

Success Story (2):

“RIL, Hazira Success Story- Growing Seeds of Excellence together with AOTS”

by Mr. Neeraj Dhingra / India

Reliance Industries Ltd (RIL) is India's largest private sector company listed in the Fortune Global 500. RIL's Hazira Manufacturing Division (RIL-HZ) started its operation in 1991 to manufacture chemical products including polymers, polyesters, etc. and has catered to thousands of customers in the world. In spite of having the world's best technologies, it had suffered from low employee participation in improvement activities and low customer satisfaction. In their pursuit of business excellence, they have observed the effectiveness of TQM in many Indian companies. Starting with three persons sent in 2002 for introduction of TQM, approximately 50

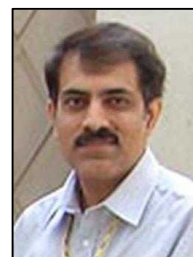
senior managers and executives have been trained in Japan by AOTS so far. As a result, customer focus approach and kaizen activities have widely spread and brought about significant results to quality and productivity improvement and customer satisfaction across the organization. In 2005 with a support of the company's executives, the AOTS Club was formed in-house to keep all AOTS trained resources well united in their mission of spreading a TQM culture. Series of these efforts bore fruit and the RIL-HZ won the Deming Quality Control Award in 2007. Currently RIL-HZ is supporting RIL's 13 other units and other companies in the RIL group to follow TQM.

Mr. Neeraj Dhingra

A resident of Surat, Gujarat, Mr. Dhingra worked as a polyester department manager at Reliance Industries Ltd., India's largest private company, and currently serves as the leader of the Quality Department at its Hazira Manufacturing Division. Mr. Dhingra played a central role when the division was awarded the Deming Prize in 2007.

Past experience of AOTS training:

Management Training Course in 2004 [The Program for Quality Management]



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Country: India
Field of activities: Technology Transfer



It is vital for every organization to develop its human and intellectual capital for achieving business excellence. AOTS, as an expert training organization, has been very successfully playing a significant role in human resource development, thereby strengthening the foundation for industrial development. We have witnessed the effectiveness of its training activities, which has been reflected in the form of excellent growth of various Indian companies, who have send their people to AOTS.

Our company too believes firmly that growth of any business organization depends on the development and use of its human potential and a LEARNING ORGANIZATION is our bridge to continued success in the future. Therefore, to fulfill its mission, our company decided as a strategy to enhance the knowledge of its employees in Quality Management and to spread a Quality Culture through the Japanese systems by imparting regular training through AOTS.

The story we narrate below is a typical case of the success of the AOTS training undertaken by our people and how it helped our company to transform its culture, made it more customer focused and also led it to extend beyond the ambit of business by focusing on a broad portfolio of assets – human, environmental and social. This ultimately led us to fulfill our cherished dream of winning the Deming Quality Control Award in 2007. Our people are now spreading the knowledge to the broader part of society as well.

Introduction to Reliance Industries Hazira Manufacturing Division

Reliance Industries Ltd (RIL) was founded in 1977 by Shri Dhirubhai Ambani, and presently Shri Mukesh Ambani, Chairman and Managing Director, is steering the company. RIL is India's largest private sector company with a turnover of US\$34.7 billion and cash profit of US\$4.9 billion. RIL is India's first and only private sector company to feature in the Fortune Global 500 list. RIL's major business segments include: exploration and production of oil and gas, refining and marketing of petroleum products and petrochemicals along with retailing and life science initiatives. This success story pertains to the Hazira Manufacturing Division (RIL-HZ hereafter) of Reliance. It manufactures a wide range of polymers, polyesters, fiber intermediates and petrochemicals.

Why did we go for TQM?

RIL-HZ commenced production from the year 1991. During the period 1991 to 1998, various plants were commissioned and 16 products had entered the wide market, catering to thousands of customers with a variety of applications. In spite of having the world's best technologies, various deficiencies were observed in the systems and practices adopted. These included low employee participation in improvement activities, low employee morale, low customer satisfaction, high incidences of customer complaints, high delivery cycle time, poor skills and team work, high number of accidents, etc. In our pursuit of attaining business excellence, we had started benchmarking ourselves with the world's best-proven TQM models. As we had observed the effectiveness of TQM in many Indian companies, it was decided by the top management to implement the Japanese system of Total Quality Management across RIL-HZ in 1998.

Association with AOTS - Beginning of a new era

As RIL-HZ management has been highly appreciative of the training programs conducted by AOTS, it has used these programs for training its executives. The journey started in the year 2002 when a small batch of 3 persons was sent to AOTS, Japan. It proved to be a turning point as their personal experience greatly inspired everyone in our company. More and more people were eager to undergo a similar experience in Japan.

AOTS Training- Participants

The association with AOTS started from here and has been growing ever since. The number of trained resources went on increasing and as of today, 50 of our senior managers and executives have been trained by AOTS. The remarkable feature is that 49 out of 50 executives are still pursuing their careers with RIL-HZ, which has provided them ample opportunities. Various groups have attended a wide variety of training programs in AOTS such as Quality Management, Production Management, Corporate Management, Technology Management, the QC training course, Companywide Problem-solving Approach, etc. During these programs, we learnt in depth about: TQM and its implementation, the role of leadership, importance of the customer, deployment of Policy/Daily/Cross functional management, Concepts of QCDSM, PDCA, SDCA, new product development, QC tools, SPC, 5S, total productive maintenance, QCC, people motivation, society and environment care, the Deming award, etc.

Impressions from AOTS training

We were really impressed with the faculty competency and overall training structure as it had a combination of classroom training and visits to renowned Japanese companies like Nissan, Komatsu, Aiphone, Denso, Sumitomo, Sanden, Toyota, Kose Corp, Kansai Electric Co., to name a few.

The remarkable practices and systems seen in these companies were a great learning experience. There were group discussions after every company visit to discuss learning and improvement points. We were amazed to see the discipline level including the time management at all the places visited by us in Japan. Respect for people and value of time were big takeaways for us. In Japan, the level of dedication, commitment and ownership was widely evident everywhere we went. We were greatly

inspired to see the overall enthusiasm level of people and the pride they took in sharing their workplace improvement activities. For us, the motivation factor was quite important, as we had been facing a great challenge in keeping the workforce motivated in our areas. We could also see the great importance being given to education and training system in all Japanese companies. This was very important for us to implement in our areas for the development and empowerment of our people. During our visit to companies, we were delighted to see that everyone was actively engaged in some or other continual improvement activity. We also learnt that the companies provided various opportunities to their QCC (Quality Control Circle) and SGA (Small Group Activities) groups by allowing them to take part in national/ international competitions. We also came to know about their reward and recognition mechanisms. It was clear why everyone was so charged and motivated. Another major eye opener for us was their employees' massive involvement in making suggestions and the high number of suggestions made by every person. We were all inspired by the total employee involvement in such a big way.

Widespread deployment of systems such as Policy Management and Daily Management was visible in all the companies we visited. Since we did not have these basic yet highly important systems in a structured way in our company, we could find a major scope for improvement. We were quite astonished to see that in some companies even the temporary workers were involved in QCC activities. The structured way of the problem solving, widespread usage of QC tools and techniques, the fact based approach, standardization, and PDCA and SDCA approach left a lasting impression on us. We could easily catch our deficiencies by realizing the utmost importance of the Check and Act part. The other major takeaway was a need for a cultural shift towards our stakeholders: our customers, people, surroundings, society and the environment. Here was a journey that made us more aware of these aspects and inspired us to march ahead with strong vigor and commitment.

During our classroom training, we learnt a great deal about various management systems and best practices. These were impregnated in our minds when we saw them in practice during the company visits. It made all the difference as "Seeing is believing" and the combination of a theoretical and practical approach made our concepts very clear. It made all of us more determined to take our people, our company and our country to a higher level for a higher purpose. Above all, getting a lifetime opportunity of undergoing training in Japan, the Mecca of Quality, under renowned Quality Gurus was a dream come true for all of us. We are indebted to our company and its top management for providing us with this unique opportunity, which has elevated not only us but our company also in many ways.

Effectiveness of the training program at AOTS

We were doing various similar things in our company but it was not in a systematic way. Moreover most of the people were working in their core areas only, rarely engaging themselves in companywide improvement activities. Our AOTS effectiveness is partly explained below:

Customer Focus:

AOTS training helped us in a big way in strengthening overall customer orientation by inducing a change in cultural focus to customer delight. The training taught us the importance of customer care in every area. From the initial state of focus on production, the company changed its philosophy to customer focus and it now ensures customer success in every area of operation. The customer focus approach, starting with understanding their needs and meeting their requirements by establishing customer oriented objectives, measuring customer satisfaction and acting on results to improve it, has proved to be a driving force in increasing our customer base and market share. We are now exporting our products to more than 80 countries. We started measuring the satisfaction index (CSI) of our external customers. AOTS training also focused a great deal on the concept of “The next process is your customer.” We all acknowledged its importance and adopted the philosophy of “Everyone has a supplier and a customer.” Everyone works to improve internal customer’s satisfaction. This approach has helped us in developing close cooperation and respect amongst people in all areas.

People Involvement:

We could witness the immense Power of People, during factory visits in Japan. Their overall enthusiasm, commitment, dedication and high motivation level inspired one and all of us. We made it a point to involve each every person of our workforce in the improvement projects by providing them with adequate training and opportunities. Today we are proud to have a motivated workforce by virtue of translating the learning experience at Japan in our company.

Quality Control Circles (QCCs):

Initially, the involvement of people in QCCs was very low. During the training at AOTS we had several discussions with the faculty on the QCC movement in Japan. Moreover during the visit to companies we had an opportunity to see QCC presentations. Over time, what we learnt has been implemented at RIL-HZ. We have been successful in grooming a QCC culture and increasing the people involvement level. Now a stage has come where even our contract workmen have formed QCCs and they are actively participating in companywide events. For them even the opportunity of presenting it to our top management is a big reward in itself. We have also developed an intranet web-based portal, which provides a platform for information on QC circles, their projects and a record of their activities. We are conducting regular internal competitions to identify the best performing Quality Control Circles. These QCCs are recognized and rewarded. They also get an opportunity to participate in competitive events at the national and international level. QCCs have been regularly winning many top awards and accolades at all levels. The overall standard has improved so much that now many QCCs have participated in international conferences in Bangkok, Singapore, China, etc. In the last 4 years they have won 2 silver and 2 gold awards.

We also like to introduce effectiveness knowledge which we have learned through AOTS Management Training as below:

- **5S:** During our training at AOTS one of the most impressive quality systems we learnt and also observed in all Japanese companies was the 5S system. Therefore, in our quality journey 5S was one of the initial activities we started company-wide. This has helped us in improving our work areas, their upkeep, standardization and eliminating *muda*.
- **Kaizen:** Our interaction with various company personnel in Japan gave us a clear understanding of the *Kaizen* schemes and the unbelievable high number of suggestions made by each person. Based on our learning, we have implemented a *Kaizen* suggestion system and various reward and recognition schemes. This has motivated the employees to give more *Kaizen* suggestions. Our Executive Director rewards people for their *Kaizens* in a grand Rewards & Recognition Ceremony, which is held every month. Our employees have also been regularly participating in national competitions and they have won top honors including the Prime Minister's Award. We have also designed an Intranet web-based "*Kaizen* Suggestion Scheme" wherein employees make suggestions, which are then validated and rewarded.
- **QC techniques- Statistical Tools:** One of the most important things we learnt from AOTS has been the widespread usage of the scientific problem-solving approach. This highlighted the importance of using statistical process controls, SPC, for monitoring process and product quality. Regular monitoring of control charts, CpK of product properties, correlations, etc., have helped us in establishing our products. The usage of QC techniques has enhanced our problem solving capabilities through effective data analysis. There has been a cultural shift over the period and now individuals and small groups extensively use statistical tools like the QC Seven Tools, New Management Seven Tools, QFD, Regression analysis, DOE, etc., in their work on improvement projects. Many breakthrough improvements have been realized with improvement in customer satisfaction, cost reduction, productivity enhancement, and reliability, quality, yield improvement, etc.
- **Problem solving approach- QC Story:** We had extensive training on the QC Story method of problem solving at AOTS. This has been successfully percolated down the line. This structured way of tackling the issues/problems has been well adopted by individuals as well as by groups/teams in achieving effective solutions to problems utilizing a data based approach. The findings have been documented by means of QC storyboards and displayed by the departments for better communication and understanding.

Training & Education

The training received by us at AOTS has been imparted down the line in a structured way. Upon our return from Japan, we gave debriefing sessions to the management and larger audiences from all other units. We have also been regularly conducting training sessions for all. We also formed various teams and translated our knowledge into practice by starting various systems and practices we had learnt and seen in Japan. We have included courses on such topics as TQM awareness, Policy Management, Daily Management, the QC problem solving approach, the QC Seven Tools, New QC Seven Tools, SPC, QFD, 5S, etc., in a companywide training curriculum. These courses are in turn taken up by us, who are all part of the RIL-HZ AOTS club.

RIL-HZ AOTS Club

As the number of AOTS trained persons was increasing and many persons were getting involved in TQM activities, our Executive Director (ED), Sh. H S Kohli, advised us to unite all trained resources under one umbrella and urged them to pass the well acquired knowledge to all for realizing a total cultural change. Hence a Forum called the AOTS Club of RIL-HZ was formed in July 2005. Since then, the forum is meeting regularly and this way it has been keeping all AOTS trained resources well united in their mission of spreading a TQM culture through knowledge sharing, implementation/strengthening of systems. Our ED has expressed great satisfaction with the overall capabilities of this club and often calls it an Army of Intellectuals, which is readily available for taking up any major challenge. We have undertaken the following main activities

- Institutionalization of TQM systems
- Trying the Deming Quality Control Award
- Knowledge sharing sessions
- Development of an intranet web based knowledge portal for sharing what we learnt at AOTS
- Conducting training sessions for employees
- Delivering lectures in TQM conventions
- Supporting groups and other companies in their quality initiatives/arranging visits to our company
- Membership in the AOTS Alumni Association of Western India (AOTS Alumni Society in Mumbai)



Members of “AOTS Club” in RIL-HZ

Small Group Activities (SGA)

The concept of small groups including cross-functional teams (CFT), as observed during company visits, was well appreciated by all of us. We have also adopted this practice and various small groups are periodically formed to work on specific tasks. Upon completion, projects are presented to the top management in various forums. We also organize an internal competition on a monthly basis to identify the best performing SGA team. These teams are recognized and rewarded. They have won several national and international awards such as QCI National Awards, ASQ Team Excellence Awards, the IQPC Awards for the successful completion of improvement projects using QC tools & techniques.



RIL-HZ's receiving awards in the field of Quality Control

Upper: Viswakarma Rastriya Puraskar for KAIZEN Award in India.



Lower: ASQ Team Excellence Gold Award in U.S.A

Policy Management

We were given extensive training on Policy Management (PM) by AOTS Management Training and we also saw its widespread application in all the companies we visited. The training brought about a drastic change in our company's outlook on PM. We all realized its importance and worked hard to translate what we learnt from AOTS. The effective two-way communication has proved to be extremely beneficial, as it has clearly defined everyone's responsibilities across all levels and hence developed a shared vision and common understanding. It has ensured widespread participation at all levels and areas in achieving the Strategic Business Objectives. Excellent alignment across the company has been realized as a great strength of this system. The entire system of policy management has made the policies and objectives review mechanisms quite effective. It gives us immense pleasure to share that we have developed the system since we started it in 2004. We have also implemented a companywide balanced scorecard for effective implementation of annual objectives. We have also linked an individual's performance to the achievement of his business objectives by implementation of team key result areas (KRA) as well as individual key result areas. This has established clear accountability for all and made our focus very clear. Union of Japanese Scientists and Engineers (JUSE) examiners have highly appreciated all this during their visits.

Daily Management / Continual Improvement

Initially we were not thoroughly clear on the concept of Daily Management (DM). After the training at AOTS, we started implementing a DM system with the stress on continual improvement. The DM system has been in place since 2006 and it encompasses managing all activities each individual/department is responsible for, within the purview of standard requirements specified in our Integrated Management System. The DM system has been streamlined with identifying each department's activities, responsibilities, managing points (MP) and checkpoints (CP); establishing their control levels; monitoring their performance at a defined frequency; identifying gaps/ defects; analyzing their causes, taking corrective actions/ standardizing processes. This has been clarified to all individuals, how their accountability is aligned with their supervisor's and so on. Here also we have improvised the DM system and now a SAP based MP-CP monitoring and review system has been developed. We have clearly understood the importance of the PDCA and SDCA concepts and have been putting them in practice along with PDCA rotation to achieve continual improvement.

Society & Environment Care

Based on what we learnt and factory visits in Japan, we realized the importance of every company's bigger role towards society and the environment. We have ever since worked religiously towards improving the environment and development of society. Few of the major initiatives taken are;

- Community Health Services-Periodic Health Care Camps/ Mobile Dispensary in 7 Villages ~ (Population of 35,000)/ Eye camps/ surgeries
- HIV & AIDS, DOTS control Center-Total number of Registrations at DOT Center: 24,350
- School for Disabled Children
- 60 HIV+ children adopted
- Self Employment Opportunities for Locals
- Vocational Training for Women

In relation to the above, RIL-HZ received a UNAIDS Civil Society Awards in 2006 and also the Golden Peacock Global Award in 2008 for CSR in Portugal for outstanding commitment and support to the national fight against HIV/ AIDS.

Taking on the Deming Quality Control Award

It was one of the greatest ambitions of all of us at RIL-HZ to try for the Deming Award. We had learnt more about it during our training stints at AOTS and had also mentioned it in our future plans during our concluding presentations at AOTS. The process started in 2005 with the diagnosis, in which scope for improvement was pointed out. We all worked hard, improved our systems based on the recommendations made by Union of Japanese Scientists and Engineers (JUSE) and hence could perform well in the next diagnosis carried out in 2006. We tried for the Deming Quality Control Award in 2007, our efforts bore fruit and we won the award. We believe that the entire success of the Deming Award was possible only because of the knowledge gained by our executives at AOTS Management Training.



Deming Quality Award in 2007

Problems and their mitigation

The overall journey has not been a simple one. We faced lots of ups and downs in the form of resistance and mindset issues. It was a challenging task to involve all 3,450 people from different units, having different set ups/cultures in the cultural transformation process. There were issues related to practical implementation of new systems/ practices, change in work scope, etc. However with top level commitment and structured teamwork we could enhance awareness of the need to change and its benefits with regard to systematic work, more transparency, knowledge/ skills enhancement, defined roles and responsibilities and empowerment. Rewards and recognition helped us in getting buy-in from all corners. We shared shining success stories of Japanese and Indian companies and also shared our practical experiences with the masses.

We started developing our own success stories, where a few units in our company excelled in some or other initiative like QCC, *Kaizen*, training, etc. The motivation level of people started increasing as they improved their skills, worked on small and big projects, presented their success stories, and got appreciation from all corners. In this way people started believing in the TQM magic and hence more and more units got involved.

Direct & Ripple Effects:

AOTS Management Training and implementing what we learnt have yielded the following results.

- Overall increase in external CSI by 22%
- Overall increase in the internal CSI by 15%
- Decrease in customer complaints by 60%
- Average increase in product quality by 9%
- Production volume increased by 43%
- Improvement in productivity by 37%
- Average decrease in conversion cost by 23%
- Improvement in cycle time of dispatch by 34%

- Improvement in energy index by 15%
- Total employee participation increased by 88%
- Reduction in hazardous waste by 45%
- Company-wide spread of a TQM culture
- Increased focus on customer, people, society
- Enhanced communication, alignment
- Clarity of roles/ accountability
- Empowerment/ Motivated workforce
- People knowledge and skill development
- Winning Deming Quality Control Award

The best part of the whole activity has been that the effects are not limited to RIL-HZ only. They have spread beyond the company to a much bigger level. We have prompted other companies in the RIL group to follow TQM. We are happy to share that we are now supporting RIL's 13 other units in establishing TQM. We also have other companies visiting RIL-HZ. We share our systems and best practices with them. Other companies and institutions also invite us for sharing case studies. All this has helped so many other companies and agencies in achieving business excellence. We proudly say that our people have now become Brand Ambassadors and are uplifting society. Even the temporary workers, apprentices, trainees, etc., who go to other industries are spreading the culture based on what they have learnt at RIL-HZ. Also our partners and customers proudly acclaim that they have learnt many good practices from their association with us. Our energy conservation initiatives, environment care programs, CSR initiatives have been promoting and ensuring a sustainable environment, and social performance in the communities where we operate.

AOTS Management Training, its application and effects

Analysis of factors leading to success

- Getting quality knowledge from renowned Japanese Quality authorities of present age and practical experience of Japanese industries
- Commitment from leadership
- Sharing of knowledge with others at HZ
- Strong orientation towards training of manpower for skills and QC techniques
- Setting up of AOTS club: effective utilization of trained resources
- Changing the mindset of people and ensuring everyone's involvement in improvement activities through SGA, QCC, *Kaizen*, etc.
- Respect for time, systems and people
- People empowerment and motivation
- Rewards and recognition
- Increased focus on customer, giving them highest importance
- Implementation of systems like the Policy and Daily Management System

- Care for the environment and society
- Focus on continuous improvement using people's creative knowledge / power / PDCA and SDCA concepts compliance
- Working towards a common purpose for a cultural shift towards TQM
- Association with AOTS: Import of Japanese quality culture and its effective deployment and nurturing

Advice to other ex-participants

The very fact that you were chosen by your company to attend the program should make you feel proud and worthy. It's no ordinary training; one does not get such an opportunity every now and then much in Japan and through renowned Quality authorities. You must be indebted to your company and its top management for providing you with this unique opportunity. Having said this, it becomes your moral responsibility to pass on the benefits to your company, its people, society and above all your country.

Once you have made a commitment to yourself, all you need to do is to take the FIRST STEP. The onward journey is no doubt, not an easy one, but remember you are not alone. To those whom you are going to share your knowledge with and train will form a great team. Meanwhile you will have identified the initiatives/ improvements for implementation based upon your learning. Simultaneously your team will be training more people on QC tools and techniques, problem solving approach, SPC, Quality management systems, etc. These trained resources will then develop/ implement systems across the company. Everyone will be involved in improvement activities. People will form QCCs, SGA teams and complete improvement projects. The management will recognize them and empower them. This will motivate them and the overall work culture will improve. So, go ahead and take the first step.

Having experienced the overall process of training at AOTS and subsequently witnessing the magnanimous effects encompassing the masses, we all at RIL-HZ have only one thing to say

Heartiest Thanks, "Arigato Gozaimasu" to:

- Kano-san, Ando-san, Matsuda-san, Maki-san, Kawai-san, Shimoyamada-san, Suyama-san, Shiota-san, Kaneko-san, Yoshida-san, Kiyohara-san, Nozawa-san, Kato-san, and so on
- Staff members of AOTS headquarter, Tokyo Kenshu Center and Chubu Kenshu Center
- Managements of RIL-HZ
- And all batch mates

I also like to list up which stand in my memory:

- Typhoons, earthquakes, bullet trains, umbrellas, verb of "Arigato", Japanese yens, vending machines...
- Kita-Senju, Akihabara, Kyoto, Nagoya, Ueno, Narita, etc.