TMS TECHNOV M SYSTEMS (P) LIMITED
ENGINEERS & CONSULTANTS
"CONVERTING THOUGHTS INTO FEASIBLE SOLUTIONS"
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Resonance

AWARENESS OF SUSTAINABILITY

CONTENTS

Only 1.44% cities of India has minimal impact of air pollution and 18.8% are in the satisfactory AQI level. This indicates the alarming rate of air pollution prevailing in India. According to the survey, life span is reduced by 3.2 years for 660 million Indians who live in cities. One of the hazardous pollution is the air pollution which can be curbed by following the initiatives of Govt. of India.

Enormous amount of efforts are taken by the government in improving the cleanliness of country. The tons and tons of fuel are wasted in the form of unburnt fuel mixture which causes carbonization thus deteriorating the quality of environment. Government initiatives such as planting trees, Re-generate, Reuse and Recycle are prescription for broken nature. Along with the initiatives, it is also our responsibility to prevent the further deterioration of environment.

The key is to reduce emissions and to provide clean environment, through innovation of technologies.

Rapid industrialization is a necessity for ever growing needs of growing population.

Deliberating on the above constraints, we require the technologies to improve the manufacturing efficiency by making it more sustainable. The best scenario is working towards net zero carbon foot print or carbon neutrality.

Green India

- Swachh Bharat
- Air pollution mitigation
- Magnetic Resonators

TMS has helped manufacturing companies to strategically work towards the net zero carbon foot print by saving the liquid and gaseous hydrocarbon fuel (HSD,HFO, NG, LPG, PNG, Propane) thus helping them strategically manage the input costs.

Our technology "Fuel Management by installation of Magnetic Resonators", innovated, patented and used by large and small manufacturing companies since a decade and half, basically improves combustion efficiency by increasing area of contact between air and fuel.

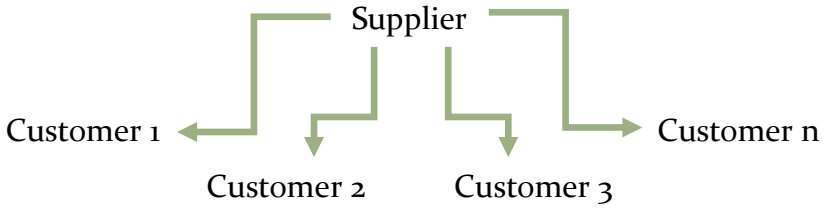
Persistent contribution of TMS towards Energy and operational efficiency of numerous manufacturing industries has generated an additional effect of mitigating social costs.

Nation-wide Implementation of Strategic cost management mechanism by installation of Magnetic Resonator Technology since 1997, is our singular milestone, which additionally controls the emissions thus helping to achieve the National Goals of cleaner environment.

COST MANAGEMENT— A STRATEGIC MODEL

This model falls under the Co-operative, non –zero sum game. It provides the layout for the smooth business transaction between single customer-single supplier. It also applies for the situation when single supplier deals with multiple customers/single customer deals with multiple suppliers.

Case 1:

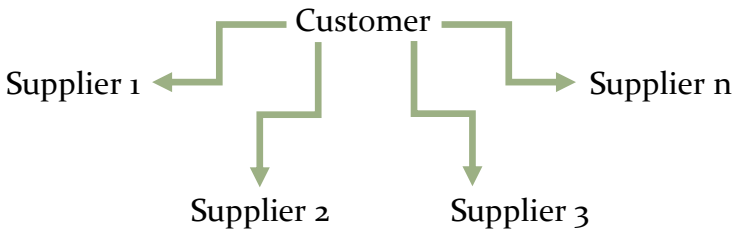


Assumption:

Seller supplies automotive components to customer 1, forging components to customer 2, casting components to customer 3 and so on..... In that case, supplier profitability will increase by increasing the number of customers by applying this game theory model.

Total Order Value (supplier) = OV (customer 1)+OV(customer 2)+... OV (customer n)

Case 2:



Assumption:

Buyer gets brake components from supplier 1, wheels and tires from supplier 2, suspension system from supplier 3 and so on....In that case,

Total Purchase cost (customer) = PC1+PC2+PC3+... PC n

Instead Total Purchase cost incurred by customer can be reduced by shifting to vertically integrated supplier where customer gets all the needed components for assembly.

An innovative model: Strategic solution to improve business transaction.

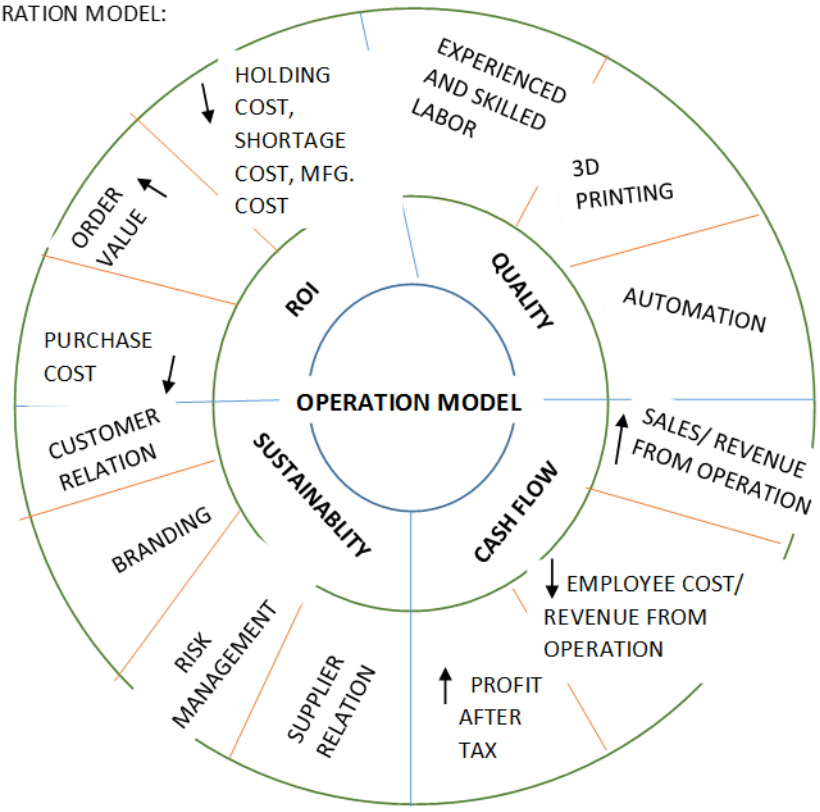
The business transaction, as we are aware depends upon optimization of various parameters between the buyer and seller.

The two dominant parameters for the buyer are: Purchase cost, the cost to his company and quality of the product/service that he is paying for.

At the supplier level, we identified the value of the order that he is supplying and customer relationship factor that he has developed.

The strategic solution to the continuous and successful business relation between Customer and Supplier is Win-Win (Non-Zero sum) game theory. To attain a clear path for achieving this win-win state, is analyzing the outcomes of decision making factors. The optimum operation model to run the organization efficiently comprises of four major elements namely Return of Investment, Quality, Cash flow and Sustainability, which paves way for smooth business relation between buyer and seller, highlighted using the game theory and each of which explicitly depends on few other factors as mentioned in the operation model.

OPERATION MODEL:



SUGGESTED OPERATION MODEL

OPERATIONS

TABLE 1 : MATRIX FOR OPERATIONS

		CUSTOMER	
		PURCHASE COST Y	**QUALITY Y_1**
SUPPLIER	**ORDER VALUE X**	(X,Y)	(X,Y_1)
	CUSTOMER RELATIONSHIP X_1	(X_1,Y)	(X_1,Y_1)

TABLE 1.1: PROBABILITY OF OPERATIONAL EVENTS

Success of the player depends on the priorities given. It may result in mutual benefit or Individual benefit. If relationship is the motto of a firm, then player should choose mutual beneficial segment.

S. No	MATRIX SEGMENTS	INPUT	DESCRIPTION	RESULT
1	(Order value, Purchase cost)	(-,-)	When business is not initiated	(0,0)
		(-,+)	This means Order value is less for Supplier and Purchase cost is high from customer point of view. **Delay in placing the order.**	(0,0)
		(+,-)	This means Order value is high for supplier and PC is low for customer. **Order is placed immediately**	(1,1)
		(+, +)	When both Order value and Purchase cost are high, **Risk and affordability stage**	(1,0)
2	(Order Value, Quality)	(-,-)	When business is not initiated	(0,0)
		(-,+)	When order value is low and Quality is high. Hesitation arises from Supplier side.	(0,1)
		(+,-)	When order value is high and Quality is low. **Customer will not place the order**.	(1,0)
		(+, +)	Both Order value and Quality are high. **Order will be placed immediately**.	(1,1)

3	(Customer Relationship, Purchase cost)	(-,-)	Order will be placed but supplier needs to build a good relationship for further orders.	(0,1)
		(-,+)	When customer relationship is not achieved but purchase cost is high, **contradiction exists**.	(0,0)
		(+,-)	When customer relationship is achieved and purchase cost is less, **Order will be placed immediately**.	(1,1)
		(+, +)	When customer relationship is achieved, but purchase cost is high. **Customer delays in placing the order**.	(1,0)
4	(Customer relationship, Quality)	(-,-)	When business is not initiated	(0,0)
		(-,+)	When customer relationship is not achieved, but the quality is high – **Order will be placed but Uncertainty exists for continuous order**.	(0,1)
		(+,-)	When customer relationship is achieved but quality is low, **order will not be placed**.	(1,0)
		(+, +)	When customer relationship is achieved and quality is high, **order will be placed and relationship long lasts forever**.	(1,1)

TABLE 1.2: RESULTS AND PRIORITIES OF OPERATIONAL MATRICES

S.NO	MATRIX SEGMENTS	WIN-WIN CONDITION	PRIORITIES
1	(Order value, Purchase cost)	(+,-)	4(a)
		(+, +)	4(b)
2	(Order Value, Quality)	(+, +)	3
3	(Customer Relationship, Purchase cost)	(+,-)	2(a)
		(-,-)	2(b)
4	(Customer relationship, Quality)	(+, +)	1

INFERENCE FROM OPERATIONAL MATRICES

- Priorities are given to possible events contributing for non-zero sum game, based on the most influencing factors.
- Matrix segments (Order value, Purchase cost) and (Customer relationship, Purchase cost) are further prioritized as they are having two win-win conditions each.

PROFITABILITY

TABLE 2 : MATRIX FOR PROFITABILITY

		CUSTOMER	
		ROI (C)	**EXPENSES (D)**
SUPPLIER	**CONTRIBUTION (A)**	(A,C)	(A,D)
	TOTAL INVENTORY COSTS (B)	(B,C)	(B,D)

TABLE 2.1: PROBABILITY OF PROFITABILITY EVENTS

S.NO.	MATRIX SEGMENTS	INPUT	DESCRIPTION	RESULT
1	(Contribution , ROI)	(-,-)	When business is not initiated	(0,0)
		(-,+)	This means Contribution is less for Supplier and ROI is high for customer. **Supplier will hesitate to sign in for business**.	(0,1)
		(+,-)	This means Contribution is high for supplier and ROI is low for customer. **Order will not be placed.**	(1,0)
		(+, +)	When both Contribution and ROI are high, **Order will be placed immediately.**	(1,1)
2	(Contribution , Expenses)	(-,-)	When business is not initiated	(0,0)
		(-,+)	When Contribution for supplier is low and Customer Expense is high, **no trading takes place**.	(0,0)
		(+,-)	When Contribution is high and Customer expense is low, **Order will be placed immediately**.	(1,1)
		(+, +)	Both Contribution for supplier and Customer expenses are high. **Delay in placing the order**.	(1,0)

3	(Total Inventory cost, ROI)	(-,-)	When business is not initiated	(0,0)
		(-,+)	When Supplier total Inventory cost is low and Customer ROI is high, **Order will be placed immediately**.	(1,1)
		(+,-)	When Supplier total Inventory cost is high and Customer ROI is less, **no trading takes place**.	(0,0)
		(+, +)	When both Supplier total Inventory cost and Customer ROI are high, **it is loss for supplier**.	(0,1)
4	(Total inventory costs, Expenses)	(-,-)	When business is not initiated	(0,0)
		(-,+)	When Supplier total Inventory cost is low, but the customer expense is high – **Order will not be placed immediately**.	(1,0)
		(+,-)	When Supplier total Inventory cost is high but the customer expense is low, **it is loss for supplier**.	(0,1)
		(+, +)	When both supplier total Inventory cost and customer expenses are high, **no trading takes place**.	(0,0)

TABLE 2.2: RESULTS AND PRIORITIES OF PROFITABILITY MATRICES

S.NO	MATRIX SEGMENTS	WIN-WIN CONDITION	PRIORITIES
1	(Contribution, ROI)	(+, +)	1
2	(Contribution, Expenses)	(+,-)	Tie
3	(Total Inventory cost, ROI)	(-,+)	Tie

INFERENCE FROM PROFITABILITY MATRICES

- Maximization of operational efficiency is the fulcrum between buyer–seller relationship and quality deliverable to the buyer. The best case scenario is the balance between Buyer-seller relationship and Quality deliverable to buyer.

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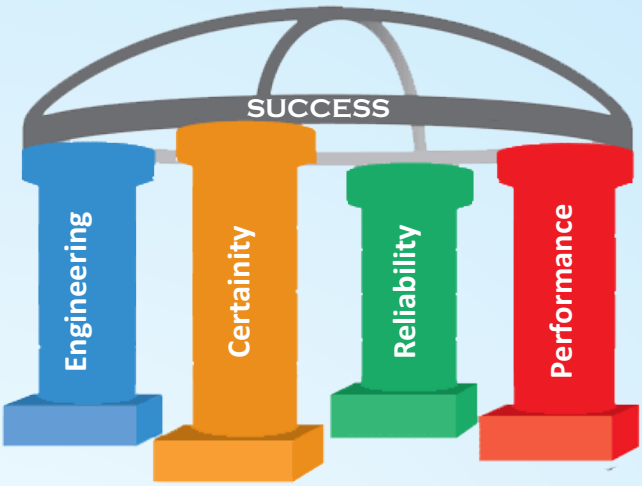
MILESTONES

OUR MISSION:

- Improving the productivity of our industries by micro improvising the direct input costs
- Improving productivity by saving the non-renewable resources directly
- Converging the essence of sustainability for rapid industrialization of nation through innovation

OUR PATHWAY



Our Journey

Our Achievement:

- Patented technology
- Currently savings 76 Crores value of petroleum/annum
- Contributed to minimized CAD
- Field Research with published articles in world renowned journals

TMS Specifics:

- Dedication
- Collaborative with user
- Innovative team efforts
- Empathy for certainty
- Each implementation evaluated
- Replication for all utilities *enterprise wide*

Our Achievement

Evinced by our recent installations:

Enterprise wide for PSU's such as IOCL, HPCL, IPGCL, NTPC, RWF etc., and private sectors such as L&T, NIRMA, HONDA, YAMAHA, HYUNDAI, TVS group etc.,
Our track records with 20 years of service dedicated to nation building implementing 2500 projects including Automobiles, Steel industries, fertilizers, cement , metals etc.,

Our Journey Marches....

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