the scope of human activity, interests and necessities;
2. * **Safety**(production, production processes etc..) is the status, at which non permissible risk is absent. The risk connected with the causing damage to life or citizens health, the property of physicalx or legal parties, state or municipal property, environment, life or health of animals or plants;
3. **Reliability** (п.3.5.3 ISO 9000:2005) – gathering terming, applied for the description of properties *readiness* such as faultiness, maintainability and provision of maintainace and repair

* LAW RF №184-ФЗ «Technical Regulation» от 27.12.2002

Definitions, related to characteristics (3.5)



- Characteristic can be *own or appropriate*.
- Characteristic can be *qualitative or quantitative*.

Reliability in Engineering

GOST 27.002 - 89 Reliability. General definitions. Terminologies and Definitions.

Reliability is the property of the object to save time within the established values of all the parameters that characterize the ability to perform the required functions in the set terms and conditions for the use, maintenance, storage and transportation p. 1.1 Gost 27.002).

GOST 27.310 - 95 Reliability in engineering Analysis of the species, effects and criticality of failures. General statements.

FMEA (*Failure Mode and Effects Analysis*) – type analysis(character) and failure. One method of assessing the reliability.

FMECA (*Failure Mode, Effects and Criticality Analysis*) – type analysis, failure (bottom up approach).

Definitions Related to Characteristics (3.5)

There are different *characteristics class*, such as:

- **Physical** (mechanical, electrical, chemical or biological characteristics);
- **Organoleptic** (smell, touch, taste, vision, hearing);
- **Ethic** (politeness, honesty, trustworthy);
- **Temporary** (punctuality, reliability, availability);
- **Ergonomic** (psychological characteristics connected with the person safety);
- **Functional** (maximum speed of the plane)

GOST 15467-79 (СТ СЭВ 3519-81)

Indicators *totality of the products quality* is possible to classify due to the following signs:

- **quantity of characterized signs** (single, complex and integral signs);
- **relation to different properties of the production** (reliability signs и, manufacturability, ergonomics and etc.);
- **definition stage** (project, manufacturing and operational signs);
- **definition method**(calculated, statistical, experimental, expertise signs);
- **Use character for the assessment quality level**(basic and relative signs);
- **expression way** (dimensional signs and signs expressed dimensionless measure units, for example points, percent).

GOST 15467-79 (СТ СЭВ 3519-81)

Numerical values of quality signs established with the help of *objective and subjective* methods.

- **Objective methods**: measuring, registration and calculating.
- **Subjective methods**: organoleptic, sociological и expert.

Objective methods based on applying technical measuring means, registration, events calculation, producing calculations.

Base *of subjective methods* – analysis of person's sense perception, gathering and recording of different opinions, solutions, accepted by the group of experts.

Application of Some Indicators Production Quality According to their Types

Production quality indicators	Production used in using			Production using its resources	
	Raw material	Materials and products	Used materials	Repaired materials	Non – repaired materials
Functional reliability	+	+	+	+	+
Reliabilities:	+	+	+	(+)	(+)
-faultiness	-	-	(+)	+	+
- durability	-	-	(+)	+	+
maintainability	-	-	(+)	-	+
conservation	+	+	+	+	(+)
ergonomics	-	-	+	(+)	(+)
ethics	(+)	(+)	(+)	(+)	(+)
manufacturability: - In production	+	+	+	+	+
In applying	(+)	(+)	+	(+)	+
resource use	-	-	-	(+)	(+)
safety	(+)	(+)	(+)	(+)	(+)
Ecology	(+)	(+)	(+)	(+)	(+)

Customer Relationship Management – CRM

Company oriented for the consumer (view inside)

- Activity presents the developed *corporate culture*
- All employees persuaded in the consumer *importance* for company
- Forming *strategy* building relations with the consumer
- Implementation *program* of keeping consumer потребителей

Customer Relationship Management – CRM

Processes of learning consumers

- Management of pointing out *cause* consumer claims and their reaction for them(ISO 10002:2004);
- Measurement *satisfaction level* and consumer loyalty й (CSM) and their management.

CSM – customer satisfaction measurement

- *Interrelation with consumer*, produced through the centers of receiving application, service and technical support service.

Customer Relationship Management – CRM

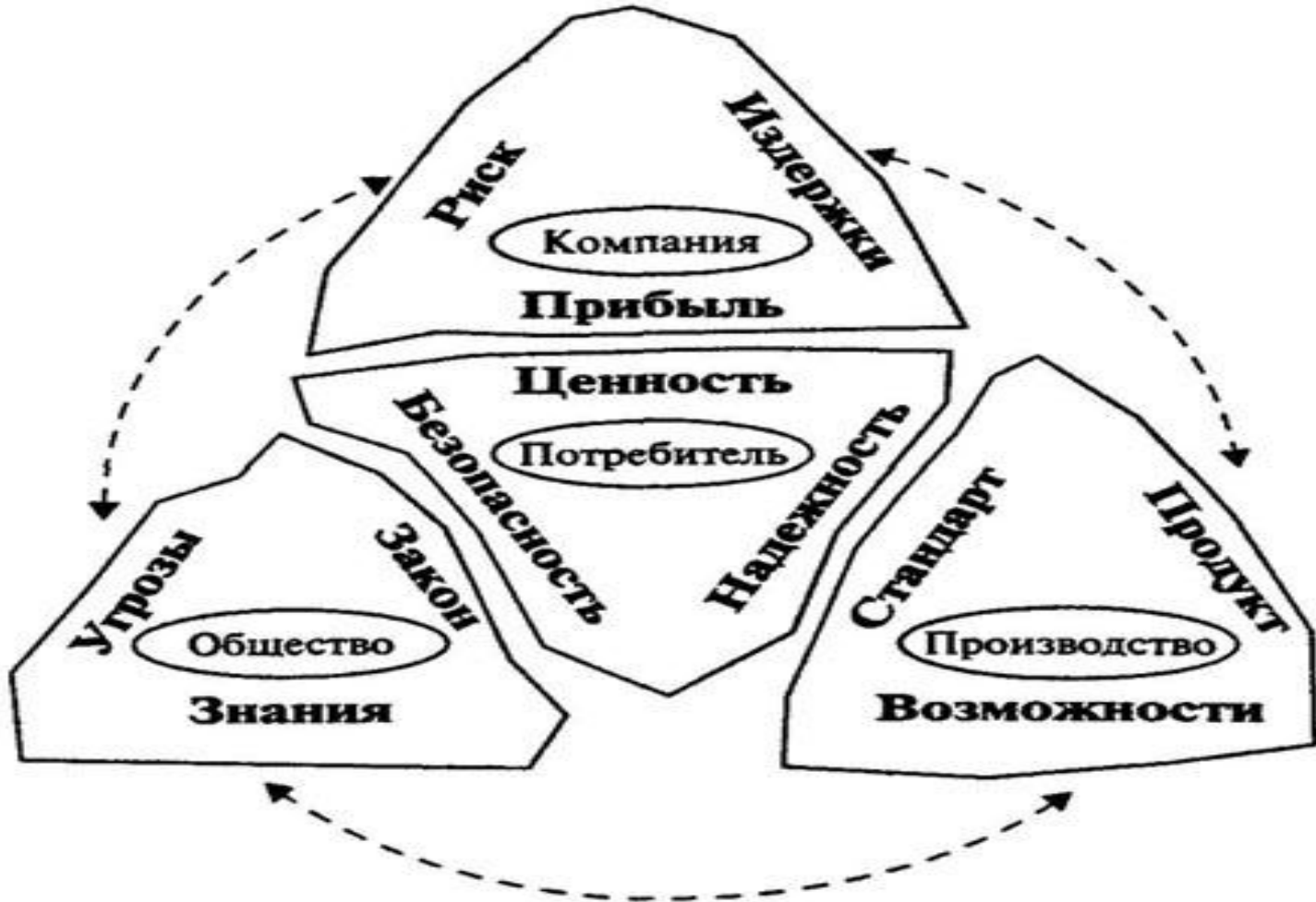


Quality for Producer

1. **Profit** – economic category, expressed financial results of business activity of the company;
2. * **Risk** – *probability risk* to the life or health of people, property, natural or legal persons, state or municipal property, the environment, life or health of animals and plants, taking into account the severity of the injury;
3. **Expenditures** – combination cost of labor and materials for the manufacture of the product

* Law RF #184-FZ «Technical Regulation» от 27.12.2002

Combination of Consumer and Producer Interests



Thank you!

