PROJECT H3: QMS IMPLEMENTATION

Simple PDCA Framework

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Objectives

- **Implementing a Quality Management System (QMS)**
- **Transitioning from 2008 to 2015 ISO standard**

Constraints

- **Lack of quality training, knowledge and skills**
- **Modern management practices conflict with traditional systems**
- **Seen as additional work**
- **No rewards**
- **It is difficult to retain quality professionals on the establishment**
  - **Part-time quality professionals**
  - **Contract employees**
- **QUALITY EFFORT IS NOT SUSTAINED**

Management's Role

- **Acquiring required knowledge**
- **Convert traditional management into quality management**
- **Allocating resources to QMS – financial and human**
- **Incorporating quality into strategic plans**
- **Effectively communicating quality to staff**

Strongly recommend NMSs use this guide

- **Very thorough**
- **Extensive quality toolbox**

https://library.wmo.int/opac/doc_num.php?explnum_id=4141

- Strategic Planning

- Plan Deployment
- Implementation

Strategic Thinking

Plan

Do

Act

Check

- Improvement

- Monitoring and Evaluation
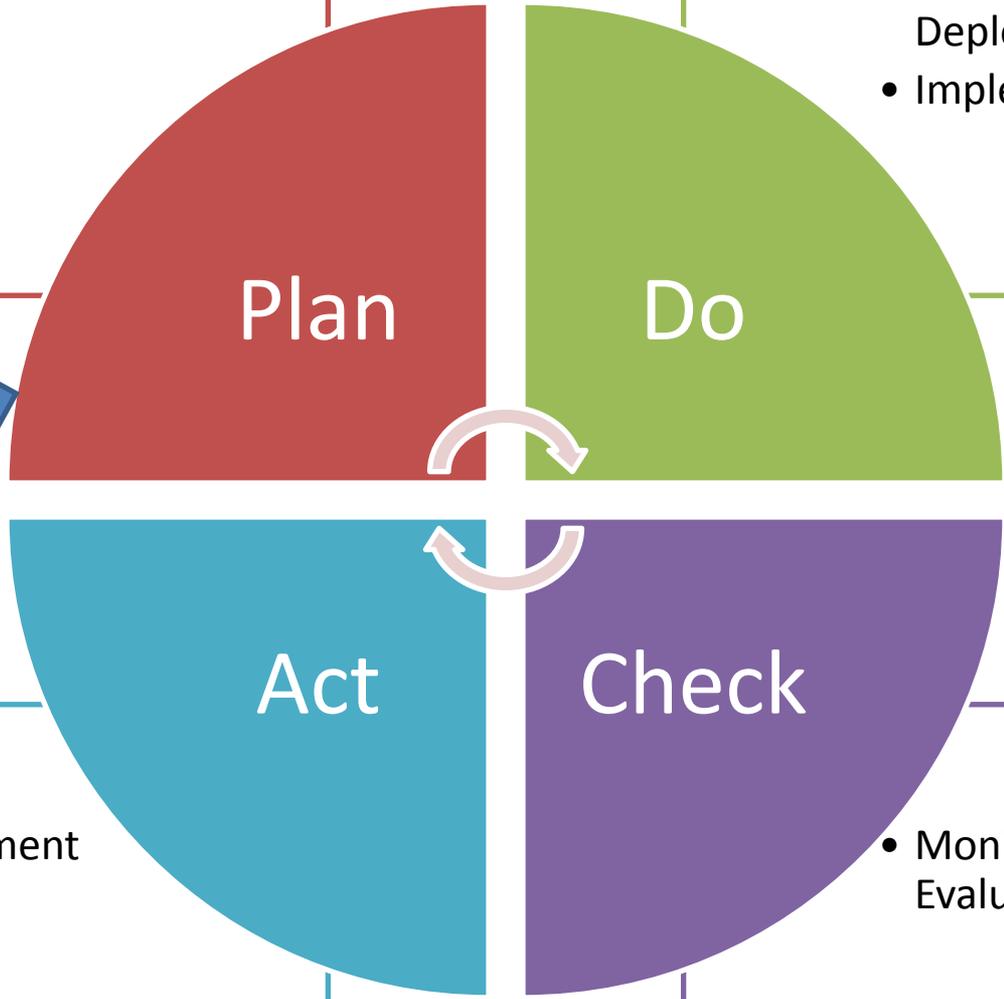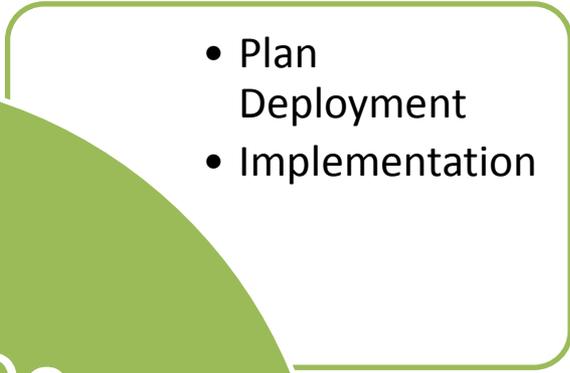
Specific Actions

Plan	Do	Check	Act
• Establish x-functional team • Scan environment • Develop strategic plan • Agree on performance metrics	• Deploy plan throughout NMS • Implement tasks and activities • Implement performance monitoring	• Check performance against targets or milestones	• Adjust tactics • Re-evaluate performance • Report on performance • Recognize, document and reinforce successes • Review and improve plan

Strategic Thinking

- **Think of NMS as a business, from a perspective higher than yours**
- **Conduct a business environmental scan – Tools: PESTLE, SWOT, Porter's 5 Forces**
- **Determine the needs and expectations of 'interested parties' – internal and external**
- **Consider the purpose of the NMS – national legislation, regulations, development plans, work plans, etc.**

Strategic Planning

- **Top Management -**
  - **Review/update/determine the Vision and Mission for the NMS**
  - **Describe the NMS's guiding principles**
  - **Determine the scope of the QMS**
  - **Establish NMS's Quality Policy**

Strategic Planning

- **Top Management - Discuss with Management Team:**
  - **Establishment of Strategic Quality Objectives**
  - **Devolve Strategic Quality Objectives into Tactical Objectives**
  - **Establish deliverables with timelines, and resource needs**
  - **Consider the risks and opportunities at each step, and develop a control plan**

Plan Deployment

Top Management

Middle Management

Direct Supervisors, Observers, Forecasters
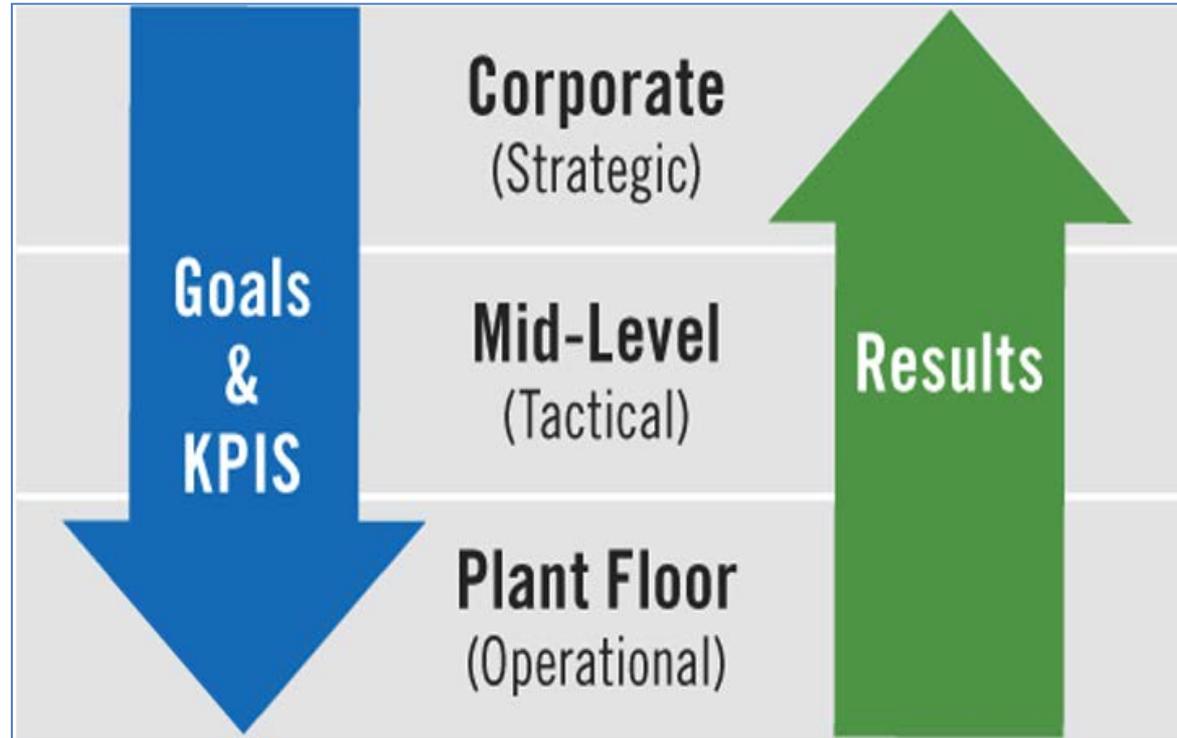
Plan Deployment

- **Middle Management – Discuss with line supervisors and staff**
  - **Specific actions or tasks (tactics) to implement Tactical Objectives**
  - **Establish key performance indicators (KPIs), targets, milestones**
  - **Quality Dept. should assist with monitoring or determining methodology**
  - **Implement actions or tasks**

TTMS Deployment Example

"The TTMS will provide the highest level professional meteorological services..."

Quality Policy

Increase forecast accuracy by 10% in one year

Reduce chart analysis time by one hour in 2018

Increase TAF accuracy from 70% to 80% in 1 year

Train all Forecasters in amendment procedures by June

Install real-time TAF monitoring software by April

Improve customer satisfaction by 1 point in 1 year

Increase METAR timeliness by 5% in 1 year

Install instant messenger for METAR communications between TTCP & TTPP

Strategic Objectives   **Tactical Objectives**   **Activities/Projects**

Monitoring and Evaluation

- **Middle Management and/or Quality Department:**
  - Collate and monitor performance data
  - Report performance to Top Management

Improvement

- **Middle Management:**
  - **Tactics should be adjusted based on performance data**

- **Top Management:**
  - **Review Strategic Plan regularly for continuing relevance**
  - **Update and improve the plan in response to environmental changes and quality performance**

STAGE	ACTIVITIES	TOOLS
PLAN	1. Establish x-functional team 2. Scan business environment 3. Consider risks/opportunities 4. Develop strategic [action] plan 5. Agree on performance metrics, benchmarks	Top Management Meetings; SWOT; PESTLE; 5 Forces; Risk Matrix; Stakeholder Analysis; Hoshin Kanri; Balanced Scorecard
DO	1. Deploy strategic plan throughout NMS 2. Implement activities, tasks, projects 3. Start monitoring performance, KPIs, etc.	Middle Management Meetings; Check Sheets
CHECK	1. Monitor performance/achievements against performance standards, project milestones, etc.	Control Charts; Histograms; Pareto Diagrams; Project Reports
ACT	1. Adjust tactics based on the results of monitoring 2. Report performance data to Top Management 3. Re-evaluate performance after adjusting tactics 4. Recognize successes and learn from mistakes 5. Review and improve strategic plan	Performance Reports; Case Reports

GREPECAS Lima: Project H3

- **Certification of QMS**
- **Incorporation of competency, education and training, and continuous professional development**
- **TAF Verification Software from Cuba**
- **Experts from CAR States for Project H3**
- **Metrics**

Certification of QMS

- **Incorporated into Line Ministry's Work Plan for fiscal 2017/2018**
  - **Full ISO 9001:2015 transition by April 2018**
  - **Engage a Certification Body by September 2018**
  - **Full support of Permanent Secretary and the Minister of Public Utilities**

Competency et al.

- **Upgraded QM HRM Process to incorporate mandatory retraining for AMP, and continual professional development**
- **TTMS engaged the RTC-CIMH and retrained all AMOs in observation and reporting practices in November 2017**

Guide to Competency

2018 edition

WEATHER CLIMATE WATER

WORLD
METEOROLOGICAL
ORGANIZATION

WMO-No. 1205

- **Very new WMO publication**
- **All should review**

https://library.wmo.int/opac/doc_num.php?explnum_id=4237

TAF Verification

- **Have been doing verification regularly since September 2014**
  - **Some minor software hiccups**
  - **We use Visual Weather from IBL Software Engineering**

Experts from CAR Region

- **Trinidad and Tobago will support the project with an expert**

Metrics

- **Most critical for aviation are accuracy and timeliness**
- **Implemented for all aviation products**
- **Product audits are done regularly to ensure:**
  - **Accuracy of meteorological information**
  - **Timely dissemination of meteorological information**

Metrics

PRODUCT	METRIC
METAR/SPECI	• Monthly % on-time dissemination • Monthly % without coding or typographical errors • Monthly % missing transmissions
TREND Forecast	• Monthly % accuracy
TAF & Area Forecasts	• Monthly % on-time dissemination • TAF Accuracy - % ALL OK per month
SIGMET	• Monthly % updated on-time • Monthly % conformance to Annex 3 template
Flight Documents	• Monthly % issued on-time

Recommendations

- **Acquire QMS implementation training**
- **If certified, engage your registrar**
- **Use the PDCA Method to assist QMS implementation**
- **Use Cuban TAF Verification software if you don't have your own**
- **Review new WMO Publications on QMS and Competency**

Thank you
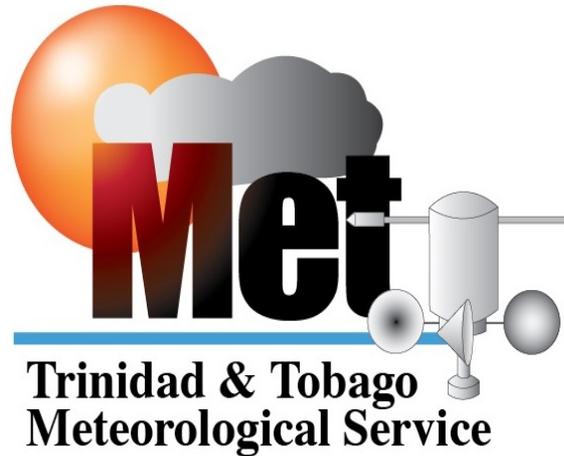
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