Ensuring Quality to Gain Access to Global Markets: A Reform Toolkit

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Introductory Remarks

- joint publication by PTB International Cooperation Department and World Bank Global Quality Infrastructure Unit
- published in April 2019
- Set of publications and instruments aimed at assessing and reforming QI systems in a holistic manner
- Target group: development cooperation and QI professionals
Set of products

- QI Reform Toolkit
- Comprehensive Diagnostic Tool
- Rapid Diagnostic Tool (Excel Template)
- 8 Case Studies
The Quality Infrastructure (QI) system can be understood as the system comprising the organizations (public and private) together with the policies, relevant legal and regulatory framework, and practices needed to support and enhance the quality, safety and environmental soundness of goods, services, and processes. It relies on: metrology, standardization, accreditation and conformity assessment.
Quality Infrastructure System

Applicable to all products, processes and services
The relevant and necessary QI reforms that serve countries' priorities

Market-Driven Approach
Establishing the process for QI reforms
Transparency
Justify public interventions/funding
Stakeholders Engagement (private sector, development partners, academia)

Priority sector(s)
Target market(s)
Technical regulations

Availability of QI services
Institutional and human capacity
International recognition/affiliation

Results measurement framework
Key performance indicators

Program design and plan
Implementation support

Demand for QI

Monitor and Review

Develop and Implement

Assess Gaps
Set Priorities

QI Supply Diagnostics
| 1 | Executive Summary |
| 2 | Importance of QI Reforms and Demand Assessment |
| 3 | Standards |
| 4 | Metrology |
| 5 | Accreditation |
| 6 | Conformity Assessment |
| 7 | Technical Regulation |
| 8 | The QI as a flexible PPP System |
| 9 | Diagnostic Tools |
| 10 | How to Reform: Interventions and Approaches |
| 11 | Challenges of QI Reform |
| 12 | Monitoring and Evaluation |
Module 1: Executive Summary

**Toolkit introduction**
E.g. structure, objectives, target group, etc.

**How to use the toolkit**
To guide users to the right module(s) in terms of their situation (e.g. users’ level of QI knowledge and experiences, QI reform priority, etc.)

**Context and rationale**
- QI elements (standardization, metrology, accreditation, conformity assessment and technical regulation)
- Global trade systems, WTO TBT, SPS Agreements
- QI’s role in trade, innovation, competitiveness
## Module 2: Importance of QI and Demand Assessment

<table>
<thead>
<tr>
<th>Increase Market Access</th>
<th>Improve Firm’s Productivity</th>
<th>Protect Public Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Increase exports</td>
<td>• Reduce cost of trade and cost of doing business</td>
<td>• Public health and safety</td>
</tr>
<tr>
<td>• Increase product diversification</td>
<td>• Benefit from economies of scale due to improved working methods and standardization</td>
<td>• Consumer protection</td>
</tr>
<tr>
<td>• Improve investment opportunities</td>
<td>• Enhance innovation and technology transfer</td>
<td>• Social protections and labor conditions</td>
</tr>
<tr>
<td>• Benefit from trade agreements</td>
<td></td>
<td>• Environmental protection</td>
</tr>
</tbody>
</table>

- 44% of firms had to conduct significant duplication of testing procedures to meet foreign requirements after domestic requirements have been met;  
- 30% of firms had to conduct complete duplication of testing procedures;  
- 68% of firms cited testing and certification costs as an important reason for not exporting.

- Investment Climate firm-level surveys in developing economies found that ISO 9000 certification achieved average productivity gains between 2.4% and 17.6% for three Central American economies, 1% for four Southeast Asian Economies, and 4.5% in China;  
- Standards reform contributed to 13% of growth in labor productivity in the UK.
Module 3-7: Detailed Description of Good QI Practices

- Standards
- Metrology
- Accreditation
- Inspection
- Testing
- Certification
- Technical Regulation
Module 9: Rapid & Comprehensive Diagnostic

QI Elements:

Fundamentals:
- Standards
- Metrology
- Accreditation

Conformity assessment:
- Inspection
- Testing
- Certification

Technical regulation

- **Pillar 1**: Service Delivery and Technical Competency
- **Pillar 2**: Administration
- **Pillar 3**: Institutional Setup
- **Pillar 4**: External Relations and Recognition
Module 9: Example Metrology

FIGURE 4.1
House of metrology for a national quality infrastructure

National quality infrastructure

1. Metrology strategy

3. Autonomy

2. Legal entity

4. Legal standing of national measurement standards

5. Governance

6. Financial sustainability

10. Premises

11. Equipment

15. Calibration and measurement capability

16. Calibration service

17. Training system

18. Liaison with regional organizations

19. Liaison with intl. organizations

20. Coordination within the QI

21. Designated institutes

22. Stakeholder engagement

National quality policy
# Module 9: RDT Metrology

## Pillar 1: Legal and institutional framework

<table>
<thead>
<tr>
<th>Element</th>
<th>Information sources</th>
<th>Benchmark and questions</th>
<th>Scoring</th>
<th>Score</th>
</tr>
</thead>
</table>
| 1) Metrology strategy | • NMI board or council papers  
  • NMI website  
  • Relevant ministry (e.g., Trade and Industry) website  
  • Annual report of the NMI | A metrology strategy giving effect to the implementation of the quality policy regarding scientific, legal, and industrial metrology is in place. It covers the establishment of national measurement standards, the national metrology infrastructure, international recognition, and the capacity of the NMI and the private sector to implement the strategy. | | |
| a. Is a metrology strategy in place? | | | Yes=4 | 1.0 |
| b. Does the metrology strategy include all the necessary elements as required by the demand, namely | o Priorities for the establishment and maintenance of national measurement standards  
  o Accuracy classes of national measurement standards, i.e., primary or secondary level  
  o International and regional liaison to gain international recognition  
  o Moving of calibration services from the government sector to the private sector | | Yes=1  
  Yes=1  
  Yes=1  
  Yes=1 | 1.0  
  0.0  
  1.0  
  1.0 |
| c. Is an implementation plan for the metrology strategy in place and being followed? | | | | |

Aggregate score: Metrology strategy \((a+b+c)\)/3 = 0.7
Module 9: Outcome

QI implementation status dashboard illustration (conceptual)

- Metrology
- Standards
- QI
- Accreditation
- Conformity assessment
- Technical regulation
Example: RDT Metrology

METROLOGY

- Pillar 1: Legal and institutional framework
- Pillar 2: Administration and infrastructure
- Pillar 3: Service delivery and technical competency
- Pillar 4: External relations and recognition

Diagram showing various aspects of metrology such as stakeholder engagement, legal entity, autonomy, designations institutes, coordination within the QI, liaison with international organizations, liaison with regional organizations, training system, calibration service, calibration and measurement capability (CMC), interlaboratory and key comparisons, metrologists, quality system documentation, equipment, premises, financial sustainability, governance, chief executive officer, organizational structure, management and personnel.
Module 9: Outcome

Figure 5.2: QI Entity Building Block implementation status (conceptual)

This image is a “dashboard” type illustration that tells the viewer at a glance what the implementation status is without having to read through lengthy reports. Once all building blocks are green, then implementation is complete.

Source: Adapted from PTB (2007)
Module 2 & 9: Demand Assessment and Supply Diagnostics

QI Assessment & Diagnostics

Demand

Module 2

Supply

Module 9

Gap between demand and supply
# Module 10: How to Reform: Interventions and Approaches

## Reform Areas

<table>
<thead>
<tr>
<th>Developing quality policy and strategy</th>
<th>Developing standardization for competitiveness</th>
<th>Role of standards compliance in GVC and FDI</th>
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<tbody>
<tr>
<td>Reforming the QI legal and institutional framework</td>
<td>Strengthening metrology and accreditation</td>
<td>Enabling domestic products to meet (quality) standards</td>
</tr>
<tr>
<td>Building and developing awareness, information and training campaign</td>
<td>Special considerations for QI development projects</td>
<td>Applying standards for innovation and technology transfer</td>
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<tr>
<td>Solving conflicts of interest</td>
<td>Harmonizing technical regulation</td>
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</table>
Module 11: Challenges of QI Reform

- To discuss the various challenges, dos and don’ts, and lessons learned associated with QI reforms.
- To ensure an efficient reform process, proper project preparation and planning, building realistic timelines, providing sufficient resources and maintaining and sustaining reforms.

Project preparation and management

Main challenges of QI institutions

Strategic approaches to support QI development

Support to QI institutions
Module 12: Monitoring and Evaluation

- Theory of Change
- Monitoring and Evaluation (M&E) model for QI reform
- Key performance indicators to monitor the achievement of the desired outcomes
- Evaluate the performance of QI institutions and the availability of sufficient and competent services
Annex: Country Case Studies

To provide real examples of countries that have implemented QI reforms (Germany, EAC, Ethiopia, Kyrgyzstan, South Africa, Pakistan, Brazil, and Turkey).

- Before reform
- Reform trigger
- Reform objectives
- Challenges
- Lessons
- Reform program overview
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www.ptb.de/qitoolkit
Thank You