

D. L. SHAH TRUST FOR APPLIED SCIENCE, TECHNOLOGY, ARTS & PHILOSOPHY

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DAHYABHAI LALLUBHAI SHAH

D. L. SHAH TRUST

FOR APPLIED SCIENCE, TECHNOLOGY,
ARTS & PHILOSOPHY

“A hundred times every day, I remind myself that my inner and outer life depended on the labours of other men, living and dead, and that I must exert myself in order to give in the same measure as I have received and am still receiving”.

Albert Einstein

- Born on 13th June 1907. Passed away on 3rd May 1999.
- A Well-know industrialist, philanthropist and a great visionary. Made tremendous contributions to the Indian Industry in general, and the Machine Tool Industry in particular.
- His company Perfect Machine Tools (PMT) was a pioneering company in the machine tool industry. He was the President of the Indian Machine Tool Manufacturing Association and Machine Tool Marketing Association of India for number of years.
- Quality' was a passion with Mr. Shah. It was his life's desire and objective that “Made in India” brand should be recognized and respected all over the world. He worked tirelessly and with unwavering determination towards this objective.
- He was one of the founders of the National Centre for Quality Management (NCQM).
- During his life time he received several awards and honors, some of which are listed below:
 - Gold Insignia & Citation (highest award given to a Foreigner) of Govt. of Poland for promotion of Indo-Polish trade.
 - Austrian Award, given by the Austrian Govt., for promoting Austrian business in India.
 - Quimpro Platinum Standards Award for Quality Management.
 - Shiromani Award, conferred by the Shiromani Institute.
 - Bajaj Auto Outstanding Quality Award', bestowed by NCQM, which was presented by Mr. R. Venkataraman, Former President of India.
 - The 'Ambassador for Quality in India' Award, of the American Society for Quality Control. This was presented by the U.S. Consul General.
 - IMC's 'Juran Quality Medal'. This was presented by the Prime Minister of India.
- He donated all his life's earnings to the D. L. Shah Trust that he founded in order to continue his mission for better India in all walks of life.
- D. L. Shah Trust has published a number of books on Quality, Productivity & ISO Standards on Quality, and has distributed them free-of-charge to organizations, institutions and professionals.
- D. L. Shah Trust has instituted National Awards on Quality in association with the Quality Council of India since 2006 known as the QCI-D.L. Shah Award on Economics of Quality. The First award in 2006 was given to the winners by the then Hon'able Rashtrapati of India Dr. Abul Kalam. The Award ceremony is held in Delhi every year and these awards now known as the QCI - D.L. Shah Quality Award are handed over to the winners by VVIPs in the country in a Quality Conclave which is attended by over 700 to 800 Quality professionals.

Recently the trust, in collaboration with QCI, has sponsored the printing of a book - Quality Best Practices- Selected QCI - D.L. Shah National Quality Award Winning case studies

The trust has setup the D.L. Shah Quality Research Centre, in association with Quality Council of India, in New Delhi which has become operational since March 2013. It is perhaps, the first research centre in the country on the subject of quality.

- The present Trustees of the D. L. Shah Trust are:
- Mr. H. K. Taneja – Former Chief Executive of 'Indian Register of Shipping'.
- Mr. Rohan Shah – An eminent advocate, Sr. Partner of Economic Law Practice.
- Mr. Gautam Doshi – Group Managing Director of 'Reliance Anil Dhirubhai Ambani' Group.
- Mr. S. M. Pathania – Former Director – General of Police, Maharashtra State.
- Mr. K. K. Nohria – Former Chairman & MD of Crompton Greaves Ltd.

The trust's mission is

- To be known as the leading NGO to promote and propagate the ideas and visions of Late Mr. D L Shah, Founder D L Shah Trust for Applied Sciences, Technology, Arts and Philosophy by introducing systems, methods, mechanisms and practices to better the over-all Quality of life in INDIA.

Its objectives in brief are:

- To promote research and other activities related to the preservation, protection and improvement of the ecology and environment.
- To promote and foster the movement of Quality consciousness & Quality awareness as regards products & services provided in India.
- To promote the development & use of environment friendly industry process and water management techniques.
- To promote research & development as to safety measures and practices followed in industrial concerns.
- To work towards the introduction of systems, methods, mechanisms and practices to the betterment of the over-all Quality of life in India.
- To make Quality of dealings & business ethics to inspire confidence and faith among all public.
- To make "Made in India" label synonymous with "Quality of Excellence".

We are thankful
to
D. L. Shah Trust
for Sponsoring
this Newsletter Issue.

5TH D. L. SHAH MEMORIAL LECTURE

“Deming journey towards Business Excellence”

Mr. D. Bheemsingh, Sr. Vice President,
Rane Brake Lining Limited, Chennai.

5TH D. L. Shah Memorial Lecture was held on March 15, 2014 at Hall of Harmony Nehru Centre Worli, Mumbai – 400 018.

Mr. B. Banerjee, President of NCQM, welcomed the guests and dignitaries, **who included** Mr. Khushroo Khambata – CEO of D. L. Shah Trust (DLST), Mr. H. K. Taneja – Trustee of DLST, Shri Mahesh V. Gandhi, Trustee, NCQM and Chief Guest Mr. D. Bheemsingh, Sr. Vice President, Rane Brake Lining Limited, Chennai. Mr. B. Banerjee gave the welcome address with an update on NCQM and its activities.

Mr. H. K. Taneja – Trustee of D. L. Shah Trust, gave an update on profile and achievements of Late D. L. Shah and on the activities of the D. L. Shah Trust.

Shri Mahesh V. Gandhi introduced the chief guest and speaker, Mr. D. Bheemsingh.

Mr. D. Bheemsingh delivered the lecture on “Rane Brake Lining Ltd’s Deming journey towards Business Excellence” – followed by question and answer session. The lecture was very informative, enlightening and inspiring.

Mr. H. K. Taneja presented a silver plaque memento as a gesture of appreciation to Mr. D. Bheemsingh. Mr. Santosh Khadagade – Hon. Secretary, NCQM proposed a vote of thanks to all concerned who made the event successful.

The evening concluded with refreshments and tea.

Few Snap Shots of the Memorable Event



Mr. H. K. Taneja, Trustee of D.L. Shah Trust and Mr. Mahesh V. Gandhi, Trustee of NCQM garlanding Late Shri D. L. Shah's Photo.



Mr. B. Banerjee welcoming Mr. D. Bheemsingh with a bouquet



L to R Mr. B. Banerjee, Mr. Mahesh V. Gandhi, Chief Guest, Mr. D. Bheemsingh, Mr. H. K. Taneja, Mr. Khushroo Khambata on the dias.



Mr. H. K. Taneja, giving update on Late Shri D. L. Shah Trust's activities & achievements



Mr. Mahesh V. Gandhi introducing the speaker Mr. D. Bheemsingh



Mr. D. Bheemsingh, Sr. V P, Rane Brake Lining Ltd., delivering the lecture



A section of the audience listening to the speaker with raft attention



A section of the audience at the time of Question-Answer session



Mr. H. K. Taneja presenting a silver plaque memento to Mr. D. Bheemsingh



Mr. Santosh Khadagade, Hon. Secretary, NCQM proposing vote of thanks

Rane Brake Lining Ltd's,

Deming Grand Prize Journey
by Mr. D. Bheemsingh, Sr. V. P.

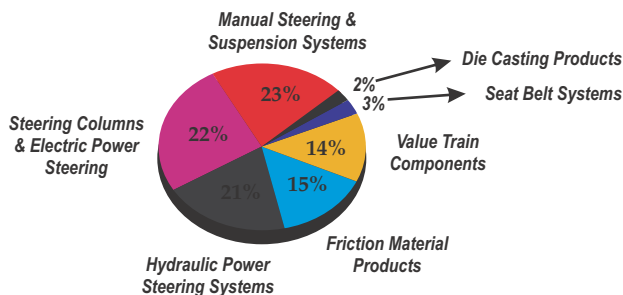
0. Plan for the lecture

The entire lecture is structured under five broad headings. They are:

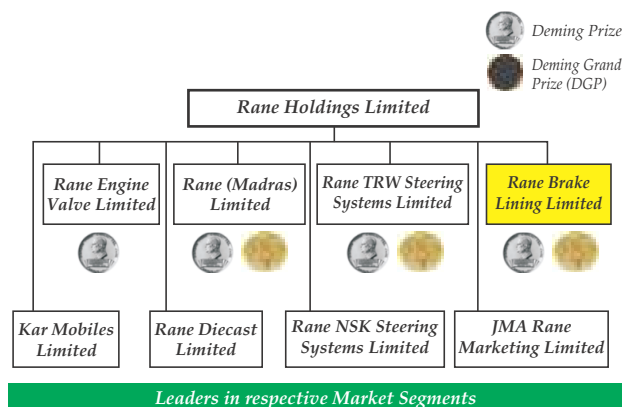
- 0.1 An overview of Rane Group
 - 0.1.1 An overview of Rane Brake Lining Limited (RBL)
- 0.2 TQM at Rane
 - 0.2.1 What is TQM
 - 0.2.2 Why TQM at Rane
- 0.3 Deming Journey of RBL
 - 0.3.1 Brief details of Deming Prizes
 - 0.3.2 Deming Application Prize (DAP)
 - 0.3.3 Deming Grand Prize (DGP)
- 0.4 Benefits
- 0.5 Sustenance of TQM Practices
- 0.6 Conclusions

1. An overview of Rane Group

Rane group established in 1929 comprises 7 companies, 25 plants and employs over 5200 personnel. It has technology alliances with TRW-USA, NSK-Japan and Nisshinbo (NISB) – Japan. Annual group sales for the year 2012 - 13 was Rs. 2,923 Crores (538 million USD). Product-wise sales contribution of group companies for the year 2012-13 is given below.



Status of DAP and DGP at Rane Group is as follows:



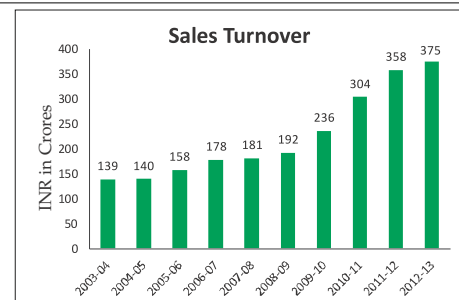
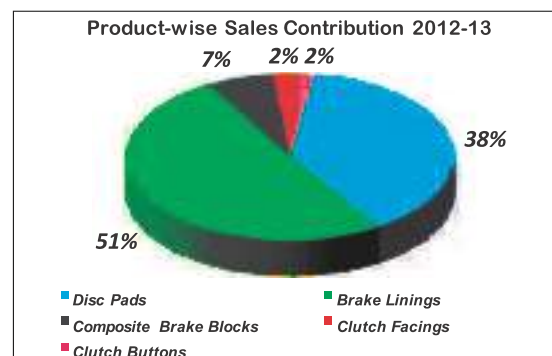
1.1 An overview of Rane Brake Lining Limited

- Established in 1964 for manufacturing friction material products.
- Serves to all major OEMs, Exports, Railways and caters to all vehicle segments
- Collaboration with NISB - Japan with an equity participation of 20.05%
- State of art R&D and testing facility approved by Government of India

NISSHINBO

1.1.1 Productwise sales contribution is given below :

Products



Sales Turnover for 2012-13 in USD : 72 Millions

Leader in Friction material industry in India

1.1.2 Industry Segments

RBL Supplies to all Industry segments which includes

- ✓ Medium & Heavy Commercial Vehicle (M & HCV)
- ✓ Passenger Car Vehicle (PCV)
- ✓ Light Commercial Vehicle (LCV)
- ✓ Multi Utility Vehicle (MUV)
- ✓ Multi Purpose Vehicle (MPV)

- ✓ Farm Tractors
- ✓ Three Wheelers
- ✓ Two Wheelers
- ✓ Railways



1.1.3 Customers

Brake Assembly Manufacturers (Tier-1)	Vehicle OEMs	Railways
<ul style="list-style-type: none"> • Amalgamations Repco Ltd, • Automotive Axles Ltd, • Brakes India Ltd, • Brembo Brake India Private Ltd, • Endurance Technologies Private Ltd, • Exedy India Ltd, • Foundation Brake Manufacturing Ltd (Formerly Robert Bosch Chassis Ltd), • Luk India Private Ltd, • Mando India Ltd, 	<ul style="list-style-type: none"> • Ashok Leyland Ltd, • Asia Motor Works Ltd, • Bajaj Auto Ltd, • Caterpillar India Private Ltd, • Force Motors Ltd, • Ford India Ltd, • General Motors, • Honda Sael Cars India Ltd, • Hyundai Motor India Ltd, • Mahindra & Mahindra Ltd, • Mahindra Navi Star Automobiles Ltd, • Maruti Suzuki India Ltd, • Nissan Motors India Private Ltd, • Renault Nissan Automotive Private Ltd, • Royal Enfield Motors Ltd, • Tata Motors Ltd, • Tractors and Farm Equipment Ltd, • Toyota Kirloskar Motor Private Ltd, • Ve Commercial Vehicles Ltd, • Volkswagen • Yamaha Motor Private Ltd 	<ul style="list-style-type: none"> • Delhi Metro Rail Corporation Ltd, • Indian Railways, • Malaysian Railways, • Sri Lankan Railways

(In Alphabetical order, Green font indicates top 2 customers for RBL)

1.1.4 Infrastructure – Plant locations

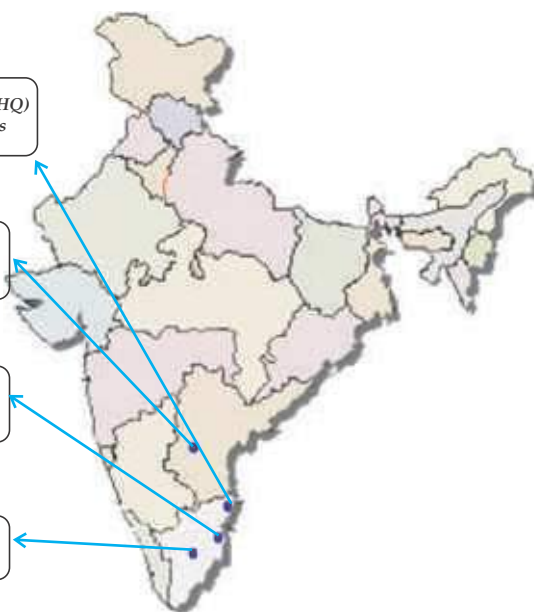


Plant 1, Chennai and Head Quarters (HQ)
Established : 1964 ; 183 & 104 employees

Plant 2, Hyderabad ; 580 Km from HQ
Established : 1991 ; 267 employees

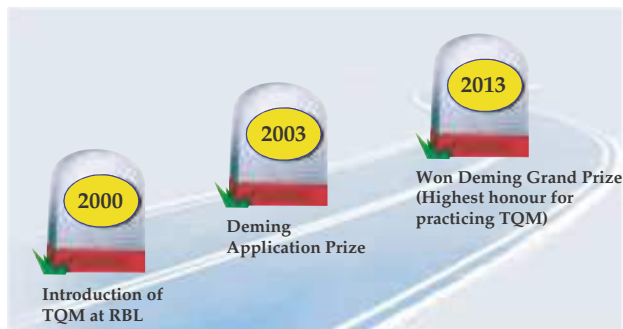
Plant 3, Puducherry ; 155 Km from HQ
Established : 1997 ; 97 employees

Plant 4, Trichy ; 321 Km from HQ
Established : 2008 ; 245 employees



1.1.5 Major milestones in RBL's Deming journey

RBL TQM Journey



2. TQM at Rane

2.1 What is TQM

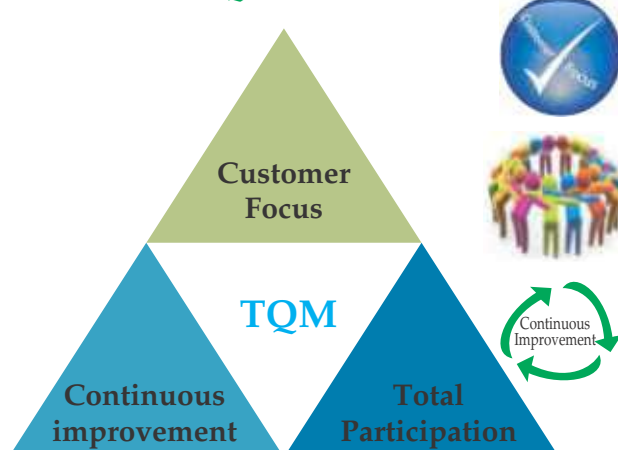
TQM is a **set of systematic activities** carried out by the **entire organization** to **effectively and efficiently** achieve the organization's objectives so as to provide products and services with a level of quality that **satisfies customers**, at the appropriate time and price.



2.1.1 Explanation of key terms

- **Systematic activities** – Planned, Strong leadership, Mid and long term vision, Strategies and policies
- **Entire organization** – Every one at all levels, across functions
- **Effective and Efficient** – Achieve planned results with least resources
- **Quality** – Usefulness, reliability, safety

2.1.2 Essence of TQM



2.1.3 Organizational alignment

TQM needs organizational alignment as pictorially depicted below :



2.1.4 Benefits of TQM

- Quality stabilization and improvement
- Transparent policy deployment
- Rigorous implementation of short and long term plans
- Productivity improvement
- Cost reduction / profit improvement
- Highly focused and motivated workforce
- Unified Organisational Power



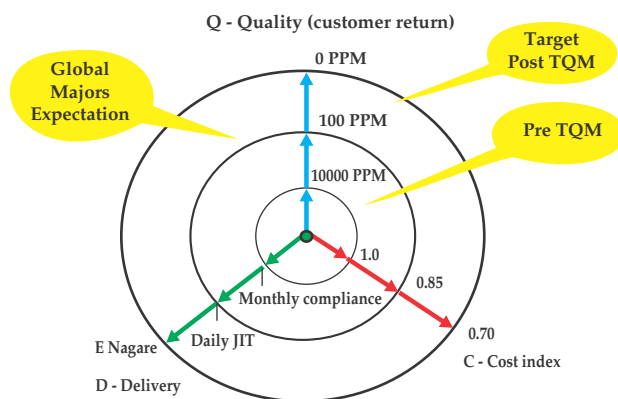
2.2 Why TQM at Rane

- By mid 1970s, Rane had become a successful and well known name in India in the field of automotive components.
- Commencing in 1991, there were dramatic shifts in the policy environment. An economy closed for forty five years opened up nearly totally.
- Major car companies and auto component suppliers saw huge and attractive potential in India both for manufacturing and sourcing due to lower costs.
- This led to Rane facing "World Class" competition.
- These developments called for a total reappraisal of Rane's competencies and business processes.
- Although Rane had launched a few initiatives such as strategic planning and manufacturing system redesign, the results were not satisfactory.
- The quality levels and process robustness were nowhere near world-class standards.

2.2.1 Introspection

- Our analysis indicated following major causes for failure of the new initiatives:
 - Management methods
 - Lack of Total Employee Involvement
- All of them were issues of operational excellence, strong suit of Japanese companies.
- Hence a TQM workshop was arranged in December 1999 by Dr. Washio from Juse for the senior management.
- The workshop confirmed our assumption that TQM would be a holistic input that would address all our concerns.
- The commencement of Japanese way of TQM (in 2000) is a watershed in the evolving history of Rane.

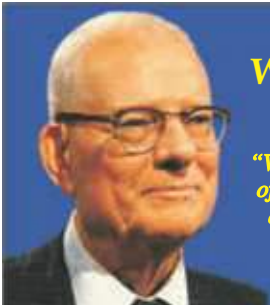
2.2.2 World class expectations on QCD



3. Deming journey of RBL

3.1 How do DAP and DGP look like

Deming Prize – Brief Details



W Edwards Deming

1900-1993

“We have learned to live in a world of mistakes and defective products as if they were necessary to life. It is time to adopt a new philosophy in America.”

Inscriptions on Deming Application Prize (DAP) and Deming Grand Prize (DGP)

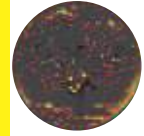
Deming Prize

Organizations that have implemented TQM suitable for their management philosophy, scope / type / skill of business and management environment

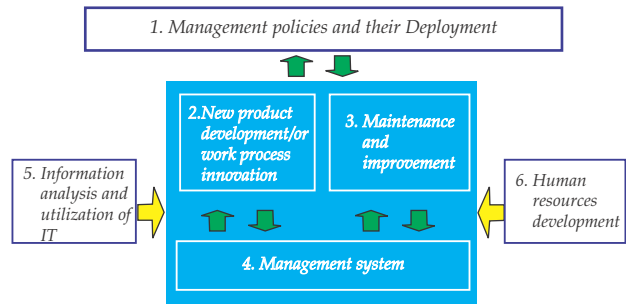


Deming Grand Prize

Organizations that have received Deming Grand Prize and maintained and further enhanced level of TQM for more than three years Deming Prize



3.2 Deming Prize Core Quality System

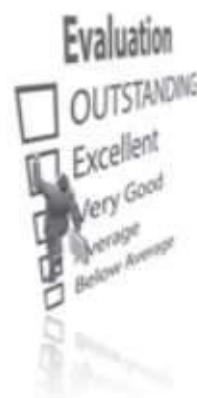


3.3 Evaluation Items and points of basic categories

RBL Deming journey...

Evaluation items and points – Basic categories

Sl.No	Items	Points
1	Management policy and their development regarding quality management	20
2	New product development and/or work process innovation	20
3	Maintenance and improvement of product and operational quality – DWM & continuous improvement	20
4	Systems for managing QCDA	10
5	Information Technology (IT)	15
6	Human Resource (HR)	15



Minimum marks for Deming Prize

Basic categories	:	75 out of 100
Unique activities	:	3.5 out of 4
Top Management leadership	:	3.5 out of 4

3.4 We followed PDCA approach planned

3.4.1 Planning

3.4.1.1 Micro level planning

Pre TQM Status : Dominant Market Leadership
Macro level

- MBO : Management by objectives
- Top down
- Strategic Business Plan – 5 years
 - President, Marketing & Finance
 - 'V' not percolated down the line
 - Limited buy in for company goals
- Company run by 'select few'.
- Growth momentum more due to market forces than driven by strategy.



3.4.1.2 Micro level planning

- Employees working in 'Strong Silos!'.
- Good functional expertise
- Low 'Q' levels
 - High number of customer complaints
- Machine upkeeping / 5S – Major issues
- Fire fighting – Order of the day
- All inefficiencies built into costing!!
 - $SP = Cost + Profit$



3.4.2 Beginning of DAP journey...

- Frank deliberations
 - Top Management at Group level
- "Consensus" on TQM as the initiative
- Chairman's one day off site work shop – All plants across the country
- In depth reviews



Mr. Harish Lakshman
Vice Chairman-
Rane TRW

Mr. L. Lakshman
Executive Chairman,
RHL

Mr. L. Ganesh
Chairman,
Rane Group

3.4.3 Actions taken at Macro level

- Vision Setting and Strategy formulation
- Policy Deployment
 - Company wide alignment
 - Monthly / Quarterly reviews



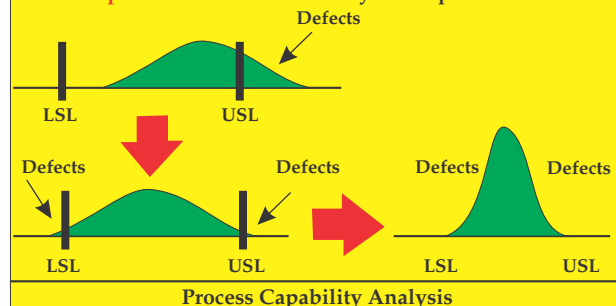
3.4.4 Actions taken at Micro level

- Daily Routine Management
 - Daily gemba review
 - Focus on recurrence prevention
 - Focus on 'Process' than result
- Process stability
 - SPC focus – Manufacturing and non-manufacturing areas

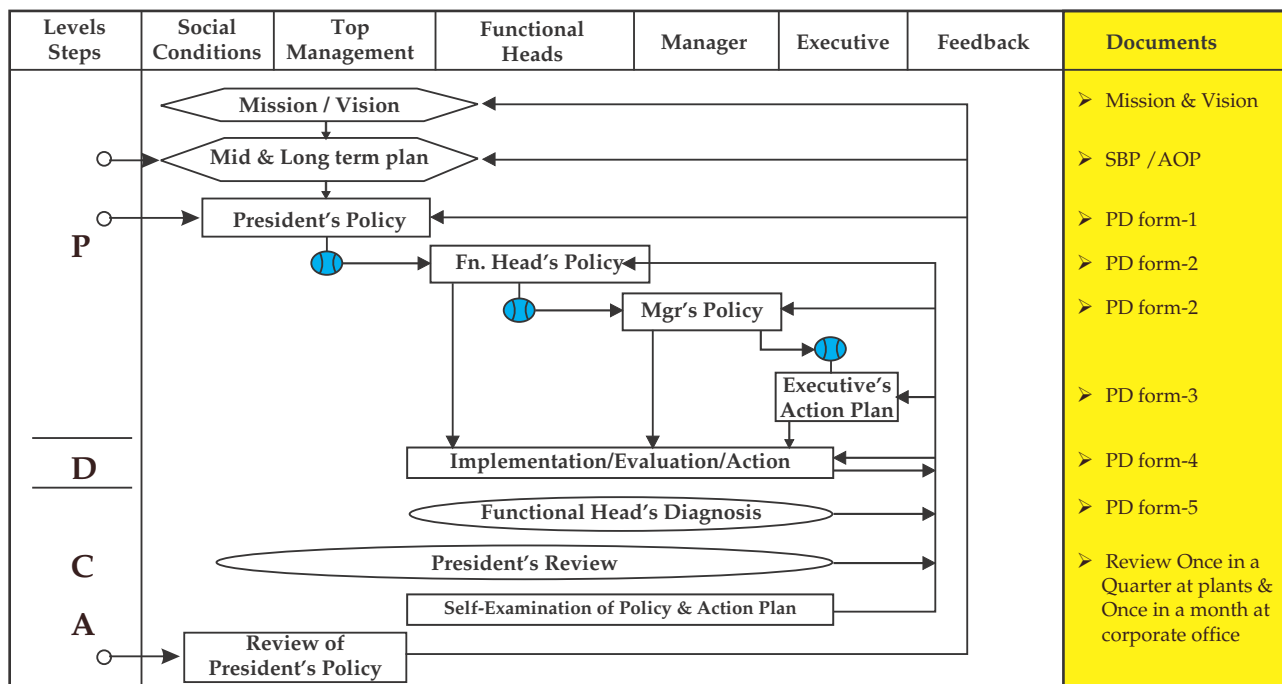


Process Capability - Strategy

1. "Centering" - Put the process on target
2. "Spread" - Reduce variability of the process



3.5 Policy deployment – system flow chart



Policy Deployment...

RANE BRAKE LINING LIMITED

Form - 1

President Policy for the year 2012-13								PD Form - 1	
Policy (Priority Areas)	PD Ref. No.	Managing Points	Metric (UOM)	From #	PD Ref. No.	Major Measures	Strategic Initiatives Ref. No.	Deployment	
Customer Focus and New Customer / Markets	1	NPD Sales	Sales Value (Rs. Cr)	19.5	25.4	1.1	- OEM: TML-LCV, NISSAN - Aftermarket : AFBL - M&HCV, LCV and DP	1, 3, 11	HOD - MKT, HOD - R&D
		Formulation Development	Formulations/ Year (Nos.)	5	6	1.2	- Formulation Library Enhancement - High Quality and Low Cost AF Formulation development	1, 5	HOD - R&D
Technology Focus	2	Technology Projects	Projects/Year (Nos.)	6	6	3.1	- Process improvement projects, Test capability enhancement (Including NVH) - Shim bonding technology development	6, 7, 11	HOD - R&D HOD - CMFD
Quality Focus	3	a) Quality Improvement	PPM	P1: 51	50	4.1	- SPC/FMEA reviews, - Process / Products Audits, - QC Story methodology	8	PH - P1
		- Customer Line Rejection		P2: 29	50	4.2		8	PH - P2
				P3: 54	50	4.3		8	PH - P3
				P4: 12	9	4.4		8	PH - P4
		- In-process Rejection	PPM	P1: 9354	7500	4.5	- SOP revisions, - QC Story approach for Problem solving	9	PH - P1
				P2: 7901	6093	4.6		9	PH - P2
				P3: 8533	5500	4.7		9	PH - P3
				P4: 9736	5000	4.8		9	PH - P4
Cost Competitiveness	4	Productivity Improvement	ESU (Pieces/Man hour)	P1: 36.2	41.0	5.1	- Lean Manufacturing	15	PH - P1
				P2: 34.4	40.0	5.2		15	PH - P2
				P3: 35.6	38.5	5.3		15	PH - P3
				P4: 33.0	34.6	5.4		15	PH - P4
Strong Corporate Constitution	5	Morale Development	EOS Score (%)	77	80	6.1	- HR initiatives - Action on Survey Findings	18	HOD - CHR
		Skill Enhancement	Skill in L3 & L4 (%)	64	75	6.2	- Skill Evaluation and Upgradation	19	HOD - CHR
		Competency Enhancement	Competency in L3 & L4 (%)	71	75	6.3	- Competency Evaluation and Upgradation	19	HOD - CHR

- 2011 - 2012 Actuals

Policy Deployment...

Form - 2

Rane Brake Lining Limited, Chennai

CHR

HEAD CORPORATE HR								Form 2					
1.	6.1	Morale Development	EOS Score (%)	77	80	HR initiatives, Action on survey findings SOP Ref. No. HR/PF/004	1.1	6.1	Morale Development - Corporate	EOS Score (%)	76	78	PS
							1.2	6.1	Morale Development - P1	EOS Score (%)	78	80	P1 - HR HEAD
							1.3	6.1	Morale Development - P2	EOS Score (%)	70	75	P2 - HR HEAD
							1.4	6.1	Morale Development - P3	EOS Score (%)	75	77	P3 - HR HEAD
							1.5	6.1	Morale Development - P4	EOS Score (%)	86	87	P4 - HR HEAD
2.	6.2	Skill Enhancement	Skill in L3 & L4 (%)	64	75	Skill evaluation and upgradation SOP Ref. No. HR/PF/005	2.1	6.2	Skill Enhancement Plant 1	Skill in L3 & L4 (%)	65	86	P1 - HR HEAD
							2.2	6.2	Skill Enhancement Plant 2	Skill in L3 & L4 (%)	72	80	P2 - HR HEAD
							2.3	6.2	Skill Enhancement Plant 3	Skill in L3 & L4 (%)	63	96	P3 - HR HEAD
							2.4	6.2	Skill Enhancement Plant 4	Skill in L3 & L4 (%)	56	75	P4 - HR HEAD

Policy Deployment...

Form - 2

Rane Brake Lining Limited, Chennai

CHR

Manager - Recruitment & Training										Form 2			
1.1	6.1	Morale development Corporate	EOS Score (%)	76	78	HR initiatives, Action on survey findings SOP Ref. No. HR/PF/004	1.1.1	6.1	Action on survey findings	Adherence Index (%)	100	100	Self
3.1	6.3	Training programme - Executives	Mandays (Mandays / emp/annum)	6.35	7	Training need identification, prepare Annual Training calendar and conduct training SOP Ref. No. HR/PF/003	3.1.1	6.3	Training programme - Corporate & Plant 1 Executives	Mandays (Mandays / emp/annum)	6.13	6.5	TV
4.1	-	GPTW initiatives	Initiatives implemented (Nos)	11	16	Implemented initiatives identified from GPTW survey SOP Ref. No. HR/MP/SOP02	4.1.1	-	Actions on - QCM. Rane connect, Celebrations	Adherence Index (%)	100	100	AGS
5.1	-	Recruitment Lead time	Lead time per position (Days)	44	40	Consultant meet, Structured JD, Bid pipeline management SOP Ref. No. HR/MP/SOP09	5.1.1	-	Lead time JM level	Lead time per position (Days)	49	45	Self
5.2	-	Attrition	Separation (%)	24	20	Stay interview, CFT exit interview and actions SOP Ref. No. HR/REC/SOP10	5.2.1	-	Infancy Attrition	Separation within 6 months (%)	7.8	6	AGS
1.0	-	Recruitment Cost	Cost per position (Rs.)	12712	12000	Recruit thro portal, Referral system SOP Ref. No. HR/MP/SOP10	1.1	-	Recruitment cost JM level	Cost per position (Rs.)	11135	11000	Self

Form 2 for the year 2012-13											PHR Head		
MP No.	PD Ref. No.	Managing Points	Metric (UOM)	Target- 12-13		Major Measures	CP No.	PD Ref. No.	Check Points	Metric (UOM)	Target- 12-13		Deployment
				From	To						From	To	
1	-	Operator Skill Enhancement	Skills in L3 & L4 (%)	65	86	Skill evaluation and upgradation	1.1	-	Training programmes	Mandays/ employee/ annum	6	7	Divya
2	-	Employee opinion Survey	Score (%)	78	80	Address Restrainers	2.1	-	EOS initiatives	Implemented initiatives (Nos)	3	5	Self
3	-	QCC Project	Projects / QCC/ annum	3.4	4	Tracking and handholding inactive QCC	3.1	-	Inactive QCC	Inactive QCC (Nos)	5	0	Divya
4	-	Statutory	Compliance (%)	100	100	Adherence to STACK/VAM	4.1	-	Internal audit observations	Non compliance (Nos)	10	0	Balaji
5	-	Factory Maintenance	Cost (Rs. in crores)	0.56	0.56	Monitor and Control of Contract Manpower engagement as per AOP	5.1	-	Manpower - Contract	Head count (Nos)	112	109	Arunraj
6	-	Direct Labour Cost	Percentage against sales (%)	7.8	7.9	Manpower deployment as per LTS	6.1	-	Engagement of Manpower as per LTS	Adherence to approved nos (%)	100	100	Arunraj

3.6 Daily Routine Management (DRM)

Definition of "Daily Management"

"Daily Management comprises all the routine activities that must be carried out efficiently; while maintenance activities are the main concern, improvement activities are also part of Daily Management"

Daily Management

DRM - Marketing

REVL, P4	Role Description	Ref REVU/P4/RPP-14 Date : 05/1006 Page 1 of 1
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Position: Module Leader - Production (Forge Shop)

Organization Chart Ref. REVU/P4/QC-1/8

Purpose:

To achieve daily Module programme

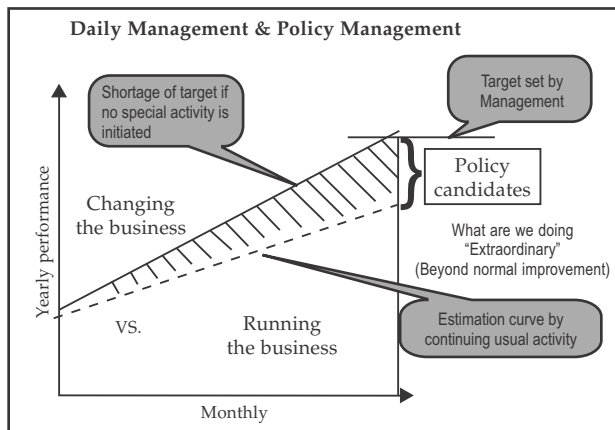
Role (S)

- 1 To achieve daily module plan
- 2 To achieve targeted quality levels
- 3 To ensure SOP Up gradation
- 4 To reduce consumption of major consumables
- 5 To achieve module productivity
- 6 To ensure adherence to systems

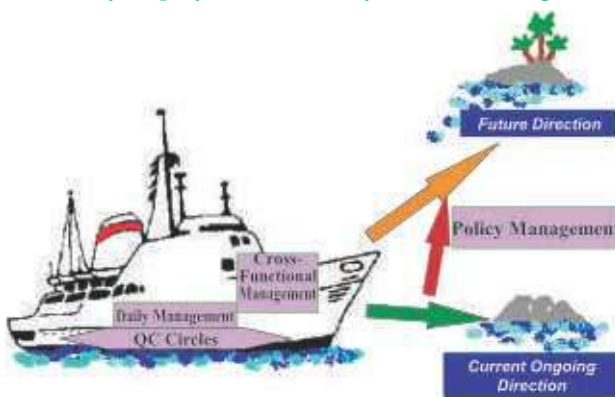
Managing points

S #	MANAGING POINT	Metric	UOM	Review frequency
1	Daily Production	Planned output	Nos	Daily
2	Poke yoke implementation (Customer Complaints)	No. of poke yoke implemented	Nos	Monthly
		No. of CM's horizontally deployed	Nos	Quarterly
3	Internal Rejections	Scrap	%	Daily
		Rework	%	Daily
		SOP Upgradation	No. of amendments	Quarterly
		Problem solved by QCC's (Related to Quality)	Nos	Quarterly
4	Consumption of major consumables	Cost / 1000 values	Rs.	Monthly
5	Module productivity	Values / Head	Nos	Monthly
6	System Adherence	Process Audit Score	Nos	Monthly

Daily Routine Management (DRM) ...



3.7 Policy Deployment and Daily Routine Management



3.8 The effects and thereafter

3.8.1 The Effects

- Won Deming Prize in 2003 – Landmark in RBL History
 - 1st in Rane family
 - 7th in the country
- Strategy focus
- Operations – Not very robust

3.8.2 Thereafter...

- Dominant Market Leadership continued
- Euphoria took over
- Degree of complacency set in / Element of over confidence
- Back to Business
 - TQM Philosophy was not ingrained
- IR issues



Derailed of TQM

3.9 The DGP journey

What did we do differently.....

- Phase of introspection – 2005
 - SMG level
 - Discussions at different levels
 - Operators taken into confidence
- Challenges faced
 - Sustained Dominant Market Leadership!!
 - Resistance to accept reality
 - Focus on 'results' than 'process'
 - Getting 'buy-in' at different levels.

3.9.1 Actions taken

- Lead from the front
 - Accepted leadership failure – Ice breaking step
 - Policy deployment in spirit
 - Focus on Daily Routine Management
 - Intense and in depth reviews
- Decisive actions for getting "buy-in"
- Customer focus
 - OEM / Tier 1
- Employee focus
 - HR interventions



3.10 Specific initiatives launched

3.10.1 TQM promotion

Towards TQM promotion, we concentrated on :

- TQM Organization
- Group level: TQM Apex reviews
- Company level
- Corporate TQM reviews
- Monthly Business reviews – through Managing Points
- Plants / Functions MBR – through Managing Points
- Gemba reviews

TQM at RBL

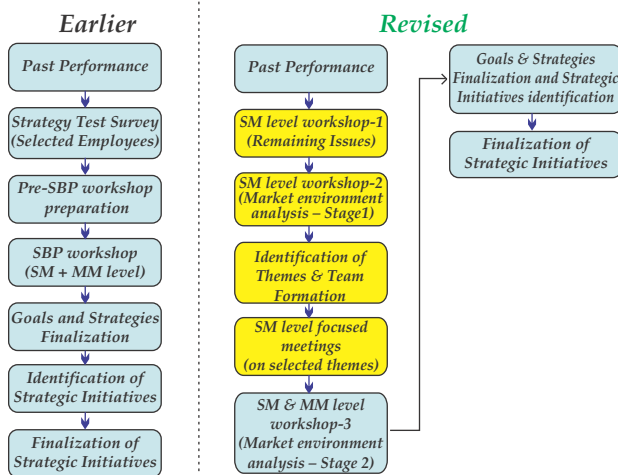
3.10.2 TQM Organization...

Group level	TQM Apex Council Comprises of Chairman, Presidents and TQ Coordinators of Group Companies and Group TQM Coordinator	Responsibilities: To evolve overall policies and guidelines for group companies; assess implementation status at various locations through planned audits
Company Level	TQM Steering Committee Comprises of President, Senior Management of the Company and Plant / Head Office TQM Coordinators	Responsibilities: To promote TQM knowledge and motivate the human resource for implementation of TQM activities
Plant/ Function level	TQM Steering Committee Comprises of Plant / Functional Heads and their Sections Heads and TQ Coordinator	Responsibilities: To motivate and implement observations given by Apex council, RBL TQM steering committee and TQM internal audits

3.10.3 SBP Process Enhancement



SBP Process Enhancement



3.10.4 Revised Strategy Framework...

Post Deming Application Prize Scenario Globalization

Globalization

- Entry of global OEM customers
 - High growth expected in Medium & Heavy Commercial Vehicle (M&HCV), Passenger Car Vehicle (PCV) and Multi Utility Vehicle (MUV) segments
 - Increased opportunities for RBL and intensified competition

Technology

- Technology development
 - ❖ Asbestos to Asbestos Free (AF)
 - OEMs – Market and Customer requirement
 - Aftermarket – Proactive initiatives taken though legally not mandated

Revised Strategy Framework ...

Company

- RBL market leader in Friction Material industry in India
- Highly reputed Brand image in quality
- Stagnant overall sales
 - OEM growth not as per plan 2006-08

Deeper analysis

- Lost M&HCV business as major OEM customer migrated to AF
 - ❖ Competition secured the business through bought out product
 - ❖ RBL could not predict Asbestos to Asbestos free migration in time
 - Contact mainly with Tier-1 and less with OEM being a Tier-2 company
 - Confident on high quality Asbestos product

- Stagnant share in PCV and MUV segment
 - Inadequate system to capture prospective businesses
- RBL senior management team brainstormed
 - Why present SBP process not revealing all this?

Inference

- Existing SBP frame work had limitations
 - Focused on existing strong market and products
 - SWOT focus – less on market analysis
- Predominantly 'Product Out' approach

Necessitated "Strategy framework revision"

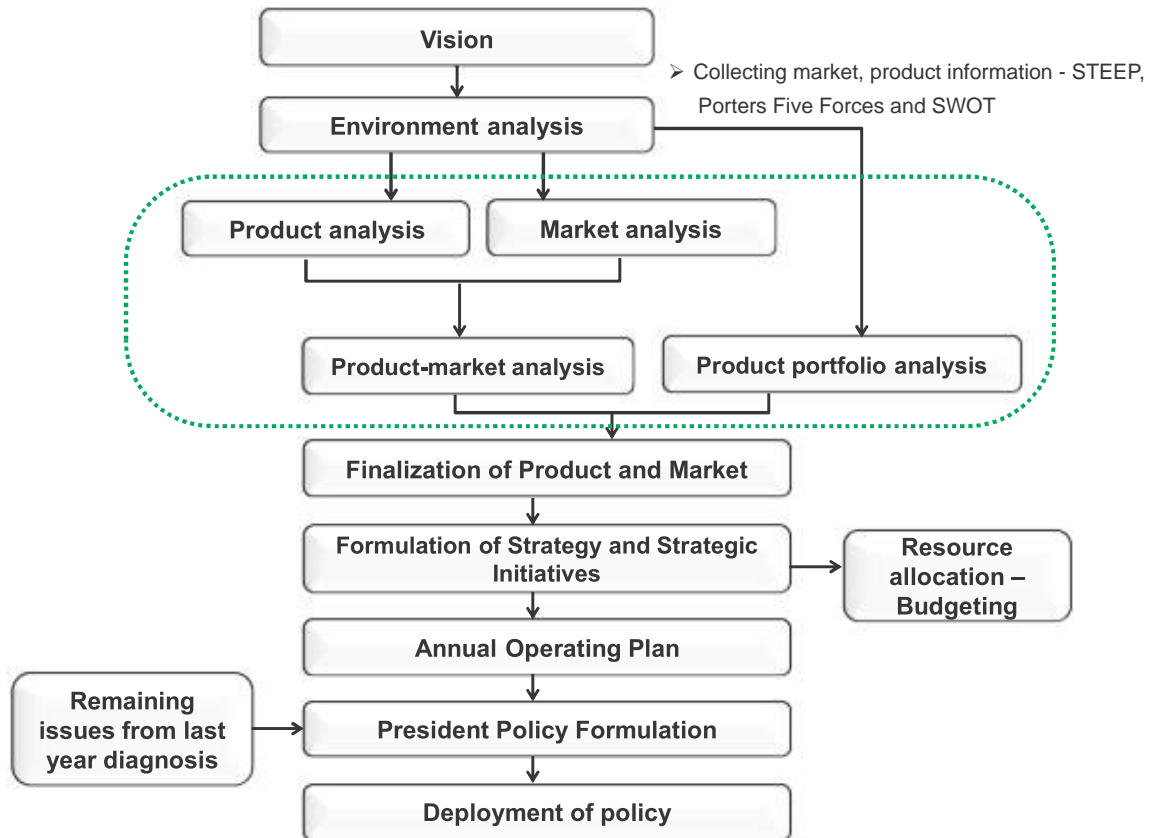
Revised Strategy Framework ...

- High level workshop conducted by Japanese Sensei
 - Internal workshops conducted involving more managers to work out way forward
 - Learning from the workshops were deployed to revise SBP process

- Strategy framework revised to ensure the following
 - SWOT focus to Market / Product focus
 - Capturing customer needs proactively
 - Enabling in-depth market and competitor analysis

Change in approach - 'Product Out' to 'Market In'

Revised Strategy Framework ...



3.10.4 Strategic Business Plan 2012-15

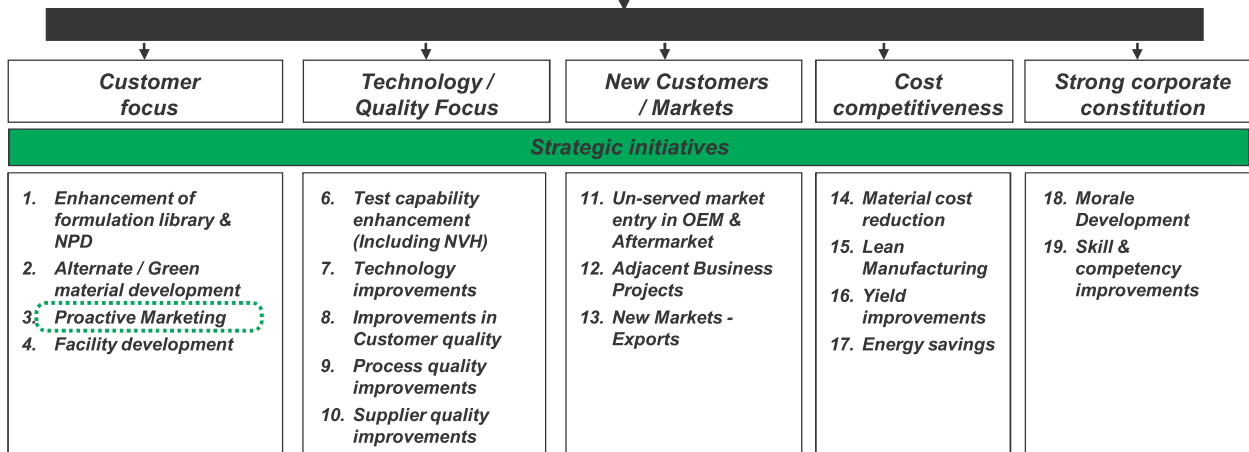
Vision : To be a global supplier of choice in friction material industry through technological innovation and total quality

Goals : 2012-15

- To achieve a sales of Rs. 600 Crores
- To achieve zero customer returns & in-process rejection of 5000 PPM
- To become 100% Asbestos Free company
- To achieve RONA of 25 %

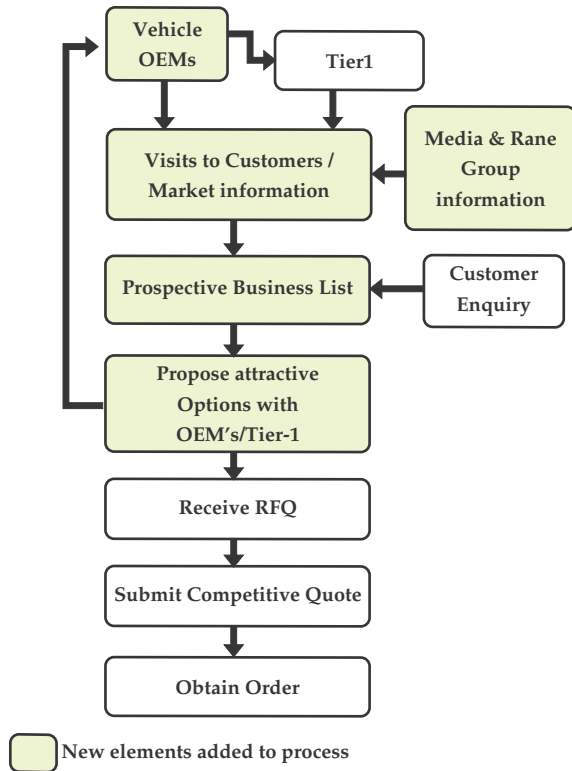
Strategies:

- Technology / Process innovation
- New Business Development
- Improve Operational Efficiency
- Strategic Sourcing



3.11 Proactive marketing

Daimler India Commercial Vehicle (DICV) (Vehicle-OEM)...



- DICV entered Indian market in 2008-09
- RBL approached DICV proactively
- Visit gave insight about techno - commercial requirements of **high performance commercial vehicle**
 - Higher Horse power vehicles (330HP-25T, 31T) compared to other Indian models (TML & Leyland-280 HP)
 - Customer insisted imported grade to be used due to performance parameters
- Challenges:
 - Brake liner needs to with stand life, strength and higher operating temperature - 300 Deg C
 - On par with imported grade
 - Stiff Design Verification Plan time line - 3 months

Challenge for RBL is to meet the performance requirements & lead time

Proactive marketing

Example : Daimler India Commercial Vehicle (DICV) (Vehicle-OEM)...



- RBL Showcased technical capabilities to match the imported grade – with 3 options.

- Options enabled DICV & Tier-1 to choose RBL as first source for 25T vehicle
- RBL pursued all further new DICV opportunities

Capturing Customer needs Vs Comparison of RBL Options					
Sl No	Performance Parameters	Imported Grade	RBL 1	RBL 2	RBL 3
1	Strength	⊙	⊙	⊙	⊙
2	Brake Noise	⊙	⊙		⊙
3	Brake Efficiency	⊙	⊙	⊙	⊙
4	High Temperature Liner-Life	⊙	△	⊙	⊙
5	Drum life	⊙	⊙	⊙	⊙
6	Flexibility	⊙	⊙	⊙	⊙
7	Cost	△	⊙	○	△

RBL proposed RBL 2 in consultation with Tier-1 & Vehicle OEM

△ - Fair ○ - Good ⊙ - Better

Daimler Commercial Vehicle Models	RBL	Competitor
25T	✓	✓
31T	✓	-
16T	✓	-
12T	✓	✓
9T	✓	-

- **Result:** RBL present in all **Daimler India** program

Proactive Engagement during vehicle design stage resulted in winning business

Proactive marketing...

Horizontally deployed the learning and won business from **design stage**

- Mahindra & Mahindra - XUV500- Utility vehicle



- Quanto - Utility vehicle



- Working with Bajaj-RE60 Quadricycle



Learning applied for obtaining business from **unserved market** and won following business

- Maruti Suzuki -Swift passenger car



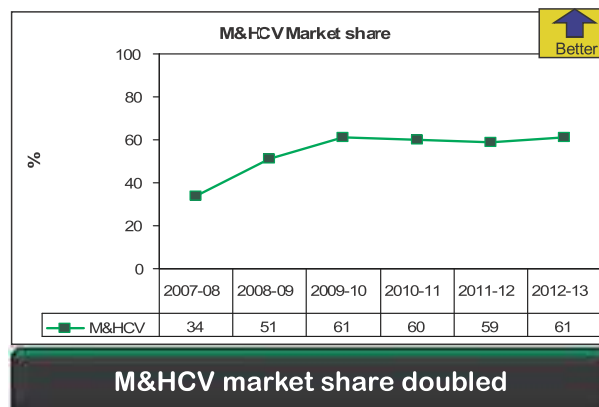
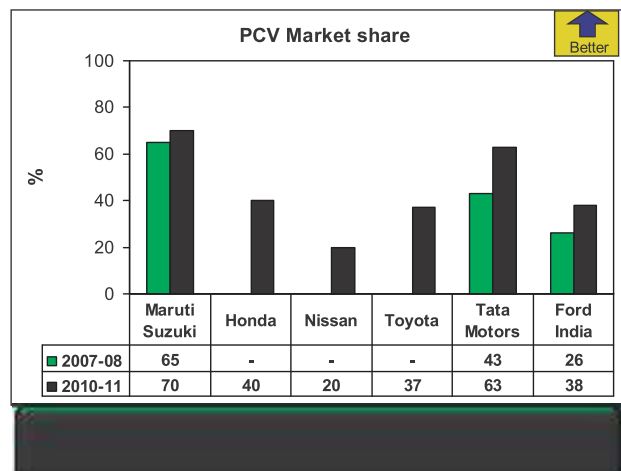
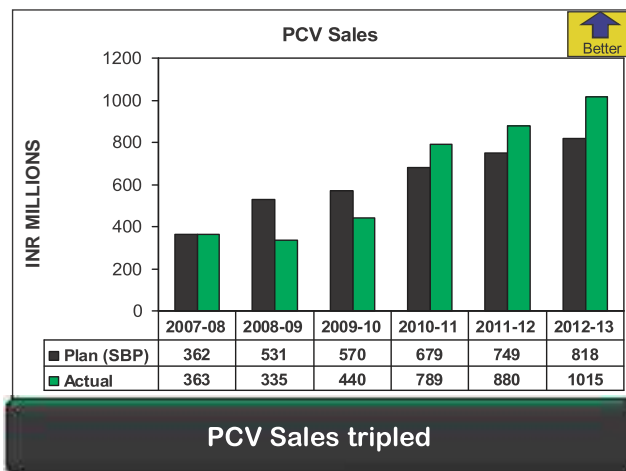
- Nissan - Micra passenger car



- Tata Motors- Sumo Gold –Utility vehicle



Results



3.12 HR excellence

Intense employee engagement – TQM way

- Morale level of employees are periodically measured through
 - Employee Opinion Survey (EOS)
 - GreatPlace To Work (GPTW) survey periodically
- Post survey
 - Low scoring statements identified - focused group discussions held

Low scoring areas - Example Executives

- Every one has an opportunity to get special recognition
- People celebrate special events
- Stress

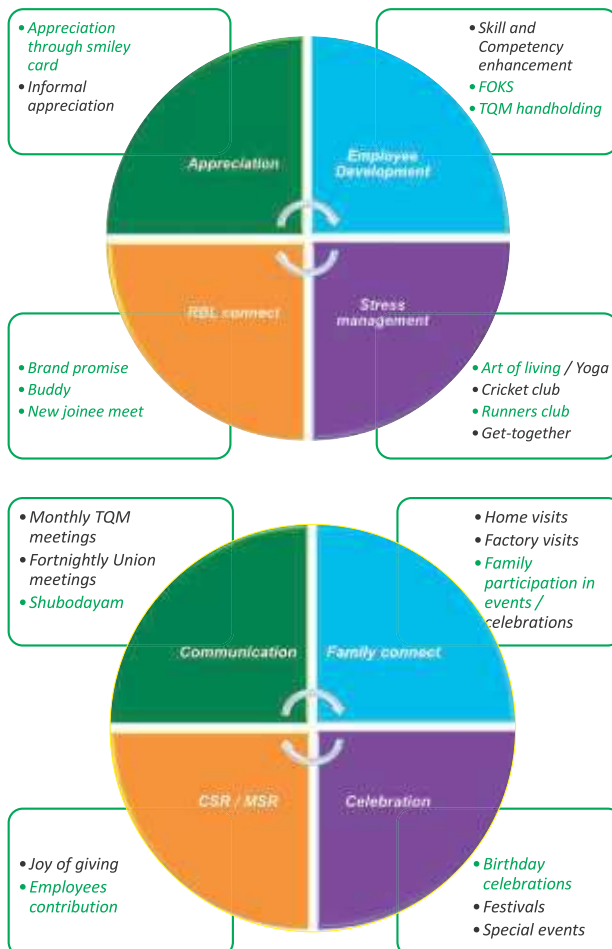
Non Executives

- Recreation facilities
- Concern for people – Socio-cultural events
- Stress

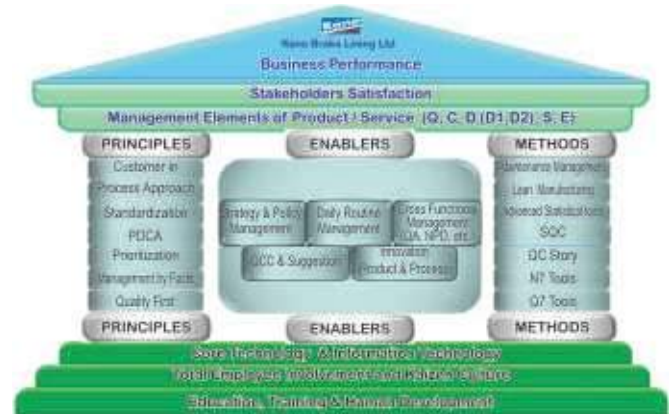
Initiatives arrived and implemented for low scoring areas

HR excellence

Intense employee engagement – TQM way...



3.13 Rane RBL TQM model



Source of inputs : Prof.Osada

3.14 Preparation for Examination Challenges

- Market downturn
 - Focus on sales / bottom line
 - Extended hours of work – Work – Life balance
 - Need for cost focus
- Attrition : 20 – 25%
 - From non-TQM organizations
 - Feeling of excess work
- Regular work + TQM
 - Over worked

3.14.1 What did we do?

- Group level support
- Focus on TEI
 - Prestige of Group / Company
 - QCC, Suggestions, QIT
 - External participation
- Lead from the front
- DGP Action plan and reviews

Company Goal ----- Self Goal

3.15 The Examination Experience

- The Agenda
 - September 10 to 13, 2013
 - 4 Senior Japanese Professors
 - All Plants and Functions
- Overwhelming
- Element of surprise.
- In depth
 - Schedule-A presentation
 - Schedule-B audit

3.16 The Success

Won DGP in Nov 2013



Deming Grand Prize 2013
"The Highest honour for Practicing TQM"

Rane Brake Lining Limited

- 1st Friction Material Company in World
- 3rd in Rane Group Companies
- 7th Company in India
- 9th Company outside Japan and
- 26th Company in the World



Rane Group

- 1st Group to win DGP award for 3 consecutive years outside Japan
- 2nd Group in the World to win more than 2 DGP awards

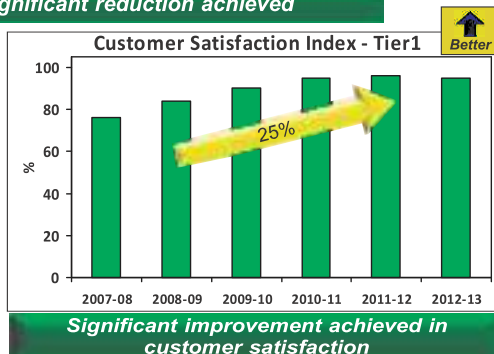
3.16.1 DEMING GRAND PRIZE Award Ceremony



RBL President Mr.P.S. Roa received the coveted Deming Grand Prize from Mr. Masahiko Sakane, Vice-Chairman, Deming Prize Committee (on behalf of Mr. L.Ganesh, Chairman, Rane Group) at Award Ceremony function held at Keidanren Kaikan, Otemachi, Tokyo on 13th November, 2013.

4. Benefits

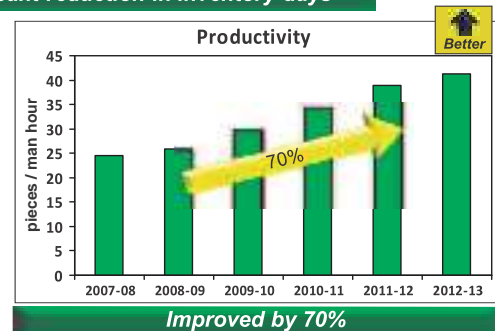
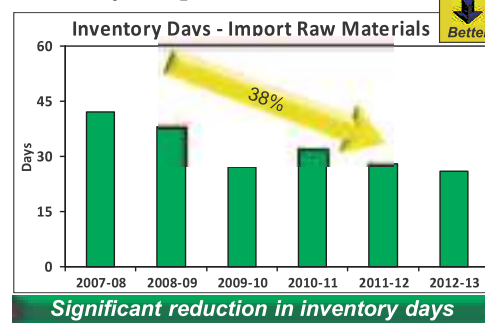
4.1 Customer Quality



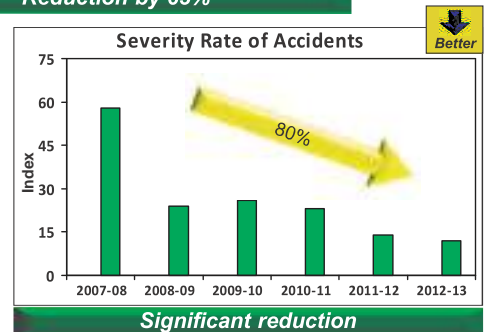
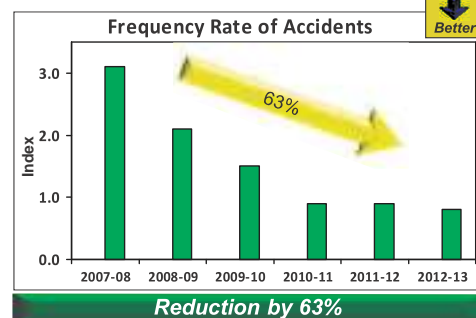
4.2 Inventory & Productivity

Benefits

Inventory - Import Raw Materials

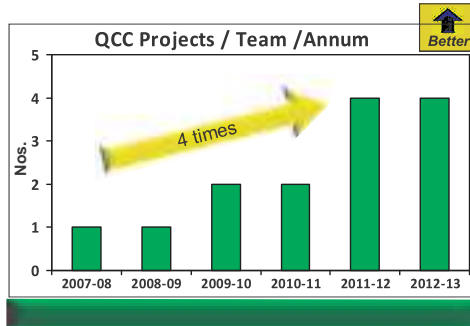


4.3 Accidents

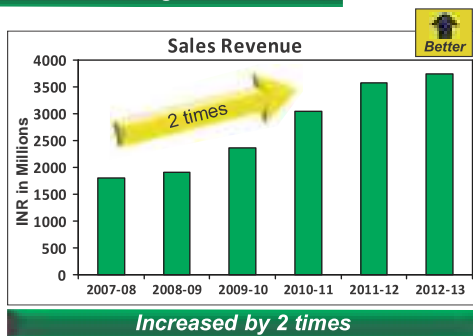
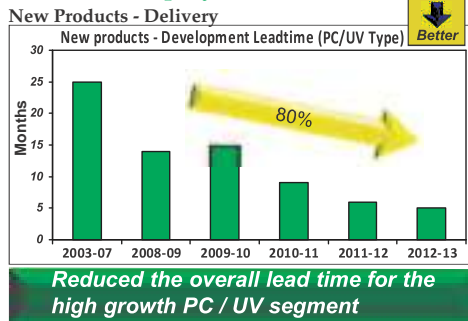


4.4 Total Employee involvement





4.5 Total Employee involvement



4.6 Awards and recognition

4.6.1 Customer recognition

Tier-1 Customer



'Best performance in Proprietary Category' award from Brakes India Ltd. : 2012-13

Vehicle OEM Customer



'Best in class performance in aftermarket support' award from Ashok Leyland Ltd. : 2012-13

4.6.2 People focus



'Great Place To Work' - India's 2nd best auto component industry to work for' - 2013

Manufacturing Excellence



Manufacturing Excellence Award by ACMA in 2013 - RBL Trichy

5. Sustenance of TQM Practices

5.1 Post DGP

- Sustenance is a most important part of TQM and it requires continuous effort and cooperation from all
- Through continuous practice of TQM, RBL has learned and developed a culture of continuous improvement
- Post DGP is it imperative to strengthen our current practices and improve further

- RBL came out with two sustenance initiatives
 1. “DGP Action table – Using 4Q approach”
 2. “RBL TQM Apex review”

5.2 DGP Action table using '4Q' approach

- RBL received a detailed performance analysis report prepared by examiners after examination.
- Report revealed our areas of excellence as well as areas for improvement.
- In order to make full use of the report, RBL developed department wise action table and circulated to all.
- Using the report, all departments prioritized their actions using 4 Quadrant (4Q) matrix.
- This approach helped us in adopting all improvement suggested by examiner and ensure sustenance of TQM practices.

5.4 RBL's TQM Apex review

- The RBL Apex review team consist of Plant Heads, Functional Heads and Identified Section Heads across the Company.
- RBL Apex team will visit each plant and corporate functions once in 6 months.
- The RBL Apex team will do a deep drill audits of all the departments (including Plant Head) for a period of 120 minutes each.
- Based on the review, scoring and feedback will be given by the apex members.
- Till date, we have completed two RBL TQM apex reviews and received positive feedbacks from all employees

This way we make sure that our TQM practices are sustained across the company

5.5 Action table

Items requiring further improvement – under Basic Categories

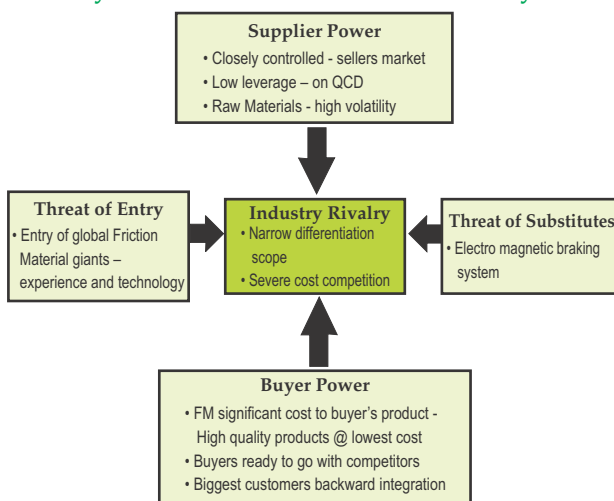
S. No	Category	Items pointed out in the Examination Findings Report	Follow up activity	A	B
				Completed	In-progress (Target date)
35 (Page 23)	(II) Basic Categories 3. Maintenance and improvement of product and operational qualities	Poka yoke in quality improvement There is a need to clarify the defect modes that need to be taken up for zero target by engineering and those that shop floor needs to take up for zero target through improvement like Pokayoke thereby clarifying the division of labor between Engineering and Shop floor	➤ Zero target taken up by engineering and shop floor team to eliminate defect modes by implementing Pokayoke to improve quality		Ongoing (March, 2014)

Totally 57 improvement points were given by the examiners

Thank you....

5.3 Environment Analysis...

Industry Structure : Porter's Five Forces analysis



- Manufacturing process innovation and new technology development
- Reduce raw material cost
- Operational efficiency improvement

6. Conclusion

RBL Deming Grand Prize Journey

- Has been a fascinating journey
 - Looking back 2001 to 2013....
- Strategy Planning and Policy Deployment
- Daily Work Management
- Continuous improvement culture – Kaizen Culture
 - Incremental
 - Break through
- TEI
- Discipline
- TQM – a Religion