

## IMPLEMENTATION OF 5S IN MÉXICO.

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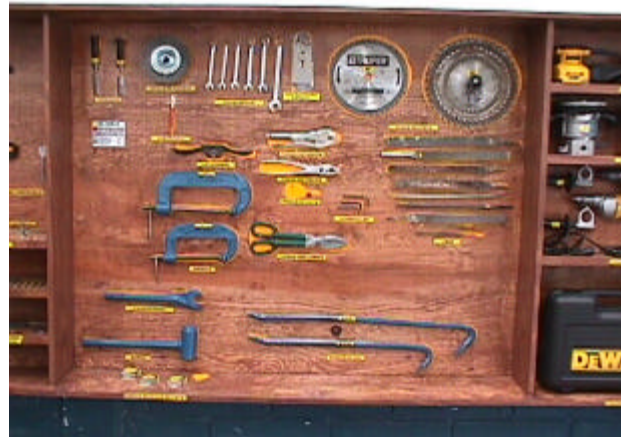
Implementation of TQM (total quality management) strategy and techniques has been a priority in Mexico in the last 10 years. More than 1500 companies and organizations are ISO 9000 certified in Mexico<sup>1</sup> and more than 40 have been awarded with the Mexican National Quality Prize<sup>2</sup> (similar to the American Malcolm Baldrige Award). Many States of the Mexican Republic also have their own State Quality Awards.

Many other national movements are also very successful like the National Contest of Teamwork<sup>3</sup> (sponsored by JETRO<sup>4</sup> and the Mexican Association for Teamwork) where improvement cases are presented each year by members of Mexican quality teams, quality circles, improvement teams, project teams, etc., and last years event presented 50 teams from diverse companies from all over the country).

Most of the success cases are in manufacturing industry of medium and large scale companies, but also other sectors are also participating. For example, the Mexican National Quality Prize has been awarded to public and private pre schools, primary schools and universities. Many Mexican Government agencies and Ministry Divisions are ISO 9000 certified like the Federal Commission on Competition (Mexican Antitrust Board<sup>5</sup>) the first or its kind within the OECD<sup>6</sup> members to achieve this.

With the TQM model, many techniques like statistical tools, strategic planning processes, production and inventory control methods must be learned and practiced and one of the techniques that has been applied by many companies is the 5S practice (Seiri, Seiton, Seiso, Seiketsu, Shituke) as the first step for the improvement of the workplace and development of respect for the established rules.

Fig. 1 5S at a woodcraft shop.



In 1990, most of the companies did not know the meaning of 5S, but in this 2001, 5S is part of the vocabulary of any TQM scholar, manager, consultant or practitioner.

The reason for this 5S growing practice in Mexico has different causes:

- 1) Japanese consultants in Mexico promoting this technique.

<sup>1</sup> Ministry of Economy's data base: [http://www.secofi.gob.mx/normas/ISO\\_9000/iso\\_9000.html](http://www.secofi.gob.mx/normas/ISO_9000/iso_9000.html).

<sup>2</sup> El Premio Nacional de Calidad (since 1990): [www.spice.gob.mx/siem2000/siem/calidad/ganadore.ASP](http://www.spice.gob.mx/siem2000/siem/calidad/ganadore.ASP).

<sup>3</sup> Asociación Mexicana de Trabajo en Equipo: <http://www.cnccc.org.mx/>.

<sup>4</sup> JETRO: Japan External Trade Organization.

<sup>5</sup> Comisión Federal de Competencia: <http://www.cfc.gob.mx/cfc99e/Novedades/>

<sup>6</sup> OECD: Organization for Economic Cooperation Development.

- 2) Mexican professionals that graduated from a Japanese university (Masters degree or Ph. D.), consultants and executives been trained by a Japanese agencies (JUSE, JIPM, AOTS, JICA, LATEC<sup>7</sup>) promoting it with clients, at universities or inside their companies.
- 3) Incorporation of the 5S as a main phase and strategy in the TQM implementation model for competitiveness.
- 4) Successful application of the technique with quantitative benefits being obtained by the companies and institutions.



Fig. 2 a & b. Jigs and tools department.

The practice of 5S in the organizations has different names, depending mostly in the consultant or institution that promoted them, for example:

- 1) 5S or 6S (5S plus "Shukan" - habit).
- 2) 9S (5S plus "Shikkari, Shitsukoku, Seishoo, Seido").
- 3) 5S+1 (1 meaning ONE person or myself).
- 4) 5S+1 = 6S.
- 5) SOL program. "SOL" in Spanish means SUN and fits for **S**afety, **O**rders and **L**impieza (in Spanish is Limpieza).



Fig. 3. Garbage classification.



What is interesting is that in many companies, people do not really know what is the name of each of the 5S (in Japanese), they just understand the meaning in Spanish, but still called it the "5S program".

As in any organization or country, the success depends mainly on the commitment and leadership of top and middle management.

Fig. 4. Color control reorder points of parts.

<sup>7</sup> JUSE: Union of Japanese Scientists and Engineers, JIPM: Japan Institute of Plant Maintenance, AOTS: Association of Overseas Technical Scholarships, JICA: Japan International Cooperation Agency. LATEC: Latin America Technical Exchange Center.

Many of the implementation failures are caused by:

- 1) 5S program is implemented as a motivational and attitude change movement using only posters and slogans (no plan and support structure).
- 2) No investment in the 5S program.
- 3) People do not understand the objective, target, strategies to deploy and personal role in the program (from top management to line workers).
- 4) Top and middle management believe it is a program for the workers and do not participate or support it.
- 5) The 5S program starts at the operation line level as a "bottom - up" strategy without the support of top management.
- 6) The 5S program starts as a "top down" strategy with a small group of experts doing the whole job without integrating all the personnel of the organization.
- 7) Do it because other are doing it (a fad).

Most of the companies start with the application of a 5S program in the clerical, service and maintenance and warehouse areas and then advance to the production lines. So there are many applications of offices, desks and filing systems, tools and jigs with 5S and visual control examples. Other companies that are applying the TPM (Total Productive Maintenance) strategy will have 5S applied also for safety and reliable operation of equipment examples.



Fig. 5. Different cabinets are vertically aligned using wood wedges or blocks of different heights.

Benefits have been reported in several areas as:

- 1) Cost and waste reduction (materials, defectives, customer claims, non conformities, space, inventory, etc.)
- 2) Preventive maintenance (reliable facilities and equipments, erosion, wreckage, lack of maintenance, zero operating errors, measurements, calibration, etc.)



Fig. 6. Reorder point for parts with a 2 bin system design using fit size packages..

- 3) Safety and hygiene (accidents, color coding, visual control, safety equipment maintenance and use, electronic antivirus procedures, personal hygiene, etc.)
- 4) Time reduction (searching materials, files, tools and information, machine preparation and breakdown, etc.)



Fig. 7. Safety lines in tools.



Fig. 8. Delimitation of equipment.

- 5) Pleasant workplace environment (everything is in order, people are responsible and respectful, improvement attitude, quality conscience, etc.)
- 6) Application of 5S at home with family members.



Fig. 9. 5S in the office desk.



Fig. 10. Reorder point for paper towel in toilet..



Fig. 11. Before and after inside the retention files warehouse.

**Conclusion.**

With the experience of the last 10 years, Mexican companies are applying successful 5S programs and demonstrating that this technique, although Japanese, can be implemented regardless the culture and traditions of the people. 5S is a human need in order to interact with others in our own company and nation, and to develop a common language that permits the systemic growth of all organizations that want to be competitive.

We still have a long way to go in the continuous improvement and TQM strategies, but the fact is that companies that have successfully implemented the 5S are Mexican world class companies or will achieve this level in the middle term.

**"A clean place is the image of your quality level."**

