QUALITY AND PERFORMANCE INDICATOR`S

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Abstract. This article highlights the concepts of quality indicators and metrics, which are considered the primary tools of modern quality management systems in evaluating and improving the quality of products and services. Quality metrics provide quantitative and qualitative measurements to assess the efficiency and reliability of products, while indicators help monitor and control performance in alignment with the organization's goals. Types of quality metrics include functional, technical, aesthetic, and environmental metrics, each measuring different aspects of a product. Indicators related to financial performance, customer satisfaction, internal processes, and human resources offer insights into various dimensions of quality. Effectively managing these metrics and indicators enables organizations to improve processes, use resources efficiently, and enhance sustainable quality. By integrating quality metrics and indicators into their strategies, organizations can boost competitiveness and adapt to customer demands.

Key words: Quality indicators, Indicators, Types of quality indicators, ISO (International Organization for Standardization)

Introduction. Quality indicators and indicators are an integral part of modern management systems. They are used to assess the quality, compliance, and efficiency of products or services. These concepts play a significant role in quality management and process optimization.

What are quality indicators and indicators? Quality indicators (Key Performance Indicators, KPIs) are metrics used to assess the quality of a product, service, or process. They serve as essential tools for evaluating the success of an organization or process, as well as for improving or ensuring quality. Quality indicators are developed based on defined goals or standards and are measured using specific criteria. They enable the evaluation of products or services, for example:

- The lifespan of a product
- Customer satisfaction level
- Product defect rate

Characteristics of Quality Indicators. ***Measurable:*** Every indicator must be clearly measurable, expressed in terms of time, quantity, percentage, or other quantitative metrics. ***Variable:*** These indicators may change over time. If the system or process improves, the indicators will also change. ***Goal-Oriented:*** Quality indicators are designed to achieve a specific goal, such as reducing the number of defective products or shortening service times. ***Planned:*** Indicators should be measured over a specific period, helping to determine how quickly or effectively results are achieved.

Importance of Quality Indicators. ***Evaluation:*** Determines whether an organization is operating with quality. ***Improvement*****:** Tracking quality indicators helps achieve improvements in processes or services. ***Planning:*** Provides precise numerical data to develop future goals and strategies.

Quality indicators are widely used in all types of organizations, including manufacturing, service industries, and education sectors.

Indicators and Their Role. Indicators act as signals to help monitor the status or progress of a system or process. They are used to show the success level of metrics or highlight issues. Indicators can be expressed through specific numbers or percentages, or they can be qualitative.

Types of Quality Indicators. Quality indicators come in many types, each serving a specific purpose. They can be classified as follows:

1. **Functional Indicators:** Evaluate the ability of a product or service to fulfill its primary functions.
2. **Performance Indicators:** Measure aspects like the speed, efficiency, and smooth operation of a product or service.
3. **Technical Indicators:** Assess technological aspects, including compatibility and modernity of the product.
4. **Aesthetic Indicators:** Evaluate aspects such as appearance and design quality of a product or service.
5. **Environmental Indicators:** Measure the environmental impact and ecological safety of the product.

Role of ISO (International Organization for Standardization). ISO standards play a crucial role in defining quality indicators and metrics. They ensure consistent quality for products and services and support transparent and efficient management systems. Key aspects of ISO's influence include:

1. **Standardized Quality Criteria:** ISO standards specify quality metrics and requirements for each product or service, helping organizations achieve uniform quality levels and ensuring reliability for customers.

2. **Measurement and Control Systems:** ISO standards define indicators for measuring the quality of products and services. These indicators help quickly identify and correct issues during production processes. For example, ISO 9001 includes a quality management system to monitor and control quality processes.
3. **Globally Recognized Norms:** Quality indicators and metrics compliant with ISO standards are accepted worldwide, facilitating global market access and enhancing competitiveness.
4. **Safety and Reliability:** ISO-defined indicators ensure product safety, boosting customer trust and fulfilling safety requirements.
5. **Competitive Advantage:** Adhering to ISO standards provides a competitive edge, improving customer trust, brand reputation, and market share.

ISO standards thus play a vital role in enhancing and sustaining quality.

Quality Indicators in Practice. Indicators are crucial for assessing quality and monitoring processes. Organizations select these indicators based on their quality management strategies. Commonly used indicators include*:* ***Financial Indicators:*** Show the financial impact of quality products or services (e.g., costs and profits). ***Customer Satisfaction Indicators:*** Measure how satisfied customers are with a product or service. ***Internal Process Indicators:*** Monitor organizational processes and their efficiency. ***Human Resource Indicators:*** Assess employee qualifications, performance, and turnover rates.

Managing Quality Indicators and Metrics. Organizations must perform the following to manage quality indicators and metrics effectively: ***Selection and Definition:*** Identify indicators aligned with organizational goals and establish criteria for sevaluation. ***Process Optimization:*** Use indicators to identify areas for improvement and optimize processes. ***Monitoring and Analysis:*** Continuously monitor indicators, analyze results, and identify weaknesses. ***System Updates:*** Implement improvements based on analyses to enhance quality metrics.

Key Quality Indicators in Education. In education, quality indicators are used to evaluate and monitor the efficiency of educational processes, programs, and outcomes. These indicators are essential for assessing the quality of education provided by institutions ranging from primary schools to universities.

Quality Indicators in Education: The Example of International Assessment Systems. One example of quality indicators in education is the use of international assessment programs, such as **PISA**. **PISA (Programme for**

International Student Assessment) is a program designed to evaluate the literacy (reading, mathematics, and science) and practical application abilities of 15-year-old students across various countries. PISA tests are conducted to assess how well school students acquire the skills needed for analyzing real-world situations, drawing conclusions, and engaging in communication. It also aims to measure how effectively education systems are adapting to these needs. The program was introduced in 1997 and has been held every three years since 2000. Each cycle emphasizes one subject area, comprising nearly 50% of the total test content. For instance, the first cycle in 2000 focused on reading literacy.

Purpose of the PISA Study. PISA is a monitoring study designed to identify and compare changes occurring in education systems across different countries. It also evaluates the effectiveness of strategic decisions in the education sector. From 2000 to 2015, PISA results indicated that the secondary education systems of countries such as **China, South Korea, Singapore, Japan** (East Asia) and **Finland, Estonia, Switzerland, Poland, and the Netherlands** (Europe) were highly developed.

PISA Test Components. PISA tests cover five areas:

1. Reading Literacy
2. Mathematical Literacy
3. Scientific Literacy
4. Collaborative Problem-Solving
5. Financial Literacy

The tests focus on students' understanding of key concepts in these areas, their basic knowledge and skills, and their ability to apply them in real-life situations.

PISA employs four types of testing methods:

1. Single-choice questions
2. Multiple-choice questions
3. Short or detailed written response questions
4. Open-ended problem-solving tasks (these questions encourage creativity, and answers do not need to perfectly match those prepared by test developers).

Key PISA Focus Areas. ***Reading Literacy:*** The ability to comprehend written information, respond to it, and utilize it effectively in daily life. This includes leveraging reading skills to participate actively in society, achieve personal goals, and enhance one's knowledge and capabilities. ***Mathematical***

Literacy: Examines a person's understanding of the role of mathematics in the world and their ability to reason mathematically. The primary aim is to ensure students can use mathematics creatively and thoughtfully to meet current and future demands for mathematical knowledge. ***Scientific Literacy*****:** Focuses on identifying problems in real-life situations that can be solved using scientific methods. This involves drawing conclusions based on observations and experiments, understanding changes occurring in the world due to human activity, and making informed decisions accordingly.

1- Table

No.	Year	Number of Participating Countries	Top Country in Reading Literacy	Top Country in Mathematical Literacy	Top Country in Scientific Literacy
1	2000	32 countries	Finland - 555 points	South Korea - 586 points	Finland - 548 points
2	2003	43 countries	Finland - 543 points	Hong Kong - 550 points	Finland - 549 points
3	2006	57 countries	South Korea - 556 points	Taiwan - 549 points	Finland - 563 points
4	2009	74 countries	China - 556 points	China - 600 points	China - 543 points
5	2012	65 countries	China - 600 points	China - 570 points	China - 580 points
6	2015	70 countries	Singapore - 535 points	Singapore - 564 points	Singapore - 556 points
7	2018	77 countries	China - 555 points	China - 591 points	China - 590 points

This table summarizes the results of the PISA tests over the years, highlighting the top-performing countries in reading, mathematical, and scientific literacy.

Conclusion. Quality Indicators and Their Importance in Evaluating Organizational Efficiency. Quality indicators and performance indicators play a crucial role in assessing the efficiency of an organization or process. These indicators help identify the quality of operations, suggest ways to improve them, and facilitate the effective organization of management processes. This article discusses the definition of quality indicators and performance indicators, and how they can be used to assess efficiency in educational institutions, business processes, or other sectors. A well-developed quality indicator system allows organizations to track their activities with clarity, improve labor productivity,

and enhance service quality. Thus, by selecting the right indicators and regularly monitoring them, organizations can make more informed and effective management decisions.

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