BAY OF BENGAL INITIATIVE FOR MULTI SECTORAL TECHNICAL AND ECONOMIC COOPERATION

COSTING AND PRICING OF RAIL TRANSPORT SERVICES

National Academy of Indian Railways (NAIR)
in association with
Asian Institute of Transport Development (AITD)

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Activity Based Costing :

Imperatives & Perspectives for Rail Transport and the Way Forward

What will we discuss ?

* The Big Picture – Challenges
* Pricing of Services & Costing
* Activity Based Costing
* Indian Railways – experience
* The Way Forward

The Big Picture

India – the country

- Area 32,87,263 sq. km
- Population 1.2 billion
- North to South 3214 km
- East to West 2933 km
- Coastline 7516 km
- Land frontier 15200 km

The Big Picture (contd.)

* 11000 trains per day (7000 passenger trains & 4000 freight trains)
* Route 64600Km
* Passengers carried every year 7.6 million
* Freight carried every year 950 mill tonne
* Employs human resource of 1.3 million
* Commercially - profitable

The Big Picture (contd.)

* More than a century old system
* Dual role of Indian Railways
* Public Utility – social obligations
* Commercial operations
* Non economic factors in decision
* Costs spinning out of control

Pricing and Costing

What Co. will get in exchange for its products / services ?

Pricing and Costing (contd.)

MARKETING MIX

PRODUCT – cost element

PROMOTION – cost element

PLACE – cost element

PRICE – only **revenue** generating element

Pricing and Costing (contd.)

Factors for pricing

* Cost of manufacturing ?
* Market place ?
* Competition ?
* Brand ?
* Quality of product ?
* Market conditions ?

Pricing and Costing (contd.)

Elements of pricing strategy

* How much to charge ?
* Objectives of pricing – skim or penetrate ?
* How to set the price – fixed or cost plus or value based ?
* Image you want price to convey

Pricing and Costing (contd.)

* What price should do ?
* Achieve financial goals – profitability
* Fit realities of market place – will customers buy at that price ?
* Support a positioning

Activity Based Costing (ABC)

* The system caught on in 1990s
* A costing methodology – identifies activities in an organisation
* Then assigns cost of each activity indirect resources
* Enables better allocation of indirect or common expenses

ABC (contd)

Peter F Drucker book Managerial Challenges of 21st Century :

> *" Traditional cost accounting focuses on cost of doing something, ABC also records cost of not doing something…"*

e.g. Cost of a locomotive waiting

ABC (contd)

* How it works ?
* Example : Single product company vs. multiple product company

Single product company – easy cost system

Cost per item = Total expenses / Total no. units produced

ABC (contd.)

Multiple product (or service) company needs many more resources to support its varied mix

Example : Single class passenger train service from New Delhi to Mumbai vs New Delhi to Mumbai route with multiple services, classes, passenger, freight, parcel, express, ordinary, container, suburban,……etc

ABC (contd.)

Multiple product or service company will need people who

* Schedule machines
* Setup machines for different products
* Design new products
* Ship orders / interact with customers
* ..
* Etc

ABC (contd)

Process of ABC

* The cost of indirect expenses and support services are traced to activity cost centres

* Then expenses are applied to different products based on activity **cost drivers** for that activity cost centre

ABC (contd.)

Single product company

- All units produced would require more or less equal amount of cost driver for each unit

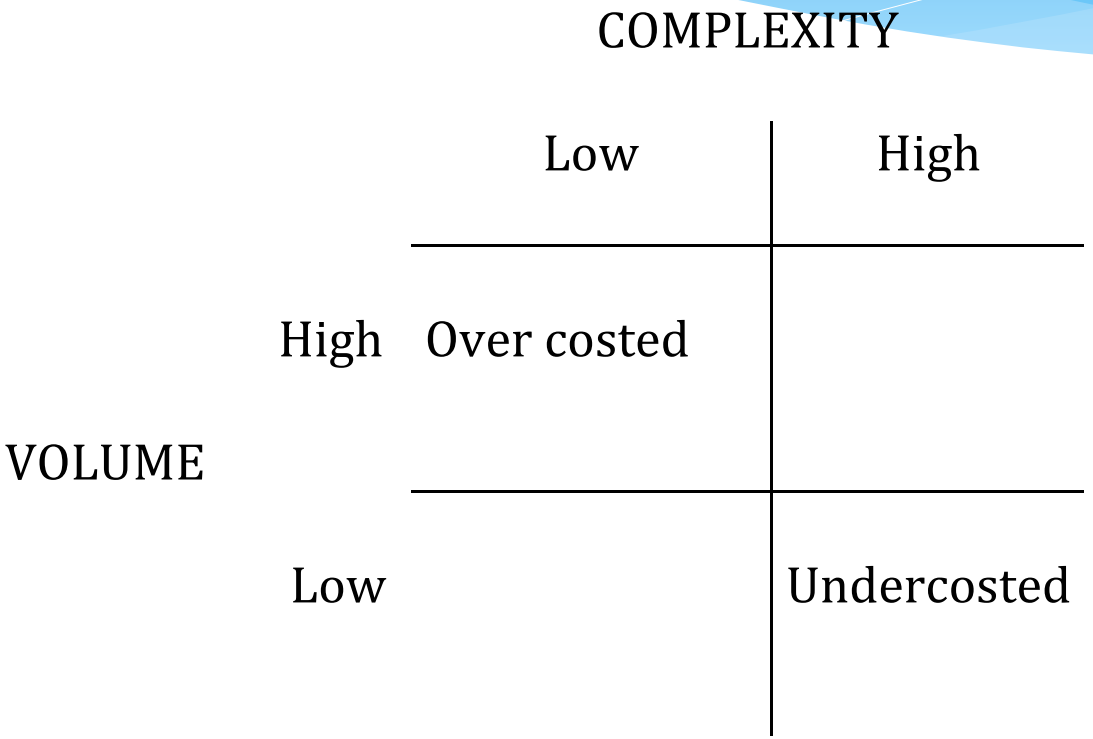
Multi product company

- Units produced will require different qtys. of cost driver for each unit

Standard costing will give same results – for all units produced irrespective of complexity

- e.g. Ordinary passenger vs. upper class

ABC (contd)



Traditional Costing Systems distort product / service costs

ABC (contd)

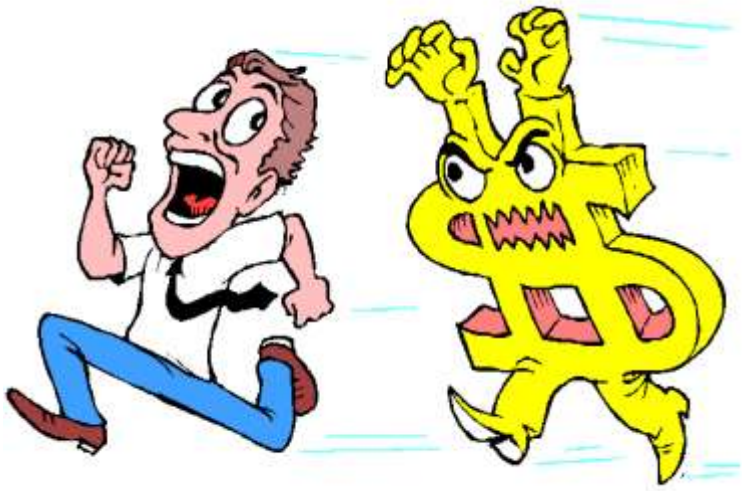
Product complexity

* Small batch sizes
* Long set up times
* Unique components
* Special tests and inspection
* Extensive material handling
* Special vendors

ABC (contd)

Consumer Complexity

* Customised products
* Short lead times
* Unpredictable orders
* Extensive technical support
* Special tests / inspections



ABC (contd)

* ABC answers the following questions

Q.1 Why is the organisation spending money on indirect / support service ?

The activity is needed !!

BUT focus has shifted

From HOW to allocate costs ?

To WHY is organisation spending ?

ABC (contd)

Q.2 How much is organisation spending on each of its activities ?

* ABC maps resource expenses to activities using cost drivers
* Financial data (salaries, overtime, travel etc)– in ledgers has spending codes
* Cost drivers link expenses from financial ledger to activities performed

ABC (contd)

Cost analysts

- Interview / survey employees and seek assessment of % of time they take to do an activity
- For machines / other equipment they directly measure
- Goal is to be approximately right

ABC (contd)

* After resource costs are traced to activities managers get powerful insights
* Can identify activities and their costs
* ABC relies on non-unit cost drivers – e.g. service / product sustaining expenses
* Traditional costing uses bases like labour hours, machine hours etc for assigning indirect expenses

ABC (contd)

Q.3 Why is the organisation performing these activities ?

Traditional costing experts and new advocates of ABC – making system more effective

BUT ABC asks – is the activity worth doing ?

ABC (contd)

Q.4 How much of each activity required for organisations' services / products / customers ?

* Linkages between activities (and cost objects- like products / services) established using cost driver
* Which is a quantitative measure of output of activity

ABC (contd)

Types of activity cost drivers

* Transaction drivers (No. of tickets, no of receipts etc)
* Duration drivers (time for inspection)
* Intensity drivers (actual cost per customer)

ABC (contd)

Where to apply ABC ?

* Willie Sutton Rule – look for areas with large expenses in indirect and support services
* Highly Diverse – large variety of products / services (single service company vs. multi service company)

ABC (contd.)

CAUTION :

ABC is the lowest cost system BUT not the most accurate system

Why ABC fell out ?

* It was cumbersome to implement
* It was costly to implement as stand alone system

ALTERNATE METHOD of Performance Measurement

- Balanced Score Card

Experience on Indian Railways

* 1962 – First costing system
* 1979 – Revised classification of accounting
* 1980 – Present system of costing
* 1996 – Cost & Profit Centre Approach

The way forward

* AIMS
* Costs of doing things
* Pricing of services

THANK YOU

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