

# **Electronic QMS**

## **Ends relentless pursuit of inefficiency**

## **Ends Quality Manager's nightmare**

By Sunil Thawani and M. M. Joshi\*

Sunil Thawani is working in Abu Dhabi National Oil Company for Distribution. He is Senior Examiner and Team Leader, Dubai Quality Award, Lead Auditor, IRCA, UK and Country Councilor - UAE, American Society for Quality. He can be contacted at [thawani@emirates.net.ae](mailto:thawani@emirates.net.ae)

M. M. Joshi is working as Senior Systems Analyst in Dubai Islamic Bank. He is a Certified Principal Lotus Notes Administrator and Certified Lotus Professional (Development). He is also certified Sun Microsystems Java 1.1 programmer. He can be contacted at [mmjoshi1@emirates.net.ae](mailto:mmjoshi1@emirates.net.ae)

### **1 Synopsis**

ISO : 9000 quality management systems standard was created to motivate and assist organisations develop, document and implement good management practices. Unfortunately, due to variety of reasons, it generated lot of paper. At times, maintaining documentation becomes the prime focus rather than improving the quality of processes, products and services.

Converting hard copy document system to electronic document management system, a Sea Port could succeed in not only introducing ease of managing the system, but achieve lot of other benefits.

How did Sea Port do it ? Sea Port's approach and its success story of converting hard copy document system to electronic is given below.

### **2 Introduction**

Most of us recognize that ISO-9000 quality management systems standard defines good management practices. It requires organizations to develop, document and implement its business processes to achieve consistent quality.

However, at times organizations end up managing documentation "demanded and generated" by ISO : 9000 rather than achieving quality. Thereby, the main focus of implementing and improving the quality management system can go off the track and ISO-9000 loses its purpose, advantage and above all the interest of employees.

We will share with you, how we succeeded in converting paper based system to electronic form, key learning, its benefits and in maintaining the focus and application of quality management system.

### **3 Introduction to Port Authority:**

Port Authority is the largest man made Sea Port in the world. In 1998, it achieved a ranking of 10<sup>th</sup> largest Container Ports in the world. More than 125 Shipping Lines call SEA PORT & it has been awarded best Sea Port in Middle East. In 1998 11,316 vessels called & it handled a total of 36.4 million tonnes of cargo.

SEA PORT manages two Terminal which are 40 kms apart & connected by a high-speed fiber optical communication cable. Put together both the ports have more than 100 berths & equipped with one of the best equipments & technology.

SEA PORT also manages Free Zone , situated adjacent to the port. Free Zone provides ready built facilities, such as warehouses, factories and offices, manages staff accommodation, recreation, etc. Till 1998 it has leased out facilities to more than 1400 companies from 75 plus countries including many of the Fortune 500 companies.

### **4 SEA PORT's Quality Journey**

#### **a) Developing & implementing Quality Management System (ISO : 9002)**

SEA PORT was the first Government Organisation to develop & implement quality systems in conformance to ISO : 9000 family of standards. In 1996, both the Sea Port terminals got certified to ISO : 9002 & Free Zone got certified in 1998.

Free Zone is possibly the first business of its kind in the world (certainly in GCC) to have been certified to ISO 9002. Free Zone quality systems were recognised and awarded as " Best Quality Systems " by the Government in 1998.

### **5 Maintaining & Improving the Quality Management System (ISO : 9002)**

SEA PORT's Quality Management System (QMS) comprises of 2 Quality Manuals, 58 procedures, 40 Work Instructions, & 189 Forms including guidelines & attachments. These were made available at 138 locations in hard copies in folders titled Quality Systems Procedures. At all the 138 locations a suitable place was created which was visible & provided easy access to users.

3 people team from Quality department (Quality Manager, Quality Officer & Secretary) with active assistance from 34 Process Owners, 34 Lead Auditors & 21 Auditors maintain the Quality system, in addition to other quality initiatives.

### **6 Difficulties in maintaining the Quality System in Hard Copy:**

Due to 40 kms distance between the two ports, various cargo sheds and yards, it was becoming increasingly difficult to maintain the quality systems. Some of the difficulties faced were:

Monitoring & keeping track of on going document amendments, stages of 120 plus audits conducted in a year, status of their findings etc. had become a near impossible task.

Document amendment, approval, issue & distribution was complicated & time taking process. As a result Process Owners became apathetic & indifferent to even initiate the change process.

At times, improved practice did not get implemented in time.

It supported the generally held belief that ISO 9000 is nothing but Documentation, Documentation & only Documentation

Documentation was becoming the key mind set instead of improving the system. (Fear of ISO becoming a "Paper Tiger" was increasing everyday.)

Quality Department used to devote lot of time and effort in tracking & monitoring documentation instead of focussing its efforts on other critical issues of organisation transformation and improvement.

It generated phenomenal paper (20,000 pages of documents considering all locations plus 5000 pages generated annually from audits).

Looming fear that latest revision may not be available at all the desired locations.

## **7 Converting QMS from Paper to Electronic system:**

In view of the scale of operation, diversity of businesses, volume of work involved, it was envisaged to convert the paper based system to electronic media early on in 1997 itself. Considering SEA PORT had already invested heavily in information technology, the required IT infrastructure was already in place.

To take care of the above mentioned issues, using ISO Achiever application, running in Lotus Notes environment, a major initiative of converting paper based system to electronic media was launched in 1997. After one & a half years of dedicated and sustained efforts by a small team from IT & Quality department, overcoming all kinds of hurdles, SEA PORT's QMS was converted to electronic media.

Main steps initiated were:

- Selecting the right application,
- Evaluating & upgrading desktops,

- Procurement of server & software,
- Pilot testing Electronic QMS
- Migrating from Microsoft to Lotus Notes mail
- Providing training and laying foundation for implementation
- Going live

**a) Selecting the right application**

The criteria for selecting the application was

- Familiarity of the employees with the e-mail system,
- Ease of use,
- Work-Flow based,
- Customizability,
- Capability within the organization to manage it,
- Compatibility with the existing IT infrastructure

**b) Evaluating & upgrading desktops**

- Developed PC configuration specification
- Took inventory of the existing PCs
- Upgraded/replaced about 40 PCs

**c) Procurement of server & software**

- Application software selected – ISO Achiever Plus
- Server Sizing done - based on number of actual and simultaneous users
- Application platform selected - Lotus Notes

**d) Pilot testing Electronic QMS**

- Team of Process Owners, Auditors, Quality Coordinator, Quality Manager formed
- Experimented with the system
- Team enhanced its learning and gained confidence on use of product features to suit the requirements
- Resolved technical bottlenecks

**e) Migrating from Microsoft to Lotus Notes mail**

- Posed a major challenge
- Change over from MS-Mail and MS-Exchange mail to Lotus Notes – No ready solution existed
- Developed, verified and validated an application to change over. Lotus Notes mail box on central server and earlier mails on the desktop and converted MS-mail to Lotus Notes.
- Created option for users and equipped them with appropriate application which enabled them to meet business objectives. E.g.,

Customer services staff were provided Lotus Notes based mail system for Customer Complaints application system

- User Support completed the actual migration in phased manner

**f) Providing training and laying foundation for implementation**

- Provided two full days of hands-on training to Process Owners & Auditors by Supplier
- Core team from Quality and IT formed to provide in-house training and support to all the users,
- Several training sessions planned to share problems encountered in managing the existing paper based system, benefits of going electronic , supplemented by the actual application demonstration
- Created a forum for addressing concerns of the users

**g) Going live**

Implemented in phased manner

- Phase 1:- Document creation, amendment, approval, issue, distribution
  - Quality Manual, Procedures, Work Instructions, Forms loaded into the Achiever Plus application by Quality Department
  - Provided access to the Process Owners
  - Visited each Process Owner to demonstrate the application
  - Document creation, amendments, approvals, issue, distribution and archiving of obsolete documents started
  - Quality and IT provided backup support to the Process Owners
- Phase 2: Planning, reporting and verification of Audits
  - Implemented planning, reporting, reviewing, monitoring and closing of audit findings
  - No hard copies of audit reports accepted.
- Total reliability on Electronic QMS
  - Created comfort level among users.
  - Withdrew the hard copies wherever Achiever was accessible
  - Passed Surveillance assessment in May 1999.
  - Process Owners & Auditors started enjoying using electronic QMS
  - Various unforeseen issues on technical, operational & people aspects were addressed as and when faced

**8 Benefits:**

- Some of the benefits experienced by employees and organisation are:
- Effective Management: All users i.e. Process Owners, Quality department & Auditors are in total control of the QMS. It has led to effective management of QMS.
- Released lot of time to focus effort on other burning issues needing quality intervention.
- Ease of use and monitoring : ease of creating, revising, approving, distributing & archiving of documents, reporting audits, logging corrective and preventive actions etc.
- Decontrol: Process Owners have been given the necessary authority for document amendments, distribution, archiving etc. resulting in increased sense of ownership of QMS.
- Distance is dead: Process Owners, Auditors & Quality department access QMS from any location having Lotus Notes desktop has increased communications and networking among all concerned.
- Reduced Cycle time: Amendments to documents get done quickly.
- Eco friendly system: Phenomenal saving of paper. 50 megabytes has replaced 10,000 sheets of paper.
- Foundation for future applications: It provided basic framework for future applications under Lotus Notes environment. This has reduced the need for repeated training of employees for other notes based applications like customer complaints, Policies on achiever etc.
- QMS - no longer an “ Excess Baggage “: Popular myth that QMS work is an additional burden has been changed to a certain extent.
- Total Business Perspective: Employees are better informed about the way total business operates by ready access to entire QMS, instead of a narrow compartmentalized view.

## **9 Way Ahead:**

To enlarge the scope of QMS by adding other business processes like Strategic planning & making it available to all the 600 desktops in the company network. Use of Internet browser will make it possible without any major investment.