

VALUE MANAGEMENT

Implemented examples - Indian and Foreign

Type of Industry	Before VA	After VA	Benefits
(1)	(2)	(3)	(4)
1. INDIA Chemical Factory	a raw-material purchased at Rs. 15 per kutchra amount in western India	A similar raw-material of a some what different specification available at Rs. 9.50 per maund locally.	Approximate saving Rs. 80,000 to Rs. 1 Lakh per annum; less inventory cost as material is available locally.
Cigarette Company	Cardboard cartons Wooden boxes of a certain thickness and hoop iron for packing cigarettes	After analysing the methods of transportation and the possibility of damage in handling the thickness of timber for wooden boxes was reduced. The use of hoop iron and protective case sector were discontinued for road transport. Dwelling was not found necessary. Hoop iron width for shipments by rail was reduced and length of lap cut. Waterproof paper size was reduced and so on.	
Automobile Factory	Polished metal	Eliminated altogether as this cap merely covered a hole for insertion of automatic cigarette lighter; As the latter were not being provided at all in India, there was no point in even providing holes for them. Drilling of these holes was stopped too.	Saving in Production cost as drilling of holes was eliminated savings of purchase cost as caps were no longer required.

(1)	(2)	(3)	(4)
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Automobile Factory	Rolled steel hollow section for windshield frame for automobile	Solid Aluminum extrusions	The former was imported, the latter is obtainable indigenously; saving of foreign exchange Rs. 1,60,000/- net saving Rs. 80,000/-
Railways	Laminated springs for railways to IRSS M-11 grades 1 & 2	Laminated springs to IRSS 10-49	Laminated spring of the former specification had to be imported or would have required 2 1/2 years to produce in India. By changing the specification it was possible to buy the entire quantity from India sources within a reasonable time.
Refrigerator Company	Proprietary brand of refrigerant	Different brand of refrigerant from a different source which served equally well	The former costs Rs. 2.50 per lb. A saving of 40%
Cement Factory	Standard and for cement testing Light on Buzzard sand imported from U.K.	Standard sand according to ISI specification issued in 1955 available indigenously from Madras	The imported sand cost Rs. 1000/- per ton. The Indian standard sand is available at Rs. 300 per ton from Madras. Saving of costs as well as foreign exchange.

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Transformer & Switchgear (small industry)	a) Brass plug fastened by brass chain to prevent dust entering valve.	Chain eliminated & plug replaced by G.I. one.	
	b) LT Bush Button ends fastened to wooden piece with brass screws c) Gunmetal petcock for oil testing and checking	Replaced by G.I. Screws G.I. plugs to be used	Rs. 6249/- per annum savings doubles from next year as rate of production doubled
2. UNITED STATES			
2.1	5" Steel pin 5/16" diameter with deep conical impression at one end	The same pin with only half as deep conical impression price reduced from 20 cents a piece to 11 1/2 cents on the new design	Saving of 38%
2.2	A special type 1/10 the H.P. motor to fit a cramped	Newly designed motor 90% standard features	Price reduced from \$ 59 to \$ 27 or saving of 50%
2.3	An impregnated value body at \$ 310 per thousand	The same made of superior material at \$ 390 per thousand	Higher price was paid for lower ultimate cost. The former had 44% scrap in part processing whereas the latter had virtually no scrap. savings \$ 204 per thousand even after paying higher price of \$ 80 per piece.

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2.4	Cover of menu card used for special airlines flight was embossed with silver to give high quality appearance	Silver embossing was replaced by two-color (blue and silver) design that maintained desired effect	Saving of 64%
2.5	Metal electrical component rack was chromium plated with a .0005 inch thick coating	Attractive but unnecessary finish was replaced with anodized coating covered with a dry film lub.	Saving of 41%
2.6	Heating element was coated with expensive layer of silver to protect surface and to protect surface & allow good heat transmission	Coating was switched to less expensive nickel which still gives the necessary protection	Saving of 55%
2.7	Carrying handle for portable fire extinguisher was made of an aluminum casting. Finishing were required	Design was switched to a plastic diecasting with color moulded in to the handle, size was reduced.	Saving of 67%
2.8	'Seat Occupied' Card for international airline was printed in two colors on both sides-English on one, Spanish on the other	Card was redesigned to contain both English, Spanish on one side of card. Second colour was eliminated as non-functional	Saving of 46%

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2.9	Bolt for electric switch board was machined to order from solid bar stock.	Bolt was assembled by combining a standard rib-naked carriage belt with a simple screw machine product	Saving of 69%
2.10	Handsome and study latch was specified in original design of sheet metal coupling guard	Study revealed that appearance of latch was unimportant and high precision unnecessary	Saving of 98%
2.11	Nuclear power station guidance feature and lifting grab head	Funnel like guidance feature eliminated	47% cost reduction and also more robust.
3. BRITAIN 3.1	Sheets and strips	Bought in multiple sizes	Saving of 40%
3.2	Starter dog of diesel engine machined from hexagonal bar stock	Hexagon nut used as function 'turn crankshaft was redundant'	60% reduction in cost.
4. AUSTRALIA 4.1	Special machined bolt with hexagon head random-slotted	Some with rolled thread.	Saving of 75%
5. SWEDEN 5.1	A ceramic item	The same manufactured by a different process obtained from a new source of supply	Saving of 70%
6. WEST GERMANY 6.1	Water pump of washing machine	Redesign with change of materials replacement of bolts by rivets etc.,	Cost reduced from DM 4.70 to IM 1.86 with an annual production of 100000 machines, annual saving DM 2,84,000.

NPC STUDIES IN VALUE ANALYSIS - A BIRD'S EYE-VIEW

	THE PROBLEM	FUNCTIONAL ANALYSIS AND FINDINGS	RESULTS
1.	Electrical Equipments- Production Capacity Limitation for Heavy Duty Motors	Capacity limitation for magnet frames of motors an analysis of the machinery of various surfaces was carried out with specific effects of the machined surfaces on the performance and reliability of the motors working.	18% of the total machinery was established as reduced out i.e. not serving any functional requirements and also not adding anything to the esteem of the product. This effect in creation of about 22% additional capacity for production.
2.	Trip free mechanism used in switchgears No problem was faced because the supplies abound out and no crisis situation was created	The problem was undertaken on voluntary basis and the mechanism for manual tripping was analysed, with a view to attaining the purpose while getting rid of components in assembly.	Nine components were established to be redundant just by making a change in the location of a hole for push button on the cubic outside.
3.	Rotor end plate for D.C.motor. The production being time consuming and complicated	The functional requirements of end plate were established and a set of standard stamping already existing was selected to serve the function	Although the material cost went up, the total processing cost came down in a much higher proportion.
4.	Door handles for automobiles. No problems faced as a routine matter.	On voluntary basis the product was selected and functional analysis of various components was carried out. It was noticed that with each of the locking handle three non-locking handles were provided as a complete set. But the components used in both types were the same excepting that in the non-locking type they were blanked by using a cap.	A modification was made for the non-locking handle and seven components could be eliminated. Thus effecting an overall savings of about 25%.

5.	Heavy down time of the primary crushers of a copper concentration plant due to boulders blocking the passage	The system was analysed with a view to stopping the large size boulders being fed to the crushers. The analysis revealed that only in case of a particular combination of the material handling systems this phenomenon is prominent. The shovel bucket was recommended to be componentalised so that during filling, the large size boulders are automatically segregated and do not come to the crusher at all.	No more incidents of crusher downtime and cost savings of about Rs. 7,00,000 per annum were effected.
6.	High consumption Ferromanagagese in Steel Making	The function requirement of Ferromanaganese in steel melting process was analysed. Compared with the idea, it seemed to be very much on higher side. An analysis of present practice and the areas of consumptions portion of the FeMn is burnt in the process because of addition in the melting furnace stage. It was established by the technology wing that the same effect could be achieved even by adding the pouring stage	Experimental runs had shown that the present norm of 22 Kgs/Mt can be brought down to almost 10 Kgs Mt.

7.	High consumption of grate bars in sintering furnace	The operating requirements and characteristics of the grate bars, with specific requirements of material competition, chemical contribution and heat resisting characteristics was established. It was found that the present grate bars are ordinary C-1 supplied by local suppliers. A high content was required, thereby raising the cost about 5 times.	The total down time cost of the furnace and the resulting production was more than offsetting the additional cost.
8.	Pickstick in a Power-loom		Redesigned to give double the life at an additional 20% cost.
9.	Picker in a Power-loom		Redesigned to give double the life with an additional 30% cost.

