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EDITORIAL

Dear Friends,

At the outset I must express my sincere gratitude to all the associates, specially the contributors of this volume and learned Reviewers who have analysed the articles with comments and effective suggestions. Their valuable suggestions have inspired us to improve the quality of this Research Journal further. Through this Editorial I wish their alround success in their respective areas.

This is the fifth volume, being published aannually since its first publication in March, 1996. To encourage research, educational and informational activities such publication is sponsored by the University for which the Editorial Board is grateful to the Authority and expects more cooperation in future. We are delighted to note that within this short period of five years this Journal has claimed wide appreciation in professional and academic circle. To develop and maintain inter-institutional relationship with other professional, educational and research organisations in social sciences our future endeavour will be to initiate exchange programme of journal. To keep abreast of new developments our future initiative will also be to invite more involvement of professionals like Accountants, Technologists, Economists and many of the persons having interest and concern about the changing Socio-techno-economic culture. I request the learned readers of this Journal to express their comments and forward their constructive suggestions in this regard to the Executive Editor. We shall be highly encouraged by such communications.

This volume contains nine articles covering many multidisciplinary areas having sub-themes of professional importance. Out of these nine papers, one has been selected and published in the Students' Section and the rest are placed in the General Section. All the papers except those from the invites' were subject to blind review by

renowned experts in the relevant areas. The papers on Value Added Reporting contributed by Prof. G.C. Sinha, Distribution Management by Prof. P. Chattopadhyay, Activity Based Costing and Management by Prof. B. Banerjee; Changing Scenario of Cost and Management Accounting by Prof. P.R. Chowdhury, Corporate Tax and Size of Corporate Bodies as a policy measure by Prof. S.N. Dhar, Related issues on Business Valuation written by Prof. U.K. Dutta and Prof. J.B. Sarkar deserve special mention. The papers on Role of Stock Market by Prof. G.K. Mitra, Factoring Service by Prof. H.R. Hazra, and on MIS Vs. AIS written by Ms. N. Mukherjee are definitely outstanding and most praiseworthy. All the papers covered in this volume are not merely compilation of academic information but most of them are based on empirical study and research with adequate theoretical context. I believe, this Journal will be very much useful not only to the students, teachers and researchers in an academic Institution but also to professionals and policy makers in many organisations.

March, 2000

Prof. D.P. Pande
Editor - in- chief.

ANATOMY OF VALUE ADDED REPORTING

G. Sinha*

Introduction

Financial statements are primarily meant for reporting income of the owners, i.e., risk takers. But are not the source of income of other sections of people like employees, suppliers of loan capital and natural resources the enterprises? Their incomes, however, are not reported with equal importance so far. Businesses, in fact, are centres where various groups meet together to have their earnings in exchange of their services. Their efforts on the goods and services procured from other units create new goods of higher value. Truly speaking, they add values to what is procured from others. Such addition to or increase in value is known as added value, popularly as 'value added'. Since it is created by the joint efforts of different groups of the society, justice demands, picture of individual as well as collective contributions of all the factors of production should be reported. Value Added Statements are mainly designed to realise this end.

With this end in view, this paper presents first what value added (VA) means, what its basic features are, and how VA can be presented in a statement. Subsequently is discussed how VA differs from traditional net profit. Once such differences are highlighted, it enquires how VA statement can be prepared from Profit and Loss Account. VA, however, is not above criticism, though its benefits outweigh its shortcomings. On appraising these matters, are explored the possibilities of measuring business performances through some VA ratios. Lastly, VA statement, the paper concludes, can better supplement than substitute the conventional statements.

Definition of VA

VA concept originally sprang up from the economists' brain as they were in search of a way to measuring national income. Aggregate of values added by all the individual firms, according to one of the methods of national income measurement, represents the income of the economy.

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Economists think, VA by a firm i.e., the value created by the activities of the firm and its employees alone, can be measured by the difference between the market value of the goods that have been turned out by the firm i.e., output, and the cost of those goods and materials purchased from other firms i.e., input, (Stone, p. 55 and Ruggles, p. 46). Hence VA represents the excess of output over input.

Recently, the concept is used in accounting arena also. Since the early seventies largest quoted companies in U.K. has been publishing VA statements in their annual reports. In 1975 the Accounting Standards Committee in Great Britain issued 'The Corporate Report', a discussion paper, which recommended the publication of VA statement.

The definition of VA given by the Corporate Report is not as detail as economists' one mentioned above. According to the report, VA may be defined as the wealth the reporting entity has been able to create by its own and its employees' efforts over a period of time through its trading and operating activities and the measure of which is not afflicted by capital gains.

A scrutiny of the two definitions reveals that economists depend on the market value of goods produced in the end.

But how is wealth created? It is a measure of addition of values to goods and services procured from other units. Again, total of values added by different factors of production and the procurement cost of materials and others represents the sales or revenue. So VA is sales value less the cost of procured goods and services used in producing the sales. It is worth mentioning, the economists' and accountants' definitions are not identical, though the basic themes are same. Variations arise owing to the differences in respective objectives.

Economists are interested in measuring value added within the national boundary as a whole. Accordingly, they prefer market values to selling prices of the outputs of individual units for measuring VA. It is so, because, completion of production is important to them. A slight variation in selling price is not so important to them since within a nation increase in selling price by one unit increases profit of the selling unit, but decreases that of the buying unit. In social aggregate, the net effect is nil. But in micro-level, where measure of VA of individual unit is important, it is not so. Accordingly, instead of market price, selling price is considered important. Because of the accountants' conservative nature, profit is not counted until that is earned. Here critical event is the point of exchange, while in

economics, it is the completion of production.

The second major difference is that the economists reject transfer incomes. Bad debts, loss of materials due to theft is not considered deductible for measuring VA. Similarly value of articles produced in the unit but distributed to employees as their payment in kind are not deductible in measuring VA in economics. They enhance the measure of VA . But it is not so in accounting. They are, however, very controversial and require vigorous research for justifiable solution.

VA Measurement

VA represents the wealth created within an entity by the joint efforts of employees, providers of owned and loan capital etc. Hence VA may be measured by two methods : subtractive and additive. In the subtractive method are deducted from sales or revenue the values of respective goods and services procured from other units. In the additive method values added by individual factors of production are added together to have a measure of values added within the entity. Outcomes of the two, it is needless to mention, are equal. They are only two manners of viewing the same thing. The first one narrates the generation of VA, while the second pinpoints its distribution among different contributors. VA Statement, however, should present both generation and distribution of VA simultaneously. The methods are illustrated in the following format.

Value Added Statement

For the year ending ...

Generation :	Rs.
Sales	...
Less : Cost of bought in goods and services	...

Value Added (Gross) for sharing and retention	...

Applied as follows :	Rs.	Rs.
To Employees		...
To Providers of capital :		
Interest on loan	...	
Dividend to shareholders

To Government
To Maintain and expand assets :		
Depreciation	...	
Retained profit
	-----	-----
*		
Value Added (Gross)		-----

Net value added will be measured if depreciation is deducted from Gross Value Added. In that case depreciation should be added to the cost of bought-in goods and services.

The statement wants to highlight how much wealth is created by the entity by its own and how that is shared by (a) the employees, (b) the providers of own and loan capital, (c) the government in the shape of corporate tax, and (d) the risk takers who retains the wealth for future expansion. Hence incomes received by the entity but earned elsewhere, i.e., interest on securities or investments etc. should not be included here. Moreover, sometimes goods produced within the entity are supplied to the factors of production, as their earnings in kind. Usually, they are not reported in conventional accounts. For instance, goods produced within the entity and supplied to the employees as part of their earning are omitted from the Profit and Loss Account. But according to VA concept, value of such goods should be considered while measuring both sale and employees' share of earning. Consequently, measures of both generation and distribution of VA go up equally; hence their total will not vary.

VS Statement Vs Profit and Loss Statement

The two statements vary in some aspects because of their individual objectives. The differences are tabulated below :

VA Statement

1. Aims to measure impact of team spirit within the entity . Accordingly, it is participants-oriented.
2. Accomplishment is output. Output \neq Sales.
In accounting, however, it is assumed that they are very close.
3. Input means cost of bought-in goods and services from other entities .
4. Wages, salaries, interest constitute VA.
5. Critical event in the value generating process is the completion of production.
6. Profit is counted if material passes through production. Because of it, according to economic theory, value of work-in-progress should include some profit element.
7. Depreciation is deducted from GVA to have NVA. No other items are to be deducted from GVA to have NVA.
8. Goods and services produced and consumed within the unit is considered part of output. Hence value of the goods produced in the unit but **supplied** to employees or other owners of factors of production in exchange of this earnings are important.

P&L. Statement

1. Aims to measure what accrues to owners alone. Accordingly, it is owner-oriented.
2. Accomplishment is sales. Output = Sales.
However, they are similar.
3. Cost includes wages, salaries, rent, interest besides cost of bought-in goods and services from other entities.
4. Wages, salaries, interest on loan do not constitute profit.
5. Critical event in the operating cycle is the point of sales when profit can be measured with certainty.
6. Profit is not counted until goods are sold. Accordingly, value of work-in-progress does not include any profit element.
7. Depreciation is deducted from Gross Profit to have Net Profit. But other items of costs also are deducted simultaneously for the purpose.
8. Goods produced within the unit and given to employees as benefits in kind are not presented in annual report.

- | | |
|---|---|
| 9. Capital gain in any form is not considered addition to VA. | 9. Capital gain is considered profit usually when they are realised. |
| 10. Bad debt is not considered deductible in VA measurement, since it is a transfer income from the point of view of national income accounting . It does not amount to any loss to the country. Similar is the case of loss due to theft or pilferage. | 10. Bad debts and loss due to theft, pilferage etc. are considered loss. Accordingly, they are deductible from sales to have a measure of net profit. |
| 11. Dividend received on shares of other companies, interest received on debentures, interest on securities, etc. are excluded altogether since they have not been generated within the unit. | 11. Interest and dividend received from other entities are considered part of net profit. |
| 12. Services procured from other units are considered part of input. But if services are generated by the same their values are considered part of VA. | 12. Service costs are deductible to arrive at profit figure, whether they are procured or generated within the unit. |
| 13. Preliminary expenses, legal charges, etc. are considered part of input in the year of their occurrence. | 13. Preliminary expenses, legal charges, etc. are considered costs and usually they are considered deferred expenses. |
| 14. VA statement does not constitute a part of accounting system. Accordingly, the principle of Double-Entry is not applicable here. Moreover, this statement does not link two successive Balance Sheets. | 14. P&L Statement is an integral part of the firm's accounting system. It is the part and parcel of Double-Entry system. Besides, it links two successive statements. |
| 15. Excise duty, sales tax are parts of input. They do not constitute VA. | 15. Excise duty and sales tax are one type of costs. |
| 16. Subsidies from Govt. do not constitute output. They do not enhance VA. | 16. Govt. subsidies enhance profit figures. |

17. Corporate tax constitutes part of VA. It is appropriation of VA by government.

17. Corporate tax is an appropriation of profit.

Conversion of P&L Statement into VA Statement

The two are closely associated, but they are not identical. The following illustration explains how VA statement can be prepared out of Profit and Loss Account. A reconciliation statement follows the conversion.

Illustration -1

The Profit and Loss Account of Mega Ltd. is given below.

MEGA LIMITED
Profit and Loss Account
for the Year ending 31.12.2000

		(Rs.000)			(Rs. 000)
To	Materials	4,750	By	Sales	11,950
"	Wages :		"	Finished goods	
	Cash	1050		Supplied to Employ-	
	Kind	300		ees as a part of their	
		1,350		remuneration	300
"	Excise Duty	100	"	Government Subsidies	200
"	Electricity	125	"	Interest on Securities	250
"	Carriage	650			
"	Salaries	975			
"	Rent	200			
"	Depreciation	1,150			
"	Preliminary Expenses				
	written off	100			
"	Debenture Interest	60			
"	Managerial				
	Remuneration	1,000			
"	Net Profit	2,240			
		<u>12,700</u>			<u>12,700</u>
To	Dividend	700	By	Net Profit	2,240
"	Tax	1,020			
"	Reserve	520			
		<u>2,240</u>			<u>2,240</u>

MEGA LIMITED
VALUE ADDED STATEMENT
For the year ending 31.12.2000

Generation :		(Rs.000)	
Sales	11,950		
Add : Remuneration to Employees in kind	<u>300</u>	12,250	
Less:			
Bought-in :			
Materials	4,750		
Excise Duty	100		
Electricity	125		
Carriage	650		
Preliminary Expenses	<u>100</u>	<u>5,725</u>	
Value Added (Gross)			<u>6,525</u>
Applied as follows :		(Rs. 000)	
To	Employees :		
	Wages	1,350	
	Salaries	975	
	Managers	<u>1,000</u>	3,325
To	Providers of Capital :		
	Rent	200	
	Dividend	700	
	Debenture Interest	<u>60</u>	960
To	Government Tax		1,020
For	Reinvestment :		
	Depreciation	1,150	
	Retained Earnings	520	
	Less: Int on		
	Securities	250	
	Govt. Subsidies	<u>200</u>	<u>450</u>
		<u>70</u>	<u>1,220</u>
	Value Added (Gross)		<u>6,525</u>

**Reconciliation Statement
as on 31.12.2000**

		(Rs.000)
Value Added		6,525
Less :		
Employees' Earnings	3,325	
Depreciation	1,150	
Debenture Interest	60	
Rent	200	
	4,735	
		1,790
Add : Benefit accrued outside :		
Interest on Securities	250	
Govt. Subsidies	200	
	450	
	Net Profit	2,240

Gross and Net Concepts :

Depreciation makes the difference between Gross Value Added (GVA) and Net Value Added (NVA). GVA embraces depreciation while NVA does not. Depreciation represents that part of fixed asset value which is used for current production. Accordingly, it should be considered like bought-ins. Since depreciation is not directly involved in acquiring individual items of products, it is not added to bought-in materials. Anyway it does not represent addition to values; rather it is a recovery of past values recovered from current sales. Usually VA means NVA if not mentioned otherwise.

Good Sides of VA Reporting

Following advantages may be derived from VA reporting. First, since VA presents a wider view of the company's role and objectives than 'profit', it helps developing team spirit, within the company. The employees will identify themselves more with their company and put more effort. It will result in higher productivity. Profit is considered narrow and sectional, but VA is looked upon as the achievement of a team of workers, managers and suppliers of capital.

Secondly, VA reporting helps introducing VA based productivity

schemes. Bonus incentives based on productivity, as measured on VA ratios are getting popular.

Thirdly, it pinpoints employee's share in VA. This information help removing the mis-belief of some workers that they are exploited and the shareholders are getting rich at their cost.

Fourthly, attention is drawn to the government's share of VA in the company and to the trends of the same over time. It helps develop public awareness.

Fifthly, it reports the fund generated internally to replace and expand fixed assets. The percentage of VA used for reinvestment is a good indicator of growth prospect of the Company.

Sixthly, it supplies a very good measure of the size and importance of a company. Size of sales or capital employed also may be used for the purpose. But VA measure is the best because it indicates the surplus creation capacity of the entity.

Last, but not the least, advantage is that it measures company's contribution to national income. It facilitates computing inter-industry coefficients, better government statistics and forecast and economic policy formulations.

Other Sides of VA Reporting

VA reporting system, however, is not above criticisms. A few points in this regard are cited below.

Firstly, the advantages of VA reporting mentioned above are based basically on the idea of deriving benefits from team spirit, which is artificial and unreal. Value is added from the joint and interdependent efforts of employees, suppliers of materials and capital. But according to the idea, the suppliers of materials, i.e., creditors do not belong to team. Again, if bankers provide loan, they are considered participating members of the team, though they contribute little to the joint effort. Moreover, the government appears to be on the team and shares a part of VA as tax. The higher the margin, the higher becomes the tax. By interpretation it may be inferred that if the company suffers loss, the government cannot collect tax; accordingly they do not belong to the team. So government is a member in times of profit and not so in times of loss. The question of effective participation should not be based only on surplus.

Team spirit, again, grows only when the members know that their individual earnings will depend on the outcome of the joint effort. But earnings of employees and providers of loan capital is fixed by agreement. So by means of reporting the earnings of all groups together through VA statement cannot help developing team spirit.

Secondly, such reporting diverts attention from 'Profit' which is thought to be reward of exploitation in some quarters. But profit is reward of risk takers, who, practically speaking, assemble all members of the team for joint action. Moreover, in many cases companies are owned by institutions like insurance companies, unit trusts etc. which are channelling pension funds, savings of common purpose. Accordingly, these profits are in fact, used to provide for old age.

Thirdly, retained earnings are shown in the statement as fund for future expansion. Such presentation implies that all the members of the team have claim on the same and the shareholders have claim only on the dividend. It is not a justified way of presentation.

Fourthly, the company directors may be tempted to maximize VA by enhancing their earnings at the cost of decreasing the shareholder's share of return. Director's remuneration is considered a part of return to the employees. Accordingly, the employees as a whole will be encouraged seeing higher employee's share in the VA pool. But this is erroneous and encourages inefficiency.

Fifthly, the statement does not classify expenses by function; it classifies by recipient type. Such classification, is not very helpful for decision making. Modern trend is to report according to functions, such as production costs, selling costs, finance costs etc. VA reporting system does not make any arrangement for such reporting .

Sixthly, VA reporting requires time and energy in addition to what is necessary for conventional reporting. Moreover it creates delay in annual reporting. Hence these costs outweigh the benefits derivable from such reporting .

Seventhly, introduction of an additional report containing unusual classification of expenses creates confusion among the non-technical readers. Moreover, the preparation of the statement raises a lot of problems of definition, measurement etc.

Eighthly, VA statement is inferior to Profit and Loss statement in the following ways.

- i) VA statement cannot distinctly show the relationships between corporate tax and pre-tax profit.
- ii) Profit and Loss statement clearly shows how much of dividend is paid from current profit and how much from retained profit; VA statement cannot do the same.
- iii) VA statement cannot give a warning signal to a going concern when there is threat of suffering loss.

Ninthly, Profit and Loss statement provides a link between two successive balance sheets, while VA statement is an isolated report. The latter merely rearranges and repeats the existing figures in the Profit and Loss statement.

Despite the above criticisms, it can be said that VA statement brings a change in emphasis rather than a change in content in the Profit and Loss statement. Such shift in emphasis, it is hoped, brings change in the attitudes and behaviour of the entity's working force. Accordingly, the new statement may be considered an useful addition to conventional reporting.

Value Added Tax (VAT)

Value Added Tax (VAT) should not be confused with VA reporting. VA statement, however, helps calculate VAT. Recently a large number of Western countries, particularly countries under European Economic Community levy VAT replacing Sales Tax. Products which are ultimately consumed by households or business firms pass through several manufacturing units before reaching the same. They are transferred from one hand to another in the shape of sales. Consequently, if sales tax is imposed, goods passing through a greater number of units would comprise a value which is burdened heavily with tax; value of an article passing through less number of hands would comprise less tax. Ultimately consumers are to bear the burden of sales taxes paid so far by the units through whose hands passed the goods.

Illustration -2

A flour producing company purchases wheat for Rs. 100 and adds value to it Rs. 900. The pre-tax selling price is Rs. 1000. If Sales Tax is 10%, the selling price including tax becomes Rs. 1,100. A bread producing firm purchases the flour and adds value to it for Rs. 400. Hence the pre-tax

selling price is (Rs. 1100+Rs. 400) = Rs. 1500, and the after tax selling price becomes (Rs. 1500+Rs. 150) = Rs. 1650.

If only one, instead of two companies, performs both the functions, i.e., flour and bread processing, the pre-tax selling price becomes (Rs. 100+Rs. 900 + Rs. 400) = Rs. 1400 and the after-tax selling price would be (Rs. 1400+Rs. 140) = Rs. 1540.

In the first case, a consumer is to pay (Rs. 1650—Rs. 1540) = Rs.110 more. It is because of the fact that in the first case, the value of the bread comprises sales tax for (Rs. 100+ Rs. 150) = Rs. 250, instead of Rs. 140 in the second case.

In the first system sales tax is levied not only on the actual cost (i.e. Rs. 1400) incurred by the flour and bread producers, but also on the sales tax of Rs. 100 charged in the hands of flour producers. In other words, sales taxes are levied on the sales tax paid by earlier sellers.

Thus it is evident that the more hands pass the articles, the more becomes the tax burden on the ultimate consumers. The problem would be easier if tax is imposed on values added in each unit instead of sales value which represents the total of bought-ins and VA, because these bought-ins include sales taxes charged earlier. Thus levy of tax for production for more than once may be avoided if VAT is introduced. Recently, India also considered introducing VAT, though that has not yet taken a concrete shape.

VA Ratios - Measures of Effectiveness

VA represents the outcome of team spirit which is created by the interaction of various contributing elements. Effectiveness of those elements employed in the business can be effectively measured through VA ratios. Some major ratios and the corresponding indications provided by them are tabulated below.

Ratios	Indications
1. Measure of Value Added $\frac{VA}{Sales}$	The ratio states percentage of sales created within the entity and the degree of dependence on other units. Higher is the ratio, less is the dependence. In vertically integrated concerns, however, the ratio will be higher than horizontally expanded entities. For instance, the ratio will be greater with a firm engaged in the production of wheat, flour and bread

Ratios

Indications

than a firm producing bread only. Anyway, other things remaining the same, higher is the ratio less will be firms' vulnerability in distress.

2. Measures of components of VA/Sales ratio

- | | |
|--|--|
| a) $\frac{\text{Wages}}{\text{V.A}}$ | a) Indicates percentage of employee share in the wealth created within the entity. |
| b) $\frac{\text{Rent + Interest}}{\text{VA}}$ | b) Indicates % of VA shared by providers of loan capital and buildings. |
| c) $\frac{\text{Dividend}}{\text{VA}}$ | c) Portion of VA received directly by the shareholders. |
| d) $\frac{\text{Depreciation+Retained Earnings}}{\text{VA}}$ | d) Indicates portion of VA set aside for replacement of fixed assets and further investment. |
| e) $\frac{\text{Tax}}{\text{VA}}$ | e) Represents the % of VA shared by government i.e., portion contributed to the society. |

3) Measures of Productivity

- | | |
|--|--|
| a) $\frac{\text{VA}}{\text{No. of employees}}$ | a) Indicates value added per employee. It indicates the labour productivity. |
| b) $\frac{\text{VA}}{\text{No. of working hours}}$ | b) It indicates value added per working hour.
The two may be considered index of labour efficiency and they may be used as bases of incentive bonus scheme. |

Ratios

c)
$$\frac{\text{VA}}{\text{Directors' Remuneration}}$$

d)
$$\frac{\text{VA}}{\text{Capital Employed}}$$

e)
$$\frac{\text{VA}}{\text{Owners' Fund}}$$

f)
$$\frac{\text{VA}}{\text{Fixed Assets}}$$

g)
$$\frac{\text{VA}}{\text{Current Assets}}$$

h)
$$\frac{\text{VA}}{\text{Debt Capital}}$$

Indications

c) Presents VA generated per rupee of Directors' Remunerations. It measures managerial efficiency.

d) Indicates capital productivity. Capital employed should be well defined. Capital invested outside the entity should not be considered, since return on the same is not included in VA measure.

e) It reveals VA per rupee of own capital. It may appear from the ratio that whole of VA is contributed by the owners. But that is not true. Nevertheless, it is a fact that own capital unites all the factors of productions. Hence the ratio presents productive capability of own capital.

f) How effective are the fixed assets can be disclosed by this ratio. Higher value of the ratio indicates intensive use of fixed capital.

g) Current assets are directly involved in generating production. The ratio indicates the VA generating production. The ratio indicates the VA generating capacity of current assets. Higher the value of current assets, greater will be the volume of sales. In consequence greater will be the volume of VA.

h) It discloses value generated in the entity per rupee of debt capital. Increasing trend of the ratio reveals decreasing dependence on debt capital. Decreasing trend of the ratio, however, presents the opposite picture.

Ratios	Indications
4. <u>Growth Prospects</u>	
a) Depreciation + <u>Retention of Profit</u> GVA	a) The ratio indicates at what proportion GVA is set aside for replacement and expansion. An idea of capability for expansion is available from it.
b) <u>Investment</u> GVA	b) It indicates how the capability mentioned above is realised in practice through investment.
c) Research and <u>Development cost</u> VA	c) The ratio presents entity's research intensity. It is an indicator of management's innovative outlook.

VA ratios help appraise entity performance over time. Inter-firm comparisons are also facilitated with them. They are necessary to measure monopoly power, since firms with such power may charge exorbitant price and thus enhance values added within the entity. Thus, VA reporting helps reveal monopoly power.

Need For Accounting Standard

The idea of VA reporting at corporate level was developed first in EEC countries. Some large British companies supplement their annual reports with VA statements. In seventies, Accounting Standards Committee in U.K. published a discussion paper, the Corporate Report, on the issue. Since then no official pronouncement on the same has been released. In other countries also they are yet to get official recognition. Under the circumstances, some companies publish the statement voluntarily.

But there are great diversities in reporting. Even uniform concept is not followed. Differences arise as to whether economists' concept should be strictly followed or that should be adjusted to suit specific circumstances. Variation prevails also as to the format of the statement. Should the statement report generation and distribution of VA simultaneously ? Or, reporting VA distribution alone would be considered sufficient. The problem arises regarding the way of reporting depreciation. Should it be reported as a part of VA ? In other words, should NVA or GVA should be reported ? Moreover, should it be identified as a part of VA applied as reinvestment ? Since depreciation represents recovery of consumed fixed capital some argue that treating it a part of generated wealth is unjustified. According to them it should be considered a part of bought-ins.

There are other variations. VA measures, it is mentioned earlier, is necessary for inter-firm, inter-industry comparisons over years for national policy framing. Meaningful comparison is possible if data are based on uniform practices. In near future, it is expected, attempts at official level will be made to harmonise the practices through promulgating standards on the issue.

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APPRAISAL OF DISTRIBUTION MANAGEMENT

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Distribution management seeks to bridge the gulf between demand and supply. In essence, though it has acquired a high degree of sophistication in recent times, in several cases, this function suffers from neglect, to the detriment of profitability. In a competitive environment it can win wars in many ways. The distribution management function is a composite of three discrete elements. First, the packaging function ensuring that products turned out are properly sorted and packaged, implying that protection is ensured, handiness is facilitated and preservation is taken care of. Naturally, these three aspects would have different practical significance depending on whether the product is a consumer one, a consumer durable, or a capital good. Protection may underline care in handling, particularly when the contents are fragile, chemicals liable to evaporation, items likely to be contaminated by exposures, or otherwise, and so on. 'This side up' or 'fragile, 'treat with care' are words often seen in bold letters printed on the packages along with other directions. In the case of industrial products also, these aspects would have improved viability about the manner of handling them, albeit in different degrees. Often instructions are given in detailed handouts telling not only about the contents but also about the packages themselves. At times, the packages are desired to sell the products.

Second is the storage function. When production is carried on in anticipation of demand and despatch of goods takes time, goods produced may have to be stored in the manufacturers' stores or godowns from where deliveries are supposed to be made. In such cases, space management within the stores, management of handling and loading and unloading would demand close, professional attention. In many a case, such handling may be mechanical, while in many others, this may be manual. Depending on the state of the technology, organizations do adopt systems like escalators or mechanical handling devices for in-store handling of items. In cases

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where products are subjected to testing before final despatch, handling commands high significance, especially when indifferences may cause damage to the items and the products stand the likelihood of rejection because of indifferent handling, shall we say mishandling ! In addition, mention may be made here of the elaborate tests applied on various items like electrical transformers of different capacities and mishandling may mean that the transformer oil may have leaked out and dried up or casings may have been spoiled. Since reworking on such damages implies extra cost, often replacement or spot repair, distribution managers have to pay particular heed for ensuring the safety of the products.

Last but not least, the management of the transport function, especially outward transport, underlines the need for utmost sensitivity and responsiveness. Often even the inward transport is also within the purview of manufacturing organizations where finished or semi-finished parts and components are brought in for assembly into final products. Carelessness may mean waste and loss. In the overall distribution management of a productive organization, the transport function is thus highly significant, both for inward and outward transport. Any mismatch between the demand and supply may result in loss of custom while excess stocking at any particular place in expectation of demand may create imbalance. Logistics is thus an important aspect of the management of distribution, attending on it goes to meeting requirements in proper time while, in itself, it has acquired a great deal of analytical sophistication in overall marketing management function. While the inward transport costs are a part of the product cost, the cost incurred on outward transport is not so, and as such, the management has to take particular care to ensure that cost of such transport is not too high and management of such transport is sensitive enough to ensure that the accruing benefits from the transport function are more than the corresponding costs incurred therefor. These three aspects pose enough problems calling for high level expertise and sustained care for the nitty-gritty.

Depending on the nature of the products handled and the types of markets catered for, the outward transport function may require a high degree of sensitization. Where distribution channels exist such as wholesalers, retailers, chain stores, departmental stores, etc., all these outlets have to be regularly fed with items so that customers looking for such products are not disappointed. Going for other suppliers or for substitutes may result from such disappointment as happened in the case of Bleeding Madras fabrics. The transport function, in fact, clinches issues very often in favour of particular items when a customer is in need of a certain item, for a

particular use and the product immediately available is bought by him. The cases of fevicol and venicol may be cited here as examples. This means that in conditions where production is generally carried on in anticipation of demand, not only that the demands are created through different means including promotional thrusts and advertising, but also that goods and services are made available at all possible points of consumption so that manifest demand is not frustrated. The transport function plays a key role in this respect, often not given the attention that it deserves.

The type of activities, size and location as also the type of organization may largely determine the transport requirements and the relative emphasis that may be placed on various alternative forms of transport available. For instance, a mail order organization may rely upon the postal service for a large part of its distribution. Even for mail order distribution, the transport of items to the Post Office would require efficient systems. In this respect, an important matter that may have to be weighed relates to the limit of liability accepted by the various carriers or the extra cost of covering liability for higher value registered packages carried by the Post Office, for these may be crucial factors for the transport costs. When the volume of transport business is large, as in the case of mail order organisation, a correspondingly large number of costs of losses and damages in transit may be inevitable. The administrative costs in making and pursuing claims, asking for proof of delivery and such other matters, may be high. Unless constantly guarded against, such costs may be so high as to even exceed the amount that may be claimed. It is, however, possible to come to some sort of arrangement with some carriers, whereby a compounded settlement figure is paid by the carrier to its customer based on previous claims experience, and bearing in mind that the carrier also saves the expense of claims investigations which would otherwise be necessary. These are complications that may not be relevant in all cases. Wherever they do, they would require deft handling. Similarly, a trader may have to provide for transport inward for items bought or procured from appointed producers for distribution to different channels within the country and abroad. Timing and phasing of such procurement may coincide with carriage outward so that the transport facilities operate most economically. A classic instance of such economy was recorded in the case of railways delivering coal to Rajasthan and returning with gypsum needed for fertilizer production at Sindri.

The most economic and efficient methods in the peculiar circumstances of each individual case would require a full study of the transport problems taking into view the type of goods produced, the nature

of markets catered for and the distance that may have to be covered. Cost economies in such cases could be examined with reference to the existing modalities and the improvements possible, on the one hand and the best in the situation that could be derived from the modes already adopted. This refers to the discrete bases of effectiveness and efficiency. When the volume of business handled so justifies, it may be more economical for an organization to have its own transport arrangements, either owned or hired. Though in some specific cases this may be mandatory, such as inflammable materials, radioactive materials, etc., in most cases choice is available so that relative economics of alternative modes could be worked out for adoption with advantage. An organization may have its own transport in the cases where bulk trans-shipment is possible covering full utilization of the acquired capacity and the frequency of to and fro trips. Public transport may also be utilized with advantage when the transport requirements are relatively infrequent and the costs thereof are within range. Public transport underlines that consignments to each customer have to be separately packed and documented, as they have to be dealt with as individual projects by the public carriers. Different levels of sophistication, time and length of journey, spell of various levels of costs, time taken and safety of goods, all of which are important factors.

For running its own fleet, an organization may find it justifiable to plan its transport system in terms of the fleet and its operation, distribution to different customers and a mix of own fleet and public carrier when such mixing is economically advantageous. From this point of view, an organization may find it convenient to arrange purchases and distribution in such a way that the transport capacities to and fro are properly balanced and economically utilized. For this purpose, the types of transport acquired may be responsive to requirements of the products handled. It is, however, not quite necessary that even when an organization runs its own transport system, it has to be the property of the organization. The fleet may be acquired on lease or hire. In the latter case, the problems of maintenance and replacement in the case of break-even are more expeditiously dealt with by an organization specializing in transport. Such an arrangement may be more convenient as it allows the user organisation to concentrate on its own business; also, there are possibilities of deriving cost economies from such an arrangement. In this context, it is also relevant to mention that many organizations which were used to have a large fleet of cars and drivers have switched over to the system of hired cars with drivers and have found it convenient on three counts : (a) the fuel charges and other costs incurred by way of hire charges compare favourably with the charges that an organization would have incurred on its own fleet ; (b) since the car and the

driver do not belong to the organization, they do not figure on the pay rolls of the organization; the charges on the cars coming under the general head of hire charges in the profit and loss account; and (c) if there is a breakdown, the cost of idleness of the driver and the car is not borne by the organisation; what more, replacement may have to be immediate so that there is no stoppage of work on this count. Contract or hire could be more economical where the user organization has comparatively small transport demands, as the overheads on owned transport, the running expenses or for arrangements for parts and components and the constructive total loss on account of breakdowns and for providing for peculiar requirements would be relatively high. Public transport is preferred by small organizations who cannot afford to have their own transport system, or even a standing contractual relationship with transport operators.

An organization may have to manage its distribution function using different modes of transport such as road, rail, inland water, sea and air, depending on whether it sells its products in the vicinity and outstation places within the country, on the sea shores or small towns near the riverside or export. Inland water transport in India was a convenient system before independence. Thanks to damming of rivers, the navigability of most rivers in the country has been disturbed. In a number of cases, river beds have risen due to heavy silting. Inland water transport system has, therefore, become much restricted. Coastal shipping has also not been widely prevalent in view of the shortage of ships for this purpose and the relatively higher costs and time taken. Railway transport and road transport have been the main stays for internal transport of goods. The roads in the country have improved substantially and the high-ways built up in different areas have facilitated a countrywide road transport system competing with the railway transport network. Both road and rail transport have, however, grown much in handling volumes of traffic. Distribution managers of organizations are required to take into reckoning the relative economics of both road transport and rail transport, depending on the nature of the items handled and spread of customers. In addition, for purposes of export, ocean transport is the more prevalent system though for high value small size items, air transport is gradually gaining ground. Containerization as an approach has also gathered momentum and both for internal railway transport and ocean transport, containers have come into wider use. From this point of view, air transport is yet to gather as much significance though cargo aircraft has come into larger use. However, where time is a factor and items are perishable, or deteriorate in value with the passage of time, organizations exporting such items have found it convenient to adopt air transport system. Cut flowers, fruits, medicines, etc., are examples.

Thus, if one were to construct a matrix of product-distribution modes, vertically one could put all these different modes of transport and horizontally the destinations, classified into domestic and foreign. The total could be the last column under different modes of transport. An illustration has been given below. This is a simple one. Horizontally and vertically countrywise or destinationwise totals could be worked out and accommodated in the matrix. This would help management to assess the relative economics of different modes of transport adopted, on the one hand, and the logistics of distribution, on the other. The matrix so drawn could look simple or complex according as the variety of the transportation modes and the individual products to be accommodated would require. The domestic sales, exports and imports using these transport modes could afford a real management task as to the logistics of distribution, utilization of facilities and marketwise despatches over time. This would be analogous to the strategy matrix suggested by the former Union Commerce Minister, P. Chidambaram. In each of the boxes of the matrix as such, one could indicate the physical quantities and value, indicating the specific time horizon. Such matrices could be prepared weekly, monthly, quarterly or annually, depending on various factors and in pursuance of different strategies.

Appraisal of the distribution function would have to take into view different issues such as the relative costs as against benefits of each individual mode for particular destinations, short haul or long haul, safety of the goods under transport, time factor and the need for feeding the consumption points on a regular basis. The appraisal system adopted by an organisation would require assessment of all these issues so that proper decisions are taken and best advantages are derived. Physical distribution has been a major factor in marketing management as such, and has to be given its share of attention so that greater economies are derived. In a competitive market, distribution function often clinches the issue in favour of an organization. From this point of view, sensitization of distribution function to the requirements of the situation is an essential aspect of efficiency. Appraisal system from this point of view may mean monitoring, analyzing, pinpointing issues and application of correctives. The competitive edge that an organization would like to have would require such appraisal on a regular and systematic basis. Application of correctives may mean, first of all, applying centripetal forces to the noticed centrifugal forces and improvements in the systems already in use. In addition, improvements may be effected in many different situations, both with respect to targetry and collection of actual figures for analysis of variances. In this respect; it may be stressed that ongoing controls would be as important, if not more, as control by hindsight.

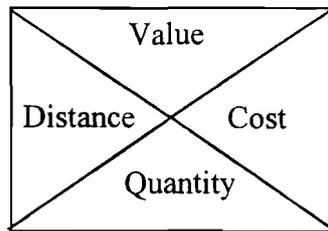
DISTRIBUTION MATRIX

Period-Quarter

DISTRIBUTION MATRIX

Period-Quarter
Nos.

Modes/ Products	Light Commercial Vehicles	Heavy trucks	Railways duty	Ferry	Ship	Air	Total
A.	/ 10	/ 25	/ 40	/ 20	/ 100	/ —	/ 195
B	/ 15	/ 240	/ 400	/ 50	/ 500	/ 40	/ 1245
C	/ 210	/ 1260	/ 200	/ 700	/ 200	/ —	/ 2570
D	/ 20	/ 80	/ 100	/ 50	/ 200	/ —	/ 450
E	/ 100	/ 500	/ 1000	/ 100	/ 500	/ 100	/ 2300
F	/ 250	/ 400	/ 200	/ —	/ —	/ —	/ 850
G	/ 100	/ 1200	/ 500	/ 100	/ —	/ —	/ 1900
H	/ 50	/ 1200	/ 300	/ —	/ 500	/ 100	/ 2150
I	/ 700	/ 1350	/ 100	/ —	/ 200	/ 100	/ 2450
J	/ 100	/ 600	/ 200	/ 100	/ 300	/ —	/ 1300
K	/ 400	/ 500	/ 100	/ —	/ 100	/ —	/ 1100
L	/ 100	/ 300	/ 200	/ —	/ 100	/ 100	/ 800
M	/ 500	/ 1000	/ 500	/ 100	/ 400	/ 100	/ 2600
TOTAL	/ 2555	/ 8655	/ 3840	/ 1220	/ 3100	/ 540	/ 19910



Notes to the Matrix

- 1) This matrix highlights utilization of various modes of transport for distribution to markets, domestically and for purposes of export.
- 2) In each of the boxes values of goods transported may be indicated in the corner of the box concerned. Transport by light commercial vehicles and heavy duty trucks to the nearest railhead and transport to the ports have not been separately shown.
- 3) The numbers signify quantity measures, could be tonnes, bags, bales, containers, etc., could be additive or otherwise. This is because the same goods may partake different modes of transport towards destination.
- 4) For control purposes management can draw a checklist of actions and checkpoints of key result areas enabling it to pinpoint actions and areas for better performance and greater economies.
- 5) Each box may have these details so that distribution managers have had a clear idea of comparative utilization of various modes of transport, comparative advantage of each mode and the physical distribution effected.
- 6) As shown some boxes in the matrix may be magnified for showing quantity of goods, value of the goods, distance covered and cost of each mode of transport. Where the same goods have had different transportation modes, cost of each could be shown separately.
- 7) Where a lot includes different products, the proportionalities could be ascertained ad-valorem or ad-quantum as the case may be.
- 8) Where own goods and bought out goods of same or different varieties are transported, proportions could be ascertained for apportioning transport costs to them.

In fine, the details presented in the foregoing paragraphs seek to stress the immediate relevance of sensitive distribution management and the need for regular and systematic review and appraisal of the modes and methods of distribution management adopted by an organization. In a competitive economy where reaching out to the customer is the key, regularity in the distribution of goods to different consumer centres is of

utmost importance. Since production is carried on in anticipation of demand, as is the wont of a capitalistic system, by the time demand becomes really manifest products have to be available. Otherwise, opportunities may be lost either to competitors or to substitutes, for similar end-uses. Where channels of distribution exist, feeding them with regular supplies is crucial. Even otherwise, it is essential that supplies are regular and systematic, both to the channels of distribution and to the markets directly. Modes of transport for dealing with the logistics problem offer decision points depending on the costs and benefits derived therefrom. Depending on the nature of the product, a suitable mode of transport may be adopted which is economical, on the one hand, and ensures protection of the goods transported, on the other. Loss in transit has a knack of eating into the vitals if due surveillance is not exercised. The proverbial 'timely stitch' has a tell-tale effect in these cases.

Drawing up the distribution strategy thus has to take into view different challenging tasks and responsibilities so that due economies ensue therefrom. Just in time availability of the goods, stocking at strategic points and forecasting demands are essential components of a sensitive distribution strategy. Since marketing implies reaching out to customers, it is essential that there occurs no mismatch between demand and supply.

COST AND MANAGEMENT ACCOUNTING IN CHANGING SCENERIO

Dr. P.R. Chowdhuri *

Introduction :

In the 1980s advanced manufacturing techniques (AMT) such as material resource planning (MRP) system, computer aided design and manufacturing (CAD/CAM) robotics and other features and just-in-time (JIT) manufacturing techniques changed the production process in many organisations over the world. Many companies, national and international, responded to these competitive demand by investing in AMT and JIT manufacturing philosophies and emphasizing in their corporate objective, quality, delivery, innovation and flexibility to meet customers' needs. In order to compete successfully it was necessary to produce products of high quality at a relatively low cost and also provide a satisfactory customer service. There was a growing recognition that conventional cost and management accounting systems did not provide the appropriate and required information to control the activities of companies operating in advanced manufacturing environment. So a revolution in management and cost accounting is needed to match the revolution in manufacturing practices.

Traditional Vis-a-vis Modern Concept :

The accounting commentators and professionals and accounting bodies raised criticism at the traditional management accounting practices and during 1980s such criticisms began to appear in the professional and academic accounting literatures. Robert Kaplon and Thomas Johnson (1987) claimed that the firms were still using management and cost accounting practices that had been developed over 30 years ago and that was no longer relevant in today's competitive and manufacturing environment. Two principal criticisms of current cost and management accounting systems were : (1) traditional costing systems provided misleading information for decision making purposes, and (2) management accounting focussed almost entirely on internal activities and relatively little attention was given to the external environment in which the business operated.

In early days production technology was relatively simple and it

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was fairly easy to identify labour and material cost at every stage of production process. The whole manufacturing process was governed and regulated by manual operation and so direct labour provided natural basis of assigning indirect costs to individual products. Traditional management accounting system gave more emphasis on reporting direct labour and efficiency and relatively little attention was given to reporting and controlling direct material and overhead costs. Overhead costs were relatively small and distortions arising from inappropriate overhead allocation were not significant. Full costs based on this arbitrary overhead allocation are still used by the firms operating in advanced management environment.

But investment in AMTs has greatly changed the cost behaviour pattern. Today companies produce wide range of products; direct labour represents only a small fraction of total costs and overhead costs are of considerable importance. Overhead allocation using a declining labour base cannot be justified, particularly when information processing costs are no longer barriers to introducing more sophisticated systems. Furthermore the intense global competition of 1980s created a need by managers to have more accurate information of how product-mix, introduction and abandonment decisions affect their organisations' profitability. A widespread dissatisfaction had also been there with the nature and quality of information being supplied by the present management accounting information systems. This is due to the inability of the systems to adopt in response to the changes in the nature and structure of organisations (high quality production, multiproduct production, automation and the introduction of information technology) and to provide information appropriate for management control and decision making.

Information technologies have revolutionized all facets of business from planning and strategy to manufacturing and from human resources to customer servicing.

The birth of advanced manufacturing technology has brought higher level of control and reliability. Such a move makes standard costing obsolete. For example, advanced manufacturing technology should produce high quality output and there should be little difference between standard and actual efficiency. Increased automation in manufacturing processes means that direct labour is less significant in the production process. There is a growing tendency for labour to be viewed as a fixed cost thereby making no use or need of labour variances.

Traditionally management accounting reports on costs only but

fails to report on non-financial information such as quality, reliability, lead times, flexibility, customer satisfaction, delivery, supplier's performance, etc. If these non-financial measures that are necessary to compete successfully in today's world-wide competitive environment are not emphasized, the management would ignore some important issues like marketing, managerial and strategic considerations.

As a result of various criticisms of management accounting practices, changes in management accounting practice are taking place and during the next decade it is likely that firms will experiment with new techniques. The implementation of JIT, TQM (total quality management) or MRP (Manufacturing and enterprise resource planning) as well as installation of AMTs have been accompanied with the adoption or consideration of novel accounting perspectives. These include activity based costing, target costing, through-put accounting, life cycle costing, backflush accounting and others.

Activity Based Costing (ABC) :

It was only in the latter half of the 1980s that ABC emerged as a popular form of costing in practice and its rapid emergence in business world is attributable to Professor Robin Cooper and Robert Kaplan. ABC concept was first applied in a small number of large US manufacturing businesses which experienced dissatisfaction with conventional approaches to costing.

In any costing system direct costs are easily traceable and so can be directly assignable to the end products. The overhead costs (or, indirect costs) on the other hand, need to be allocated to the end product using the most reasonable basis. Traditional methods of absorbing overhead costs are all based on production volume which is a direct function of labour hours worked, direct wages paid and machine hours utilised. Product costs arrived at by using volume-related absorption rates, have been the major problems between the use of cost information and cost accountants as the costs so arrived at do not truly reflect the manner in which the end products consume resources. Inaccurate cost information may lead to wrong decision if used for control purposes. This wrong decision would be aggravated if indirect costs are large compared to the direct costs which is more likely to be in an automated and advanced manufacturing situation.

Activity based costing aims at rectifying the problem of inaccuracy in cost information which may creep in due to wrong choice of overhead cost allocation method.

ABC system operates into two stages : First, the overhead costs are allocated or apportioned to a number of cost pools each of which is based on a particular activity. Once each activity has been costed, the second stage involves computing a costing rate for each activity cost pool. This is achieved by selecting an appropriate work volume measure known as cost driver and dividing a period's activity costs by the period's cost driver volume. This rate is then applied to the firm's individual product lines. Consequently the cost of each activity is attached to each product in proportion to the cost driver volume associated with each product. Thus, this system is based on two propositions : a) activities consume resources, and b) products consume activities. In short, ABC system involves four key steps :

- 1) Identification of activities such as machine set up, material handling, quality control, testing, etc.
- 2) Costing the activities i.e. to identify the costs consumed by each individual activity.
- 3) Identification of cost drivers, that is, to link the activity costs to product or service output, a cost driver has to be identified for each cost pool ; for example, no. of parts for material handling.
- 4) Application of cost driver rates : rates are applied for the costing of product or service output on the basis of consumption of activities.

The aim of an ABC system is to apply overhead costs on the basis of cause and effect i.e. production overhead costs are more closely traced to products and therefore provides a more accurate product cost. However, there are some costs, e.g. factory rent for which cost driver cannot be identified and so allocated on some arbitrary basis under ABC system. In spite of such problem where production overhead is a large part of overall production cost and where the overhead is driven by factors other than production volume, ABC traces more of these costs directly to products than traditional costing and therefore provides a more accurate production cost. Based on these more accurate cost information, quality of managerial decision can be improved.

ABC's emphasis on activity has emerged a number of other new techniques :

Activity based management (ABM) is a system of management

which uses activity based cost information for a variety of purposes including cost reduction, cost modelling and customer profitability analysis. It focuses within a process, on decision making and planning relative to these activities and the need for continuous improvement of all organisational activity. It nurtures good communication and team work. ABM provides an essential link to total quality control and its improvement.

Reappraisal of traditional assumptions about costs and cost behaviour and the use of ABC is a further management development stemmed from technological changes in the form of AMT and JIT. For this purpose Activity based budgeting (ABB) has been proposed. ABB involves identification of the activities to which resources may be committed, examination of the value of activities to the organisational objectives, leading to priority ranking for provisioning scarce resources during the budget process, assessment of the service derived from these activities and finally matching between responsibility and costs.

Target Costing

Target costing is an approach that is widely used by Japanese companies and considerable attention to this approach has also received in USA and UK literatures.

Target costing is market oriented cost determination approach. The stages of target costing are broadly as follows :

- I) To develop a product that satisfies the needs of the customers.
- II) To determine the target price of the product based on customers' perceived value for the product, the prices the competitors charge and the desired or target profit.
- III) To derive target cost (which is equal to target price - desired or target profit).
- IV) Prior to production, to use value engineering and other techniques to reduce the expected cost of the product to its target cost.

If the forecast cost determined using current cost is more than the target (allowable) cost, reduction technique (value engineering) is applied to reduce forecast cost to target cost. Value engineering is a systematic evaluation of all aspects of the value chain functions with the objective of

reducing costs while satisfying customer needs. Value engineering proceeds with cross functional teams consisting of marketing managers, product designers, manufacturing engineers and production supervisor making suggestions for design improvements, changes in material specifications and process modifications. Cost accountants estimate the savings in costs that would result from the proposed changes.

In this target costing process the enterprises overview the whole product lifecycle as to the product strategy in terms of the product attributes to be offered relative to competitors including options, quality and after sales services, the technology to be used and the desired profit and market share. A comparison with expected prices in the market over the cycle period determines the price at which the product can be offered in the market and be expected to obtain their target profit and target market growth.

This process requires a great deal of strategic information such as competitors' strategies, their pricing policy and likely changes over the product life cycle. This information is required in order to forecast the current market position and changes over time and to estimate how successful the firm's strategy will be. Similarly, information concerning the product attributes which the customers value and for which they are willing to pay is required. This would help the management to redesign the product as to the customer's preference.

Contribution of target costing is considered in terms of cost management by planning cost reduction in the planning, design, development, purchasing, manufacturing stages of the product. It also plays an important role in satisfying consumers' needs at the planning stage, in planning product quality and improving time taken to introduce new products. Target costing is a cost reduction exercise which seeks to get cost down in the pre-production stages. It advises the designers to reduce costs. It is a dynamic growing concept and a challenge to reduce cost in order to achieve target cost through value engineering.

Target cost management is fundamental to effective cost management because it provides the goal towards which all cost control efforts are directed. It ensures that the management accounting system is generating information which will help the organisation to maintain and enhance competitiveness. It also encourages innovation and creativeness on the product and its costs which match customers' technical and price requirement.

Life-Cycle Costing :

In an advanced manufacturing environment with rapid growth in technological innovation and in an increased competitive market, the life span of a product is gradually becoming shorter. This has required the management to be more cost conscious and adopt costing and other techniques that would take care of all the aspects including costs associated with the products over its life period i.e. from start to finish. Life cycle costing is such a technique that could play an important role in this strategic issue of changing management system.

Life cycle costing is a system that tracks and accumulates costs and revenues attributable to each product or service from inception to abandonment. The life cycle of a product can be shown in four stages :

- a) Introduction : The product or service is introduced to the market. The product /service will begin to earn some revenue but initially demand is likely to be small. Potential customers will be unaware of the product or service and the organisation may have to spend further on advertising to bring the product or service to the attention of the market. At this stage profit is very low and even it may be nil.
- b) Growth : The product gains a bigger market as demand builds up. Sales revenue increases and the product begins to make profit.
- c) Maturity : Product has already achieved acceptance by the customers. Then the growth in demand for the product will slow down. Though it will continue to be profitable but gradually profit will stabilise.
- d) Saturation and decline : Market reaches saturation in product demand. Demand will then start to fall. Eventually sales will be full, profits decline rapidly and ultimately losses will be incurred.

Organisations should decide to stop selling product or service and so its life cycle reaches its end.

During this life period of a product or service, life cycle costing is the profiling of costs over a product's or service's life including the pre-production costs. These costs may be (a) pre-production costs, b) production costs, and (c) marketing, service and support costs. They may be in the form of initial investment costs (e.g. research and development costs, design, planning and equipment costs), launch costs (e.g. production launch,

marketing, product education costs) and operating costs (e.g. material, direct labour costs, material handling and production handling costs, inspection costs, purchasing of parts and after-sales-service costs etc.). Ninety percent of a product life cycle costs is incurred early in the cycle period i.e. on product design, programming, process design and equipment acquisition. Management accounting systems should therefore be developed that aid planning and control of product life cycle costs and monitor spending and commitments at the early stages of a product life cycle.

A different idea of life cycle costs is customer life cycle costs which focus on the total costs to a customer of acquiring and using a product or service until it is replaced.

The analysis of nature of costs relating to the life cycle of a product/service helps the management to prepare a life cycle cost budget which can provide information for pricing decision. A life-cycle budget highlights the importance of setting prices and budgeting revenues to recover costs in all the value chain business functions (such as research and development, designing, production, marketing, distribution and after-sales service functions). The life cycle budget also indicates the costs to be incurred over the life period of the product. This budget also forecasts the sale potentials at different stages of cycle period of the product or service. This budgeting system is a control technique which also involves a life-cycle reporting through which feedback information is available on the company's success or otherwise of its existing products and in developing new products.

In today's competitive environment companies can no longer rely on many years of stable high demand when a new product is being introduced. A product's useful life in the market place is threatened by a new one of the latest design features. A large fraction of costs is also committed prior to production. These factors have created a need for life cycle reporting and post completion product audit through feed back information that compares actuals with planned outcomes.

There is considerable emphasis of a project' life cycle costs prior to project approval. Decisions concerning the acquisition, use or disposal of the assets can be made in a way that achieves the optimum asset usage at the lowest possible costs to the entity.

Life cycle costing provides the management with the long range vision in respect of product costing and product profitability considering all the facts from the birth of a product to its death.

Throughput Accounting (TA)

Throughput accounting (TA) is an approach to an accounting system which assumes that a set of resources is given. These comprise buildings, capital, equipment and labour. Using these resources, purchased materials and parts must be processed to generate sales revenue. Here direct material is a highly significant element and other resources and costs (labour and overhead costs) as given or fixed.

Throughput = Sales revenue — Direct material cost. Throughput can be influenced by selling price, direct material purchase price, usage of direct material and volume of throughput. Management should give more attention to all these four areas, as they have strong relationship (between selling price and throughput volume and between direct material quality and selling price) and so they have to be balanced in determining the practical policies which will benefit total throughput.

In order to enhance throughput it is required to identify the factors that limit its expansion. They are normally termed as constraints - bottleneck resources. Within an organisation TA assumes that there are no bottleneck resources. Management strategies and policies can then be directed at the alleviation of these bottlenecks. Within the production facility lack of production resources (e.g. shortage of machine capacity), termed bottlenecks, should be eliminated. For this purpose production must be limited to the capacity of the bottleneck. If a rearrangement of existing resources or buy-in resources does not alleviate bottlenecks, the investment in new equipment may be necessary. Thus the management of bottleneck becomes a primary concern of the manager seeking to increase throughput. Reduction of leadtimes, set-up times and waiting times can all benefit throughput. To enhance throughput bottleneck operation should be kept busy and non-bottleneck resources, that is, the needs of the bottleneck resource determine the production schedule of non-bottleneck resources. For example the bottleneck machine sets the space for all non-bottleneck machines. Workers at non-bottleneck machines are not motivated to improve their production if the additional output can not be produced by the bottleneck machine. Producing more non-bottleneck output only creates excess inventory; it does not increase throughput contribution.

Production priority must be given to the products best able to generate throughput, that is, those products that maximise throughput per unit of bottleneck resource (same as contribution per unit of limiting factor). throughput accounting bottlenecks should be eliminated and so rankings

throughput accounting bottlenecks should be eliminated and so rankings would change quickly.

Products are here ranked as per TA ratio.

$$\text{(TA) ratio} = \frac{\text{Return per factory hour}}{\text{Cost per factory hour}}$$

$$\text{Return per factory hour} = \frac{\text{Throughput}}{\text{Time on bottleneck resource}}$$

$$\text{Cost per factory hour} = \frac{\text{Total factory cost}}{\text{Total time available on bottleneck resource}}$$

$$\text{Total Factory Cost} = (\text{Direct labour} + \text{Factory overhead} + \text{administrative overhead})$$

$$\text{Throughput} = \text{Sales} - \text{Direct material cost.}$$

TA ratio can be used to assess the relative earning capabilities of different products and hence helps in decision making.

However, TA adopts a very short term perspective in its classification and assumption on costs, all of which except direct material are assumed to be given or fixed. So, motivation of management to focus on or to give attention to these other elements of costs is diminished. Again assumption that all labour and overhead costs will always remain fixed even in short term is questionable. The strength of TA is that it concentrates on the responsiveness of the production facility to meet final demand for its output and the weakness is that it is not concerned at all for labour and overhead costs. However, here emerges "activity based costing" where focus is on labour and overhead costs. In combination the approaches provide reasonably a comprehensive coverage of the spread of costs:

Backflush Costing :

Traditional costing systems track costs sequentially as products pass from direct raw materials to work-in-process to finished units and finally to cost of sales. Detailed accounting entries for each stage relating to material, labour and overhead are also recorded. This method provides detailed cost information but requires elaborate and correct documentation.

Management wants a simple accounting system. Detailed tracking of costs through each stage of production to the point of completion and sales deems unnecessary. Backflush costing is one such simple method which describes a costing system that applies costs to the output of a process; that is, costs are attached to the output produced (finished goods and cost of goods sold). Accounting entries are delayed till the finished units appear; it then uses budgeted or standard costs to assign costs to the units produced. An extreme form of such delay is to wait until sale of finished units has occurred. No record of work-in-process appears in backflush costing.

This system is associated with Just-in-time production system which ensures timely delivery of materials through purchasing, production and sales to occur in quick succession with minimum or even zero inventory. Stock valuation is less relevant. All manufacturing costs of a period flow directly to the cost of goods sold. Backflush costing is based on this philosophy and is more appropriate in a modern world where organisations are doing their utmost (I) not to hold stocks at all, and (II) to avoid recording of details of production process and non-value added activity related to it.

It is feasible only in those situations where JIT is fully implemented.

Conclusion »

Traditional management accounting lacks relevance to management in the contemporary business context. If relevance is to be regained then management accounting has to change at the level of the firm. Change is evidently a necessary part of maintaining management accountings integrity in facing and resolving particular organisational situations caused by the fast changing business environment. During the last decade management accountants have witnessed changes : internally in production technology and methods, in organisation structure, in product or service output and life cycle and externally in market scope, scale and competitiveness. These changes are the factors that have influences on the design of the management accounting systems which provide some new ideas, thoughts and approaches that help management accountants make a creative and positive contribution to the future development of the organisation. So have emerged the ABC, target costing, life cycle costing, etc. for providing information and dealing with the management issues in new perspective for research and development, design, production, marketing, distribution and aftersales services.

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ACTIVITY BASED COSTING AND MANAGEMENT

Dr. Bhabatosh Banerjee*

1. Introduction

Managers around the globe have been showing increasing interest in activity based costing (ABC). Three surveys made in early nineties in the U.K., the U.S.A and Canada respectively show the following position:

(a) U.S.A. : 36% of the companies interviewed used ABC. Of the companies using ABC, 25% were using ABC to replace their existing costing system; others were using it for analyses outside their accounting system (J. Schiff, 1993).

(b) U.K.: 32% of those companies, making significant revisions to their costing system within the previous 5 years, had adopted ABC (J. Bright, et al, 1992).

(c) Canada : In Canada, a survey indicates that 14% of the interviewed companies had implemented ABC. Another 15% were considering using ABC.

Over the years, there is no doubt that the position has changed significantly in favour of use of ABC in industrialised countries. For example, a recent survey of Price Waterhouse indicates that more than half of US manufacturing companies list ABC as current buzzwords (D.P. Keegan & R.G. Eiler, 1997). But what about India ?

Changes in economic policies and consequential environmental changes have forced Indian companies to face keen competition now. In fierce competition, one has to manage costs very efficiently for survival. ABC is claimed to be a powerful tool in managing costs efficiently. Although the number of companies in India using ABC is gradually on increase, the present position is not at all satisfactory (Mukherjee, 1999). A survey of the questions set in Cost and Management Accounting in professional and university examinations during the last five years does not show any encouraging picture. Very seldom questions on ABC have been asked in examinations. The books on Cost and Management Accounting do not also

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adequately discuss the topic to make it popular, both among the academics and professional managers. Articles published

on ABC in the journals of the two professional institutions, viz., *The Management Accountant* published by The Institute of Cost and Works Accountants of India, and *The Chartered Accountant* of The Institute of Chartered Accountants of India, during nineties are few and far between. There are two implications of these developments. Firstly, ABC has not yet become acceptable to the professional managers/accountants. Secondly, the training of future managers/accountants, etc., does not emphasise the need for building concepts of ABC, and also for discussion of difficulties, if any, for its installation and how to overcome them. Consequently, use of ABC in Indian companies even in the near future at a very satisfactory pace becomes a remote possibility.

In view of the above, the *objective* of this paper is to examine in detail various aspects of Activity Based Costing and Management (ABC &M) in their proper perspectives, keeping in view the need for generation and supply of high quality cost information for decision making by the professional managers/accountants and improvement of the process of training of the future managers/accountants. Academics and professionals associated with training of managers and accountants are also the indirect target group. The paper is *organised* as follows. Section 2 deals with problems of traditional costing. In section 3, ABC is discussed in brief. Cost analysis under ABC is given in section 4. This is followed by a discussion of full costs as the product costs under ABC in section 5 and factors influencing the application of ABC, in section 6, respectively. While section 7 deals with the installation of ABC, section 8 gives a brief idea about activity based management. Such an integration between costing and management is complimented by a discussion on activity based budgeting in section 9. The last section gives concluding observations.

2. Problems of Traditional Costing

Traditional costing can lead to overcosting or undercosting of products or services. Over- or under-costing of products distorts cost information. A poor quality of cost information causes management to make poor decisions for pricing, product emphasis, make or buy, etc. Then the objectives of having a costing system are hardly said to have been achieved.

Why does traditional costing lead to over- or under-costing of products/services ? It occurs because overhead or indirect costs are recovered based on volume only, e.g., machine-hour rate, labour hour rate, etc. In the traditional method of allocation, costs are indiscriminately averaged, or

spread over products/services evenly, irrespective of demands on resources or activities. The basic assumption in the cost allocation process is : higher the volume, the greater the share of indirect costs to a product .or service-line, and vice versa. Does such a simplistic assumption hold good in reality ?

In a multi-product or multi-service firm, different products/services consume different activities which may be disproportionate to the volume of production or service. Complexity of production or service because of diverse specifications results in different demands on resources or activities. In such a situation, the conventional methods of allocation of overhead cost based on a single or two-volume rate/s distorts product or service cost.

3. Activity Based Costing (ABC)

Activity-based costing focuses on activities as the fundamental cost objects (Fig.1).

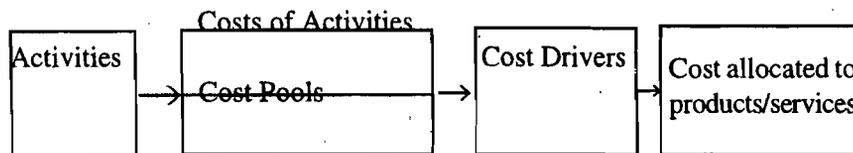


Fig. 1 : Activity Based Costing.

An activity is a process or procedure that causes work. In relation to ABC, by activities we only mean the activities of the support or service departments, such as, material handling, machine set-up, engineering change, quality testing, inspection, etc. This means that ABC differs from the traditional system only in respect of allocation of overhead or indirect costs. Direct costs are identified with, or assigned to the cost object, in the same way as done in the traditional costing system. Indirect costs are linked to the cost objects based on activities. This is shown in Fig. 2. Activities drive costs. Costs are, therefore, allocated based on appropriate cost drivers. Cost drivers are allocation bases. Cost drivers are the factors or transactions that are significant determinants of costs. For example, purchasing department costs depend on the number of purchase orders placed, costs of warehousing depend on the number of items in stock, machine set-up costs depend on the number of set-ups per period, etc. We give below a few examples of activities and the relevant cost drivers.

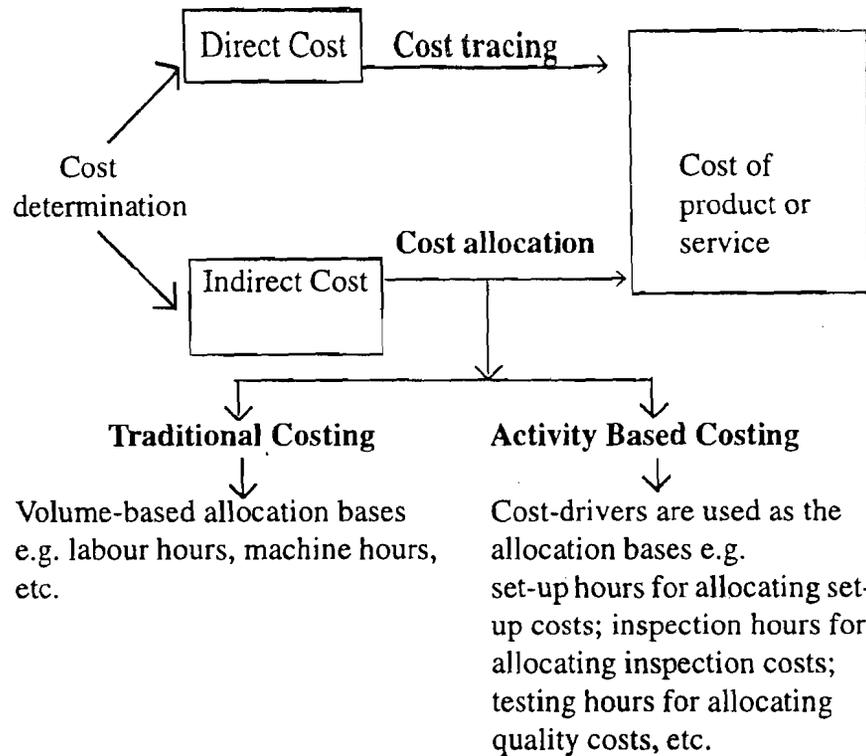


Fig. 2 : Cost allocation : using Traditional and Activity Based Costing Systems.

Activity	Cost driver
Machine set-up	Number of production runs
Purchasing materials	Number of orders placed
Warehousing	Items in stock
Material handling	Number of parts
Inspection	Inspection per item
Quality testing	Hours of test time
Receiving material	Number of receiving orders
Packing	Number of packing orders
Store delivery	Number of store deliveries
Line item ordering	Number of line items

Cooper and Kaplan believe that the key to understanding what causes overhead costs (i.e. what drives these costs) is the *transactions* undertaken by the support departments. Thus, transactions undertaken by the support

department personnel are the appropriate cost drivers. They call it *transactions based cost allocation*.

In ABC, a cause-and-effect relationship is established. Costs are allocated based on the demands on resources. This relationship between resources-activities-costs is shown in Fig. 3.

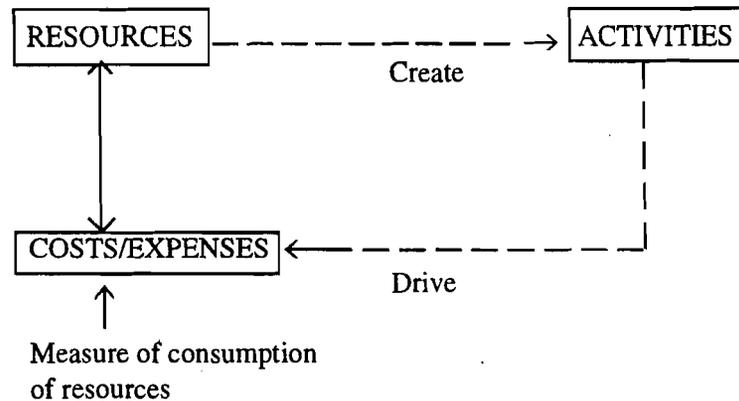


Fig. 3 : Resources-activities-costs relationship.

ABC focuses on activities for cost management. Traditional system focuses on cost - the effect rather than on the cause, the activity.

ABC is not an alternative costing system to job costing or process costing. It is rather an approach to developing more logically and accurately, the cost numbers used in the existing costing systems. ABC alone may not provide total solution to cost control, analysis or product costing/ pricing. It provides the start and then leads to various strategic exercises such as value chain analysis, benchmarking, target costing, etc., to bring in overall operational improvement. With the activity-based costing system, a **cost pool** is established for each cost driver. For example, the total costs of inspections might constitute one cost pool. *To arrive at a charging out rate, the total costs of the cost pool would be divided by the number of transactions or activities that generated these costs.* For example, if there were 1,000 inspection hours during a period and the total costs traced to the cost pool was Rs. 2,00,000 then the charging-out rate would be Rs. 200 per inspection hour. To determine the inspection cost for a particular product, the number of inspection hours for the product would be multiplied by Rs. 200. Activity-based costing would trace other non-volume-related over-

head costs to products using a similar approach. In short, ABC system enhances the understanding of cost behaviour and hence leads to more accurate determination of product costs.

4. Cost Analysis under ABC

Researches made by Robin Cooper, Robert S. Kaplan and others show that many of the firms' resources, those represented by the so-called fixed costs, can be explained not by the amount of output produced but by the diversity of company products, customers, distribution channels and product lines. As organisations try to expand output, they do not increase the sales of a single product to a single customer. They expand output by introducing new models, new lines of business, new distribution channels, and new customers. In the process of increasing diversity and complexity, the organisational infrastructure increases to meet the demands created by the new products, customers and distribution channels. The activity-based approach is an attempt to show that most, if not all, of them are really variable.

There are *three major kinds of activities* in the organisations :

- a) unit level activities ;
- b) batch level activities; and
- c) product sustaining activities .

The above major activities drive costs or expenses which can be classified according to above three major activities as follows :

- a) costs at the unit level;
- b) costs at the batch or production-run level ; and
- c) product sustaining costs.

Unit level costs correspond to short run variable costs, e.g. materials, energy, temporary labour, etc. The unit level costs measure resources that are consumed proportionately with the number of units produced. Many overhead costs are incurred not in proportion to the number of units produced but by other product-related activities. Some costs are incurred by activities that are performed each time a batch of product is produced. Such activities relate to the length of set ups or the number of set ups performed. They vary with how many set ups are done and how many batches are run, but are fixed with respect to the number of units produced in a batch, e.g., set up costs, cost of inspection, purchase orders, etc. The third category of costs relate to activities that enable firms to produce each specific product. These costs (e.g. product specification, process engineering, product enhancement, etc.) tend to increase as more products are added to the product

line. They are easily traceable to a product line but are fixed with respect to how many batches of that product are run or how many units of the product are produced.

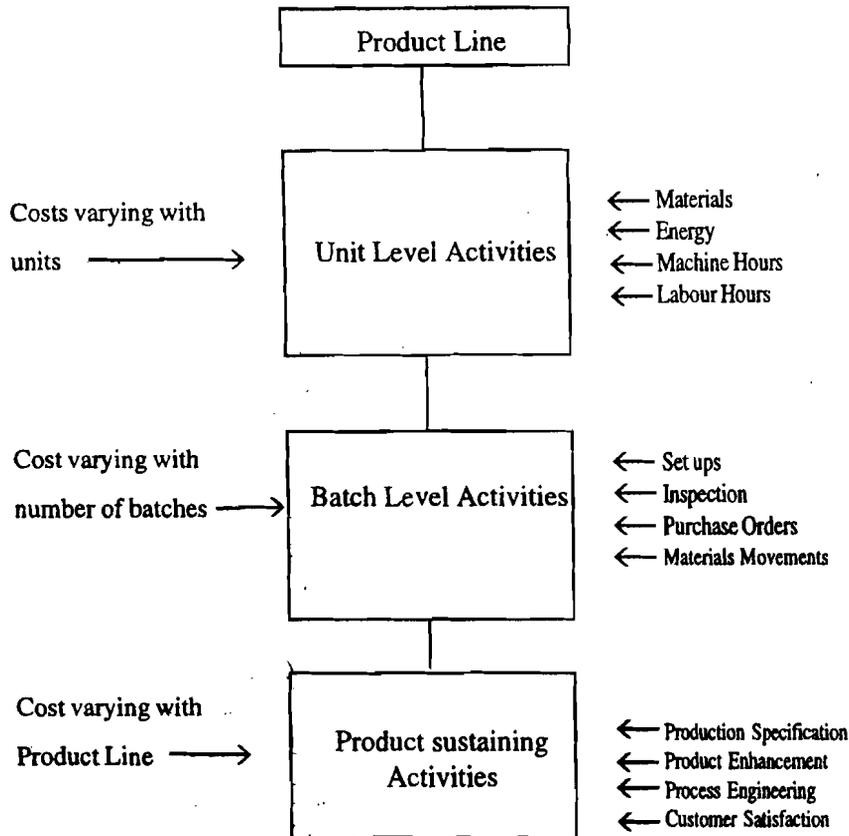


Fig. 4 Activity Related Product Costs.

5. Full costs as the product costs under ABC

Managers have tremendous interest in being able to allocate all costs down to the unit level because price is a unit level driver. But with the kind of classification of costs based on major activities of the firm all costs can be assigned to individual products without much trouble and without arbitrary allocations. Multiple cost drivers in addition to, or in replacement of, traditional cost drivers such as labour hours, machine hours, materials consumption, etc., should be selected, keeping in view the major activities of the firm and how each item of cost is linked up with these activities at different levels. *Costs incurred at the batch level and those incurred for*

product-sustaining need to be allocated. The process may be described below.

1. Identify activities ;
2. Identify cost of each activity;
3. Identify cost driver of each activity and treat it as the cost pool;
4. Compute the allocation or absorption rate by dividing total cost of the cost pool by the number of transactions or activities that generated the costs ;
5. Allocate costs to products/services, e.g. multiply recovery rate by cost drivers for the concerned product/service.

6. Factors influencing application of ABC

The following factors influence the application of ABC:

(1) *High incidence of overhead cost* : If the proportion of overhead cost to total cost is relatively high, it is necessary that overhead cost is applied to products fairly accurately in order to prevent over-costing of some products and under-costing of others. The extent of automation, complexity of production, etc., generally increase the overhead cost today. In such a situation, cost assignment should be based on the suitable cost drivers — the factors that cause costs. Conventional costing systems are simplistic because they only consider volume or unit based assignment. As a result, product costs are distorted. Actions/decisions taken on the basis of distorted product costs cannot give good results in the long run.

(2) *Product complexity or diversity* : When products consume activities and inputs in different proportions, product diversity occurs. In such a situation, there is a difference in the size, complexity, material components or other characteristics and demands made on a firm's resources by product lines. Complex products may consume more non-unit level inputs such as machine set ups than less-complex products. Unless, therefore, the complexity, or diversity of the product, is given due weightage, in absorption of costs, product costs are likely to be distorted. Traditional volume-based methods should be discarded and ABC should be used to remedy the situation.

(3) *Volume diversity* : Volume diversity occurs when there is a difference in the number of units manufactured by product lines. For example, different products may be produced in different batch sizes, in multi-product factories. The complexity of the product line and the special handling required for special low volume products cause large amounts of overhead. In such a situation, if overhead costs are allocated across all products based on volume only, inaccurate product costs result hindering many important decisions.

7. Installation of ABC

The activity-based costing system was developed about two decades ago. Many firms in the USA, UK, Canada and Japan have been increasingly switching over to ABC from traditional costing. In India, full-fledged implementation of ABC is, however, limited. So far, only two articles deal with the issue. Mukherjee's article shows, among others, how effectively a company (Biecco Lawrie Ltd. - a sick public sector company which turned around recently) can use ABC. Ray mainly describes the various basic steps in detail, which are "required to be followed in a systematic manner for implementing the ABC system in any organisation successfully". However, he does not focus on any particular organisation or manufacturing concern. This paper, therefore, elaborates the main issues involved in implementation.

Because of changes in economic policy and many other consequential changes, Indian firms have now to operate in a competitive environment where there is no room for inefficiency and cost pertaining to the same. So, many large Indian companies, which are using conventional costing leading to arbitrary allocation of overhead costs need to switch over to the ABC system. The macro-economic factors, elaborated in section 6, which justify the implementation of ABC, are : (a) relatively high proportion of overhead cost, (b) product complexity and volume diversity. We discuss below the *steps involved in installation of ABC* :

A. Primary Steps : These include feasibility study, creating IT infrastructure, convincing the line-employees and value-chain analysis.

B. Operational Steps : They represent identification of activities, costs and cost drivers, computation of absorption rates and allocation of overhead costs based on the activities/transactions.

The above-mentioned steps may now be discussed in brief in the following paragraphs.

1. Feasibility study : Installation of ABC requires considerable efforts and *costs*. Two types of costs are needed: (a) cost of development of the system (development cost); and (b) cost of running the system (operational cost). The expected *benefits* are :

- i) more accurate cost information for product pricing;
- ii) more accurate profit analysis by product, customer, process or department;
- iii) improved performance measures; and
- iv) improved insight into cost causation.

The expected benefits should outweigh the costs so as to justify the installation of ABC.

2. IT Support : For ABC a lot of information is required to be generated. The efficacy of ABC depends on the analysis of each and every activity/resource deployed and incurrence of cost. Creation of a database is, therefore, a must for successful operation of ABC. Thus, IT infrastructure is to be built up to provide necessary support.

3. Selling the concept to the line-employees : One of the problems encountered by many Canadian firms in implementing ABC was difficulty in selling the concept to line-employees. Often employees offer resistance to new systems because they are more concerned with their job security. Group discussions, training programmes, case study demonstration, etc., help considerably to sell the concept to the employees. Successful implementation of the system depends considerably on the hearty participation of line-employees. This is an important issue and should be sorted out properly.

4. Strategy and value chain analysis : The ABC system should fulfil two basic strategic requirements :

- i) providing information and analytical support, and
- ii) providing impetus for development of new and revised strategy.

Value chain analysis focuses on the strategic perspective for various activities within the firm. Certain activities of the value chain may be considered as non-strategic and may, therefore, be eliminated or merged. In some cases, activities may also be considered to be *out-sourced*. The purpose of value chain analysis is to determine where managers can lower costs from design to distribution in the company's segment of the chain. It, therefore, promotes operational efficiency and rationalisation of cost structure with activities.

5. Inventorisation and screening of activities : The distinctive feature of ABC is its focus on activities as the fundamental cost objects. The entire process of a firm's operations - from product development to marketing - are represented by several essential activities. Resources are employed or costs are incurred for carrying out these activities. Hence, the success of ABC depends on a comprehensive inventorisation of all activities and their screening. In doing so, it is necessary to ensure that all activities are covered and nothing is missed out.

Identification of operations and processes may provide the basis from which a detailed listing of activities can be obtained in a structural manner. In addition, senior executives may be requested to list down the activities under their control. To cross check all the employees may also be required to fill in the forms detailing what work they do. Many companies involve grass-root level employees to better understand their activities and cost divers. This method may provide more accurate information than by interviewing senior managers who are away from daily operations. Once the activities have been inventorised, screening is necessary to improve efficiency into the system. The following questions may, therefore, be pertinent :

Is the activity necessary ?

Is it possible to club the activities ?

Ultimately, a final list of activities after going through the screening process should be prepared. Companies which have successfully implemented ABC usually limit the number of activity to 5-10 per department, at least in the initial implementation. More activities can be added later if additional complexity is warranted. The danger with identifying too many activities is that the company may get bogged down in a morass of detail and the implementation may fail.

6. Identification of costs and cost drivers : Resources deployed, or costs incurred, for carrying out the activities should be identified. Identification of costs vis-a-vis activities may not be an easy task. Three approaches may be adopted for identification of costs and cost drivers : (a) personal observation and measurement by each line-manager in respect of activity under his/her control; (b) analysis of cost and operating records; and (c) feedback about the experience of other organisations. In practice, a combination of the above may lead to a better result. The objective of the above analysis is to have (i) indirect cost pools, and (ii) indirect cost allocation bases which will produce more accurate cost numbers.

A *cost pool* represents a grouping of individual cost items. For indirect or support department costs which need allocation to products or services, such pools are to be formed. One essential characteristic of a cost pool is that it comprises costs that have the same or similar *cause-and-effect relationship* with the cost allocation base. A cost pool may be employed for every identified activity or sub-activity.

As stated earlier, a cost allocation base is a factor that drives or determines costs. A cost driver is the cost allocation base. When there are

a number of cost drivers for any particular cost pool, costs should be allocated based on the primary cost driver, that is, based on the factor that has the most significant influence on the incurrence of cost. Alternatively, some consideration may be given for segmenting the pool further to establish linkage with individual cost drivers. The entire process may now be briefly shown in Fig. 5.

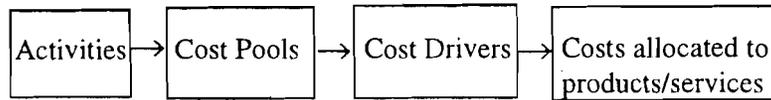


Fig. 5. Cost allocation in ABC.

It should be emphasised that ABC is more complex than the traditional system. A complex system is more costly to implement and operate than a simple system. But its utility lies in helping managers and others make "better decisions". Getting "better cost numbers" is a means towards that end. It is not an end in itself.

8. Activity Based Management (ABM)

It focuses on the management of activities as the route to improving value to the customers. ABM involves activity analysis and performance measurement. Activity Based Costing serves as the major source of information in ABM.

The process focuses on improvement of business by re-engineering the way the business is conducted and by continuously improving the effectiveness of the organisation. The activities can almost be seen as the building blocks of the process.

Certain constraints, such as shortage of funds or capacity, may exist which limits the firm's potential of profit-earning capabilities. ABM also evaluates these constraints in order to overcome, as far as possible, the limiting factors and to maximise the return to the shareholders.

Activity Based Budgeting is used as one of the tools in ABM.

9. Activity Based Budgeting (ABB)

Brimson and John define activity-based budgeting as the process of planning and controlling the expected activities of the organisation to derive a cost-effective budget that meets forecast work load and agreed

strategic goals. An activity-based budget is a quantitative expression of the expected activities of the firm, reflecting management's forecast of workload and financial and non-financial requirements to meet agreed strategic goals and planned changes to improve performance. Thus, the key elements of ABB are :

- . type of work/ activity to be performed;
- . quantity of work/activity to be performed; and
- . cost of work/activity to be performed.

ABB focuses on the activities/business processes. Resources required are determined on the expected activities and workload. The objective is to bring in efficiency into the system. So, in the process of budget preparation, many key questions, such as the following, need to be addressed and properly answered :

- Is the activity necessary ? Is it possible to club a few activities to bring in efficiency?
- Does the activity in question add value to the customer or increase profit to the firm ?
- How much resources are to be allocated ?
- Is this the best way of performing the activity ?

Steps in ABB

The essential steps are as follows :

1. Formulating strategies for the organisation consistent with the needs of the customer.
2. Developing plans to translate strategies into activities.
3. Identifying activity levels for each activity.
4. Forecasting workload for carrying out the activities.
5. Estimating resources in time, cost and quality for each activity level, thus formulating budget frequently for each activity.
6. Ranking the budget requests.
7. Finalising the budget by approving the budget requests in the order of ranking.

Activities can be evaluated by classifying them as 'current level' and 'minimum level' resource utilisation. Budget requests can be ranked by looking at the value (benefit) to the customer and cost to the firm for various levels of activity.

Benefits of ABB

1. Helps formulating strategies to sustain competitive advantage.
2. Control on activities is facilitated. Ineffective or non-value-creating activities can be cut down through analysis.
3. Linking strategies with activities helps performance improvement of the firm.

12. Concluding observations

A costing technique is only as good as the cost system that responds to it. If the potential of ABC is to be utilised, inflow of cost data will have to be faster and cheaper. This is, no doubt, dependent on the efficiency of cost accounting system itself. So, the starting point should be to develop an efficient cost accounting system which can utilise ABC more effectively for cost management. ABC should be integrated with activity based management (ABM) to take maximum mileage out of its implementation. Budgeting is an essential technique of management. ABC and ABM are, therefore, interdependent and complementary to each other. In other words, the whole system may be re-engineered for developing high quality financial (cost) and non-financial information for planning, control and decision making. Efforts should be made for popularising ABC & M at the training levels of managers and accountants (both present and potential). Seminars, workshops, publication of books and articles on the principles and practices of ABC & M will immensely help determine its usefulness or otherwise in Indian context. In the changing economic environments, there is no doubt that Indian companies need to manage costs, among others, more efficiently. Cost information may be used for developing superior strategies to sustain competitive advantage. Tools like ABC, target costing, life cycle costing, etc., may be utilised for producing better cost numbers for decisions at a competitive situation.

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COMPANY SIZE AND EFFECTIVE CORPORATE TAX RATES : RELATIONSHIP AND POLICY CHOICES

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1. Introduction :

Corporate tax structures in India has the dubious reputation of being one of the most intricate and complicated in the globe. With a plethora of tax concessions and fiscal incentives within the ambit of Corporate tax laws, companies find it facile to monitor effective tax rates to paltry values. The Indian scenario has witnessed many large and profitable companies keeping them outside the tax net, thus depriving the public exchequer of essential financial resources for socio-economic development. Studies conducted by the Centre for Monitoring the Indian Economy (1995) reported that tax incidence on companies declined from 24.1% in 1991-92 to 19.2% in 1992-93, 15.9% in 1993-94 and further to 14.9% in 1994-95. Of the profit making companies nearly 45% did not pay any taxes. Three concerted efforts were made in 1983-84, 1987-88 and 1996-97 to net in zero-tax companies. The provisions introduced in 96-97 currently exist in the form of MAT (Minimum Alternate Tax). Under this provision companies are required to pay a minimum tax of 10.5% on book profits. This has been reduced to 7.5% from the A.Y. 2001-2002 . The success of this provision has yet to be properly gauged, since large companies with ability to pay are allowed to avail of innumerable tax concessions and pay the bare minimum taxes. This caustic situation has raised eyebrows on the canon of equality as advocated by Adam Smith. According to Smith the subject of every state ought to contribute towards the support of the government as nearly as possible, in proportion to their respective abilities .

The questions that, therefore, naturally crop up is 'do companies pay taxes according to their abilities? What is the suitable measure of ability ? Should large companies, commanding substantial financial and physical resources pay more than smaller companies' ?

These queries have been explored by researchers since the last two decades. Zimmerman (1983) argued that size and effective tax rates are positively related. He found that in general effective tax rates (ETRs) are

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uniform across all size categories except for the largest fifty companies which have the highest tax rates. Stickney and McGee (1982), however, found no relationship between size and ETRs. Kenn and Morris (1992) replicated the Zimmerman study and found that the largest fifty companies had the highest effective tax rates. Holland (1998), using cross sectional data for about 6000 companies, spanning a period of 26 years found that in 1970s and start of 1980s there was evidence of negative association between firm size and ETRs. In the Indian context, Mahanti (1997) reported that for many large companies, tax as a percentage of profit before taxes had fallen after institution of MAT. Pratibharani (1997), also reported that by availing tax concessions large companies could reduce their effective tax rates substantially. Dhar (1996) found out that effective tax rates being much lower than nominal tax rates in India, companies with higher profitability ratios have lower effective tax rates. However, studies on effect of size on effective tax rates on Indian companies have not been empirically investigated. The present study is intended to act as a gapfiller in this area.

2. Objective and Scope of the Study :

This paper examines the relationship between firm size and corporate tax burdens covering a period of ten years from 1988-89 to 1997-98. Using accounting data drawn from Indian non-financial companies, the study estimates corporate tax burdens or ETRs for a sample of 350 companies.

It has been hypothesised that large firms in general will have lower effective tax rates. This hypothesis is based on the following premises. Large companies have the power to acquire more assets than smaller counterparts. Depreciation allowance under section 32 extends to 100% for some assets; this allows the large companies to avail of heavy doses of depreciation allowances by purchasing these assets. Before the assessment year 1990-91, companies could also avail the benefits of Investment Allowance under section 32A by investing in certain kind of fixed assets. Large business houses, by virtue of their command over huge financial resources have the ability to take over sick companies and set off the accumulated losses of these firms against their own profits by satisfying the conditions of section 72A. Besides, large companies can avail deductions for expenditures on scientific research (Sec 35), expenditure on acquisition of patents and copy rights (Sec 35A) in a bigger way than smaller companies by spending more money. Large companies can also diversify into new fields like telecommunications, infrastructure building, production of mineral oil, developing and building housing projects and reaping benefits

u/s 80 IA. Though it is also open to small companies to avail all these benefits, but the resources that they command do not allow them to reap substantial amount of tax gains through these schemes. This therefore leads us to hypothesise that smaller companies have higher ETRs.

The main objectives of this study is to explore the dependence of effective tax rates on company size and to find whether ETRs of large companies differ substantially from that of small companies.

3. Methodology

As mentioned before, the study is based on a random sample of 350 companies. The companies in the sample represent a wide variety of industries, viz., chemicals, dyes, pharmaceuticals, refineries, plastics, synthetic and woolen fibres, metals, alloys, metal products, structurals, tea plantations, jute and coal mining. In order to assess the sensitivity of the results to the choice of size proxy, two alternate proxies are used : **sales and total assets**. Average size of the companies has been found out by computing the average sales and the average total assets covering a period of ten years for each of these companies. Effective tax rates were calculated for each year for each company by using the following formula :

$$\text{ETR} = (\text{Tax provision for } i\text{th year} / \text{Profits before taxes for } i\text{th year}) \cdot 100$$

These ETRs were averaged for 10 years for each of the companies. Observations were classified by each year into size deciles. The use of a ten point categorisation was arbitrary. However, this was done for comparing the ETRs of the tenth decile companies with the companies in the other deciles. This would bring out the differences in the ETRs of the largest companies with the other companies. Observations were also classified on a six point categorisation and mean ETRs for these companies for ten years were computed . All data for the purpose of the study was taken from The Stock Exchange Official Directories.

4. Descriptive Statistics and Analysis

4.1 Preliminary evidences of ETRs

In the first stage of the analysis, the mean ETRs (10 year average) was calculated on the basis of six point categorisation of average total assets and sales. The objective of this analysis was to examine the evidence of any size effect on ETRs. The findings are reported below :

Table 4.1(a)

Average ETRs according to average total assets of the companies

Asscts (Rs '00 million)	0-20	20-40	40-60	60-80	80-100	100 & above
No. of Companies	96	72	69	42	34	37
Average ETRs of Companies	25.87	25.91	20.32	21.62	18.55	17.88

Table 4.1(b)

Average ETRs according to average sales of the companies

Sales (Rs '00 million)	0-20	20-40	40-60	60-80	80-100	100 & above
No. of Companies	84	68	62	51	42	43
Average ETRs	25.11	26.33	22.55	22.33	20.03	19.55

The ETRs reported in the above tables show that in general they are much lower than the rates prescribed in the tax statutes. The average ETRs computed according to the various asset classes show that large firms have lower rates than smaller firms. The same results are also seen when the firms have been classified according to average sales. Companies having assets and sales more than 10 billion rupees have average ETRs lower than 20% .

4.2 Test of Differences of Mean ETRs of Companies

In his stage of the analysis, three complementary approaches were used to examine the data for evidence of a size effect. The first was to test, using the 'Z' statistics, the significance of the differences of ETRs of tenth decile or largest firms and the ETRs of the rest of the sample. The second and the third approaches have been based on non-parametric tests, i.e., the Mann-Whitney U test and the Wald-Wolfowitz Runs test to test the differences of means between the aforesaid groups.

The hypotheses that were tested were as follows :
H0 : Mean ETRs of the 10th decile firms and other firms are equal.
H1 : Mean ETRs of the 10th decile firms are lower than that of other firms.
The results when total assets are taken as a size proxy is reported below:

Table 4.2(a)

Test of difference of mean ETRs of 10th decile companies and other companies (Size = Assets)

N1, N2	Year	10 th decile mean ETRs	Standard Deviation	Mean ETR Other com.	Standard Deviation	Difference of ETRs	Z Statistic
33,317	1988-89	21.23	16.52	26.41	21.26	5.18	1.66(c)
32,318	1989-90	20.16	18.53	27.22	32.55	7.06	1.88 (c)
35,315	1990-91	19.38	23.11	25.90	17.01	6.52	1.62 (d)
37,313	1991-92	18.50	24.24	22.55	25.31	4.05	1.01
37,313	1992-93	17.81	16.22	27.44	20.66	9.63	3.31(a)
36,314	1993-94	13.11	20.32	23.16	22.25	10.00	2.78(a)
37,313	1994-95	18.10	19.43	23.11	21.55	5.01	1.45(d)
38,312	1995-96	16.09	18.71	23.41	24.77	7.38	2.14(b)
38,312	1996-97	16.58	19.41	22.72	21.86	6.14	1.82 (c)
37,313	1997-98	15.97	18.44	22.12	26.57	6.15	1.82 (c)

(a) = Significant at 1%, (b) = Significant at 2.5%, (c) = Significant at 5%, (d) = Significant at 10%.

N1 = Number of firms in the tenth decile for the *i*th year , N2 = Number of firms in other deciles for other years.

The results show that in nine cases, there are significant differences in the mean ETRs of the two groups of companies, when total assets are taken as the size proxy. In two cases the differences are significant at 1% level. The results have been retested using non-parametric tests. Non-parametric tests usually waive assumptions like normal distributions of population, homoscedasticity, measurement of variables in interval scale, etc. For these tests data have been changed from scores to ranks and 'Z' values calculated by using appropriate methods. The results are reported below.

Table 4.2(b)

**Results of Mann-Whitney U Test (Z transformation) and
Wald -Wolfowitz Runs Test (Z transformation) when Total Assets
have been used as size proxies**

Year	Mann-Whitney Z values	Wald-Wolfowitz Z values
1988-89	1.482 (d)	1.772 (c)
1989-90	1.359 (d)	1.245
1990-91	1.109	0.985
1991-92	1.003	1.166
1992-93	2.034(b)	1.552(d)
1993-94	2.461(a)	2.341(a)
1994-95	1.837 (c)	1.985(b)
1995-96	1.459(d)	1.311(d)
1996-97	1.771(c)	1.260
1997-98	1.835(c)	1.794(c)

The results of the non-parametric tests confirm to a large extent the results obtained in table 4.2 (a). The results of the Mann-Whitney test show that in eight out of the ten cases, the difference in mean ETRs are significant. The results are slightly different in the Wald-Wolfowitz tests for the years 89-90 and 96-97. The differences in results obtained might be due to the fact that the power efficiency of the Wald-Wolfowitz test is about 75% (Smith 1953). However, these results can be relied upon considering the fact that for some population distributions, a non-parametric test is superior to a parametric test (Whitney 1948).

These tests have been repeated using sales as a size proxy. The objective is to test the variation in differences in results or sensitivity to size proxy. Pooling of firms according to their sales have been different from pooling of firms on the basis of their assets in their respective deciles. Therefore the number of firms that have been pooled on the basis of their average sales are higher for all years. The results are reported below.

Table 4.2(C)**Test of Differences of Means 10th Decile Companies and other Companies (Size = Sales)**

N1, N2	Year	Mean ETR 10 th decile	Standard Deviation	Mean ETR Others	Standard Deviation	Difference of Means	Z Values
45,305	88-89	22.52	26.35	25.91	28.11	3.39	0.81
48,302	89-90	21.53	20.25	27.31	31.32	5.78	1.66(c)
40,310	90-91	21.88	22.30	26.52	21.20	4.64	1.24
43,307	91-92	19.01	24.11	23.87	20.02	4.86	1.26
43,307	92-93	20.36	20.08	28.14	26.55	7.78	2.52(a)
46,304	93-94	19.26	18.09	23.05	22.60	3.34	1.12
42,308	94-95	22.07	29.80	24.06	25.82	1.99	0.413
46,304	95-96	20.12	16.21	25.92	20.55	5.8	2.23(b)
45,305	96-97	19.80	19.14	22.03	26.27	2.23	0.697
44,306	97-98	16.87	22.63	23.41	18.92	2.05	0.569

Table 4.2(d)**Results of Mann-Whitney U Test (Z transformation) and Wald-Wolfowitz Runs Test (Z transformation) based on Sales as Size Proxy**

Year	Mann-Whitney Z values	Wald-Wolfowitz Z values
88-89	1.14	0.89
89-90	1.30	1.05
90-91	0.97	0.63
91-92	0.71	0.83
92-93	2.21(b)	1.98(b)
93-94	0.64	0.53
94-95	0.81	0.59
95-96	1.86 (c)	1.34(d)
96-97	0.43	0.51
97-98	0.56	0.52

(a) = Significant at 1%, (b) at 2.5%, (c) at 5%, (d) at 10%.

The results in tables 4.2(c) and 4.2 (d) are not as responsive as those obtained when assets were taken as size proxies. In table 4.2(c) significant differences are noticed only in three out of the ten years tested. In the next table only four significant differences have been observed out of twenty test cases. These, therefore, point out that ETRs differ more widely among companies when classified on the basis of total assets rather than sales.

4.3 Test of Dependence of ETRs on Corporate Size-Regression Analysis

In this sub-section, dependence of ETRs on size (using both the size proxies) are tested using regression analysis. In the first case ETR is taken as the dependent variable and average assets as the independent variable. The regression equation is therefore —

$$\text{ETR} = \alpha + \beta_1 A + e \dots\dots\dots(i)$$

In the next case, ETR is taken as the dependent variable and sales as the independent variable —

$$\text{ETR} = \alpha + \beta_2 S + e \dots\dots\dots(ii)$$

The average total assets and sales have been computed together for all the 350 companies for each year. Regressions were run for all the years for both the size proxies. The results are given below.

Table 4.3 (a)
OLS results : ETRs on Total Assets for all years

Year	α	β_1 Assets	T values(8df)	R Square	F(1,8)
88-89	0.432	-0.539	-1.924(b)	0.541	6.311(b)
89-90	0.351	-0.487	-1.731(c)	0.353	4.364
90-91	0.091	0.231	1.216	0.136	0.864
91-92	0.594	-0.205	-1.315	0.143	1.334
92-93	0.853	-0.739	-2.441(b)	0.672	16.390(a)
93-94	0.779	-0.700	-2.108	0.614	12.725(a)
94-95	0.045	0.312	1.398	0.207	2.088
95-96	0.892	-0.473	-1.865	0.486	7.564(b)
96-97	0.735	-0.035	-1.577	0.178	1.732
97-98	0.459	-0.702	-1.903	0.399	5.311(b)

Table 4.3 (b)
OLS Results : ETRs on Sales for all the years

Year	α	β_2 Sales	T (8df)	R Square	F(1,8)
88-89	0.792	-0.018	-0.452	0.179	1.744
89-90	0.519	-0.423	-1.332	0.352	4.345
90-91	0.893	0.161	-0.598	0.116	1.049
91-92	0.736	0.101	-0.477	0.124	1.132
92-93	0.435	0.838	-1.924(b)	0.553	9.897(b)
93-94	0.836	-0.093	0.436	0.078	0.677
94-95	0.432	-0.205	-0.832	0.234	2.443
95-96	0.951	-0.566	-1.445 ©	0.512	8.093(b)
96-97	0.234	0.124	0.429	0.085	0.743
97-98	0.457	0.207	0.732	0.112	1.009

(a) = Significant at 1%, (b) = Significant at 5%, (c) = Significant at 10%.

The observations in table 4.3 (a) point out that R square is significant in five cases. In the year 92-93, the variation in assets could explain 67.2% of the variation in ETRs. However, in the year 97-98 when R square is significant, only 40% of the variation in ETR could be explained by variation in assets. It is also very interesting to note that the regression coefficients are significant in eight cases and have negative values. This points out that there is negative association between average ETRs and size of companies measured in terms of total assets. Negative association between ETRs and sales are also observed in table 4.3(b). However, Regression coefficients are significant only in two cases. R square is also found to be significant in two cases only.

The results therefore show that average ETRs are more sensitive to the size of companies measured in terms of assets rather than sales. The overall results show that there is some evidence of average ETRs being dependent on the size of companies. It can therefore be inferred that in many cases, companies having more assets have a tendency to have lower ETRs.

5. Conclusions and Policy Choices

Statistical evidences in the previous section have pointed out that in some cases, larger companies manage to keep their ETRs lower than that of smaller companies. As stated before, large companies have the financial resources to avail of various incentives and allowances. Despite economic liberalisation and regulatory reforms, tax codes remain as complex as ever. No systematic attempt has been made to assess whether the hyped about social benefits from various complicated exemptions and deductions really accrue to the economy. The objective of tax holiday schemes, depreciation allowance, etc. is to divert investment into productive and priority areas. However, when these incentives are related to the investment that companies make, there is the possibility to use more capital intensive technology to get more tax concessions. This can cause an imbalance of capital and labour and act against the concept of generating more employment .

It is therefore hoped that the differential progressive system of taxation and granting allowances to companies can be a remedial measure. Some policy measures that can be taken are :

- Keeping the tax rates of companies with assets over Rs. 1 billion at a higher rate than companies with assets less than Rs. 1 billion . A system quite similar to this i.e., having different tax rates for widely held and closely held companies were in vogue upto the assessment year 91-92. The modified differential tax rates can be reintroduced keeping assets as the base for differentiation.
- Introducing double rates of depreciation for the same block of assets for two classes of companies. This may be in the manner that companies having assets over Rs. 1 billion can avail only half the rate of depreciation allowed for other companies. This will prevent large companies from using depreciation as an extraordinary tax shield .
- Introducing surcharge at 10% or 15% rates for large companies and exempting the other companies from such surcharge.
- Reducing the periods of tax holiday schemes under section 80 1A to one-fourth for companies with assets over Rs. 1 billion.
- Reducing periods for set off of accumulated losses and depreciation allowance in cases of amalgamation under section

72A from eight years to four years for the large companies.

- Reducing rates of deduction under sections 35, 35A, 35 ABB, 35AC, 35D etc. to half of the original for Rs. 1 billion asset companies.

The above policy measures are only some examples that are cited above. Choices can be made from numerous provisions that exist in income tax to restrict large companies from foregoing the responsibility of paying taxes according to their abilities. The differential tax system as proposed, will no doubt introduce certain complications in the tax structure, but it is time to ponder whether simplification in all respects can be traded off for generating tax revenues according to the ability of the big brothers in the corporate sector.

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BUSINESS VALUATION — RELATED ISSUES

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The Backdrop

Right from 1950-51 and upto 1983 India had a straight jacket type of economy. The thaw began melting right from 1984 under the impact of globalisation — a process under which different countries of the world have done away with geographical barrier through the use of information technology, relaxation of tariffs and scrapping of other embargoes on the movement of capital and technology and could form a global village. India officially embraced the policy of liberalization through the pronouncement of new economic policy on July 24, 1991. Under the impact of the policy the whole economy is under a process of restructuring. The liberalization of the economy, the consequent emphasis on core competence, relaxation of tariffs and tax laws have led in the nineties to a spurt of amalgamation, merger and acquisition and selling out of a division or divisions on an unprecedented scale.¹ In support of this proposition, it may be stated that in the month of October, 1999 alone, total amount of merger and acquisition deal in India had been in the order of Rs. 600 crores.² It is also known that a mega merger is in the offing — State Bank of India agreeing in principle to merge its associate banks. In another significant development, Reliance Group has submitted a formal communique to the Government showing interest in having a strategic alliance either in the form of equity or management participation in Petroleum majors — Hindusthan Petroleum Corporation, Bharat Petroleum Corporataion, IBP and Engineering India.³

Whenever businesses are merged or a business is acquired by another one, or one goes to acquire controlling interest in another or sell out a division or divisions the question of business valuation comes to the forefront. It becomes necessary to place a proper value on the business so that the buyer and the seller both get a good deal. This goes a long-way in creating an environment of mutual trust which is an essential prerequisite

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to settle the negotiations for the sale or transfer of a business. The buyer should not be overcharged and the seller should not inadvertently sell at a low price, based upon an arbitrary valuation.⁴ In view of all these, a study of the issues that crop-up in the valuation of a business becomes an interesting exercise. The objective of the present paper is to do that based on the recent studies in India in this respect.⁵

Issues in Business Valuation :

- (i) The first point to note in any exercise on business valuation is that there is no single value of a business and value depends upon the purpose for which it is made. Take the case of a merger. In a merger, the valuer is concerned with the relative values of the shares of the two companies as his objective is to arrive at a fair ratio of exchange. But if it is a question of acquisition, the valuer's prime concerns become one of ascertaining the absolute value of the share as his objective is to arrive at a fair price at which the share could be bought or sold.

The question of valuation does not arise only for merger or acquisition of shares. There may be other causes as well. For instance, one may undertake business valuation exercise to find out how does it compare with the bench marked competitors to ascertain whether maximum utilization of resources at the possession of the business could be achieved, value being the index of the same. Similarly one may undertake business valuation through the independent valuation of different segments of the company to find out how does it compare with the market capitalization of the company.

- (ii) The second point to note is that the value of the business to the seller may be different from the value of the business to the buyer. In support of this proposition it has to be borne in mind that to a seller, the business value is the 'deprival value', that is, the capitalised value of the income from which he is deprived because of the sale of the business. But to the buyer of the business on the other hand, the value is the 'opportunity value', that is, the capitalized value of the additional income that will generate to the business as a result of business purchase.
- (iii) The third point which one has to take cognizance is the fact that value is related to the future expectations of profit. A buyer purchases a business not for the profit earned by the business in the past but for the profit to be generated in the future. Similarly, in case of sale of a business as already stated, the valuation is based on the 'deprival value' of income capitalized which is future oriented.

- (iv) The fourth point to note in the valuation process is that the value of an asset, in most of the cases, cannot be more than the capitalized value of the income that it can generate. In a going concern, assets sold off are replaced by the purchase of new assets. Since assets are purchased on different dates, there is a school of thought holding the view that in a going concern the aggregate of asset values acquired on different dates cannot be the value of a business. The value of the business, they argue, can only be the capitalized value of the income derived when these assets are collectively put to use in the business as a going concern.
- (v) The fifth point to note is that the value of an asset is determined by the degree of control the owner can exercise on the asset itself.⁶ The Companies Act, 1956, made provisions for exercising control of different nature by the shareholders on the basis of the percentage of shares held by them. Thus, if one holds 10 per cent of the controlling shares he can claim protection from the Court against the oppression of the minority. Similarly if any one holds more than 25 per cent of controlling shares he can block any special resolution. Further, if any one controls more than 50 per cent of the controlling shares of the company he can pass an ordinary resolution. And again holding of shares in excess of 75 per cent of the controlling shares enables one to pass a special resolution. It can very rightly be said that the premium attached to each of the above threshold limits cannot but be different.
- (vi) The sixth point to note is that value of an asset is related to a specific point of time and it can therefore be said that it changes with the lapse of time since value is derived in the context of an existing environment which includes economic conditions, state of the capital market, fiscal regulations and the like. Any change in them will have reflection in the value of an asset.

Once the different issues that cloud business valuation have been examined it will be logical to concentrate on the possible approaches for doing the same.

Valuation Approaches

There are many approaches to the business valuation . Of these different approaches the most popular ones are : ⁷

- A) The Income-Based Approach,
- B) The Market-Related Approach, and

C) The Underlying Asset-Based Approach.

(A) The Income-Based Approach of Valuation

Under the broad category of income-based approach there are again two different methods, viz., (a) capitalization of past earning method, and (b) the discounted cash flow method. If one follows capitalization of past earning method, a number of issues get involved. The first one of these issues is the 'maintainable profit' as the criterion.

Maintainable Profit

Under the capitalization of past earning method the key figure is 'maintainable profit'. The profit to be based for valuation must be maintainable in future also. To decide whether current profit could be maintained in future one has to understand the 'profit drivers'. The growth of profits may be due to growth in turnover. Else it may be due to increase in margins or reduction in costs of inputs or the growth in exports and so on. The import of these factors on the maintainability of the profit cannot be completed unless the sustainability of the factor is examined.

To illustrate the proposition it may be stated that in eighties and early nineties many companies showed significant growth in exports to USSR. But, as soon as the USSR collapsed following the policies of 'Glassnost' and 'Perestraika' of President Gorbachav these companies could not maintain their growth and the rate of growth declined. Similarly many companies earned near monopoly profit when Indian economy was controlled. But their profit significantly eroded when liberalization of the Indian economy started under the spell of globalisation from late eighties.

Secondly, to understand whether the profit is 'maintainable' in future or not, one has also to examine whether there is any exceptional item of income or expense or an item of income or expense which is non-recurring in nature. Instances on the point are profits or losses from the sale of assets or investments, expenditure on voluntary retirement schemes or the effects of strikes, involuntary shut downs, writing off an expenditure on Research and Development which hitherto had been capitalized etc. If any one of these items are there the same will have to be adjusted in order to find out the maintainable profit. Exceptional transactions would include prior period adjustments like additional provisions made for earlier years or excess provisions written back. When these are significant, it becomes necessary to dissect these adjustments and relate them back to the financial periods to which they pertain.⁸

Thirdly, in the process of estimating 'maintainable profit' one has also to examine whether there will be any change in the nature of the business which will effect the profitability of the firm which is being valued. In other words, whether any change in the line of production, production technology, fiscal policy in relation to the business under valuation is contemplated or whether the business has any immediate plan for amalgamation, merger or demerger.

Fourthly, one has to ascertain whether there is any non-arms length transaction, that is, special arrangements for transfer prices or the levy of a non-commercial rate of interest on financial transactions or a subsidized basis of recovery of expenses etc. which have impact on the profitability.

The fifth point in ascertaining the 'maintainable profit' is to examine whether there is any asset or liability in the business which is not an integral part of the business but has impact on the profitability of the company. An asset is not an integral part if it can be disposed off and if the asset has no impact on the earning capacity of the business.

The Span Period

The second issue to consider in the income-based approach for business valuation is what should be the span of the period, the profit of which is to be used as the basis for valuation. In this respect the first point to note is that there is no uniform rule for the selection of the period. The period to be selected depends upon the circumstances of each case. Nevertheless there are some general principles which are to be observed in the selection of the period and these principles are :

- (i) The period to be selected must be free from fluctuations, i.e., relatively stable.
- (ii) The period should be seasonably long enough so that earning trend or profit trend of the company can be well visualized .
- (iii) The period must cover at least one business cycle. This is specially true in case of plantation industries where one year's good crop is followed by one year's bad crop. Therefore, to understand income from plantation industries one has to take one cycle as a unit.

Capitalisation Rate

The third issue under the income-based approach is the selection of the rate at which income is to be capitalized . In other words, it means

what should be the rate at which income is to be capitalized. In selecting the appropriate rate a number of factors are to be considered and these factors are :

- (i) The rate should be selected with reference to the risk of the business. If the risk of the business is high, the capitalization rate should be high.
- (ii) The rate will have to be high if the income is not steady, that is, if it fluctuates. In other words, it means that the rate to be selected is closely associated with the volatility of income.
- (iii) The capitalization rate should be high if the company has high percentage of intangible assets than the tangible assets since the dominance of intangibles in the assets structure has an inbuilt risk in the business.
- (iv) Capitalization rate also depends upon the relative strength and weakness of the external and internal factors of a company. In other words, one may go for SWOT analysis in the selection of the capitalization rate.

Price/Earning Ratio

There is a debate whether one can use price/earning ratio as a rate for capitalization of income. In selecting capitalization rate, if Price/Earning ratio is used, it is to be used with caution since Price/Earning ratio depends not only on the performance of the company alone but also on the market segments. Again for selecting capitalization rate, Price/Earning ratio over a span of time has to be chosen and the Price/Earning ratio for the industry as a whole is to be used. The use of Price/Earning ratio for selecting 'capitalization rate' has another limitation in the sense that in the calculation of Price/Earning ratio, it is the reported income which is used. But reported income will be a weak-base since it may include income from exceptional items or non-recurring items.

Discounted Cash Flow Method

Discounted cash flow method is another alternative under the income-based approach for business valuation. Under this method it is assumed that the value of a business is the sum total of the present value of all future cash flows. The cash flow referred to here is the 'Free Cash Flow' for each financial period included in the discrete period. These cash flows are then discounted to their present value at an appropriate weighted average cost of capital. Once the cash flows are discounted these are aggregated. To this aggregation the discounted continuity value is added to arrive at

the enterprise value of the business. There are different approaches for the determination of continuity value. But broadly speaking they fall into two categories namely, convergence formulae which proceed on the assumption that after the discrete period, the discounted present value of future cash flows will be constant. The other one is in the category of value driver formulas which are built around the exercise of an anticipated rate of growth. From the value arrived at, the interest-bearing borrowing amount has to be deducted to arrive at the equity value of the business.

The 'Free Cash Flow' for the purpose means PBDIT (Profit before depreciation, interest and tax) as reduced by the adjusted tax, additional capital expenditure and changes in working capital. The adjusted tax is the estimated tax liability as incurred by the removal of the tax shelter provided by the interest charge.

Profit before Depreciation, Interest and Tax (PBDIT)

The 'free cash flow' as it has been stated in the present exercise is the PBDIT. But determination of PBDIT for the purpose of ascertaining 'Free Cash Flow' is again a problem. In estimating the PBDIT, possible changes in the line of production, technology, demand pattern, differentiation with competitors etc., are to be taken into consideration. The PBDIT ratio once ascertained is then compared with the past ratio or with the industry ratio to ascertain its reasonableness.

Weighted Average Cost of Capital

The PBDIT, once ascertained, as already stated, is discounted by the Weighted Average Cost of Capital. This weighted average cost of capital may be that of the business, being purchased or that of the buyer or the normative one. The choice in each would depend upon the purpose for which the valuation is made.

In the calculation of the weighted average cost of capital, while debt capital does not pose any problem, ascertainment of the cost of equity capital is yet debated. The most widely used model for the calculation of equity cost is :⁹

$$\text{Equity Cost} = r_f + [E(r_m) - r_f] \times \beta$$

Where,

r_f = risk free rate of return,

$E(r_m)$ = expected rate of return,

$E(r_m) - r_f$ = market risk premium,

β = beta.

Discounted Cash Flow method of business valuation is mostly influenced by the continuity value. How the continuity value is determined has already been discussed previously in this paper. The other point to be emphasized in this respect is that the discrete period to be chosen for ascertaining 'free cash flow' is to be long enough so that the risk of error in calculating the continuity value is the minimum one. In the selection of the discrete period there are a number of points to be taken care of. To put them in seriatim, these are :

- (i) The period should not be too short. A minimum of seven to ten years is generally considered necessary for the purpose .
- (ii) Secondly, the period should not extend beyond the date when the rate of return expected is not likely to equal or exceed weighted average cost of capital.
- (iii) Thirdly, when the industry is performing well, the period should not extend beyond the span this healthy state of affairs is likely to last.
- (iv) Fourthly, when the industry is not healthy, it must extend at least upto the period when rationalization will take place.
- (v) Finally, in case of cyclical business, the period must cover at least one full business cycle.

(B) The Market Related Approach of Valuation

Market related approach is another alternative approach for the valuation of business. The market related approach uses some important ratios for valuation purposes and these ratios are :

- a) Price/Earnings (P/E) Ratio,
- b) Price/Book Value Ratio (P/BV Ratio), and
- c) Price/Turnover (P/T) Ratio.

Another market related approach will be to identify actual sale transactions which have taken place and to bench mark these. Let it be noted here that none of the market related approaches is full-proof. The major problem is one of identifying a company which can be considered as comparable with the business whose valuation is being made as no two businesses are identical in all respects. A solution of the problem is to use a discount or premium for dissimilarity in respect of valuation made. Nev-

ertheless it cannot be put above-board since there is a lot of subjectivity in the selection of the appropriate rate of discount or premium.

(C) Underlying Asset Based Approach

This is the third alternative approach of business valuation. Under this method there are again three approaches, viz.

- (i) the liquidation value,
- (ii) the replacement value, and
- (iii) the net asset value.

Of these three, the net asset value is more popular and it is often used in conjunction with income based approach. It is based on the assumption that operating assets do not have a value different from the capitalized value of profits they can generate. Since underlying asset based approach is used in conjunction with the earning based method, depreciation on fixed assets and interest on capital deployed in the acquisition of fixed assets deserve special consideration.

Conclusion

Business valuation whether it is for merger or for acquisition or for sale or purchase is a complicated process. The different processes of accomplishing the same have been identified in the present paper. These different approaches are used not in isolation but in conjunction with one another subject to appropriate weightages depending upon the circumstances of each case. Whatever may be the method of valuation it cannot be said that the value arrived at has been totally objective. There will be an element of subjectivity of different degrees under each of the methods prescribed above. What is more interesting to note is that the value of a business arrived at by two valuers under the same set of conditions need not necessarily be identical. Subject to these limitations the valuation of a business may be logically approached on the basis of the methods discussed in the paper.

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THE NATURE AND ROLE OF THE STOCK MARKET

Sri Goutam Kumar Mitra*

I

Introduction

If America is considered to be the most prosperous country in the world, its semi-strong efficient stock market is conceived to be the main reason for it. In Britain, no time the Labour Party has belittled the importance of stock exchange to the society and the party has made no attempt to interface the workings of the stock exchange, when it was in power. In India, in recent time, approximately 300 million shares are transacted to fetch an astronomical trading volume of Rs. 15,000 crores a day.

Not only in America, Britain or India, a successful stock market is the *sine qua non* for any nation's prosperity. Across the globe, the amount of asset intermediation through stock market have exceeded the same by the banks in the recent time. The reasons what have made this shift from banking orientation towards stock market orientation, are : fair price discovery, enhanced liquidity and comparatively lower transaction cost. In order to have a clear understanding about the nature and role of the stock market, this article has been arranged in five sections. While the second section deals with the nature of the stock market, the major functions of the stock market are discussed in the third section. The fourth section examines the concept of efficient stock market, followed by the last section dealing with conclusion .

II

The Nature of the Stock Market

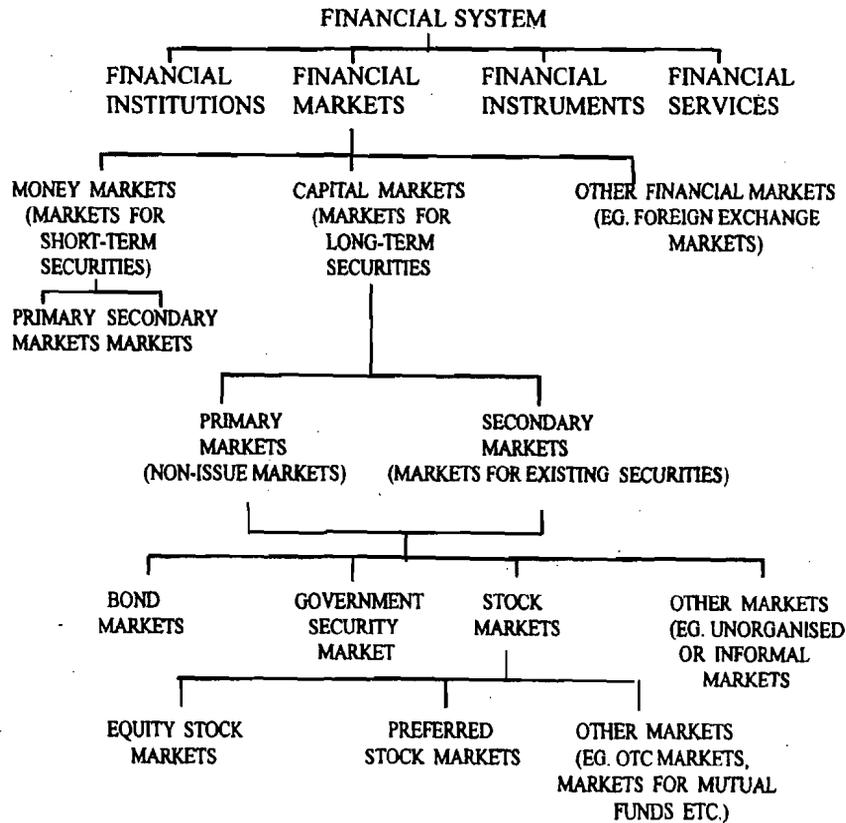
The stock market is the market in which the activities of buying and selling of stocks and shares take place. To most people, the stock market is the market provided by the stock exchanges. But truly speaking, the stock market is something more than just the marketplace provided by the stock exchanges. The business of stock exchanges consists of dealing in existing or secondary stocks and shares. In other words, stock exchanges provided a mechanism by which outstanding stocks and shares are traded. Since stock exchanges are concerned only with secondary stocks and shares,

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the marketplace that it provides is known as the secondary market. The stock market has another important segment which is known as primary market. It is the market where new shares and stocks are bought and sold. When a company issues new shares, it has to go to the primary market. It is the primary market which acts "as the conduit through which new capital or funds are acquired". But primary markets cannot function properly without the support of active secondary markets.

Stock markets are often equated with security markets. But stock markets and security markets are not identical; stock markets involve only stocks and shares while security markets handle besides stocks and shares several other categories of securities such as government securities, corporate bonds and other kinds of debt securities. Stock markets are, therefore, one segment of security markets. Stated differently, security markets embrace both stock markets and markets for other securities. A figure is presented below (Exhibit 1) in order to depict clearly the position that the stock market occupies in the financial system of a market economy.

EXHIBIT 1
THE STRUCTURE OF THE FINANCIAL SYSTEM



The figure presented above shows the major segments of which the financial system is composed. It does not offer detailed break downs of all the segments. The detailed break downs are provided only with respect to the segment known as the financial markets. Other segments could have also been broken down in a similar fashion, but this is not necessary in the context of the present study.

It is observed from the figure that the stock market belongs to the financial market segment of the financial system. Financial systems are developed in order to create and exchange financial assets. An efficient and effective financial system is essential for the healthy growth of the real sector of an economy. "The financial system and financial investment work together with real investment to improve the conditions of all participants in the economy".² Although the financial system has a number of components, it is the financial markets which are found to be most interesting and most important ; financial markets are intimately connected with all other markets in the economy. These markets offer a variety of advantages. The most important advantage that is offered by these markets relates to exchange of financial assets. It is through the exchange of financial assets, which is made possible because of the existence of the financial markets, that funds can be transferred from those who have a surplus to those who have opportunities to invest them profitably. Financial markets have also a very important role to play in the matter of shifting of risks. These markets provide mechanism by which risks are shifted from those undertaking investments to those providing funds for such investments. Another important advantage offered by financial markets is that these markets collect and aggregate information about return on financial assets. Two types of financial assets are traded in the financial markets : short term financial assets and long term financial assets. Short term financial assets are traded in the money markets, while long-term financial assets are traded in the capital markets. The stock market is a wing of the capital markets.

It has been mentioned earlier that the stock market has two major sub-divisions : the primary market and the secondary market. As the present study is basically concerned with the secondary stock market, we shall now shift our attention to this segment of the stock market. The secondary stock market is made up of the stock exchanges and the over-the-counter (OTC) market. Stock exchanges are centralised trading places for carrying out trades in existing stocks and shares. These are places where buyers and sellers get together, exchange information by making bids and offer, and execute trades³. The OTC stock market has no central trading place.

Less important shares are wholly traded on the OTC market.

The Characteristics of Equity Investment

In stock markets various types of outstanding securities are transacted. Among all these types of securities, equity shares and stocks constitute the principal element. The main reasons why investors are allured to make equity investment are higher return and easy transferability. However, apart from dividend earnings, capital appreciation over a long period of time is the greater attraction for the equity investment. Further, investors in equity shares assume the last place claim for the value of the company.

Theoretically, equity shareholders are the owners of the company. They are the real stakeholders. If the company starts earning profit, their return from the company becomes unlimited. Further, in such situation, company capitalize their reserve through issue of bonus share. Even, chance of investing in 'Right Share' arises as a big privilege to the investors, because market prices of such shares are often higher than right-issue price.

Along with the potentiality of high return, there remains a good deal of risk associated with the equity investment. In case of sustained loss of the company, in which investors have made their equity investment, the earnings may be stopped altogether even for several years. Apart from the loss of the company, there are several other factors which are responsible for equity-price fluctuations. Factors are controllable as well as non-controllable under various circumstances.

The phenomenal growth in international equity investing is fuelled by the two distinctive benefits inherent in the investment : (1) the reduction of market risk, and (2) the enhancement of return⁴. But investment in Equity have been mostly concentrated on some 1000 largely-capitalized, major international shares which are the constituent shares of S & P 500, Nikkei 225, FT-SE 100 and Eurotract 100 Indices⁵.

Organisation of Stock Exchanges

Stock exchanges are voluntary organisations formed by a group of individuals to provide an institutional setting in which stocks and shares can be traded. In most cases, stock exchanges are organised as non-profit institutions with a view to furthering the financial interests of their members. However, in some cases it may take the shape of a limited company or a company limited by guarantee or special category company. Trading on stock exchanges takes place based on the rules formulated by the concerned exchange. These rules prescribe : (i) the place on which trading can be done, (ii) the time at which trading may occur, (iii) facilities available on

the floor, and (iv) the way in which the trading activity is to be reported, etc.

Policy guidance of a stock exchange originates from (a) government or the chief stock market regulatory agency, (b) by-laws of the stock exchanges, and (c) decision of the governing board. Policies are administered through committees and are finally implemented by the executive director of the stock exchange. Members of these committees are appointed by the board of directors. However, the number and nature of the committees may vary from one stock exchange to another. Some of the sub-committees which are common to almost all stock exchanges are: (i) finance & investment, (ii) arbitration, (iii) listing, (iv) membership, and (v) disciplinary.

The board of directors of the stock exchange is made up of the elected member-brokers as per self-regulations of the stock exchanges, members nominated by the Central Government, public representatives nominated by the elected members and approved by the regulatory agency and the executive director as per terms of the self-regulations and nominated by the committee as well as approved by the regulatory agency. Both the president and the executive director have to work in close co-ordination so that the regulatory agency's guidelines and board's policy decisions are implemented with least friction and utmost precision. The most important function of the management is regulation of trading. Investor-services, inspection and audit, performance budgeting, listing etc. are the other usual departments of the stock exchange. Investor service-cell attends complaints against member-brokers and their authorised clerks and listed companies. There is also a customer-protection fund with all stock exchanges, the purpose of which is to reimburse the client for the losses incurred due to defaults of the members. The cell sends clients' complaints to the listed companies and requests for early compliance. The matter sometimes goes for arbitration to the arbitrator's committee of the exchange. When the amount of money involved is fairly large, exchange-management sometimes buy share scrips by auction and take responsibility to deliver it to the individual client in case of default by member-broker. In this connection it is noted that all the stock exchanges are subject to statutory audit.

Imposing various margins in case of carry-forward transactions and price-band-fixation in case of high volatility in price of any scrip with the help of circuit breakers are also included in the list of functions of the stock exchanges.

Around the world professionalisation of stock, broking has been

attempted through introduction of education and training by major stock exchanges. Even investors' education has been initiated by the exchanges as a part of management functions. However, despite common purposes, stock market practices vary widely from country to country.

Listing of Shares

Listing of shares is the process by which the shares issued by joint stock companies and all issues of securities inviting subscription from the public, individual or institutional investors are admitted to dealings on the stock exchanges ⁶.

Listing of securities is necessary to ensure free marketability and transferability of securities. Listed securities can be readily purchased and sold at a fair price determined by the market forces. Listing of shares with stock exchanges confers valuable benefits to the company, the investors and the public at large. On the other hand, listed companies are required to comply with more formalities, subject themselves to the various regulatory measures of the stock exchanges and the external regulatory agency and furnish a number of vital information, returns, statements, etc. to the stock exchanges. Besides, listed companies are required to go through more and stricter formalities with regard to public issues, annual general meeting, annual reports, etc.

However, listing of share is not compulsory so long as no public offer is made⁷. On the other hand, if the issue amount exceeds certain limit, the company has to make arrangements for listing on one or more stock exchanges besides the regional stock exchanges. However, Central Government may direct any company to get its shares listed by complying with the prescribed requirements and regulations.

Listing requirements vary from exchange to exchange. The initial listing requirements for the New York Stock Exchange are enumerated in Exhibit 2 below :

Exhibit 2

Initial Listing Requirements for the New York Stock Exchange⁸

1. Current annual earning (pre-tax) of \$ 2.5 million .
2. Earning in the preceding two years of \$ 2 million.
3. Net tangible assets of \$ 18 million.
4. Market value of outstanding shares of \$ 18 million.
5. 1.1 million shares held publicly.
6. At least 2000 shareholders owning 100 shares or more each, or 2200 shareholders together with an average monthly

trade of 100000 shares.

Trading Procedure

Only a member-broker or his authorised representative can execute trading within the trading hall at the specified time. The relationship between the client and the member is just like agent and the principal. The member-broker acts as a custodian and handles the shares and securities of his clients.

Brokers in most of the cases refuse to execute small volume of orders of the individual investors. Sub-brokers usually procure these kinds of orders but they have to depend either on brokers or their authorised representatives to enter the trading hall .

Immediately on execution of the order, brokers are supposed to issue 'contract note' to their clients. It is also the duty of the client investor to collect 'contract note' in time, which is the legal document and the best evidence of the transaction⁹. Within the stipulated time, the client should either pay the price or collect the share certificate along with transfer deed or he will give share certificate along with transfer deed and collect the sale price. In case of a buy transaction, the client-investor may send the share certificate for transfer or he can sell it blank.

Brokers charge a fixed commission (e.g., brokerage) fixed by the concerned stock exchange. This open out-cry system is almost outdated now-a-days . Now-a-days orders are matched through computers.

At present, the trading procedure is divided into (i) order driven, and (ii) quote driven. The system explained above is order driven. However, in some stock exchanges (e.g., NSE and OTCEI in India) quote driven system is also followed. In this system, customer is given the prevailing buy and sale price, which are constantly appearing in the broker's computer. Only after knowing the prevailing price, customer may decide to go for a buy or sale transaction.

In the cases of default by a member-broker, stock exchange may take the responsibility upon receiving complaints from the investors, provided it has been evidenced that the alleged broker has failed to meet up his obligation. In that case exchange meets up the obligation and debits the broker's account lying with them.

A stock market may be a continuous market. This is a market in which stocks are available for trading throughout the trading season. The

US stock market is a continuous market. There are other markets where different systems are followed. For example, in some continental European markets (e.g., Zurich and Frankfurt) a system of trading is followed under which each security is called for trading at a specific time and the security can be traded only at that time. This is known as the call market. For active stocks, several calls per day may be used for each trading day.

The globalisation of the financial markets is taking place at a very rapid pace. Stocks and shares of more and more multinational companies (MNCs) are being listed and traded in markets throughout the world. As trading spreads across the world, it moves towards a 24-hour active trading system¹⁰. Further, to handle the growing volume of worldwide 24-hour trading, automation is bound to continue. The present concept of trading floor with open out-cry system will gradually be diminished. Trading in many world markets have moved away from exchange floors in recent years. In London, Paris and Toronto, traders are matched by computers and no face to face agreement is allowed within the exchange. After the Big Bang, the London Stock Exchange (LSE) tried to keep the floor open, but its trading volume has been vanished, overnight¹¹.

Stock Market Indices

Stock market conditions are usually judged by the movement of share price indices. The stock market index is designed to summarise trading results. In most of the cases, it is prepared by the stock exchanges. In some cases, it is also prepared by other agencies. Computation of stock market indices is based on following two assumptions :

- (a) Stocks of relatively few companies constitute a large proportion of total stock value of all companies; and
- (b) There is a tendency for all stocks to move together.

Thus we get an idea about the overall market trend from the price movement of those representative scrips. Such scrips should be identified and the movement in prices of those scrips is to be embraced in a single number. H.I. Charles, the editor of the Wall Street Journal, conducted a great deal of experiment and arrived at the conclusion that small select group of scrips could indicate the direction of the market. In 1884, Dow Jones Industrial Average was formulated for the first time with just 11 stocks. After a few trials and errors with 15 and 20 scrips, the present sample size of 30 stocks has evolved as correct sampling unit.

The Standard and Poor's (S & P) index consists of 500 stocks drawn from various industries. It is a broad based index in which it accounts for

more than 80% of the market value of all stocks listed on the New York Stock Exchange (NYSE). Each stock in the index is weighted according to the market value of its outstanding shares. S & P index is computed as follows¹²:

$$\text{S \& P Index} = \frac{\sum N_i P_i}{\text{O.V.}}$$

N_i = number of shares outstanding for company i

P_i = price of shares for company i

O.V. = original value of 1941-43 .

Almost all leading stock exchanges have stock market indices. Exhibit 3 describes the indices on some non-U.S. exchanges. These have received increasing attention in recent years and are likely to become more important. The Financial Times Stock Exchange (FTSE) - index from London and Nikkei-225 from Tokyo are reported daily in the Wall Street Journal.

Exhibit 3
Stock Market Indices for Some Non-U.S. Exchanges¹³

Country	Principal Exchange	Market Index
Great Britain	London Stock Exchange	FTSE 100 (Financial Times Stock Exchange)- 100 Stocks
Japan	Tokyo Stock Exchange	Nikkei Stock Average -225 Stocks
France	Paris	CAC (Compagnie des Agents de Change) -249 Stocks
Hong Kong	Hong Kong	Hong Kong Index -33 Stocks
Canada	Toronto	TSE 300 Composite Index (Toronto Stock Exchange) - 300 Stocks
India	Bombay Stock Exchange and National Stock Exchange	BSE - 30 NSE - 50 (Nifty)

True, that the volatility in the stock market is best reflected in its index movement. But the index movements of the different stock exchanges of the world do not signify the same degree of volatility. With the Dow having values of about 3000, a jump of 50 points still attracts considerable attention . By contrast, the Nikkei index has values in the 25,000 range. Accordingly, movement of 300-500 points may not be considered unusual for Nikkei.

Attributes of a Good Stock Market

Any good stock market has three common attributes : depth, breadth and resilience. When sufficient number of buy and sell order exists both above and below the market price of a security, it is a deep market. Otherwise it is a shallow market. All the market participants must have a good, fast and inexpensive communication system with each other so that they can locate and quickly act upon all bids and asked prices. Fragmented and isolated markets lack depth, because some bid and asked prices may go rediscounted for significant intervals of time. On the other hand a geographically dispersed market also can enjoy continuously central reporting system through computer hook-ups and could be a deep market.

A stock market is said to be broad if bid and asked orders exist in substantial volume. Market that operates with few buyers and sellers at any given moment and generates only a moderate volume is called a thin market.

The third valuable attribute that an effective stock market must possess is resilience . When there arises a mismatch between buy and sell orders, an appropriate price change is a must to restore the proper order balance. If the market gets sufficient new orders that emerge immediately after the price change, we call it a resilient market. A resilient market is expected to have smaller bid-asked spreads and the fast and inexpensive communication network.

A good stock market allocates capital when and where able business enterprises need it and reward the investors who provide the needed capital with adequate return. In contrast, incompetent business managers and investors are disciplined by failures in stock price in an efficient market because the price of securities in a badly managed firm will fall due to lack of demand. To elaborate, following symptoms are generally found in an efficient stock market : (i) frequency of sales, (ii) many buyers and sellers, (iii) freedom of entry and exit, (iv) unlimited supply of stocks and shares, (v) perfect knowledge, (vi) minimum transaction cost, (vii) narrow spread

between bids and asked price, (viii) prompt execution of share transfer and other related formalities, and (ix) minimum price fluctuation. Most of the major stock exchanges of the world meet these criteria¹⁴.

III

Role of Stock Markets : Efficient Allocation of Resources

Capital is the engine of economic development. An easy access to capital at market prices is required to achieve rapid economic progress. On the other hand, capital starvation retards economic growth. The process of capital formation involves three essential steps :

- i) An increase in the volume of real savings so that resources can be released for investment purposes;
- ii) The channelising of savings through a finance or credit mechanism, so that investible funds can be collected from a wide range of different sources and claimed by investors; and
- iii) The act of investment itself by which resources are used for increasing the capital stock¹⁵.

Efficient and effective stock markets are critical for the generation of the requisite capital for economic growth. The existence of a competitive stock market permits the price of capital to be maintained by the market forces of demand and supply at a realistic level. This price reflects the return expectations of investors. Had there been no secondary market, investors might refuse to buy new issues at the primary market or demand a substantially high rate of return. By giving investors the option of selling their securities, a well-functioning secondary market lowers the cost of capital for the issuers¹⁶.

Mechanism for Ensuring Liquidity

The establishment of stock market is critical particularly for those developing countries that are moving towards market-based economy. According to an International Finance Corporation (IFC) document¹⁷ "a move to a market-based economy must involve the financial sector at an early stage." It is further mentioned in the document that "competitive financial markets transmit efficiency to the real sectors of the economy." In this respect it is pointed out by Sedaghat et.al. (1994)¹⁸ that :

The fundamental reason behind the necessity of a viable stock market is that it allows the price of capital to be determined by market forces and at a realistic level i.e., on the basis of the return expectations of investors. This, in turn, would allow capital thus generated to be used more efficiently.

The study also revealed that there is a potential and significant correlation between GDPs of developing countries and stock market activities.

Measuring the Efficiency of the Economy

Stock market serves as a barometer of a national economy. By ensuring price continuation stock markets serve as a *weather-cock* of the economic climate of a country, which constantly registers the effect of various factors, both internal and external. Even a country where industries are nationalised, would require some kind of securities market at least under government supervision because we cannot perceive of a single nation in the world where no private ownership except personal possession is allowed and all government revenue is obtained by taxation¹⁹. It is no surprise that Boris Yeltsin and heads of the independent states of newly formed commonwealth find stock exchange a *sine-qua-non* for self-sustaining, self-regulating and self-correcting free economic activity. Attacks on these institutions, either by Marxists or by anybody else are no better than shadow fighting²⁰. In Britain, no time the Labour Party has belittled the importance of stock exchange to the society and that no attempt was made by it, to interface with its working, when it was in power²¹.

A stock market is indispensable not only in capitalist system of economy, but also in any economic system in which shares of ownership, and evidence of indebtedness are bought and sold. During 1985 to 1996, there had been a tremendous growth in the stock market activities, not only in the developed markets but also in emerging markets, as depicted in Exhibit 4²².

Ready Marketability

In micro-economic perspective also, stock market plays a very important role. Had there been no means for the investors for conversion of their investment into cash, at any desired time, no investor would have invested their savings into securities at all. At the same time, if business was to return the capital it had obtained from the investor, no business would have existed at all. By providing a market where buyers and sellers can exchange their shares at a fair price, determined by the free play of the forces of demand and supply, the stock exchanges enable the holders of securities to sell them off as and when they wish to do so. For successful functioning of industries, which have come into being since the industrial transition of 1850s, the stock exchanges have been rendering invaluable services.

Exhibit 4
Stock Market Growth in Selected IFC Index Countries, 1985-96

Country	Stock Market Capitalisation (billions of dollars)		Stock Market Capitalisation (Percentage of GDP)		Trading Value (billions of dollars)		Trading Value (Percentage of Market Capitalisation)	
	1995	1996	1995	1996	1995	1996	1995	1996
<u>Emerging Markets</u>								
Brazil	42.8	217	19.2	30.9	21.5	112.1	50.2	51.7
India	14.4	122.6	6.9	36.2	5.9	26.6	34.5	21.7
Korea	7.4	138.8	7.8	28.9	4.2	177.3	56.4	127.7
Mexico	3.8	106.5	2.1	37.6	2.4	43.0	61.9	40.4
Pakistan	1.4	10.6	4.4	17.6	0.2	6.1	17.2	56.9
Total	69.8	595.5	40.4	151.2	34.2	365.1	220.2	298.4
<u>Developed Markets</u>								
France	79.0	585.9	15.1	37.6	14.7	858.9	18.6	146.6
Germany	183.8	664.8	29.7	27.9	71.6	1405.4	38.9	211.4
Japan	978.7	3019.7	72.9	65.1	330.0	933.1	33.7	30.9
United Kingdom	328.0	1711.2	70.8	151.5	68.4	1319.4	20.9	77.1
United States	2324.6	8478.0	55.6	111.8	997.2	7265.6	42.9	85.7
Total	3894.1	14459.7	54.6	83.6	1481.8	11782.4	38.1	81.5

NOTES : END OF YEAR STOCK MARKET CAPITALISATION FIGURES ARE USED.
JAPAN INCLUDES ONLY THE TOKYO STOCK EXCHANGE.

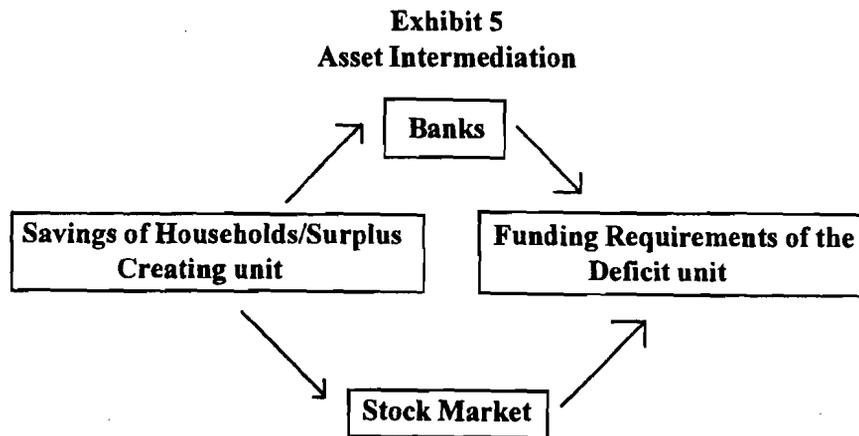
SOURCE : IFC EMERGING MARKETS DATA BASE : DATA FROM INTERNATIONAL FEDERATION OF STOCK EXCHANGES (FIBV).

Transborder Financing

Stock exchanges of a developing country contribute to their national economy by linking it up with the markets of developed countries and gain a lot from the inflow of capital in the form of portfolio investment. But, besides these, a strong domestic stock market creates the basis for internationally competitive firms to raise capital in the international stock markets through listing and cross-listing. In other words, stock exchanges can be a means by which an economy is open to competitive pressures, which must raise efficiency. A company, which presents itself to investors of New York, London or Tokyo and competing for capital there, must be an excellent performer to win their confidence. Thus stock market performs a vital role in integrating the world's financial markets and raising competition, which ultimately leads to efficiency.

Asset Intermediation

Stock market is not the only mechanism for asset intermediation. This role is performed by the banks as well. A comparative analysis is made in order to see whether stock market has got any edge in this respect over banks. Exhibit 5 helps us to understand this process of asset intermediation in a better way²³.



One of the major changes that have taken place in the market-directed economy during last decade is the rise of stock markets as an alternative mechanism for resource allocation.

At the fundamental level, banks and stock markets compete in two dimensions : (a) to maximise the quality of their information processing, and (b) to minimise the transaction cost that they impose upon households.

But in case of banks or Government dominated traditional investment avenues there is a possibility that the requirements of the deficit units could be determined under political consideration. On the other hand, in the stock market system of asset intermediation, only the most deserving units attract the savings potential of the common investors over a long period of time.

Stock markets are said to be efficient when market prices impound a great deal of information and analysis about the future return on various securities. Market efficiency also ensures that projects of deficit units get allocated funds based on their true risk-return trade-off. As a side effect, market efficiency ensures that uninformed investors who buy securities obtain fair risk-return trade-offs because the market price reflects the true valuation of the security. In the case of stock markets, a remarkable feature is that market efficiency (or the quality of analysis that has gone into forming a system of prices) is a public information.²⁴ The uninformed investors who passively use markets do not pay for the research costs that go into forming the prices.

On the other hand, stock market imposes transaction cost upon the investors. These are made up of four components : (i) at the broker interface (brokerage fees), (ii) at the market (market impact cost), (iii) at clearing (counter party risk), and (iv) at settlement (paper work and fraud)²⁵ . These are briefly explained as follows :

Brokerage fees are commission, which is paid by investors to brokers who execute orders on their behalf . Market impact cost is the percentage marks up faced, when trading price on the stock market is compared within an ideal price. Normally, the buy price on stock market is always higher than the sale price. This difference is known as spread. Stock market impact cost²⁶ varies positively with the transaction size . On completion of the negotiation of a transaction if one party is declared to be insolvent the other party suffers. Counter party risk at the level of one market participant may lead to a situation of *cascading defaults*²⁷ i.e., counter party risk at the level of the entire market. And finally, transaction cost involves back offices i.e., paper works relating to settlement, stamp duty, etc. It involves risk to the buyer of getting stolen and forged certificates.

During the last few years both banks and stock markets have experienced on information processing and transaction cost and their relative qualities have also been changed. Information processing of stock markets works fairly better than banks and attempts by the governments to influence stock markets are intrinsically more limited in contrast to the banking sector.²⁸

Pricing Mechanism for Securities

The major socio-economic role of a stock exchange is the valuation of securities. The 'proper' valuation of securities is important as it provides signals for the allocation of scarce capital resources. Thus investible funds are channelled towards those companies which can use them most profitably and usefully. If the market is not well run and securities are incorrectly priced, then many individual will stop investing and this will seriously reduce the availability of funds for the growing companies. If stock exchange significantly fails in its pricing of shares and if the running of the share exchange mechanism is poor, then the market becomes very speculative, which eventually leads to a more controlled economy, i.e., government taking over the function of the stock exchange.

Miscellaneous Roles

Although the stock market is usually regarded as a mechanism for providing long-term finance for the industries, indirectly it provides a mechanism for short-term finance also. Bankers grant loans against listed securities. It also serves as a good hedging instrument against inflation besides providing rights of getting capital appreciation through right and bonus issues. The stock market also plays a very important role in the sphere of creation of employment opportunities²⁹.

Although the stock market is basically concerned with secondary securities, it has also a very significant role to play in creating conditions conducive to the success of fresh issues. The success or failure of a new issue depends upon the stock market's assessment of the firm. Although the reaction of the stock market for new issues or right issues tends to move in cycles, there exist significant differences in the reaction to individual issues. At the same point of time, where one firm finds it easy to procure finance, others are finding it almost impossible.

Apart from the direct influence, there is indirect influence too. If a company has performed badly and if the immediate prospects appear to be poor, the firm will certainly be showing poor share price performance in the market and may attract takeover interest.

For share prices to be correctly determined, we need a perfect market, the major requirements of which are : (i) homogeneity of the goods, (ii) many buyers and sellers, (iii) freedom of entry and exit, (iv) unlimited supplies of stocks and shares, and (v) perfect knowledge³⁰.

The major stock exchanges of the world have broadly met the first

four requirements such that they impose no serious constraints on the functioning of the stock market. But the fifth condition, perfect knowledge, requires that all knowledge relating to the value of a company is known and this knowledge is accurately reflected in share prices.

IV

The Concept of Efficient Stock Market

The concept of efficient stock market has received a great deal of attention in the financial market literature during the recent years. *Efficiency* in the context of stock market means informational efficiency. It does not mean operational or organisational efficiency. According to the concept, an efficient stock market is one which efficiently uses all of a specified set of information in pricing securities. The reaction of the market is instantaneous. This means that as soon as a piece of information is available to the market, it is immediately impounded into security prices. The idea that the market uses information efficiently in setting prices of securities has come to be known as the efficient market hypothesis (EMH). The EMH is applicable not only to the stock market but also to other segments of the financial markets.

The modern literature concerning the EMH owes its origin to an article published by Samuelson in 1965³¹. The idea propounded by Samuelson was further extended by Fama. In fact, it is the Fama's survey work conducted in 1970³² which initiated the beginning of the modern literature on the EMH. Although Fama's work was basically an empirical work, it also provided some useful theoretical discussions. The matter was again taken up by him in 1991³³. One of the important implications of the EMH is that an investor should not be able to make any profit on a specified set of information, which is already available in the market. This happens so because by the time the buyer or seller of a security is ready to take an action, price adjustments have already taken place.

In an efficient stock market, prices of stocks represent fundamentals. It should, however, be noted that, as pointed out by Keane³⁴, market efficiency does not imply that individual securities will consistently earn their expected return, or that the investment performances of investors will always be the same.

The importance of the EMH is explained by Keane³⁵ thus :

The creation of wealth depends on the optimal allocation of investment capital and it is through securities market that this allocation is most likely to be achieved. If security prices can be relied upon to reflect the economic

signals which the market receives, then they can also be looked to in turn to provide useful signals to both suppliers and users of capital, the former for the purposes of constructing their investment portfolios and the latter for establishing criteria for the efficient disposition of the funds at their disposal.

If the market is not efficient in its use of information, both buyers and sellers will try to exploit the situation by developing strategies according to their own individual perceptions. Some will benefit and some will lose. The optimum allocation of capital will, as a result, be affected.

Three types of informational efficiency of the stock market have been distinguished in the literature. These are weak-form efficiency, semi-strong form efficiency and strong form efficiency. The distinction is based on specification of the information-set. In the weak-form efficiency, the market impounds the current and past history into security prices. If the market is efficient in the weak sense, the information contained in the past history of security prices cannot be used to beat the market, because this information is already reflected in the current prices of securities. In the market which is weak-form efficient, security prices exhibit a random walk³⁶.

A market is efficient in semi-strong form if it impounds all of the publicly available information into security prices. Publicly available information includes information contained in published annual accounts, press releases and articles and news published in newspapers and magazines. To become efficient in semi-strong sense, the market must at first become efficient in weak sense. If the stock market is efficient in semi-strong sense, it is not possible to develop any trading strategy based on the information which is in the public domain. Privately held information can, of course, be used by traders operating in a market which is semi-strong-form efficient to develop trading strategies. But if the market is strong-form efficient, in that case this opportunity will not be available. The market, which is efficient in strong sense, uses all the available information, including insider information.

The EMH has been extensively tested by financial market researchers. But these tests have until recently been based mostly on the US and the UK data. In recent years the tests have been extended to emerging markets. The tests so far conducted, confirm, by and large, that the markets are efficient in the weak sense but with regard to the semi-strong form of efficiency, they have shown mixed results. Some studies provide findings

which are supportive of the hypothesis, while there are others the findings of which suggest exceptions. So far as the strong form of the EMH is concerned, there is virtually no supporting evidence. In fact, this form of market efficiency is very difficult to test. Pratten (1993)³⁷ offers an explanation as to why the fact should be so. According to him, the strong form of the EMH "is not susceptible to testing because there is no way of knowing the information available to all the participants in the market including, for example the directors of companies and others who have inside information, and they use this information as investor."

V

Conclusion

Among all the astonishing transformations on the global stage to which the last decade has borne witness, perhaps none is so remarkable, as the emergence of stock markets once considered too limited or obscure to attract the attention of serious investors. As the world equity market becomes further globalised in the 1990s, the ever increasing outflow of investment into international equity market continues at a greater volume. Because of the low correlations between the emerging and established equity markets, the further diversification of a global portfolio by including the emerging markets will enhance the effectiveness of risk reduction. In view of the above, the urgency of an efficient stock market has been understood by each single nation.

In the context of the emerging stock market it is true that the significant proportion of dealings is speculative in nature³⁸. The same has been observed not only by the critics with first hand knowledge about the market, but also by the progressive citizens of the society, including one of the respected economists of the world bank³⁹. But in spite of this observation, the fact cannot be denied that a successful stock market is the most essential pre-requisite for a nation's economic prosperity. This reality may not be apparent in the short run but becomes imperative in the long term perspective. Because stock market is the ultimate court of high finance before which all important propositions for large enterprises throughout the country, must come cap in hand⁴⁰.

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FACTORING SERVICE : AN ASPECT OF CREDIT MANAGEMENT

Hare Ram Hazra*

Preamble

The process of economic reforms and deregulation was set in motion in mid-eighties by the then Government and its pace has been accelerated in 1991 in order to tide over the precarious conditions of Indian economy. This process of economic reforms has resulted in impressive growth of the financial service industry with a number of innovative financial products and services such as mutual funds, credit rating, venture capital, factoring, leasing, merchant banking, commercial papers, etc. A number of financial services institutions have also emerged in India specially to cope up with the funding requirements of the process of liberalisation of economic reforms . Factoring is one of such prominent financial services.

Meaning & Concept

The term 'factor' has been derived from the Latin word 'facere' signifying to make or do or to get things done. In the early days factors were concerned with marketing and distribution as well as administration and financing of credits. But the modern concept of factor has discarded the marketing and distribution function and concentrates only with credit collection activities. The dictionary meaning of factoring is "the work of a factor", i.e., the business of purchasing book debts or lending money on the security of these trade debts. Factoring is an instrument of managing, financing and collecting receivables of business and by this mechanism a passive asset (i.e. book debts) can be easily converted into an active agent (viz. cash). It is a continuing service arrangement under which financial institutions undertake the task of recording, collecting, controlling and protecting the book debts on behalf of its clients including the purchase of bills receivables. If required, these factoring agencies also perform several other functions such as maintenance of sales ledgers, debtors ledgers, collection schedules, discount allowed schedule and ascertainment of balances due, etc. Thus we can define the term 'factoring' as a contract under

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which the factor is to render at least two of the services (i.e., the provision for finance, the maintenance of accounts, the collection of receivable and providing safeguards against risks) and the client is required to assign to the factor receivables, arising from business transactions, by way of sale of security.

Origin or Emergence in India

Originally factoring was started in North America in the textile industry and gradually it spread to many other countries in the world. Having observed the success of factoring in the Western and European countries, the Reserve Bank of India appointed a sub-committee to find out the feasibility of introducing factoring services as a specialised agency to be entrusted with the task of credit management on behalf of the suppliers.

In 1987, Mr. N. Vaghul has recommended for introduction of factoring services in India. Another committee was set up under the Chairmanship of C.S. Kalyana Sundaram, former Managing Director of SBI, by the RBI to explore the possibility of starting factoring institutions in India. This committee had also recommended for starting of factoring services in the country and accordingly subsidiaries of four banks - State Bank of India, Canara Bank, Punjab National Bank & Allahabad Bank - have been formed to provide factoring services in India for the first time. A new subsidiary company named "SBI Factors and Commercial Services Pvt. Ltd." was set up on the 26th February, 1991, by State Bank of India in collaboration with Small Industries Development Bank of India (SIDBI), Union Bank of India & State Bank of Sourashtra (SBS). The area of operation of this company was initially confined in the Western India but this restriction has been removed later on. The company commenced its operation on 18th April, 1991 confining it to domestic factoring which it has well established over the last two years.

Salient Features

Factoring involves protection against bad debt in the case of non-recourse facility, guaranteed cash flow, sales ledger administration and credit management and financial accommodation against the assigned book debts. An agreement is entered into between the factors and supplier for the assignment of factoring services by the latter. But before entering into such a contract a factor generally considers certain elements in the suppliers' business e.g., quality of product or service, internal control in vogue, efficiency of management, defined terms of selling, assignable debtors, minimal contra accounts, etc. A factor generally selects the accounts to be purchased by him and it need not purchase the entire book debts or

receivables of the client. After taking up the task of factoring the factor provides intimation to the customers that they should make payment to the factor instead of the supplier . Consequently the factor makes payment to the client either on the day of collecting the account or at the end of the collection period, whichever is earlier. In certain factoring arrangements approximately 70% to 80% of debtors receivables are immediately paid by the factors as advance payment to the client as soon as debtors are assigned. The factoring agreement also provides for a certain percentage of the face value of the receivables purchased as factor reserve as a protection against sales return and cash discounts. This reserve is much vital where the factor provides advance against uncollected and non-due account and after collection of dues of the customer the reserve amount is returned to client or firm.

Guidelines For Factoring

Under the existing statutory framework the banking companies are entitled to carry on factoring business either by setting up subsidiaries or in companies floated jointly by several banks. For the governance of the conduct of such business the Reserve Bank of India has issued the following guidelines in the interest of the public as well as banking policy.

- (i) For the present, banks shall not undertake the business of factoring directly. But they may invest in the shares of factoring companies within the specified limits, subject to RBI's prior approval and they shall not act as promoters of such factoring companies. Subject to the prior approval of the RBI, banks may establish separate subsidiaries or invest in factoring companies jointly . Banks intending to do so should apply to the Chief Officer, Department of Banking Operation and Development, Reserve Bank of India, Central Office, Bombay, in the prescribed form.
- (ii) A subsidiary or joint venture factoring company may undertake factoring business and such other activities as are incidental thereto but should not engage themselves in financing of other companies or concerns engaged in factoring.
- (iii) Total investment of a bank in the shares of factoring companies and its subsidiary carrying on factoring business shall not exceed 10 percent of the paid up capital and reserve of the bank.
- (iv) The joint venture factoring companies shall require prior approval of the RBI.

(v) Banks setting up subsidiaries or investing in joint venture factoring companies for carrying on factoring business should furnish such information in such form and at such time as the Reserve Bank of India may require from time to time.

Classification and types

In order to meet the varying needs of firms as well as factors, factoring arrangements can be scheduled as 'Notified factoring', 'Non-notified or confidential factoring', 'Full service with recourse', 'Import factoring', 'Agency factoring' etc. These may cover sales ledger administration, credit collection, protection against bad debt, notification to debtors, fixed maturity period and advance factoring .

Notified factoring : Under this type of factoring service the customer is informed regarding the assignment of debt to a factor and he is also instructed to make payments to the factor instead of to his creditor. This is done by a legend on the invoice which indicates that the receivables arising out of this invoice has been assigned to or sold to the factor.

Non-notified or concealed factoring : In this case factoring arrangement is kept concealed to the customers. Here the factor keeps the accounts ledger in the name of a sales company to which the client sells his book debts. The factor would perform all his usual functions but his identity, as the real owner of the book debt, would never be disclosed. This type of factoring is provided in the U.K. in a limited way to good companies.

Full Service with recourse factoring : Factoring - whether notified or not-can again be categorised as 'with recourse' and 'without recourse' factoring. Under the former case the supplier will shoulder the credit risk in respect of receivables he has sold to the factor. Here the client is not protected against the risk of bad debts. He has no indemnity against unsettled debts. Even if the factor has advanced money against book debts on which a customer subsequently defaults, the client will have to refund money to the factor. This kind of factoring is akin to Bill Discounting Scheme.

Full Service non-recourse factoring : Here the risks due to bad debts are borne by the factoring agents or factor for which he generally charges higher commission than that of 'with recourse' factoring.

Agency or Bulk factoring : This is a type of factoring under which the factor finances the book debt against bulk either with recourse or without

recourse. This form of factoring is preferable to the companies having a good system of credit management but requires finance.

Bank Participation factoring : Under this kind of factoring service, the supplier creates a floating charge on the factoring reserves in favour of the banks and borrows against these reserves.

International factoring : This form of factoring is also called export factoring which provides certain kinds of facilities to the exporters and importers, such as protection against bad debts on open account sales, provision for finance to the exporter, prompt collection of debt from importers, provision of multi-currency sales ledger, hedges against foreign exchange fluctuation, healthier customer portfolios and rendering exporters a competitive edge. International factoring is a two-factor system where in addition to local exporters and overseas importers, two factors exist, such as, export factor in the exporter's country and import factor in the importer's country. As soon as an exporter enters into an agreement with an export factor he will apply for a credit limit in respect of overseas importer. The export factor then appoints an import factor and requests for a credit check on the importer. The import factor then assesses the credit worthiness of the importer and grants a credit line.

Services and Benefits

Factoring arrangement, if properly executed may yield certain benefits to the clients. The manufacturer, seller and dealer in goods can fully concentrate in manufacturing, advertising and selling functions thus delegating the tasks of record keeping of sales, book debts, bills receivables, etc. to the factoring agencies. A factor provides helps and advises his clients from the initial stage of granting credit to customers to the final stage of collection of debt. He makes a systematic analysis of information regarding trade debts for its proper monitoring and management. Under the factoring services the book debts are purchased by the factor at a price and in that case the bank will finance only the receivables by way of advance. If there is any default the factor shall have to replenish the bank for bad debt loss. The ultimate effect of this course is that in the supplier's balance sheet sundry debtors will remain intact being protected by factors preventing any erosion in working capital. This results in improvement of current ratio and short term credit worthiness of the creditor. Availment of factoring services generally yields certain benefits which can be stated in a nutshell as: (a) reduction of the cost of maintenance and collection of book debts, (b) saving in manpower and time required for collection of debts, (c) monitoring of book debts and prevention of bad debts, (d) furnishing

information regarding credit worthiness of the prospective customers to the client since only the factors as specialist can undertake the study of financial and trade antecedents of the debtors, (e) providing financial and fiscal policy counselling, (f) assisting the client in managing its liquidity and preventing sickness, (g) providing facilities for opening letters of credit by the clients. Ideally, factoring system should benefit all client, customer and the factor. But this may not happen due to certain reasons e.g., lack of clarity as regards the roles of the client and the factor, inept handling of credit and other function by the client and the factor, overestimation of benefits and underestimation of cost, etc.

Assessment of Risk

Factoring process involves several risks which may be classified as the supplier risks and the debtors risks. The former types are associated with financing business while the latter arises due to assumption of the credit risk of the customers.

While assessing supplier risks the factor has to satisfy himself regarding the feasibility of his prospective supplier and then he has to consider the quality of receivables he will be purchasing. For testing the viability of the supplier, the factor must analyse the previous operational and financial performance of the prospective supplier firm and also consider the future planning and forecasts by going through the formal budgets, sales and cash flow statements.

For evaluating the quality of receivables the factor should consider the following matters regarding receivables: (i) the spread of receivables, (ii) Average debt period, (iii) exclusion of accommodation debts, (iv) the effect of seasonal sales, (v) system of invoicing and sales administration by the supplier, (vi) the incidence of credit notes.

In order to review the debtor risks properly the factor has to consider the following matters irrespective of the factor agreement being 'with recourse' or 'without recourse': (a) antecedents of the customers regarding bad debt, (b) system of credit collection by the supplier firm, (c) nature of debtors (retail or manufacturing), (d) credit assessment by the supplier firm, (e) terms of credit, (f) purchasing pattern of customers, (g) normal bad debt risk in individual industries, and (h) debt turnover.

Legal Aspect and Rules

Factoring services whether notified or non-notified are concerned with the outright purchase of receivables from the supplier firm. In the

case of domestic factoring this transfer of ownership of receivables may be either by way of equitable assignment or by executing a legal assignment. But in both the cases the supplier firm is the assignor and the factor is the assignee. In the case of legal assignment which is a formal method, an agreement is entered into which should be duly signed by the assignor or his duly authorised agent. This assignment must be absolute; must be for whole receivable and not by way of charge. But in the case of equitable assignment no written document is required; only the intention of the parties must be clear and value certain which is impracticable. Here factoring may be for the part of receivable only or may relate to a charge on the receivables.

In the case of legal assignment, stamp duty is a must and the customers must be intimated about the transfer of ownership of receivables but equitable assignment being less formal does not require any stamp duty and notice of transfer need not be served with the customer. In order to operate the factoring services properly certain important legal documents can be named which are as follows :

- (a) Standard Master agreement or Factoring agreement containing the rights, liabilities and obligations of both factors and supplier firm and procedure for 'with' or 'without' recourse;
- (b) Supplier firm's application form ;
- (c) The deed of assignment containing the procedure of assignment ;
- (d) Factor's letter of offer;
- (e) Standard form of invoice;
- (f) Form of Notification of assignment of debtors;
- (g) Sanction letter of factor ;
- (h) Supplier firm's statement of receivables, financial details, etc. duly certified by a competent authority .

Issues for Boosting Up Factoring Services in India

Factoring is a well developed activity in the developed countries. In India it is in a nascent stage and requires much effort on the part of government and the business sector to put it on a sound footing thus enabling it to perform the same functions as by the international factors. Three important issues related to factoring business must be pondered over so that this business takes off in a significant way in India. These are : (i) forms of organisation appropriate for factoring , (ii) ideal type of legal set up for growth of factoring , and (iii) the mode of funding the factoring organisations.

The prospective demand for factoring services in India is very high;

hence there is a need of large number of such organisations in India. But the government-owned bank and financial institutions are incapable of satisfying the entire need of the country. So foreign banks, private sector banks and other specialised organisations should be encouraged to enter the factoring business to meet the growing needs of the country as well as to bring a competitive edge for customer satisfactions. The private sector factoring organisations are in an advantageous position in this field due to their competent professional personnel, speed and efficiency of their functioning.

The second issue that should be taken care of is the provision for prudent and comprehensive laws to regulate and monitor factoring business. These legal provisions are required to embrace certain important aspects e.g., assignment of book debts, servicing charge, payment of interest and stamp duty. Laws must ensure the entry of only the competent organisations in terms of capital adequacy, fund raising capability, professional staff etc. since factoring needs high credit standing and sound financial conditions.

The most important issue before the factoring activity is the procurement of finance at low cost, since it is a capital intensive one, so that it can successfully compete commercial banks and other financial institutions operating in the area. This necessitates an innovative approach on their part in respect of financing. The Government should also come out with all out efforts like fiscal incentives in order to encourage the individual investors to invest their savings in factoring organisations.

But at the initial stage of the development of factoring, more equity funds should be used in order to reduce the risk and the servicing burden in terms of cash outflow. Factoring organisation should tap various sources to garner resources like issue of shares and debentures to the public, promoter's contribution towards equity, receiving of public deposits, short-time borrowings from banks and other institutions in the money market, loan from Discount and Finance House of India and bill rediscounting market. The cost of these resources should also be normal otherwise the factors will have to charge high price from their clients for their services which would create apathy in the clients to engage factor for their business.

Conclusion :

To conclude, we must say that factors are a kind of non-banking financial institutions, which have come into existence in India recently for providing service of debt management to the corporate sector thus enabling the firms to concentrate more on production and marketing. But for their

survival and prosperity a co-ordinated effort should be made by all concerned e.g., government, business sector, individual and the factor itself. If factor becomes successful then it would provide a new dimension to the debt management in India. As a supportive financial service, it would also help exporters to improve their terms of trade and competitiveness in respect of dealings in products and markets.

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MANAGEMENT INFORMATION SYSTEM AND ACCOUNTING INFORMATION SYSTEM- A COMPARATIVE ANALYSIS

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1. Introduction

In a fast changing world there is a great need for timely and accurate business information . To keep pace with this change, a rapid transformation of the "industrial society" into an "information society" is taking place. John Naisbitt recognised this change as "megashift" in his best seller "Megatrend". Responding to this "megashift", different types of information system are being introduced in the corporate world. Two most important of them are Management Information System (MIS) and Accounting Information System (AIS). This article, therefore, deals with MIS and AIS which are components of Business Information Systems (section 2). The concepts of MIS & AIS (section 3.1), their relationship (section 3.2), characteristics (section 3.3), distinctions (section 3.4), components (section 3.5), usefulness (section 3.6), uses (section 3.7) respectively are given in brief. The last section contains concluding observations.

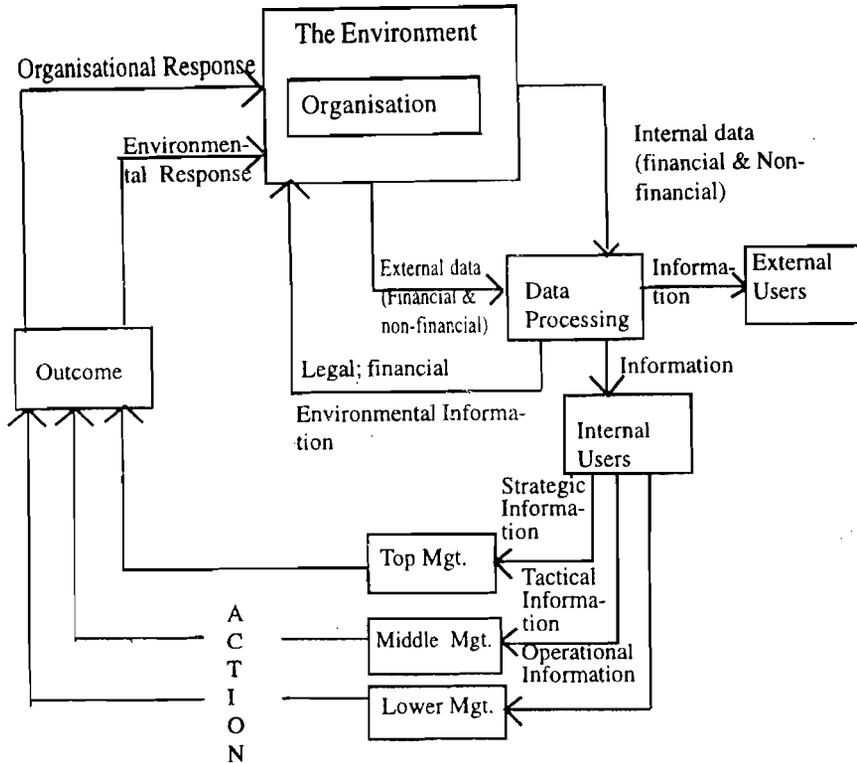
2. MIS and AIS - Subsystems of Business Information System (BIS)

Business Information System can be described as an organized means of collecting, entering and processing data and of storing, managing, controlling and reporting information so that a business organisation can achieve it's objectives and goals. MIS and AIS, as the name describes, are two types of information system used in business . Basically, they are two important subsystems of BIS. A typical chart of BIS is given on the next page. Now we shall proceed to make a comparative analysis of the two i.e. MIS and AIS.

3.1 Definition and Concept - MIS and AIS

MIS has been described by Luecy¹ as a system to convert data from internal and external sources into information, in an appropriate form, to managers at all levels in all functions to enable them to make timely and

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Business, Information System Chart

effective decisions for planning, directing and controlling the activities for which they are responsible. Again, Senn² offers a complementary definition of MIS as an integrated system for providing information to support the planning, control and operations of an organisation. It aids operations, management and decision making by providing past, present and future oriented information about internal operational and external intelligence. Further, G.M. Scott³ defines MIS as follows : An MIS is a comprehensive and coordinated set of information subsystems which are rationally integrated and which transform data into information in a variety of ways to enhance productivity in conformance with managers' style and characteristics on the basis of established criteria .

Therefore, we can say :

- (i) an MIS is an integrated system;
- (ii) it converts internal and external data into timely and relevant information;
- (iii) it provides past, present and future oriented information in all

functions to support organisational activities and it aids operational management and decision making.

AIS : Accounting itself is an information system. But recognition of accounting as an information system is a relatively new phenomenon. It is defined by Rahaman and Hallday⁴ as a relatively open system which provides internal and external users timely, accurate and relevant information regarding an organisation's financial activities in cost effective manner. According to Romnay, Stienbart and Cushing⁵, AIS is a system which processes data and transaction to provide users with information to plan, control and operate their business. Again, Moscove, Stephen and Simkin⁶ defined AIS as an organisational component which accumulates, classifies, processes, analyses and communicates relevant finance oriented decision making information to company's internal parties (principally management) and external parties (current and potential investors, federal and state tax agencies and creditors) . Therefore, we can draw the following points regarding AIS :

- (i) Accounting itself is an information system ;
- (ii) It converts internal and external financial data and transaction into timely and relevant financial information;
- (iii) It provides for planning, control and operational business;
- (iv) AIS is an open system since it is turned to provide a variety of accounting information as required by the users from time to time.

3.2 Relationship Between MIS and AIS

MIS and AIS being the two subsystems of BIS, have developed somewhat in parallel in business organisations but there are some considerable controversies concerning relationship of AIS and MIS. These are as follows :

(i) Some authors consider AIS as a major component of MIS. The difference between the two systems is in the scope of coverage. Whereas an AIS accumulates, classifies, processes and provides the relevant financial information, MIS performs all the functions for all types of information affecting company's operation⁷. Some authors hold the idea that AIS is a subset of MIS. They consider AIS as a measurement system producing Income Statements, Balance Sheets and Statements of Changes in Financial Position . AIS is considered a subset of MIS fulfilling the external reporting needs of financial accounting data. The view stems from the "traditional role" of financial accounting⁸.

(ii) MIS has also been defined as a subset of AIS. This very opposite view is held by them who argue that AIS has a much broader scope and

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is not limited to external reporting. Accounting data play a significant role in internal planning, control and decision making. A major part of management information is of financial nature and most of the management decisions, at the end, culminate in accounting numbers. Thus, management can be served best by **developing MIS as a subset of AIS**. This view stems from the fact that computers were first introduced into organisation via accounting department⁹.

(iii) The third view is that AIS and MIS are interdependent systems with significant overlap. Neither MIS nor AIS is subset of one another. Both must work together to meet the information needs of internal and external users. This is the comparatively modern concept¹⁰.

3.3 Characteristics of MIS and AIS

	MIS ¹¹	AIS
a) Types of system :	Forward and backward looking system with integrated subsystems where the accent is on planning and controlling the business activities using problem finding & solving approach.	Relatively open system with integrated subsystems where accent is on providing financial and accounting information for planning and controlling purpose ¹² .
b) Reports prepared:	Various reports which assist in planning and controlling current and future business activities. Control reports are distributed to management that show the results of post operation.	Financial reports such as financial statements, fund and cash flow reports, budgets, performance reports, financial feasibility reports etc. are used to support the planning and controlling of the organisation.
c) Exception reporting:	The "management by perception" and "management by exception" are employed to highlight future and current deviations.	Budgeted amounts are computed, variances are analysed & principle of management by exception are employed to interpret the variances.
d) Technical appliances:	Microcomputers and terminals are used to allow users to retrieve timely	Microcomputers, Internet and terminals are used to provide timely and relevant financial information to the

	information about planning and controlling operation as well as to permit transactional processing of data .	users.
e) Processing mode:	Interactive processing is emphasized for producing desired information quickly.	Both batch & online processing are used for producing relevant information.
f) Data elements :	A data base is employed to store the data elements needed by authorised users. ERP (Enterprise Resource Planning) is the latest model.	The REA (Resource acquired, Events engaged & Agent participated) data model was explicitly developed for AIS to fulfill three fundamental objectives.
g) Types of files :	Random and direct storage files are used.	Master files & transaction files in random and direct storage mode are used.
h) Mathematical models:	Standard and custom-made mathematical models of management science are employed to plan and control operations.	Standard accounting and mathematical models are employed for financial decision making and problem solving.

3.4 Distinctions between MIS and AIS

Although MIS and AIS are two closely related concepts but still they have some significant distinctions regarding scope, activity and component. These may be noted as :

(i) Purpose of MIS is to serve internal users only whereas AIS serves both the internal and external users.

(ii) AIS mainly provides financial information whereas MIS provides both financial and non-financial information to the respective groups. So MIS of a business organisation can be broadly classified into two categories: financial and non-financial MIS. Non-financial MIS consists of Marketing or Sales MIS, Personnel MIS, Manufacturing MIS, etc.¹³.

(iii) The major human component of MIS is managers of different levels whereas AIS has accounting and finance personnels at the various levels as its major human component.

(iv) Development of MIS is limited by the extent of participation of managers who will use it ¹⁴. On the other hand, development of AIS

basically depends upon both internal and external users who will use it.

3.5 Components of MIS and AIS

The components of both MIS and AIS, include data, software, hardware and people. Among them human component is by far the most important. We can describe these components in brief in the following lines:

(i) **Human component** : In MIS human components comprise managers in different levels, system analysts, programmers, management technicians, etc.

In AIS human components comprise accountants, accounting technicians, systems analysts, programmers, etc.

(ii) **Hardware** : Both MIS and AIS have input and output devices, central processing unit, secondary storage devices, data communication devices, etc. as hardware components.

(iii) **Software** : Software components of MIS and AIS consist of general purpose softwares, application softwares, accounting softwares, ERP, etc.

(iv) **Data component** : RDBMS, Data entry, Data update and Retrieval are the data components of AIS and MIS.

3.6 Usefulness of MIS and AIS

The application of MIS in a business organisation leads to an overall upgradation of management activity that includes planning, controlling and decision making. The usefulness of MIS is noted below :

(i) MIS transforms data into information in a variety of ways determining characteristics of organisations' functional area, personnel involved and task to be performed, for which information is intended.

(ii) MIS enhances productivity in various ways. MIS provides timely and relevant information to respective groups, provides higher level service to external organisations and individuals, supplies the organisation with early warnings about internal problems and external threats, gives early notice of opportunities, facilities, organisation's normal management processes and enhances manager's ability to deal with unanticipated problems¹⁵.

(iii) MIS conforms with managers' styles and characteristics.

(iv) MIS uses established quality criteria which facilitates the management activity.

(v) MIS adds value to the business by improving communication in different managerial levels and other subsystems.

(vi) MIS acts as a key component of decision making .

On the other hand, accounting data play a significant role in internal planning and control purposes. A large part of management information is in financial nature and most of all management decisions generally culminate in accounting number. In this respect, AIS plays an important role in decision making of a business organisation. Traditionally, AIS was concerned with financial data and accounting transactions. But now traditional role of AIS has been expanded and it includes all types of company information required for decision making. AIS now serves a large number of people inside and outside the organisation. Thus, implementation of AIS helps significantly in decision making which enriches the overall business activities. The **advantages** of use of AIS are given below :

(i) AIS converts different data into relevant financial information which serves an important role in decision making e.g., if marketing subsystem requires any information regarding sales value, it has to call AIS to provide it.

(ii) AIS adds value to the business by improving products and services by controlling and reducing cost.

(iii) AIS increases efficiency of a business by supplying timely and relevant financial information to respective groups to improve planning, controlling and decision making.

(iv) AIS provides competitive advantage to the business by improving internal and external communication and helping to maximise the net worth of the organisation.

(v) AIS may act as a key component of decision making by providing vital financial information.

(vi) By providing adequate controls over the data about business activity, AIS safeguards those data and other organisational assets.

3.7 Users of MIS and AIS

A wide variety of people within and outside the organisation use MIS and AIS for decision making purpose. Therefore, users of MIS and AIS can be broadly classified into two classes - internal users and external users.

(a) Internal users of MIS : Managers of different levels such as managers of top management, middle management, and lower management, operating personnel, supervisors, etc.

(b) External users of MIS : External users of MIS include the present and potential investors, shareholders, who are interested to know about organisation's management policy, planning and controlling activity, Govt. agencies, trade unions, etc.

(c) Internal users of AIS : Managers of different levels such as managers of top management, middle management and lower management, line supervisors, divisional managers, etc.

(d) External users of AIS : Present and potential stock-holders, investors, creditors, banks, Govt. agencies, customers, economists, financial analysts, etc.

3.8 Tools of MIS and AIS

An AIS and MIS can be a very simple paper-pen based manual system or a very very complex system using the latest, modern computers and IT or somewhere between these two extremes. Latest tools of information and communication technology in the area of MIS and AIS are Computers, Fax, E-mail, Internet based E-Commerce, RDBMS & ERP softwares, etc. In the present days due to heavy dependence of MIS & AIS on modern information & communication technology (ICT), some people confuse Information System (IS) with ICT. But this is not correct because the ICTs are merely tools of IS. Regardless of the approach used, the process is the same. The people who use MIS or AIS must collect, enter, process and store data and produce various reports called information.

4. Conclusion

In the present age of technology, the importance of AIS and MIS are increasing day by day. With the growth of neck to neck competition in business world, MIS and AIS have become indispensable. These two approaches have some common factors as well as some differences. To get maximum benefit, business organisations should develop both the AIS

and MIS simultaneously to satisfy their information need both for the management and external users, using latest technology and tools.

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