Quality and Productivity (Into the future)

by Sunil G Wijesinha

Quality and Productivity Management
Into the Future

KAMRAN MOOSA
Pakistan Institute of Quality Control
kamranmoosa@brain.net.pk

Contents

1. SWOT Analysis on Quality and Productivity Issues
2. Analytical Overview of Competitiveness and Performance
3. Global Conformity Assessment Requirements
4. Changing Paradigms – Changes in Future Strategies
5. Conclusion
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Strengths

1. Large base of indigenized industries
2. Strong entrepreneur spirit
3. Width of technologies
4. Width of human resources
5. Low cost of human resources
6. Industrial clusters
7. Good industrial performance by many industries
8. Survivability due to defence technologies
9. Professional culture
10. Cultural values and open environment

Weaknesses

1. Weak enforcement of standards
2. Weak ISOs certifications
3. Quality – only management driven programs
4. Supervisors/workers “out” from quality programs
5. Productivity – not addressed professionally
6. Little R&D and Innovations
7. Lack of depth in HRM
8. Error in Metrology Systems (Internal/External)
9. Stuck at ISO 9000 level
10. Low level of average Technology
11. Low volumes of Production
12. Quality & Productivity Vision
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Opportunities

1. Further develop our strengths
2. WTO Compliance
3. Enhance Export markets
4. Enhance Credibility/business in Local Markets
5. Improve Technologies
6. Improve Management Systems
7. Conformity to International buyers
8. Conformity to national standards
9. R&D and new products
10. Corporate Culture and social environment
11. Mergers and collaborations

Threats

1. Severe competition in local markets. Many may close down in the next decade
2. Severe competition in export markets. May close down in the next decade
3. Technology is gradually outdated
4. Loss of polytechnic graduates
5. Brain drain
6. Lowering of living standards
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3Cs and Group Alignment

Compatibility Competitiveness Community

- Collective Bond
- Political & Professional Roles
- Technology Management Leadership Opportunities
- Self-development Knowledge Skills, Attitude Creativeness, Ethics, Loyalty
- Productivity
- Leadership

Region

Country

Sector

Organization

Individual

Might Is Right

Races Religions Conflicts

Leadership Q&P of Govt. Proactive Policies Continuity Legal Framework Education

Technical Management Leadership Opportunities

ILO Report on Productivity Growth

- Growth in productivity per person employed in the world as a whole accelerated, from 1.5 per cent during the first half of the 1990s, to 1.9 per cent in the second half. Most of this growth was concentrated in industrialized economies (the US and some EU countries), plus some in Asia (China, India, Pakistan and Thailand). In Africa and Latin American economies, available data showed declines in total economy productivity growth since 1980.
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Two Dimensions of Competitiveness

<table>
<thead>
<tr>
<th>Quality</th>
<th>Low</th>
<th>Med</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company A</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company B</td>
<td>Med</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company C</td>
<td>Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company D</td>
<td>Med</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Materializing Performance

Establish KPIs - Balanced Scorecard

Financial
- Objectives
- Measures
- Targets
- Initiatives

Profitability (per person, machine, model, month, etc.)
- Market Share

Process
- Objectives
- Measures
- Targets
- Initiatives

Processivity (output per person, machine, etc.)
- Quality (compliance, rejections, defects)

Customer
- Objectives
- Measures
- Targets
- Initiatives

Higher Competencies (HR)
- New products (R&D)

Learning & Growth
- Objectives, Measures
- Targets, Initiatives

Higher Competencies (HR)

Strategic Performance

Complaints
- Retention Rate

CSI

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Four Variables of Competition

- Technological Strength
- Marketing Strength (Opportunity Exploiting)
- Management Strength
- Financial Strength

![Diagram showing the four variables of competition and competitive advantage]

Competitive Advantage for a is $a > b$

Comparative vs Competitive

**MARKET ADVANTAGE**

**Comparative Advantages** (natural/historical)
- e.g.: Pakistani cotton
- goat skins
- Fertile land
- Cheap/Hardworking Labor

**Competitive Advantages** (self created)
- e.g.: Customer Satisfaction
- Defect Rate
- Employees Retention
- Employees Satisfaction
- Productivity Rates
- Competitive Pricing
Managing Competitive Advantage

Performance Management (Q+P)

Pillars

Output & Outcome

Managing Competitive Advantage

Competitive Advantage

Resources

Financial, Human, Information

R&D, Production, Innovation, IT

Technology

Leadership, Policies

Systems, Benchmarks

Performance

Entrepreneurship

Opportunity Search

International Mkg.

Response Rate

Output & Outcome

Management

Leadership, Policies

Systems, Benchmarks

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Output & Outcome

R&D, Production, Innovation, IT

Technology

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International Mkg.

Response Rate

Output & Outcome

Organizational Capabilities

Technology Audit

Required Technologies (Gaps)

Existing Technologies

R&D Capability

Production Or Service Capability

Testing Capability

Marketing Capability

Management Audit

Required Capabilities (Gaps)

Existing Capabilities

R&D Capability

Production Or Service Capability

Testing Capability

Marketing Capability

Management Audit

Required Capabilities (Gaps)

Existing Capabilities

R&D Capability

Production Or Service Capability

Testing Capability

Marketing Capability

Management Audit

Required Capabilities (Gaps)

Existing Capabilities
Different Qualities, Different Barriers, Different Markets

Country A  Country B  Country C

Market Segments

Technical Barriers

Conformity Assessment
(Fulfillment of standards and specifications)

Supplier  Consumer

Requirements

Regulator
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Like variation in production, there is variation in testing
Variation in testing, called Measuring Error is an un-noticed big issue in Pakistan
Lab Management System, like ISO 17025 are required
Effective and Credible Accreditation is required

Conformity Assessment – Chain of Trust

- MLAs
- ISO 17025, ISO 17020
- ISO-G-58, ISO-G-61
- ISO-Guide 62, 66
- ISO 9001, 14001, SA8000
- Personnel/Training
- Credibility, Trustworthy
- Professionals, Institutes, Consultants
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India’s Legal Metrology

National Accreditation Bodies

ISO G-58

ISO17025

ISO17020

ISO-Guide 62, 66

ISO17022

Personnel/Training

To be announced in 2004

Laboratories / Calibration

CERTIFICATION AGENCIES

ISO9001, 14001, SA8000

Process/ System Audits

Product Audits

Buyers Reqt’s

Professional, independent, transparent

ILAC APLAC

IAF PAC

IATCA IRCA

International / Regional Accr. Clubs

400 (289 testing +158 Calib +35 Clinical)

Product Testing

Product Marks, CE

Indonesia’s Legal Metrology

National Accreditation Bodies

ISO G-58

ISO17025

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ISO-Guide 62, 66

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International / Regional Accr. Clubs

218+

2 Bodies

Product Testing

Product Marks, CE

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Pakistan's Legal Metrology

National Accreditation Bodies

None

ISO 17025

LABS / Calibration

Product Testing

ISO 17020

ISO 9001

Process Audits

ISO Guide 62, 66

ISO 17022

Personnel / Training

Qualification Criteria

ISO 14001, SA 8000

Professional, independent, transparent

Credibility, Trustworthy

Inspeciton Agencies

Certification Agencies

International / Regional Accred. Clubs

ILAC

APLAC

IAF

PAC

IATCA

IRCA

MLAs

None

2

Recently Started Weak

Buyers Req' ts

Product Audits

Product Testing

Quality and Productivity

Pakistan Institute of Quality Control

ICQI'2004

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Pakistan's Legal Metrology

None

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Conformity Assessment Bodies in Europe (Ref: TICQA)

ISO 9000 System Maturity

After 1 - 2 years

Excellent 15%
Good 25%
Satisfactory 60%
Acceptable
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Effectiveness of ISO 9000 QMS

TQM Tools - Awareness/Implementation
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PARADIGMS

1. Changing Scope of Quality Manager

1. Change from Conformance to Performance. From just “Quality/ISO 9000 Manager” to “Performance Improvement Manager”. Adding the roles of productivity and competitiveness. Establish Performance measures and control in each department

2. Revitalize ISO 9000

3. Acquisition of knowledge on International markets and their requirements of products, European Directives and conformity assessment.

4. Build strong partnerships with Finance (Cost of Quality) and HR Managers (Motivation/Change Mgt.)
2. Conformity Assessment

1. Create a culture of Standards for products, processes and systems. Make it a strategic issue.
2. Strengthen your measuring systems; measuring errors, creating transparency and credibility (may use ISO 17025 model).
3. Strengthen your conformity assessment credibility.
4. Create awareness to conformity assessment. Health, Safety, Environment, and Social Accountability are also becoming critical to international businesses.

3. Management and Structures

1. Decentralize Performance Measures, control and improvement.
2. Create an MIS for Performance Measures.
3. Create Departmental Coordinators for Performance Management in each department.
4. Top Management to allocate time, effort and money for performance improvement.
5. Involve as many people as you can in problem solving (do not make it the responsibility of selected few).
6. Use tools like Balanced Scorecard, Time and Motion Study, Kaizen, etc.
Example of a Management Structure

4. Legal Metrology and Conformity Assessment

1. Legal Metrology System and Chain is not functioning for the last many decades. Need total re-engineering, with new laws and acts.
2. Performance of government organizations must be measured and controlled with legal structures.
3. Standardization culture is not appropriate to post WTO scenario and must be further strengthened.
4. Professional bodies are not playing their effective role in producing, promoting and encouraging standards.
5. Government organizations have failed to establish effective linkages/Mutual Recognition Agreements with international counterparts, resulting in a crisis. This must be solved on emergency basis.
6. Better and professional manpower must lead the legal metrological systems, including accreditation, standardization, etc.
Conclusion

- Higher competitions are ahead of us. We need to adopt better strategies and faster actions to deal with new challenges.
- The new era is of productivity and conformity assessment. Productivity needs serious considerations coupled with better quality of life.
- Technology and R&D must be given due considerations to improve productivity as well as quality.
- Legal Metrology must be re-engineered in Pakistan.

The End

Quality Begins and Ends with actions Not with words

Thank You