Accounting for Financial and Managerial Decision and Control [AFMDC]

Unit 11
Pricing Decision: Transfer Pricing in Decentralized Conditions

Structure

- Concepts of transfer pricing between departments of same organization (internal transfer) under decentralized condition
- Pricing technique
    - Market-based transfer pricing
    - Full cost transfer pricing
    - Variable cost transfer pricing
    - Negotiated pricing
    - General-transfer-pricing rule

After the completion of this unit, you should be able to:

- Understand the concepts of internal transfer pricing between departments of same organization under decentralized condition
- Determine the transfer price using Market-based transfer pricing, Full cost transfer pricing, Variable cost transfer pricing, Negotiated pricing and General-transfer-pricing rule

11.1 Concept of Internal Transfer Pricing between Departments of Same Organization under Decentralized Condition

It is concerned with transfer price between departments of same organization. Transfer price is that notional value at which goods and services are transferred between divisions in a decentralized organization. Decentralization is the delegation of decision-making to the sub-units of an organization. The lower the level where decisions are made, the greater is the decentralization. Decentralization is the most effective in organization where cost and profit measurement is necessary and is most successful in organizations where sub units are totally independent and autonomous. The problem of pricing arises when such a transfer of materials, work-in-progress, finished goods or service is made from one department to another department of same company. It transfers prices are set too high, the supplier department will be favored, whereas if set is too low, the buyer will receive an unwarranted proportion of the profit. In such a situation, the actual performance of each seller and buyer department may not be reflected. The transfer pricing affects not only the profits of the supplier and receiving divisions but has also an impact on the profitability of the company as a whole.

Transfer price should satisfy the following three criteria:

1. They should make possible reliable assessments of divisional performances. [Performance Appraisal]

2. The profit should be set so that the divisional management's desire to maximize divisional earning is consistent with the company as a whole – [Goal Congruence]
3. The prices should ensure that divisional autonomy and authority is preserved. The profits of one division should not be dependent on the action of other division. – [Divisional Autonomy]

11.2 Methods of Transfer Pricing

i) Market-based Transfer Pricing

Where external markets do exist for the selling centre's product, it is preferable to use market prices rather than cost-based prices. This is because market price is a better guide to the value added to products than a cost-based price which incorporates a profit element. The receiver department receives the product at the price which has to pay if purchased from outside. For the supplier department, market price represents the earning which is lost by the transfer. So, market price is the best transfer price in the sense that it will maximize the profit of the company as a whole, if it meets the following two conditions.

(a) There exists a competitive market price.
(b) Divisions are independent of each other.

ii) Full Cost Transfer Pricing

Under this method, transfers are priced at full absorption cost. It is a full cost plus a profit mark-up method. It is likely to be treated by the buying division as an input variable cost so that external selling price decision if based on costs. It may not set all levels which are optimal as far as the firm as a whole is concerned. In this method, transfer price of product cover divisional profit and all costs including manufacturing and non-manufacturing.

iii) Variable Cost Transfer Pricing

In this method, the transfers are made at variable costs. These costs are direct material, direct labour and variable factory overhead. By passing only variable costs alone to the next division, production and pricing decision are based on a cost-volume-profit relationship for the company as a whole. This method is very much applicable where the market price is not existed. In such, cost-based transfer pricing is amongst the best one for the company as a whole. However, it will result in a selling division, so performance appraisal becomes meaningless and motivation will be reduced.

iv) Negotiated Pricing Method

Transfer Price could be set by negotiation between the buying and selling division. The buying division obtains quotations from the supplier division as well as from external suppliers. A decision is then taken whether to purchase from outside or to obtain internally. While taking decision, the marginal cost of the product and capacity available for its manufacture should not be ignored.

Negotiated Pricing Method may be most suitable alternative for those markets, where there exists imperfect. In a perfect market, buyer or seller can influence price to a certain degree by selling large size or by selling closely related but differential product or by selling a unique product.

From the above discussion, it can be said that the following conditions are fulfilled by Negotiated Pricing Method:

(a) Transfer price could be set by negotiation between the buying and selling division.
(b) A negotiated price is generally used when there is no clear outside market.
(c) This method is widely used when no intermediate market price exists for the product transferred and the selling division is assumed of a normal profit.

v) General-Transfer-Pricing Rules

The selling division's opportunity cost is ignoring in all the above methods. The transfer price based on opportunity cost identifies the minimum price that a selling division would be willing to accept and maximum price that the buying division will be willing to pay.

The following equation is developed for the determination of opportunity cost-based pricing:

Transfer Price = Outlay Cost per Unit + Opportunity Cost per Unit for the Company as Whole.

Outlay cost includes the direct variable cost of the product or service and any other outlay costs that are incurred only as a result of the transfer. The reasoning behind this formula is that the selling division should be allowed to recover its variable cost-plus opportunity cost (i.e., Revenue that it could have made by selling to an outside) of the transfer. The selling department should not have to suffer lost income by selling within the company.

During calculation of transfer price, we should concentrate on the capacity utilization. Basically, the company may utilize no excess capacity or excess capacity

No Excess Capacity – The division can sell all of its production to the outside buyer at a market price, it has no excess capacity. In such a situation, opportunity cost takes place during the internal transfer.

Excess Capacity – Excess capacity exists only when more goods can be produced than the producer is able to sell due to low demand for the product. In other words, we can say that the total demand for its product from all sources including internal divisions and external markets is less than the total production capacity. Under this scenario of excess capacity, the opportunity cost is now zero.

ILLUSTRATION 1

A company has three divisions: X, Y and Z. Division X can buy a part from division Y or from external company A, which will meet Y's market price of Rs. 20 per unit. If X buys from A co., A co. in terms buys a component from division z for Rs. 4 per unit. The outlay costs to division Z of supplying their component are Rs. 2 per unit. In filling X's order, Y would incur, outlay

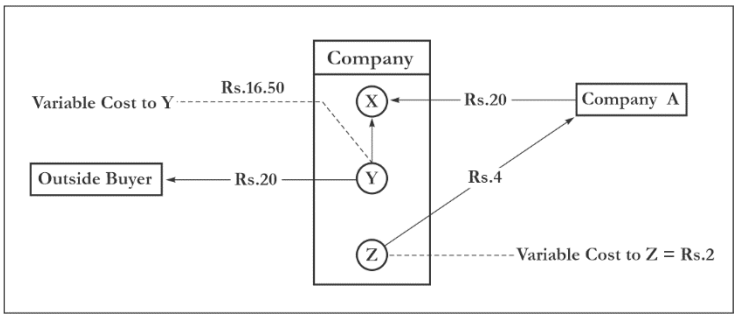
costs of Rs. 16.5 per unit. Assume that division Y is working at full capacity and can provide to an outside buyer at the same market price of Rs. 20 per unit and with the same outlay costs of Rs. 16.5 per unit.

Required: i. What alternative would be the best for company as a whole buying from company A or division Y? Show details supporting calculations.

ii. What transfer price should be used to guide the managers of division X and Y so as to maximize overall net income (cash flow)?

iii. Suppose that division Y has enough extra capacity to supply to both division X and the outside buyer at the same time. How would this change your answer in part (i) and (ii)? Show details supporting calculation.

SOLUTION:



Working at Full Capacity:

i. The optimal action from the standpoint of company as a whole can be analyzed as follows:

	Division X's Action	
	Buy from Division Y	**Buy from Co. A**
Cash Outflow to the Company as a Whole	(16.50)	(20.00)
Cash Inflows:		
Division Z (4 – 2)	–	2.00
Division Y (20 – 16.5)	–	3.50
Net Cash Outflow to the Company as a Whole	(16.50)	(14.50)

Since a net outflow of Rs. 14.50 is less than a net outflow of Rs. 16.50, division X should buy from Co. A.

ii. Transfer Price = Variable Cost per Unit + Opportunity Cost per Unit
= 16.50 + (2.00 + 3.50)
= Rs. 22 per unit

Since the Market Price Rs. 20 per unit is less than its internal transfer price Rs. 22 per unit, division X should buy from co. A.

Working at Below Capacity (Idle Capacity)

iii. In part (i), it was assumed that division Y could supply either division X or co. A, but not both. For this reason an opportunity cost of Rs. 3.5 was included in the calculation. Since, division Y can now supply both division and company A, the Rs. 3.5 appears on both alternatives as follows:

	Division X's Action	
	Buy from Division Y	**Buy from Co. A**
Cash Outflow of the Company as a Whole	(16.50)	(20.00)
Cash Inflows:		
Division Y (20 – 16.5)	3.50	3.50
Division Z (4 – 2)	–	2.00
Net Cash Outflow to the Company as a Whole	(13.00)	(14.50)

Since a net outflow of Rs. 13 per unit is less than net outflow of Rs. 14.50 per unit, division X should buy inside from division Y, to benefit company as a whole.

Transfer Price = Variable Cost per Unit + Opportunity Cost per Unit
= 16.50 + 2.00
= Rs. 18.50 per unit

Since the Market Price Rs. 20 per unit is higher than its internal transfer price Rs. 18.50 per unit, division X should buy from inside division Y, to benefit company as a whole.

ILLUSTRATION 2

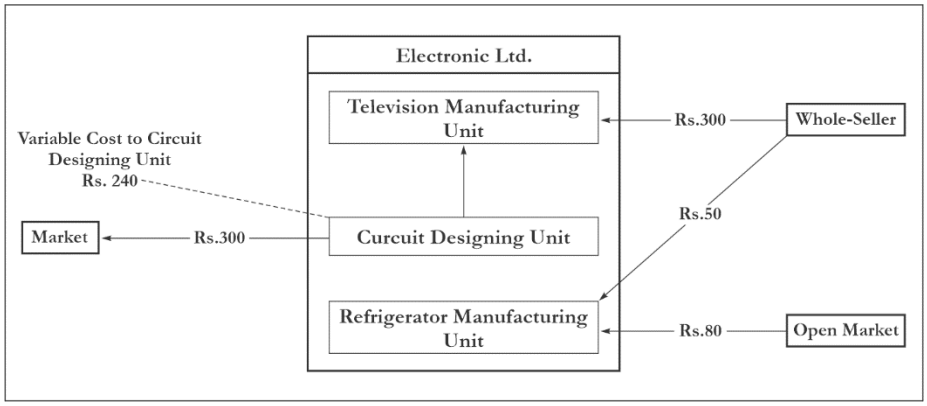
The Electronics Ltd. has three autonomous units viz. Circuit-designing, Television-manufacturing & Refrigerator-manufacturing enjoying full autonomy. The Television-manufacturing unit either could buy the circuit it would need to produce televisions from the Circuit-designing unit or from a whole seller. The whole seller also supplies 'Thermostat' needed for the manufacturing of refrigerator. If the Television-manufacturing unit would purchase required circuits from Circuit-designing unit, the whole seller would also stop the supply of 'Thermostat'. The further details other than mentioned above have been summarized below:

Circuit-designing Unit	**Television-manufacturing Unit**	**Refrigerator-manufacturing Unit**
(a) Transfer Pricing (SP) Cost Plus 25%	(a) Buying Cost from Whole Seller Rs. 300 per unit	(a) Buying Cost of 'Thermostat' from Whole Seller Rs. 50
(b) Cost of Production Rs. 240 per unit		(b) Buying Cost from Open Market Rs. 80

Required: 1. Transfer Pricing with no Capacity Constraint.

2. Transfer Price with Capacity Constraint.

SOLUTION:



1. Transfer Pricing with no Capacity Constraint:

Transfer Price = Outlay Cost per unit + Opportunity Cost per unit
= Rs. 240 per unit + Rs. 30 per unit
= Rs. 270 per unit.

2. Transfer Price with Capacity Constraint:

Transfer Price = Outlay Cost per unit + Opportunity Cost per unit
= Rs. 240 per unit + (Rs. 60 per unit + Rs. 30 per unit)
= Rs. 330 per unit.

References

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