🧩 Internal and External Quality Characteristics Evaluation Template

(Based on ISO/IEC 25010:2023 – Product Quality Model)

Purpose:

This template enables learners or quality managers to **evaluate the inherent (internal)** and **observed (external)** quality characteristics of a software product.
It aligns with the ISO/IEC 25010 Product Quality Model, helping professionals **analyze strengths, weaknesses, and improvement opportunities** across defined quality dimensions.

🧠 Instructions for Learners

1. Choose a **software product or system** to evaluate.
2. Review each **quality characteristic** and its **sub-characteristics**.
3. Use the **evaluation criteria** to rate the product's performance on a scale of **1 to 5** (1 = Very Poor, 5 = Excellent).
4. Record **evidence, observations, or metrics** supporting your rating.
5. Identify **priority areas for improvement** and proposed corrective or preventive actions.

📋 SECTION A: Software/System Overview

Field	Details
Product/Project Name	
Version/Release	
Evaluator Name & Role	

Date of Evaluation	
Evaluation Context (Development / Testing / Deployment / Post-release)	
Evaluation Objective	

⚙ SECTION B: Internal Quality Characteristics (IQCs)

(Intrinsic attributes that define the internal quality of a software product)

Characteristic	Sub-characteristics	Evaluation Criteria / Indicators	Rating (1–5)	Evidence / Observation	Improvement Opportunities / Actions
1. Functionality	Suitability, Accuracy, Interoperability, Compliance	Does the software perform all required functions accurately and consistently?			
2. Reliability	Maturity, Fault Tolerance, Recoverability	Does the system operate without failure and recover effectively from errors?			
3. Usability	Learnability, Operability, Attractiveness	Is the software intuitive, easy to learn, and satisfying to use?			

4. Efficiency	Time Behavior, Resource Utilization	Does the software optimize performance and minimize resource use?			
5. Maintainability	Analyzability, Changeability, Testability	Can the software be easily modified, repaired, or extended?			
6. Portability	Adaptability, Installability	Can the software be easily transferred to other environments or systems?			

🌐 SECTION C: External Quality Characteristics (EQCs)

(Observable qualities when the software interacts with its external environment or users)

Characteristic	Sub-characteristics	Evaluation Criteria / Indicators	Rating (1–5)	Evidence / Observation	Improvement Opportunities / Actions
1. Security	Confidentiality, Integrity, Availability, Accountability, Non-repudiation	Does the software adequately protect information and ensure			

		secure access control?			
2. Compatibility	Coexistence, Interoperability	Does the product function well alongside and communicate effectively with other systems?			
3. Interoperability	Data Exchange, Protocol Adherence	Can the software exchange and use information seamlessly with external systems?			
4. Performance Efficiency	Responsiveness, Throughput, Resource Behavior	Does the product maintain efficient response times and resource utilization under load?			
5. Compliance	Regulatory & Technical Standards	Does the product adhere to relevant regulations,			

		technical standards, and internal policies?			

📄 SECTION D: Summary and Analysis

Aspect	Observation / Insights
Strongest Quality Characteristics	
Weakest Quality Characteristics	
Root Causes of Poor Ratings	
Risks Identified (linked to quality gaps)	
Opportunities for Improvement	
Recommended Actions	
Responsible Person(s)	
Target Completion Date	

📈 SECTION E: Quality Rating Summary Dashboard

Characteristic Category	Average Rating (1–5)	Quality Status (Acceptable / Needs Improvement / Critical)
Internal Quality (IQCs)		
External Quality (EQCs)		
Overall Product Quality		

Optional Formula (for learners):

Overall Quality Score (%) = (Sum of all ratings ÷ Maximum possible score) × 100

💬 **Reflection Questions (for Learners)**

1. Which quality characteristic had the **most significant impact** on user satisfaction or system performance?
2. How can improvements in internal characteristics enhance external quality outcomes?
3. Which areas require **collaboration with developers, testers, or users** for improvement?
4. How can this evaluation inform your next **quality assurance plan** or **project decision**?